

# TABLE OF CONTENTS

TABLE OF CONTENTS .....	i
Bid Bond.....	1
Certificate of Insurance .....	1
Construction Sample .....	1
Delivery .....	1
Exceptions .....	2
Intent of Specifications.....	2
ISO Compliance .....	3
Powertrain Install Approval .....	4
Proposal Price.....	4
Reference List.....	4
Service Requirements .....	5
Single Source Manufacturing - Pumper .....	5
Proposal Sequence.....	5
Factory Authorized Apparatus Dealer.....	5
Indiana Licensed Dealer .....	5
Inspection Trips .....	5
Hose Bed Capacity .....	6
Overall Height Restriction.....	6
Overall Length Restriction .....	6
NFPA Compliance.....	6
Equipment Capacity .....	6
BUMPER.....	6
Front Bumper Extension.....	6
Bumper .....	6
Bumper Gravel Shield .....	7
Frame Extension.....	7
BUMPER TRAY .....	7
Lid, Bumper Tray .....	7
Recessed Bumper Tray .....	7
FRAME ASSEMBLY .....	7
Rear Underbody Support Frame.....	7
Frame Assembly .....	8
Frame Liner .....	9
Galvanized Frame Components .....	9

Coated Fasteners .....	9
AXLES .....	9
Front Axle.....	9
Shock Absorbers Front .....	10
Front Axle Oil Seals .....	10
Rear Axle.....	10
SUSPENSION .....	11
Rear Suspension .....	11
WHEELS .....	11
Front Wheel Trim Package.....	11
Rear Wheel Trim Package, Single Axle.....	11
Valve Stem Extensions.....	11
Front Wheels .....	11
Rear Wheels.....	11
TIRES .....	12
Front Tires .....	12
Rear Tires .....	12
Tire Pressure Indicators .....	12
BRAKE SYSTEM.....	12
Front Brakes .....	12
Rear Brakes .....	13
Brake System.....	13
Park Brake Release.....	14
Electronic Stability Control.....	14
AIR SYSTEM .....	15
Air Dryer .....	15
Air Inlet .....	15
Air Tank Drain Pull Cords .....	15
Air Lines .....	15
Air Horns .....	16
ENGINE & TRANSMISSION.....	16
Transmission Selector .....	16
Transmission Fluid .....	16
Vehicle Speed .....	16
Engine/Transmission Package.....	16
Engine.....	16
Transmission.....	17

Automatic Shift to Neutral .....	18
SECONDARY BRAKING .....	18
Jacobs Engine Brake.....	18
Transmission Programming.....	19
COOLING PACKAGE .....	19
Engine Cooling Package.....	19
Radiator .....	19
Silicone Hoses .....	19
Coolant .....	19
Coolant Recovery .....	20
Charge Air Cooler System.....	20
Charge Air Cooler Hoses.....	20
Fan/Shroud .....	20
Transmission Cooler.....	20
FUEL SYSTEM .....	20
Fuel System .....	20
Fuel Line.....	21
ALTERNATOR .....	21
360 Amp Alternator.....	21
BATTERIES.....	21
Battery System.....	21
MISC CHASSIS .....	22
Engine Fan Clutch .....	22
Drivelines .....	22
Three (3) Underbody Receivers .....	22
Front Bumper Receiver .....	23
On-Spot Tire Chains .....	23
DEF Tank .....	24
Power Steering Cooler.....	24
CAB.....	24
Cab Long .....	24
Cab Exterior.....	26
Windshield Wipers .....	26
Cab Mounts and Cab Tilt System.....	26
Cab Interior.....	27
Cab Doors .....	29
Cab Instruments and Controls .....	29

Electrical System .....	30
Daytime Running Lights .....	30
Fast Idle System .....	31
Cab Crashworthiness Requirement .....	31
Seat Mounting Strength .....	32
Seat Belt Anchor Strength .....	32
ISO Compliance .....	32
CAB ROOF .....	32
Raised Roof .....	32
Raised Roof Front Windows .....	32
Raised Roof Side Windows .....	33
Raised Roof Rear Windows .....	33
CAB BADGE PACKAGE .....	33
Logo Package .....	33
CAB DOORS .....	33
Rear Cab Door Position .....	33
Cab Door Locks .....	33
Cab Door Panels .....	33
Cab Door Locks .....	33
Cab Compartment Door Trim .....	33
Cab Front Door Windows .....	34
Cab Rear Door Windows .....	34
Cab Door Style .....	34
Door Mounted Flashing Lights .....	34
Cab Door Reflective Material .....	34
CAB STEPS .....	34
Cab Steps .....	34
MIRRORS .....	34
Mirror Extension .....	35
Mirrors, Heated .....	35
Cab Mirrors .....	35
MISC EXTERIOR CAB .....	35
Cab Canopy Window .....	35
Front Mud Flaps .....	35
Handrails .....	35
Rear Cab Wall Construction .....	35
Knurled Hand Rail Extrusion .....	36

Handrails.....	36
Cab Wheel Well .....	36
Receptacle Mounting Plate.....	36
Hand Rails .....	36
HVAC.....	36
HVAC Control Location .....	36
Rear AC Control.....	36
Air Conditioning.....	37
SEATS.....	37
Cab Seats .....	37
Seat, Rear Facing Officer Side .....	38
Seat, Officer.....	38
Seat Cover Material .....	38
Seat Fabric Color .....	38
Seating Capacity Tag.....	38
Seat, Rear Wall Forward Facing .....	39
SCBA Bracket SmartDock .....	39
Seat, Driver.....	39
MEDICAL CABINETS .....	40
Medical Storage Cabinet .....	40
Vista Cabinet Forward.....	40
Vista Cabinet Rearward.....	41
Med cabinet roll up door painted upper cab color.....	41
Medical Storage Cabinet Finish .....	41
Medical Cabinet Doors.....	41
Reverse Hinge .....	41
Exterior Cab Compartment.....	42
Exterior Cab Compartment.....	42
Broom Handle Storage .....	42
Cab Compartment Storage .....	42
MISC INTERIOR CAB .....	43
Cab Interior Color.....	43
Sun Visors .....	43
Air Horn Lanyard .....	43
Mounting Plate on Engine Cover .....	43
Engine Cover .....	43
Rear Wall Toolboard .....	43

Rear Engine Cover Storage .....	44
Cup Holders.....	44
Cup Holder / Storage Tray .....	44
Rear Facing Storage .....	44
Overhead Console .....	44
Rear Engine Cover .....	45
Cab Dash - Low Profile Severe Duty .....	45
Cab Insulation Package .....	45
CAB ELECTRICAL .....	45
Cab Dome Lights.....	45
Push-Button Switch.....	46
Push-Button Switch.....	46
Auto-Eject Battery Charger Receptacle .....	46
ATC Override .....	46
English Dominant Gauge Cluster.....	46
Headlights.....	47
Battery Charger with Remote.....	47
Pre-Wire .....	47
Antenna Base.....	47
Battery Charger Location .....	47
Officer Speedometer.....	47
LED Cab Headlights.....	47
Air Compressor .....	48
Programming Instructions .....	48
Programming Instructions .....	48
Programming Instructions .....	48
Cab USB Charging Port .....	48
DPF Regeneration Override .....	48
Steering Wheel Switches .....	48
Auto Drain .....	49
Riser Height Compartment Lighting .....	49
Cab Door Step Area Lighting.....	49
Cab Turn Signals .....	49
Black Quad Bezels .....	49
Auto-Eject Inlet Receptacle.....	49
BODY COMPT LEFT SIDE.....	50
Driver Side Roof Top Compartments.....	50

Roof Top Compartments .....	50
Roof Top Compartment Contents .....	50
Side Assembly .....	50
Side Compartments .....	51
Storage Tunnel.....	51
BODY COMPT RIGHT SIDE .....	51
Officer Side Roof Top Compartments .....	51
Officer Side Assembly .....	52
Officer Side Compartments .....	52
BODY COMPT REAR .....	53
Rear Body Assembly.....	53
Rear Body Compartment.....	53
Storage Compartments .....	53
Tailboard Step .....	54
Rear Access Handrails.....	54
BODY MODULE FRONT.....	54
Forward Body Extension.....	54
Body Extension .....	54
Pump Access .....	55
Pre-connect Storage.....	55
Transverse Storage Compartment .....	55
DOORS.....	55
Painted Roll Up Compartment Door Short .....	55
Painted Roll Up Compartment Door Tall.....	56
Drip Pan.....	56
Strap for Roll-Up Door.....	56
SHELVES.....	57
Permanent Shelf.....	57
Adjustable Shelf .....	57
Adjustable Tracks.....	57
COMPARTMENT DIVIDERS.....	58
Partition Vertical Bolt-In.....	58
TRAYS / TOOLBOARDS .....	58
Roll-Out Tray .....	58
Roll-Out/Tilt Down Tray.....	58
Tool Board PAC TRAC .....	58
COVERS .....	59

Hose Bed Cover.....	59
Speedlay Cover - Sides.....	59
Vinyl Access Cover.....	59
MISC PUMP PANEL.....	60
Pump Panel Tags .....	60
Mechanically Fastened Tags .....	60
Push-Pull Handle Orientation.....	60
PUMP MODULE .....	60
Module Logos.....	60
Air Horn Switch .....	60
Removable Poly Speedlay Tray .....	60
WATER TANK.....	61
1030 Gallon Water Tank .....	61
Fill Tower Location.....	62
TANK PLUMBING .....	62
Tank Fill 2” Akron Valve.....	62
Tank to Pump 3” Akron Air Valve.....	63
Auto Fill Direct Tank Fill.....	63
FOAM TANK .....	63
30 Gallon Foam Tank.....	63
LADDER STORAGE / RACKS .....	64
Ladder Brand .....	64
Ladders .....	64
Storage Tunnel Contents .....	64
HANDRAILS / STEPS .....	64
NFPA Hose Bed Access .....	65
Handrail .....	65
Hand Rails .....	65
Pump Panel Step.....	65
Intermediate Rear Step .....	66
Folding Steps .....	66
MISC BODY OPTIONS .....	66
Mud Flaps.....	66
Body Mainframe.....	66
Body Mounting System.....	67
Water Tank Mounting System.....	67
Hosebed Side Assembly.....	67



Hose Bed .....	67
Hose Bed Divider .....	68
Storage Pan .....	68
Hose Bed Divider Hand Hold.....	68
Divider .....	68
Hose Bed Walkway .....	68
Fuel Fill .....	68
Swirled Finish.....	68
Anodize Aluminum Trim .....	69
Angled Tailboard Corners .....	69
Tilt Jack Location .....	69
Wheel Chocks.....	69
Seamless Overlays.....	69
Storage Pan .....	69
Body Wheel Well .....	69
Poly Rubrails .....	70
SCBA BOTTLE STORAGE.....	70
SCBA Strap .....	70
SCBA 1 Bottle Storage.....	70
SCBA 3 Bottle Storage.....	70
PUMP .....	71
Pump Rating .....	71
Fire Pump System.....	71
Fire Pump .....	71
Mechanical Seal.....	72
Pump Shift .....	72
Heat Exchanger & Heated Pump Core .....	72
Suction Inlets .....	72
Discharge Manifold .....	73
Test Ports .....	73
Tank to Pump Check Valve.....	73
Pump Mounting Frame.....	73
PUMP CERTIFICATION .....	73
Pump Certification.....	73
MISC PUMP .....	74
Steamers, Flush+1 .....	74
Master Drain Valve .....	74

Anodes, Darley Pump.....	74
Anodes, Darley Pump.....	74
Additional Darley Primer .....	75
Priming System .....	75
Master Pump Intake Valve .....	75
INTAKES .....	76
Left Intake 2.5" Akron Valve Integral 30 Degree Chrome Droop.....	76
5" Front Intake w/Relief Electric Akron.....	76
INTAKE OPTIONS .....	77
Adapter 5" FNPT x 6" MNST Front Intake .....	77
DISCHARGES AND PRECONNECTS .....	77
Front Jump Line 1.5" Akron Valve .....	77
Left Front 2.5" Hose Bed Akron Valve.....	77
Second Left Front Hose Bed 2.5" Akron Valve .....	78
Front Bumper Discharge Swivel, Brass In Tray .....	78
Discharge Left Panel 2.5" Akron Droop .....	78
Right Panel 2.5" Discharge Akron Valve.....	79
Speedlay Triple 1.5"/2.5" Akron Valve .....	80
Speedlay Plumbing Location.....	80
3" Panel Discharge Electric Akron .....	80
3" Deck Gun Discharge Electric Akron .....	81
Deck Gun Location.....	81
MISC DISCHARGE .....	81
Extend-A-Gun .....	81
IC Push/Pull Control.....	82
Bleeder Drain Valve .....	82
Discharge/Intake Bezel.....	82
Akron Electric Valve 9333 Controller .....	82
PRESSURE GOVERNOR .....	83
FRC Pump Boss Pressure Governor.....	83
GAUGES .....	84
Foam Tank Level Gauge .....	84
2.5" Line Gauges .....	84
4" Master Pressure Gauges w/Bezel.....	85
Water Tank Level with Whelen PSTank Lights.....	85
FOAM SYSTEM.....	86
Foam Pro Foam System.....	86

Foam System Certification .....	87
Foam System Plumbing.....	87
ELECTRICAL SYSTEM.....	87
Multiplex Electrical System .....	87
Electrical System .....	87
Multiplex System.....	88
Wiring.....	88
Wiring Protection .....	89
Wiring Connectors.....	89
NFPA Required Testing of Electrical System.....	89
NFPA Required Documentation.....	90
Vehicle Data Recorder .....	90
Occupant Detection System .....	91
Multiplex Display .....	91
Electrical Connection Protection.....	92
Smart Truck Technology .....	92
User Interface .....	92
Hardware .....	93
Data Plan .....	93
LIGHT BAR.....	93
Light Bar Mounts .....	93
Front Light Bar Color(s).....	93
Light Bar.....	93
WARNING LIGHT PACKAGE.....	94
Lower Level Warning Light Package.....	94
WARNING LIGHTS.....	94
Hazard (Door Ajar) Light.....	94
Additional Warning Lights.....	95
Additional Warning Lights.....	95
Black Bezels .....	95
DIRECTIONAL LIGHT BAR .....	95
Directional Light Bar Control Location .....	95
Directional Traffic Warning Light .....	95
Directional Light Wired to Warning Lights .....	95
Recessed Directional Light Bar Mount .....	95
SIRENS .....	96
Electronic Siren .....	96

Electronic Siren Control Location .....	96
Mechanical Siren .....	96
SPEAKERS .....	96
Siren Speaker .....	96
DOT LIGHTING .....	97
License Plate Light .....	97
Tail Lights .....	97
License Plate Bracket .....	97
LED Marker Lights .....	97
LIGHTS - COMPARTMENT, STEP & GROUND .....	98
Medical Cabinet Lighting .....	98
Compartment Light Package .....	98
Ground Lights .....	98
LIGHTS - DECK AND SCENE .....	99
Deck/Scene Light Wired to Back-Up Lights.....	99
Cab Scene Light Switching .....	99
Scene Lights .....	99
Scene Lights .....	99
Hose Bed Light.....	100
Hose Bed Light.....	100
LIGHTS - NON-WARNING .....	100
Pump Compartment LED Light .....	100
LED Pump Panel Light Package .....	100
Engine Compartment Light .....	100
CONTROLS / SWITCHES .....	100
SCBA Door Ajar Switch .....	101
Door Ajar Alarm.....	101
Foot Switch.....	101
CAMERAS / INTERCOM.....	101
Intercom System.....	101
360 Camera System .....	101
MISC ELECTRICAL.....	102
Trailer Hitch Wiring and Connector.....	102
Trailer Wiring .....	102
Trailer Wiring Connector .....	102
Back-Up Alarm .....	102
12 Volt Power Lead.....	102

12V Power Lead .....	102
Trailer Brake Controls .....	102
Refrigerator.....	103
LIGHTS – LED SCENE .....	103
Cab Brow Light .....	103
Cab Brow Light – Side Facing .....	103
FireTech LED Flood Light.....	103
RECEPTACLES.....	104
Receptacle.....	104
MISC LOOSE EQUIPMENT .....	104
DOT Required Drive Away Kit .....	104
Pumper Equipment Package .....	104
EXTERIOR PAINT.....	104
Paint Break with Dip to Grille.....	104
Paint Spray Out.....	104
Painted Header Plate.....	105
Painted Aluminum Wheels.....	105
Paint Custom Cab .....	105
Paint Cab Two-Tone Color .....	106
Paint Body Small.....	106
Grille Painted Flag.....	107
Air Conditioning Condenser(s) .....	107
Paint Cab Grille .....	107
Paint Front Intake Elbow .....	107
INTERIOR PAINT.....	107
Cab Interior Paint .....	107
PROTECTIVE COATINGS .....	107
LINE-X Package. ....	107
LINE-X Pump Panels .....	108
LINE-X package for miscellaneous parts and brackets mounted .....	108
LINE-X bumper package .....	108
LINE-X package for Pumper Body.....	108
LINE-X package for body fenderettes .....	108
LINE-X package for Pumper or Tanker body stepping surfaces .....	108
LINE-X for Hosebed Walkway .....	109
LINE-X package for custom cab fenderettes .....	109
LINE-X package for custom cab steps.....	109

LINE-X package for side mount pump module .....	109
LINE-X package for rollerless platform(s) .....	109
LETTERING .....	109
Sign Gold Letter .....	109
Sign Gold Letters.....	110
Lettering Shade and/or Outline .....	110
STRIPING .....	110
CAB AND BODY STRIPE.....	110
CAB AND BODY STRIPE ADDITIONAL.....	110
Scotchlite Cab Stripe .....	110
Front Bumper 3M Diamond Grade Striping .....	111
Rear Body 3M Diamond Grade Striping.....	111
Designated Standing / Walking Area Indication .....	111
GRAPHICS .....	111
Window Graphics.....	111
Customer Logo [Qty: 4] .....	111
Graphics Drawing.....	111
Logo.....	111
WARRANTY / STANDARD & EXTENDED.....	111
Standard 1 Year Warranty .....	112
Lifetime Frame Warranty .....	112
10 Year 100,000 Mile Structural Warranty .....	112
10 Year Stainless Steel Plumbing Warranty .....	112
10 Year Paint and Corrosion Warranty .....	112
25 Year Frame Rail Corrosion Warranty .....	113
20 Year Frame Components Corrosion Warranty.....	113
Meritor Front Axle Warranty .....	113
Meritor Rear Axle Warranty .....	113
SUPPORT, DELIVERY, INSPECTIONS AND MANUALS.....	114
Pump Panel Approval Drawing.....	114
Approval Drawings .....	114
Approval Drawings - Dash Panel Layout.....	114
Electronic Manuals.....	114
Fire Apparatus Safety Guide .....	115

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Bid Bond</b></p> <p>A bid security in the form of a Bid Bond, cashier's check, or certified check made payable to <b>The Monroe Fire Protection District</b> 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 remedies if a successful bidder's proposal is accepted by the Purchaser and the bidder shall fail to execute and return to <b>The Monroe Fire Protection District</b> 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>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><b>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.</b></p> <p>The Certificate must be made out to <b>The Monroe Fire Protection District</b> 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>Construction Sample</b></p> <p>In order to permit <b>The Monroe Fire Protection District</b> to evaluate the various construction styles available and their compliance to the Purchaser's specifications, each bidder shall submit, with their proposal, an unpainted construction sample showing material used in the body construction. Specifically, the sample must show inner and outer door pan construction, compartment floors and walls, body corner edges, tailboard construction, handrail design, and body rubrail. This sample must be submitted at the bid opening. The sample shall be returned to the bidder after the evaluation process.</p> <p>In addition, any bidder may be required to present to the Purchaser, at our station, apparatus built to these construction specifications for our inspection.</p> <p><b>Delivery</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<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 <b>The Monroe Fire Protection District</b> 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> <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>Intent of Specifications</b></p> <p>It is the intent of these specifications to clearly describe the furnishing and delivery to <b>The Monroe Fire Protection District</b>, 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>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>			



<div> <div>MONROE FIRE PROTECTION DISTRICT</div> </div>	<div> <div>BIDDER COMPLIES</div> </div>	
<p>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>The apparatus shall further conform to all Federal Motor Vehicle Safety Standards. No exception.</p> <p>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>Each bid must be accompanied by a set of detailed contractor's specifications consisting of a detailed description of the apparatus and equipment proposed. All bid proposal specifications must be in the same sequence as the advertised specification for ease of comparison. These specifications shall include size, location, type, and model of all component parts being furnished. 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 photocopies 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>Bids will be addressed and submitted in accordance with the instructions provided on the cover sheet. The words "Fire Apparatus Proposal", the date, and bid opening time shall be stated on the front of the bid envelope.</p> <p>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>All bidders are required to detail the payment terms for apparatus on the bidder's proposal page. Any required prepayments or progress payments must be explained in detail.</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</p>	<div>YES</div>	<div>NO</div>

<div> <div>MONROE FIRE PROTECTION DISTRICT</div> </div>	<div> <div>BIDDER COMPLIES</div> </div>	
	YES	NO
<p>manufacturer’s certificate of compliance affirms that these principles form the basis for a quality system that unswervingly 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> <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>Powertrain Install Approval</b></p> <p>It is the intention of <b>The Monroe Fire Protection District</b> to acquire apparatus of a proven design that will meet the installation requirement of the engine and transmission manufacturers. Therefore, each bidder shall submit, with their proposal, a copy of the engine and transmission installation approval. This approval must be submitted for the exact configuration of power train components as identified in these bid documents. This shall include cab, engine, transmission, cooling system and other such items.</p> <p>The engine installation shall not require the operation of any type of "power-down" feature in order to meet these tests. Failure to submit these cooling certifications or the submitting of certifications not pertaining to the particular configuration of the apparatus specified will result in rejection of the apparatus proposal.</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><b>Reference List</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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, date apparatus was placed in service, and a current contact with phone number.</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 <b>The Monroe Fire Protection District's</b> 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 criteria for award of this contract.</p> <p><b>Single Source Manufacturing - Pumper</b></p> <p>In order to protect <b>The Monroe Fire Protection District</b> from divided warranty responsibility between chassis and body manufacturers, proposals will only be accepted 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 will not meet the requirements of this section. No exception.</p> <p><b>Proposal Sequence</b></p> <p>In order for The Monroe Fire Protection District to fairly compare, all proposals shall be submitted in the same sequence as this bid specification. "No Exception"</p> <p><b>Factory Authorized Apparatus Dealer</b></p> <p>It is the intent of The Monroe Fire Protection District to purchase the apparatus from a factory authorized dealer and service center in order to avoid any warranty or service conflicts. Bids from secondary equipment dealers or contractors will not be expectable. All bidders shall provide detailed information stating the name and location of the manufacture authorized apparatus dealer for The Monroe Fire Protection District.</p> <p><b>Indiana Licensed Dealer</b></p> <p>The Monroe Fire Protection District intends to purchase apparatus through an Indiana authorized motor vehicle dealer. The apparatus dealer shall be bonded and licensed by the state of Indiana to sell new motor vehicles. No factory direct sales will be considered. Bidder shall provide proof that they are a licensed Indiana vehicle dealer with their bid. "No Exception"</p> <p><b>Inspection Trips</b></p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>QTY: 2</b></p> <p>A Preconstruction Conference for four (4) The Monroe Fire Protection District personnel at the factory will be included in the cost of the apparatus. Air Transportation, lodging, and meals will be the responsibility of the bidder. "No Exception"</p> <p>A Final Inspection Conference for four (4) The Monroe Fire Protection District at the factory will be included in the cost of the apparatus. Air Transportation, lodging, and meals will be the responsibility of the bidder. "No Exception"</p> <p><b>Hose Bed Capacity</b></p> <p>The hose bed shall have the capacity to store the following hose from the driver side to the officer side.</p> <p>Lay 1 - 300 ft. of 2.50 DJ</p> <p>Lay 2 - 1000 ft. of 3.00 DJ</p> <p>Lay 3 - 1000 ft. of 5.00 LDH</p> <p><b>Overall Height Restriction</b></p> <p>The apparatus shall have an overall height restriction of 10’.</p> <p><b>Overall Length Restriction</b></p> <p>The apparatus shall have an overall length restriction of 34’ - 10”.</p> <p><b>NFPA Compliance</b></p> <p>The supplied components of the apparatus shall be compliant with NFPA 1901, 2016 edition.</p> <p><b>Equipment Capacity</b></p> <p>Equipment allowance on the apparatus shall be 3500 lbs. This allowance is in addition to the weight of the hoses and ground ladders listed in the shop order as applicable.</p> <p><b>BUMPER</b></p> <p><b>Front Bumper Extension</b></p> <p>The bumper shall be extended approximately 20” from the face of the cab as required.</p> <p><b>Bumper</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A heavy duty 12" high steel channel type front bumper shall be provided. The front corners of the bumper shall be angled to reduce swing clearance. The bumper shall be painted job color.</p>		
<p><b>Bumper Gravel Shield</b></p>		
<p>The extended front bumper gravel shield shall be made of 3/16" (.188") aluminum treadplate material. The gravel shield shall include 1" turn down lips to protect the top edge of the heavy duty bumper from damage.</p>		
<p><b>Frame Extension</b></p>		
<p>The front bumper frame extension shall be a "drop style" in place of standard. The extensions shall be constructed from .75" thick A-36 steel and have integral tow eyes below the bumper. The tow eye hole shall be 2.5" in diameter.</p>		
<p><b>BUMPER TRAY</b></p>		
<p><b>Lid, Bumper Tray</b></p>		
<p>There shall be one (1) diamond plate lid covering the center and driver hose trays. The lid shall be approximately 5.25" high allowing for additional capacity of hose or installation of a hydraulic reel(s) in the hose tray (24" or 28" extensions only). It shall include a chrome grab handle, rubber hood latches and gas shocks.</p>		
<p>A 1" x 1.5" angle shall be provided behind the extra capacity bumper tray lid for added water protection for the bumper trays.</p>		
<p><b>Recessed Bumper Tray</b></p>		
<p>Hose tray constructed of 1/8" aluminum diamond plate shall be recessed into the front bumper extension. The tray shall extending 2/3 from driver's side of the bumper as applicable based on outboard options. The tray shall have multiple depth and each area shall be deep enough to accomodate reels, rescue tools and equipment or other options as applicable per customer specific requirements. Frame extensions shall be notched to provide the most amount of tray depth above the frame rails as allowable.</p>		
<p><b>FRAME ASSEMBLY</b></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>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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 5/8” grade 8 bolts. The frame extension shall have a hot-dipped galvanized zinc coating for increased corrosion resistance. The coating shall be done in compliance with the ASTM A123 Standard.</p> <p>The frame extension shall not interfere with N.F.P.A. minimum requirements for angle of departure.</p> <p><b>Frame Assembly</b></p> <p>The frame shall consist of two (2) C-channel frame rails with heavy-duty cross-members. 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>Resistance to 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) cross-members joining the two (2) frame rails in order to make the frame rigid and hold the rails/liners in alignment. The cross-members 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 cross-members 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 cross-member load into the rail/liner and minimize stress concentrations.</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 shall be hot-dip galvanized and powder coated for improved corrosion resistance. The galvanization shall be a minimum of 4 mils thick and done in accordance with ASTM A123. The powder coat shall be 6.5 mils thick (+/- 1.5 mils) and pass ASTM D3359 testing.</p> <p>The frame cross-members and frame mounted components (suspensions, axles, air tanks, battery boxes, fuel tank, etc.) shall be painted black.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The apparatus manufacturer shall supply a full lifetime frame warranty including cross-members against defects in materials or workmanship. Warranties that provide a lifetime warranty for only the frame rails, but not the cross-members, are not acceptable. NO EXCEPTIONS.</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>Frame Liner</b></p> <p>A 9-3/8” x 3-1/8” x 3/8” channel frame liner shall be bolted to each frame rail for added strength and rigidity. Frame liners shall be made of 110,000 psi minimum yield, high strength, low alloy steel. The frame rail liners shall be hot-dip galvanized and powder coated for improved corrosion resistance. The galvanization shall be a minimum of 4 mils thick and done in accordance with ASTM A123. The powder coat shall be 6.5 mils thick (+/- 1.5 mils) and pass ASTM D3359 testing.</p> <p>Each frame rail with liner shall have the following minimum characteristics:</p> <p>Section Modulus: 28.74 cu. in.</p> <p>RBM: 3,161,400 in. lbs.</p> <p>The frame liners shall be inserted inside the open portion of the frame rails and shall run continuously from the rear of the frame to the centerline of the front axle to provide maximum frame strength at all critical load points.</p> <p><b>Galvanized Frame Components</b></p> <p>The front chassis frame extensions, rear subframe (If equipped), crossmembers and battery brackets shall be hot-dip galvanized for increased corrosion resistance. The coating shall be done in compliance with the ASTM A123 Standard.</p> <p><b>Coated Fasteners</b></p> <p>The custom chassis frame assembly shall be assembled using GEOMET 720 coated fasteners for corrosion resistance.</p> <p><b>AXLES</b></p> <p><b>Front Axle</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The vehicle shall utilize an Meritor FL-941 front axle with a rated capacity of 20,000 lbs. It shall have "easy steer" knuckle pin bushings and 68.5" 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 (+ 2) degrees to minus three (- 3) 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 a capacity of 20,000 lbs at the ground. The springs shall have Berlin style eyes and rubber bushings on each end with an additional standard wrap at the front eye. Tapered leaf springs provide a 20% ride improvement over standard straight spring systems.</p> <p>The vehicle shall be equipped with a Sheppard model M-110 power steering gear, used in conjunction with a power assist cylinder. The steering assembly shall be rated to statically steer up to a maximum front axle load of 20,000 lbs. 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>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 shall be 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 utilize an Meritor RS-30-185, 31,000 lb. single rear axle with single reduction hypoid gearing and a manufacturer`s rated capacity of 31,000 lbs. The axle shall be equipped with oil-lubricated wheel bearings with Meritor oil seals.</p> <p>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 use.</p>		



MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>SUSPENSION</b></p> <p><b>Rear Suspension</b></p> <p>The rear suspension shall be a Reyco model 79KB. The suspension shall include linear-rate slipper type leaf springs that eliminate spring eyes and shackles. The suspension shall also include one (1) fixed torque arm, one (1) adjustable torque arm and cast spring hangers. The suspension shall be rated for the maximum axle capacity.</p> <p><b>WHEELS</b></p> <p><b>Front Wheel Trim Package</b></p> <p>The front wheels shall have black stainless steel lug nut covers (for use with aluminum wheels) or black plastic (for use with steel wheels). The front axle shall be covered with American made Real Wheels brand, 304L grade, non-corrosive stainless steel universal black painted baby moons. All stainless steel baby moons shall carry a lifetime warranty. 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 black painted stainless steel lug nut covers (black plated steel lug nut covers not acceptable), or American made black painted 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 re-buffing policy. There shall be two (2) high hats and twenty (20) lug nut covers.</p> <p><b>Valve Stem Extensions</b></p> <p>Each inside rear wheel on the rear axle shall have valve extensions.</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>The wheel shall have a load rating of up to 11,000 lbs. each (up to 11,400 lb rating available with speed limited to 60 MPH)</p> <p><b>Rear Wheels</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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> <p><b>TIRES</b></p> <p><b>Front Tires</b></p> <p>The front tires shall be two (2) Michelin 365/70R22.5 tubeless type 18 PR radial tires with XZA highway tread.</p> <p>The tires with wheels shall have the following weight capacity and speed rating:</p> <p>21,000 lbs. @ 75 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 315/80R22.5 tubeless type radial tires with XDN2 GRIP all weather tread.</p> <p>The tires with wheels shall have the following weight capacity:</p> <p>33,080 lbs. (dual) @ 75 MPH. (Intermittent fire service max load 35,396 lbs)</p> <p>The wheels and tires shall conform to the Tire and Rim Association requirements.</p> <p><b>Tire Pressure Indicators</b></p> <p>The apparatus shall be provided with Real Wheels AirGuard LED tire pressure indicating valve stem caps. When the tire is under inflated by 5-10 PSI, the LED indicator on the cap shall flash red. The indicator housings shall be shock resistant and constructed from polished stainless steel. The indicators shall be calibrated by attaching to valve stem of a tire at proper air pressure per load ratings and easily re-calibrated by simply removing and re-installing them during service.</p> <p>Real Wheel Part number RWC1234 was superseded by RWC1235 as of June 2015</p> <p><b>BRAKE SYSTEM</b></p> <p><b>Front Brakes</b></p> <p>The front axle shall be equipped with Meritor DiscPlus EX225H 17 inch disc brakes.</p>		

MONROE FIRE PROTECTION DISTRICT				BIDDER COMPLIES									
				YES	NO								
<p>The brakes shall be covered by the manufacturer`s standard warranty which is two years, unlimited mileage and parts only.</p> <p><b>Rear Brakes</b></p> <p>The rear axle shall be equipped with ArvinMeritor 16-1/2” x 7” S-cam brakes with cast brake drums. Q-Plus shoes shall be provided with up to 24,000 lb. axle ratings and P-Type shoes with over 24,000 lb. axle ratings.</p> <p>The rear axle brakes shall be furnished with automatic slack adjusters. ArvinMeritor brand shall be supplied on RS-24-160 and RS-25-160 axles, and Haldex brand shall be supplied on RS-26-185 and RS-30-185 axles.</p> <p>A 3 year/unlimited miles parts and 3 year labor rear brake warranty shall be provided as standard by ArvinMeritor Automotive. The warranty shall include bushings, seals, and cams.</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><tr><td>Wet</td><td>Front</td><td>Rear</td><td>Total</td></tr><tr><td>1,738</td><td>1,738</td><td>1,738</td><td>5,214</td></tr></table>						Wet	Front	Rear	Total	1,738	1,738	1,738	5,214
Wet	Front	Rear	Total										
1,738	1,738	1,738	5,214										

13

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<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 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>Electronic Stability Control</b></p> <p>The apparatus shall be equipped with a G4 4S4M Electronic Stability Control (ESC) system that combines the functions of Roll Stability Control (RSC) with the added capability of yaw - or rotational - sensing.</p> <p>RSC focuses on the vehicle's center of gravity and the lateral acceleration limit or rollover threshold. When critical lateral acceleration thresholds are exceeded, RSC intervenes to regulate the vehicle's deceleration functions. The added feature of ESC is to automatically intervene to reduce the risk of the vehicle rotating while in a curve or taking evasive</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>action, prevents drift out through selective braking, and controlling and reducing vehicle speed when lateral acceleration limits are about to be exceeded.</p> <p>Intervention by the system occurs in three forms - engine, retarder and brake control. The ESC system uses several sensors to monitor the vehicle. These include a steering wheel angle sensor, lateral accelerometer, and yaw position sensor. ESC constantly monitors driving conditions and intervenes if critical lateral acceleration is detected or if the vehicle begins to spin due to low friction surfaces. The system provides control of engine and retarder torque as well as automatically controlling individual wheels to counteract both over steer and under steer.</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 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>3 year/300,000 miles parts and labor warranties for ESC, RSC, and ATC shall be provided as standard by Meritor Automotive.</p>		
<h2>AIR SYSTEM</h2>		
<h3>Air Dryer</h3>		
<p>The chassis air system shall be equipped with a Bendix-Westinghouse AD-9 air dryer to remove moisture from the air in order to help prevent the air lines from freezing in cold weather and prolong the life of the braking system components.</p>		
<h3>Air Inlet</h3>		
<p>A 1/4" brass quick-release air inlet with a male connection shall be provided. The inlet shall allow a shoreline air hose to be connected to the vehicle, discharging air directly into the wet tank of the air brake system. It shall be located driver door jamb.</p>		
<h3>Air Tank Drain Pull Cords</h3>		
<p>Manual drain valves with pull cords routed to side of cab/body shall be provided for all air brake system tanks. Labels shall be provided at the side of the cab/body that read "Air Tank Drain".</p>		
<h3>Air Lines</h3>		
<p>Air brake lines shall be constructed of color coded nylon tubing routed in a manner to protect them from damage. Brass fittings shall be provided.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Air Horns</b></p> <p>Dual Hadley e-tone 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 air horns. A pressure protection valve shall be installed to prevent the air brake system from being depleted of air pressure.</p> <p><b>ENGINE &amp; TRANSMISSION</b></p> <p><b>Transmission Selector</b></p> <p>A push-button transmission shift module, Allison model 29538373, shall be located to the 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 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 TranSynd, Shell Spirax S6ATF A295, or equivalent synthetic.</p> <p><b>Vehicle Speed</b></p> <p>Electronic speed limiting set at 60 MPH as required by NFPA 1901.</p> <p><b>Engine/Transmission Package</b></p> <p><b>Engine</b></p> <p>The vehicle shall utilize a Cummins L9 engine as described below:</p> <ul style="list-style-type: none"> <li>• 450 maximum horsepower at 2200 rpm</li> <li>• 1250 lb-ft peak torque at 1200 rpm</li> <li>• Six (6) cylinder, charge air cooled, 4-cycle diesel</li> <li>• 543 cu. in. (8.9 liter) displacement - 4.49 in bore x 5.69 in stroke</li> <li>• 16.6:1 compression ratio</li> <li>• Viable Geometry Turbocharged</li> <li>• Engine shall be equipped with Full-Authority Electronics</li> <li>• Electronic Timing Control fuel system</li> <li>• Fuel cooler (when equipped with a fire pump)</li> <li>• Cummins supplied fuel filter with integral water separator and water-in-fuel sensor approved by Cummins for use on the L9 engine</li> </ul>			
		16	

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<ul style="list-style-type: none"><li>• Fleetguard LF9009 Venturi Combo combination full-flow/by-pass oil filter approved by Cummins for use on the ISL engine</li><li>• Engine lubrication system, including filter, shall have a minimum capacity of 25 quarts</li><li>• Delco-Remy 39 MT-HD 12-volt starter</li><li>• Cummins 18.7 cubic foot per minute (cfm) air compressor</li><li>• Corrosion inhibitor additive for coolant system</li><li>• After treatment system consisting of a oxidation catalyst and diesel particulate filter and selective catalyist reduction system</li><li>• Ember separator compliant with current NFPA 1901 standard</li><li>• The engine shall be compliant with 2021 EPA Emission standards</li></ul> <p>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 intake piping shall be made from aluminized steel tubing with flexible rubber hoses. The intake piping clamps shall be heavy-duty, constant-torque, T-bolt style 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 air cleaner shall be an 11” diameter K&amp;N for lower restriction and high air flow. The filtration media shall be washable and easily accessed for service. The air filter shall have a 3 year / 300,000 mile warranty.</p> <p>The engine exhaust piping shall be a minimum of 4” diameter welded stainless steel tubing. The aftertreatment system 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>A 5-year/100,000-miles parts and labor warranty shall be provided as standard by Cummins.</p> <p>A copy of the Engine Installation Review stating the engine installation meets Cummins recommendations shall be provided as requested. The engine installation shall not require the operation of any type of ”power-down” feature to meet engine installation tests.</p> <p><b>Transmission</b></p> <p>The vehicle shall utilize an Allison EVS3000P, electronic, 5-speed automatic transmission.</p> <p>A push button shift module 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 that are clearly visible to the driver. The shift module shall have means to enter a diagnostic mode and display diagnostic data.</p> <p>A transmission oil temperature gauge with warning light and buzzer shall be installed on the cab instrument panel to warn the driver of high oil temperatures that may damage the transmission.</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The transmission shall have a gross input torque rating of 1250 lb.-ft. and a gross input power rating of 450 HP.</p>		
<p>The gear ratios shall be as follows:</p>		
<p>1 - 3.49</p>		
<p>2 - 1.86</p>		
<p>3 - 1.41</p>		
<p>4 - 1.00</p>		
<p>5 - .75</p>		
<p>R - 5.03</p>		
<p>The transmission shall have an oil capacity of 23 quarts and shall be equipped with a fluid level sensor (FLS) system, providing direct feedback of transmission oil level information to the driver.</p>		
<p>A water-to-oil transmission oil cooler shall be provided to ensure proper cooling of the transmission when the vehicle is stationary (no air flow). Air-to-oil transmission oil coolers, which require constant air flow, are not acceptable.</p>		
<p>The transmission shall be provided with two (2) engine-driven PTO openings located at the 4 o'clock and 8 o'clock positions for flexibility in installing pto-driven equipment.</p>		
<p>The automatic transmission shall be equipped with a power lock-up device. The transmission lock-up shall prevent down shifting of the transmission when the engine speed is decreased during pump operations, thereby maintaining a constant gear ratio for safe operation of the pump. The transmission lock-up shall be automatically activated when the pump is engaged in gear. The transmission lock-up shall be automatically deactivated when the pump is disengaged 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>Automatic Shift to Neutral</b></p>		
<p>The transmission shall be programmed to comply with NFPA 1901 and automatically shift to neutral upon application of the parking brake.</p>		
<p><b>SECONDARY BRAKING</b></p>		
<p><b>Jacobs Engine Brake</b></p>		



<div> <div>MONROE FIRE PROTECTION DISTRICT</div> </div>	<div> <div>BIDDER COMPLIES</div> </div>	
<div> <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 accessible to the driver.</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>Transmission Programming</b></p> <p>The transmission shall include the Allison 2nd gear Pre-Select feature. This option will direct the transmission to down shift to second gear when the throttle is released and the Jacobs engine brake (or Telma retarder wired to activate with release of throttle) is engaged. This feature is designed to increase brake life and aid vehicle braking.</p> <p><b>COOLING PACKAGE</b></p> <p><b>Engine Cooling Package</b></p> <p><b>Radiator</b></p> <p>The cooling system shall include an aluminum tube-and-fin radiator with a minimum of 1,408 total square inches of frontal area to ensure adequate cooling under all operating conditions. There shall be a drain valve in the bottom tank to allow the radiator to be serviced. A sight glass shall be included for quick fluid level assessment. The radiator shall be installed at the prescribed angle in order to achieve the maximum operational effectiveness. This shall be accomplished according to established work instructions and properly calibrated angle measurement equipment.</p> <p><b>Silicone Hoses</b></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. All radiator hoses shall be routed, loomed, and secured so as to provide maximum protection from chafing, crushing, or contact with other moving parts.</p> <p><b>Coolant</b></p> </div>	<div> <div>YES</div> </div>	<div> <div>NO</div> </div>

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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><b>Coolant Recovery</b></p> <p>There shall be a coolant overflow recovery system provided.</p> <p><b>Charge Air Cooler System</b></p> <p>The system shall include a charge air cooler to ensure adequate cooling of the turbocharged air for proper engine operation and maximum performance.</p> <p><b>Charge Air Cooler Hoses</b></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><b>Fan/Shroud</b></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. The fan shall be installed with grade 8 hardware which has been treated with thread locker for additional security. 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. The fan shroud shall be constructed of fiber-reinforced high temperature plastic. The shroud shall be specifically formed with curved surfaces which improves air flow and cooling.</p> <p><b>Transmission Cooler</b></p> <p>The cooling system shall include a liquid-to-liquid transmission cooler capable of cooling the heat generated from the transmission. When a transmission retarder is selected, the cooler shall have an increased capacity to handle the additional heat load.</p> <p><b>FUEL SYSTEM</b></p> <p><b>Fuel System</b></p> <p>One (1) 65 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 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</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>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> <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 65 gallons of fuel with a sufficient additional volume to allow for thermal expansion of the fuel without overflowing the vent.</p> <p>A 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>360 Amp Alternator</b></p> <p>A Niehoff model C505 360 amp SAE (J56) rated, 320 amp at 200 degrees F NFPA 1901 rated brush-less type alternator with rectifier shall be provided. It shall be self-energized and shall have a negative voltage compensating remote solid-state voltage regulator. The alternator shall be installed in accordance with the engine manufacturer`s recommendations.</p> <p><b>BATTERIES</b></p> <p><b>Battery System</b></p> <p>The manufacturer shall supply five (5) 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. There shall be two (2) steel frame-mounted battery boxes, one (1) on the left frame rail and one (1) on the right frame rail. Each battery box shall be secured to the frame rail with Grade 8 hardware. The boxes shall hold two (2) batteries on the left side and three (3) on the right side. The batteries shall have a minimum combined rating of 5,000 (5 x 1000) cold cranking amps (CCA) @ 0 degrees Fahrenheit and 1025 (5 x</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>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, one (1) for each set of batteries. Each battery tray shall be equipped with a rubber hose to facilitate drainage. The rubber hose shall be routed to drain beneath the battery box. The batteries shall be positioned in well-ventilated areas.</p> <p>One (1) positive and one (1) negative jumper stud shall be provided.</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>MISC CHASSIS</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 the engine reaches a specified temperature.</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> <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 1710HD 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>Three (3) Underbody Receivers</b></p> <p>An underbody three (3) way receiver assembly with (3) winch connections shall be provided.</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO

There shall be three (3) receivers provided below the rear of the body; one (1) rear facing winch/Class III hitch receiver and two (2) side facing winch receivers. The receivers shall be of an integral construction to the underbody support assembly.

The rearward facing Class III hitch/winch receiver shall include two (2) tow eye connections and an electrical connection for a portable winch application. The two (2) side facing winch receivers shall be located one (1) each side below the rearward most body compartment. Each side facing hitch receiver shall include an electrical connection for a portable winch application.

Rear receiver shall be rated as a Class III trailer hitch or a 9,000 lb. straight line pull winch receiver.

Each side facing portable winch connection shall be rated for a maximum of 9,000 lb. straight line pull.

**Front Bumper Receiver**

An under front bumper winch receiver shall be provided. The receiver shall be constructed of steel tubing and attached to the chassis framing. An electrical connection shall be provided for use with a portable winch.

The portable winch connection shall be rated for a 9,000 pound line pull.

**On-Spot Tire Chains**

The chassis shall be provided with On-Spot automatic tire chain system. The system shall include:

- An air cylinder containing one diaphragm, one return spring, one pushrod and a collapsible dust boot held in place with an Oetiker® style retainer to prevent foreign material from entering the air cylinder. The cylinder will be assembled with a two-piece cylinder clamp. The air cylinder will be cast aluminum and the lid will be threaded to receive a 90-degree DOT approved air fitting. The cylinder and lid must be anodized for corrosion resistance. Each cylinder will have 6 strengthening ribs. The cylinder wall thickness will be a minimum of 6mm.
- An extension rod and ball joint assembly that is fastened to the cylinder pushrod by means of a left hand thread. The ball joint must have a provision for greasings.
- A swing arm that is connected to the ball joint assembly with a nylock lock nut on one side and is fastened to the cylinder bracket at the pivot point. The arm will be supported by 2 greaseable arm bushings. The arm will be one-piece hardened alloy material that is formed in such a fashion that it allows the chainwheel to contact the vehicle tire at 3-1/2 to 4 inches off the ground.
- A chainwheel that is fastened to the arm with one 20mm bolt that is hardened to Metric Grade 8.8 along with a hardened lock nut. The bolt will also come with one chainwheel spacer for wheel height adjustment. The chainwheel will be 7-3/4 inches in diameter and will be constructed of a one-piece cast aluminum center hub that contains two

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p data-bbox="256 249 1386 541">maintenance-free sealed bearings. The circumference of the chainwheel will be rubber coated so that it may ride on the inside of the vehicle tire without causing any damage to the tire. There will be 6 lengths of chains approximately 13 inches long that will be welded to a single steel ring at 60-degree intervals. The steel ring will be bolted to the center hub with 6 Grade 8 cap screws and locknuts. Each length of chain will contain up to 10 twisted links that are square-cut to provide for maximum traction in forward and reverse. Each chainwheel will be delivered with a chainwheel helmet to protect the chainwheel bearing and casting.</p> <p data-bbox="162 581 1040 613">A switch shall be provided in the cab for activation of the tire chains.</p> <p data-bbox="162 653 324 688"><b>DEF Tank</b></p> <p data-bbox="162 730 1260 764">A diesel exhaust fluid (DEF) tank with a five (5) gallon capacity shall be provided.</p> <p data-bbox="162 806 1362 951">The DEF tank shall include a heater fed by hot water directly from the engine block to prevent the DEF from becoming too cool to operate correctly per EPA requirements. The tank shall include a temperature sensor to control the heater control valve that controls the feed of hot water from the engine to the DEF tank heater.</p> <p data-bbox="162 993 1326 1026">A sender shall be provided in the DEF tank connected to a level gauge on the cab dash.</p> <p data-bbox="162 1066 862 1098">The tank shall be located left side below rear of cab.</p> <p data-bbox="162 1140 508 1176"><b>Power Steering Cooler</b></p> <p data-bbox="162 1218 1341 1360">A heat exchanger (cooler) shall be installed to maintain desired power steering fluid temperature. The cooler shall be a model DH-073-1-1 with air / oil design rated at 6300 BTU/HR @ 10 GPM. The cooler shall be mounted in front of the radiator and plumbed with #10 lines.</p> <p data-bbox="162 1402 261 1449"><b>CAB</b></p> <p data-bbox="162 1491 315 1528"><b>Cab Long</b></p> <p data-bbox="162 1570 1370 1789">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 data-bbox="162 1829 1347 1934">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,</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>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 0.435" 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 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 3" x 1.5" .375 thick 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</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>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 139.5” long to allow sufficient room in the occupant compartment for up to ten (10) fire fighters. The cab roof shall be approximately 101” above the ground with the flat roof option. The back-of-cab to front axle length shall be a minimum of 67.5”.</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> <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 2,561-sq. in. shall be provided. Forward visibility to the ground for the average (50th 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>Windshield Wipers</b></p> <p>Two (2) opposed radial style windshield wipers with two (2) separate electric motors shall be provided for positive operation. The wipers shall be tested beyond the minimum SAE requirement to a total of 3.3 million cycles. 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 20”, and the blade length approximately 21”. Each arm shall have a 90 degree sweep for full coverage of the windshield. The wipers shall be synchronized so as to wipe each windshield simultaneously.</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>		



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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> <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 forward engine cover shall be provided with a lift-up door to provide easy access for checking and filling engine oil, transmission fluid and power steering fluid without raising the cab (a separate access panel shall be provided for the power steering when equipped with an X12 or X15 engine).</p> <p>The engine cover insulation shall consist of 1/2" closed cell elastomeric compound foam with aluminum foil faced fiberglass fabric manufactured to specifically fit the engine cover. All edges and seams shall be sealed using aluminum foil faced fiberglass tape. The insulation shall meet or exceed DOT standard FMVSS 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>The rear engine cover area shall be covered with molded 18 lb/cu. ft. (+/-0.5) flexible integral skinned polyurethane foam at a Durometer of 60 (+/- 5.0) per ASTM F1957-99. The cover shall</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>be approximately .5" thick with a minimum skin thickness of 0.0625 inches. The cover shall be provided to reduce the transmission of noise and heat from the engine. The cover shall be black with a pebble grain finish for slip resistance.</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 interior side to side dimensions shall be 87" from wall padding to wall padding and 89.5" from door to door.</p> <p>The floor area in front of the front seat pedestals shall be no less than 24" side to side by up to 25" front to rear for the driver and no less than 24" side to side by up to 27" 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 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> <p>The driver and officer seat risers shall be welded to the main cab floor structure. Depending on the make and model of the seats, a storage compartment with a hinged door shall be provided in the risers.</p> <p>The lower front cab steps shall be a minimum of 11.5" deep x 24" wide. The lower rear cab steps shall be a minimum 16" deep x 21" wide. The first step at the front and rear cab doors shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The front and rear steps shall incorporate full width intermediate steps for easy access to the cab interior. The intermediate step at the front doors shall be approximately 6" deep (minimum). The intermediate step at the rear doors shall be approximately 10.75" deep (minimum). 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>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A black 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 grip handle shall be provided on the left and right side windshield post for additional handholds.</p> <p><b>Cab Doors</b></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 72.5" high, and the rear cab door openings shall be approximately 33.75" wide x 72.5" high. The front doors shall open approximately 85 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>The front door windows shall provide a minimum viewing area of 518 sq. in. each. The rear door windows shall provide a minimum viewing area of 554 sq. in. each. All windows shall have 75% light transmittance automotive safety tint.</p> <p>The door handles on the exterior of the cab shall be a pull type with vertical orientation. The handles shall be made with corrosion free material and have a black finish. Each exterior door handle shall have an integral keyed lock.</p> <p>Recessed paddle-style door latches shall be provided on the interiors of the doors. The latches shall be designed and installed to protect against accidental or inadvertent opening as required by NFPA 1901. The rear cab door handles shall have a vertical orientation making them easily accessible from forward or rearward outboard seating positions. Each cab door shall have a manually operated door lock actuated from the interior of each respective door.</p> <p><b>Cab Instruments and Controls</b></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. Chassis operation 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>• Speedometer/Odometer</li> <li>• Tachometer</li> <li>• Engine 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>• Transmission oil temperature gauge</li> </ul>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p> <ul style="list-style-type: none"> <li>• Two (2) air pressure gauges with a warning light and buzzer (front air and rear air)</li> <li>• Fuel gauge with low fuel indicator light</li> <li>• Voltmeter</li> <li>• Master battery/ignition switch (rocker with integral guard)</li> <li>• Engine start switch (rocker)</li> <li>• Heater and defroster controls with illumination</li> <li>• Marker light/headlight control switch (rocker)</li> <li>• Panel light dimmer switch (rocker)</li> <li>• Self-canceling turn signal control with indicators</li> <li>• Windshield wiper switch with variable speed and washer controls</li> <li>• Pump shift control with green "pump in gear" and "o.k. to pump" indicator lights</li> <li>• 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>• Master warning light switch</li> <li>• Cab ajar warning indicator</li> <li>• Air filter restriction indicator</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>Electrical System</b></p> <p>The cab and chassis system shall have designated electrical distribution areas. All electrical components shall be located such that standard operations shall not interfere with or disrupt vehicle operation. An access cover shall be provided for maintenance access to the electrical distribution area. Circuit protection shall be provided by fuses, thermal reset breakers and / or solid state controls.</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><b>Daytime Running Lights</b></p> <p>Two (2) dual rectangular chrome plated headlight bezels shall be installed on the front of the cab. 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>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Fast Idle System</b></p> <p>A fast idle system shall be provided and controlled by a switch accessible by the driver. The system shall increase engine idle speed to a preset RPM for increased alternator output.</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>Side Impact Dynamic Pre-Load per SAE J2422 (Section 5).</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>Quasi-static Roof Strength (proof loads) per SAE J2422 (Section 6) / ECE R29, Annex 3, paragraph 5.</p> <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>Frontal Impact per SAE J2420.</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>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<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>Seat Mounting Strength</b></p> <p>The cab seat mounting surfaces shall be third party tested and in compliance with FMVSS 571.207.</p> <p><b>Seat Belt Anchor Strength</b></p> <p>The cab seat belt mounting points shall be third party tested and in compliance with FMVSS 571.210.</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 manufacturer`s 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 customer`s expectations, and satisfies the customer`s requirements.</p> <p><b>CAB ROOF</b></p> <p><b>Raised Roof</b></p> <p>The rear portion of the cab roof shall be raised 16". This will provide at least 5'-11" standing room. The front of the vista hood shall be sloped at 45 degrees from vertical. The slope shall begin slightly in front of the centerline of the front axle to leave room for warning lights and air conditioning in front of the vista. The main roof extrusion shall extend up into the vista to strengthen the roof perimeter. Windows shall be provided on front, side, and rear unless otherwise specified.</p> <p>The rear door shall have an 89" vertical dimension for improved ingress/egress characteristics.</p> <p><b>Raised Roof Front Windows</b></p> <p>The front windows of the raised roof portion of the cab shall be deleted.</p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Raised Roof Side Windows</b></p> <p>The side windows of the raised roof portion of the cab ahead of the rear doors shall be deleted.</p>			
<p><b>Raised Roof Rear Windows</b></p> <p>The rear windows of the raised roof portion of the cab shall be deleted.</p>			
<p><b>CAB BADGE PACKAGE</b></p>			
<p><b>Logo Package</b></p> <p>The apparatus shall have manufacturer logos provided on the cab and body as applicable.</p>			
<p><b>CAB DOORS</b></p>			
<p><b>Rear Cab Door Position</b></p> <p>The cab rear doors shall be moved to the rear of the wheel opening. This door placement facilitates easier entry and egress by reducing the rear facing seat protrusion into the door opening.</p> <p>Rear door position to the 58” or (medium cab).</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 Panels</b></p> <p>The inner door panels shall be made from 1/8" (.125") aluminum plate painted Zolatone (to match cab interior paint) for increased durability. The cab door panels shall be split just below the the handrail and incorporate an easily removable panel for access to the latching mechanism and window regulator for maintenance or service.</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 keyed lock integrated with the cab door handle.</p>			
<p><b>Cab Compartment Door Trim</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A anodize aluminum trim shall be located at the bottom edge of the cab exterior compartment openings. The trim shall provide added protection of the painted surface of the cab when equipment is placed or removed from the compartments.</p> <p><b>Cab Front Door Windows</b></p> <p>Full roll-down windows shall be provided for the front cab doors with power operated heavy duty regulators. The regulators shall have worm gear drive cable operation for positive movement and long life. Scissors or gear-and-sector drives are not acceptable. Window switches shall be located at the center dash for access by the driver or officer.</p> <p><b>Cab Rear Door Windows</b></p> <p>Full roll-down windows shall be provided for the rear crew doors with power operated heavy duty regulators. The regulators shall have worm gear drive cable operation for positive movement and long life. Scissors or gear-and-sector drives are not acceptable. Window switches shall be located on each door with additional switches accesible by driver.</p> <p><b>Cab Door Style</b></p> <p>The cab doors shall extend down to cover lower step well.</p> <p><b>Door Mounted Flashing Lights</b></p> <p>There shall be four (4) Whelen model M6R door mounted red LED flashing lights with red lenses (one per door) provided.</p> <p>The lights shall be located on each cab door in the outboard position.</p> <p>Each light shall be activated by the cab door ajar circuit.</p> <p><b>Cab Door Reflective Material</b></p> <p>Reflective Diamond Grade material striping shall be provided approximately 7.5" high on the lower cab door panels of an extended (non-barrier) door. The stripes shall run from the top outer corner to the bottom inside corner of the lower door area, forming a "A" shape when viewed from the rear. The reflective material shall meet NFPA 1901 requirements.</p> <p><b>CAB STEPS</b></p> <p><b>Cab Steps</b></p> <p>The lower cab steps shall extend 3.5" past the side of the cab to provide increased surface area.</p> <p><b>MIRRORS</b></p>		



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p><b>Mirror Extension</b></p> <p>There shall be a 2” extension provided for each Ramco mirror.</p> <p><b>Mirrors, Heated</b></p> <p>Driver and officer cab mirrors to be heated. Includes all surfaces (flat and convex, as applicable).</p> <p><b>Cab Mirrors</b></p> <p>Two (2) Ramco model 6001FFR remote controlled black aluminum mirrors shall be installed. The mirrors shall incorporate a full face main section with a convex mirror with black 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>MISC EXTERIOR CAB</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 officer`s 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> <li>• 58" - 80" C/A cab (medium - extended): 26.69"W x 24.5"H</li> </ul> <p><b>Front Mud Flaps</b></p> <p>Black linear low density polyethylene (proprietary blend) mud flaps shall be installed on the rear of the cab front wheel wells. The design of the mud flaps shall have corrugated ridges to distribute water evenly.</p> <p><b>Handrails</b></p> <p>Cab door assist handrails shall consist of two (2) 1.25” diameter x 18” long 6063-T5 anodized aluminum tubes mounted directly behind the driver and officer door openings one each side of the cab. 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>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>The rear cab wall shall be constructed using formed 3/16" aluminum smooth plate interlocking in aluminum extrusions. The smooth plate shall match the cab paint scheme.</p> <p><b>Knurled Hand Rail Extrusion</b></p> <p>Cab exterior hand rails shall utilize Austin Hardware model GR-002-AL-BRT-144 knurled bright anodized aluminum tubes. The hand rail extrusions shall be machine extruded with integral ribbed surfaces and knurled grip surfaces to assure a good grip for personnel safety.</p> <p><b>Handrails</b></p> <p>Cab door assist handrails shall consist of two(2) 1.25" diameter x 24" long 6063-T5 anodized aluminum tubes mounted directly behind the driver and officer door openings each side of the cab. 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>Cab Wheel Well</b></p> <p>The cab wheel well shall be increased in size to provide additional clearance for larger tires. The fender trim shall be adjustable in and out to better accommodate various wheel / tire offsets.</p> <p><b>Receptacle Mounting Plate</b></p> <p>A mounting plate shall be provided for the battery charger receptacle, battery charger indicator and if applicable the air inlet. The plate shall be constructed of 14 gauge stainless steel painted black and be removable for service access to the receptacle(s) and indicator.</p> <p><b>Hand Rails</b></p> <p>Stainless steel knurled grip surface hand rails shall be provided in place of standard anodized handrails on Body and Pump Module (if applicable). Haralson Metals, Vendor Part# 85230020 (Reference E-ONE Part# 592346)</p> <p><b>HVAC</b></p> <p><b>HVAC Control Location</b></p> <p>Heating and air conditioning controls shall be located in the center dash area.</p> <p><b>Rear AC Control</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>An additional air conditioning fan control shall be provided for the rear facing AC vents. Location shall be adjacent to the rear facing vents/filter on the driver side.</p> <p><b>Air Conditioning</b></p> <p>An overhead air-conditioner / heater system with a 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 fourteen (14) comfort discharge louvers, eight (8) to the back area of the cab, six (6) to the front area of the cab including one (1) each side outboard in the forward overhead console. These louvers will be used for both AC and heated 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. For improved corrosion resistance the evaporator shall have a hydrophilic blue fin coating.</p> <p>The control panel shall actuate the air-distribution system using electric actuators. The control panel shall allow blended airflow to both the comfort air vents and defrost vents. Separate three-speed blower switches shall be provided to independently control air speed for the front and rear blowers.</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> <ul style="list-style-type: none"> <li>• AC BTU: 55,000</li> <li>• Heat BTU: 65,000</li> <li>• CFM : 1300 @ 13.8V (All blowers)</li> </ul> <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>SEATS</b></p> <p><b>Cab Seats</b></p> <p>All cab seats shall be Bostrom brand.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p><b>Seat, Rear Facing Officer Side</b></p> <p>One (1) Bostrom Tanker 450 ABTS seat with high back SCBA storage shall be provided in the rear facing position over the officer side wheel well.</p> <p>The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.</p> <p>Seat 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>• Shoulder strap holder</li> <li>• Replaceable seat, side and headrest cushions</li> </ul> <p><b>Seat, Officer</b></p> <p>One (1) Bostrom Tanker 450 ABTS seat with high back SCBA storage shall be provided in the officer position.</p> <p>The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.</p> <p>Seat 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>• Shoulder strap holder</li> <li>• Replaceable seat, side and headrest cushions</li> </ul> <p><b>Seat Cover Material</b></p> <p>All seats shall have Durawear seat cover material.</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 five (5) personnel shall be provided.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Seat, Rear Wall Forward Facing</b></p> <p><b>QTY: 2</b></p> <p>One (1) Bostrom Tanker 400 ABTS flip-up seat with high back SCBA storage shall be provided. The seat shall be located on the rear wall on the driver's side inboard, officer's side inboard position on a seat riser.</p> <p>The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.</p> <p>Seat features shall include:</p> <ul style="list-style-type: none"><li>• Seat bottom folds up automatically when not in use to provide increased room in the rear of the cab</li><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>• Shoulder strap holder</li><li>• Replaceable seat, side and headrest cushions</li></ul> <p><b>SCBA Bracket SmartDock</b></p> <p><b>QTY: 4</b></p> <p>A IMMI SmartDock Gen2 SCBA storage bracket shall be provided. The SmartDock is a strap-free docking station that offers single-motion SCBA insertion and hands-free release when the firefighter stands up to exit the seat. SmartDock has undergone extensive testing to ensure that it meets or exceeds industry standards. When evaluated to the NFPA 1901 Standard for Automotive Fire Apparatus, SmartDock met requirements for retaining both the cylinder and the pack in dynamic testing.</p> <p>Location: officer's seat, inboard driver's side rear wall, inboard officer's side rear wall, rear facing officer's side.</p> <p><b>Seat, Driver</b></p> <p>One (1) H. O. Bostrom 400 Series Sierra Air- 50RX4 suspension seat with ABTS and high back styling shall be supplied for the driver position.</p> <p>The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.</p> <p>Features shall include:</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<ul style="list-style-type: none"> <li>• Air-50 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><b>MEDICAL CABINETS</b></p> <p><b>Medical Storage Cabinet</b></p> <p>There shall be one (1) medical storage cabinet provided over the driver side wheel well of the cab with interior and exterior access. The medical storage cabinet shall be constructed of 1/8” (.125”) smooth aluminum plate.</p> <p>The medical cabinet dimensions shall be based on cab style (viewed from the interior):  94” Wide Typhoon / Cyclone: 42” high x 22” wide x 28” deep  100” Wide Cyclone and Quest: 42” high x 25” wide x 28” deep</p> <p>There shall be two (2) adjustable shelves provided in the medical storage cabinet. The shelves shall be constructed of 1/8” (.125”) smooth aluminum plate. Each shelf shall have a 1” front and rear lip for strength and reinforcement. The shelves shall be sized to the interior dimensions of the medical storage cabinet.</p> <p>The medical storage cabinet shall be accessible externally of the cab by a locking roll-up door and internally by a vertically hinged door with a locking push-button latch.</p> <p><b>Vista Cabinet Forward</b></p> <p>A storage cabinet shall be provided for the Vista roof area ahead of the rear cab doors. The cabinet shall be constructed of 1/8" (.125) smooth aluminum and shall include three (3) horizontal hinged single pan lift-up doors. The cabinet width dimensions are based on cab model as noted below. The height of the cabinet shall be approximately the same height as the Vista roof height. The cabinet shall have a sloped forward wall matching the Vista angle. The lower depth shall be approximately the same dimension as the Vista height. The cabinet interior shall be open from left to right side.</p> <p><b>Cabinet width dimensions:</b></p> <p>Typhoon and legacy Cyclone: 84" Overall cabinet width, 12" wide left and right side door openings, 50" wide center opening.</p> <p>100" Wide Cyclone: 90" Overall cabinet width, 15" wide left and right side door openings, 50" wide center opening.</p> <p>Quest: 89" Overall cabinet width, 12" wide left and right side door openings, 55" wide center opening.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>(Dimensions are approximate)</p> <p><b>Vista Cabinet Rearward</b></p> <p>A storage cabinet shall be provided for the Vista roof area rearward of the rear cab doors. The cabinet shall be constructed of 1/8" (.125) smooth aluminum and shall include three (3) horizontal hinged single pan lift-up doors. The cabinet width dimensions are based on cab model as noted below. The height of the cabinet shall be approximately 12". The depth of the cabinet will be approximately 10" on a long (67.5/68") cab, 16" on a stretched long (74") cab and 22" on an extended (80") cab. The cabinet interior shall be open from left to right side.</p> <p><b>Cabinet width dimensions:</b></p> <p>Typhoon and legacy Cyclone: 87" Overall cabinet width, 12" wide left and right side door openings, 50" wide center opening.</p> <p>100" Wide Cyclone: 93" Overall cabinet width, 15" wide left and right side door openings, 50" wide center opening.</p> <p>Quest: 91" Overall cabinet width, 12" wide left and right side door openings, 54" wide center opening.</p> <p>(Dimensions are approximate)</p> <p><b>Med cabinet roll up door painted upper cab color</b></p> <p>The cab medical cabinet exterior roll-up door shall be painted the upper cab color.</p> <p><b>Medical Storage Cabinet Finish</b></p> <p>The medical storage cabinet(s) shall have a Zolatone gray finish. The finish shall be applied to the interior, exterior, shelves (if equipped) and trays (if equipped) of the cabinet.</p> <p><b>Medical Cabinet Doors</b></p> <p>All medical cabinets on the custom cab shall be ROM brand roll-up type doors.</p> <p><b>Reverse Hinge</b></p> <p>The driver and offiicer side ALS compartment door shall be hinged to the back side of the compartment opening. The doors shall open approximately 110 degrees.</p> <p>A vertically mounted drip rail shall be installed along the forward compartment opening (if required with door design) to divert the elements from entering the compartment along the forward compartment opening while the apparatus is responding.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p><b>Exterior Cab Compartment</b></p> <p>The compartments to the rear sides of the cab are to be designed with a pass through that extends fully from the driver side compartment to the officer side compartment. It will be constructed out of 1/8" aluminum and will be incorporated into the design of any other options along the rear wall of the cab as necessary to allow the pass through to fully extend to the opposite side of the cab. The pass through opening shall be a minimum of 11" high and 11" wide on both the driver and officer side of the truck.</p> <p><b>Exterior Cab Compartment</b></p> <p><b>QTY: 2</b></p> <p>There shall be a storage compartment provided each side at the lower rear side of the cab with exterior access. The compartment shall have a door opening of approximately 42" high x 9" wide and be constructed of 1/8" aluminum plate.</p> <p>The cabinet dimensions shall be based on cab style:  94" Wide Typhoon / Cyclone: 43.5" high x 11" wide x 14" deep interior. (lower officer side floor notched for front suction if equipped).  100" Wide Cyclone / Quest: 43.5" high x 11" wide x 17" deep interior. (lower officer side floor notched for front suction if equipped).</p> <p>A single door shall be provided on the compartment. The door shall be constructed using 3/16" (0.188") smooth aluminum plate with a quarter turn stainless steel d-ring(s). Latching shall be provided by a slot in the rear opening of the door area.</p> <p>The compartment door shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment door with a dielectric barrier. The door shall be attached with machine screws threaded into the door frame.</p> <p>An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.</p> <p><b>Broom Handle Storage</b></p> <p>Two (2) tubes shall be provided on the rear wall of the cab transverse compartment for storage of broom handles. Tubes shall be vertically stacked and extend full width of transverse compartment floor.</p> <p><b>Cab Compartment Storage</b></p> <p><b>QTY: 2</b></p>		



MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>The cab compartment located behind driver side rear door, officer side rear door shall have a 7.75 inch square floor recessed 4" for storage of one (1) standard size SCBA bottle, 20lbs ABC Extinguisher or 2.5 gal Water Extinguisher.</p> <p>The storage design shall be rectangular in shape with cutout for extinguisher hose towards the inside wall of the compartment.</p> <p>This option requires minimum 30" tall compartment and 67.5" CA or longer cab.</p>			
<b>MISC INTERIOR CAB</b>			
<b>Cab Interior Color</b>			
<p>Cab instrument panel, overhead console, trim panels, headliner, and door panels shall be gray.</p>			
<b>Sun Visors</b>			
<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>			
<b>Air Horn Lanyard</b>			
<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>			
<b>Mounting Plate on Engine Cover</b>			
<p>An equipment mounting plate shall be provided between the driver and officer on the chassis engine cover. The plate shall be mounted to the engine access door spaced approximately 1/2" up to provide clearance for equipment mounting hardware. The plate shall be constructed of 3/16" aluminum plate and have a swirl finish.</p>			
<b>Engine Cover</b>			
<p>The engine cover shall blend in smoothly with the interior dash and flooring of the cab. The upper left and right sides shall have a sloped transition surface running front to rear providing increased space for the driver and officer.</p> <p>The engine cover and engine service access door cover shall be molded 18 lb/cu. ft. (+/-0.5) flexible integral skinned polyurethane foam at a Durometer of 60 (+/- 5.0) per ASTM F1957-99. The cover shall be approximately .5" thick with a minimum skin thickness of 0.0625 inches. The cover shall be provided to reduce the transmission of noise and heat from the engine. The cover shall be black and feature a pebble grain finish for slip resistance.</p>			
<b>Rear Wall Toolboard</b>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p><b>QTY: 2</b></p> <p>PAC TRAC tool mounting shall be provided on the rear wall of the cab. The PAC TRAC shall be vertical stacked with tool mounting grooves orientated horizontal each side outboard of inboard seating position full height of the rear cab wall.</p> <p><b>Rear Engine Cover Storage</b></p> <p>A storage area constructed of 1/8" (.125) smooth aluminum plate shall be provided on the rear lower engine cover. The storage area shall be approximately 44.5" wide x flush with upper engine cover high x sloped angle of engine cover deep. The storage area shall have 1" flanges on the bottom to facilitate installation of storage area. A smooth aluminum door hinged forward with a gas shock and push button latch shall be provided to hold contents per current version of NFPA 1901. The storage area shall be painted to match the interior of the cab.</p> <p><b>Cup Holders</b></p> <p>Two (2) cup holders shall be provided on the cab engine cover. The cup holders shall be molded 18 lb/cu. ft. (+/-0.5) flexible integral skinned polyurethane foam at a Durometer of 60 (+/- 5.0) per ASTM F1957-99 and with a minimum skin thickness of 0.0625 inches. The outer surface of the cup holders shall be black with a pebble grain finish and shall include a removable plastic liner.</p> <p>The cup holders shall be located ship loose.</p> <p><b>Cup Holder / Storage Tray</b></p> <p>A cup holder and tray assembly shall be provided on the cab engine cover between the driver and officer. The tray shall be approximately 14" wide x 10" long x 1.5" tall and constructed from .125" aluminum plate. The top edge of the tray sides shall have a .5" lip and the front corners of the tray shall be tapered for dash access. The two (2) cup holders shall be constructed from 3.5" diameter pipe approximately 2.5" tall and be located one each side at the rear corners of the tray. The assembly shall be painted to match the cab interior color.</p> <p><b>Rear Facing Storage</b></p> <p>Recessed storage areas shall be provided in the rear face of the cab wheel well risers.</p> <p><b>Overhead Console</b></p> <p>An overhead console shall be provided in the front of the cab for the driver and officer. The areas in front of the driver and officer shall be removable panels that can be used for switches and other electrical items. The entire overhead console shall be hinged for service access.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The center of the overhead console shall have a lowered area for mounting of up to three (3) electrical components like siren heads, directional bar controllers, etc.</p> <p>The overhead console shall be constructed of aluminum smooth plate painted to match the cab interior. The console shall be installed using stainless steel fasteners.</p> <p><b>Rear Engine Cover</b></p> <p>The rear engine cover shall be provided with a reduced profile for increased legroom on the forward facing rear inboard seats.</p> <p><b>Cab Dash - Low Profile Severe Duty</b></p> <p>The driver side and center dash shall be constructed from cast aluminum for durability and long life.</p> <p>The driver side cast aluminum dash shall enclose the instrument cluster.</p> <p>The center dash area shall be a low profile design to provide optimal forward visibility. The driver and officer sides shall be angled for ergonomic access and designed for either a color display or switches. Access panels shall be provided on the top, front and officer side for easy service access.</p> <p>The officer side dash shall be low profile and constructed from .125" smooth aluminum plate. A service access panel shall be provided in the top surface.</p> <p>The driver, center and officer side dash shall be painted to match the cab interior.</p> <p>The lower kick panels below the dash to be constructed from .125 aluminum plate painted to match the cab interior. The panels shall be removable to allow for servicing components that may be located behind the panels.</p> <p><b>Cab Insulation Package</b></p> <p>The cab shall be insulated to mitigate noise and ensure maximum cooling/heating capacity. The insulation package shall include 1" Polyester foam with Mylar facing for the front wall, rear wall, side walls, and ceiling, Reflectex (or equal) inside each cab door and 1" closed cell foam insulation below the front and rear facing seat risers.</p> <p><b>CAB ELECTRICAL</b></p> <p><b>Cab Dome Lights</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A Weldon LED dome light assembly 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 switch, the red light activates with light assembly mounted 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>Push-Button Switch</b></p> <p>A heavy duty metal push-button switch shall be installed on the officer`s side switch panel to operate the Q2B siren.</p> <p><b>Push-Button Switch</b></p> <p>A heavy duty metal push-button switch shall be installed on the officer`s side switch panel to operate the Q2B siren brake.</p> <p><b>Auto-Eject Battery Charger Receptacle</b></p> <p>The battery charger receptacle shall be a Kussmaul 20 amp NEMA 5-20 Super Auto-Eject #091-55-20-120 with a cover. The Super Auto-Eject receptacle shall be completely sealed and have an automatic power line disconnect.</p> <p>The receptacle shall be located outside driver's door next to handrail and the cover color shall be Yellow.</p> <p><b>ATC Override</b></p> <p>An Automatic Traction Control (ATC) override switch shall be provided. The switch shall be located within reach of the driver and allow for momentary disabling of the ATC system due to mud or snow conditions.</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> </ul>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<div data-bbox="209 247 714 357"> <ul style="list-style-type: none"> <li>• Fuel gauge</li> <li>• Voltmeter</li> <li>• Transmission oil temperature gauge</li> </ul> </div> <div data-bbox="160 396 1274 430"> <p>This panel shall be backlit for increased visibility during day and night time operations.</p> </div> <div data-bbox="160 470 328 508"> <p><b>Headlights</b></p> </div> <div data-bbox="160 548 1383 617"> <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> </div> <div data-bbox="160 657 618 695"> <p><b>Battery Charger with Remote</b></p> </div> <div data-bbox="160 735 1390 804"> <p>A Kussmaul Auto Charger 1200 battery charger with remote mounted bar graph display shall be installed.</p> </div> <div data-bbox="160 844 1356 915"> <p>The battery charger shall be completely automatic with an output of 0-40 amp @ 12 volts DC and an input current requirement of 10 amps @ 120 volts AC.</p> </div> <div data-bbox="160 955 306 993"> <p><b>Pre-Wire</b></p> </div> <div data-bbox="160 1033 1312 1102"> <p>The chassis shall be pre-wired for installation of tire chains. A lock-out/safety rocker style switch shall be installed for activation.</p> </div> <div data-bbox="160 1142 375 1180"> <p><b>Antenna Base</b></p> </div> <div data-bbox="160 1220 267 1257"> <p><b>QTY: 2</b></p> </div> <div data-bbox="160 1297 1349 1476"> <p>There shall be a 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) with RG58U coax cable. The antenna shall be located officer side forward with coaxial cable terminating below officer seat, driver side forward with coaxial cable terminating below officer seat.</p> </div> <div data-bbox="160 1516 561 1554"> <p><b>Battery Charger Location</b></p> </div> <div data-bbox="160 1593 937 1629"> <p>The battery charger shall be located behind officer's seat.</p> </div> <div data-bbox="160 1669 480 1707"> <p><b>Officer Speedometer</b></p> </div> <div data-bbox="160 1747 1182 1782"> <p>A speedometer shall be provided in the officer side multiplex display in the cab.</p> </div> <div data-bbox="160 1822 483 1860"> <p><b>LED Cab Headlights</b></p> </div>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>JW Speaker LED headlight model 8800 shall be provided. LED lights shall be provided in the low and high beam position of the head lamp assembly.</p>		
<p><b>Air Compressor</b></p>		
<p>A Kussmaul model 091-9 12V air compressor shall be installed.</p>		
<p>The air compressor shall be powered by the volt inlet receptacle and has an output of .30 cfm at 80 psi. A pressure switch senses the system pressure and operates the compressor whenever the pressure in the air brake system drops below a predetermined level.</p>		
<p><b>Programming Instructions</b></p>		
<p>Auxiliary switch 1 on the steering wheel switch pod shall be programmed to operate the 12v scene light(s) on driver side of body.</p>		
<p><b>Programming Instructions</b></p>		
<p>Auxiliary switch 2 on the steering wheel switch pod shall be programmed to operate the Front brow light(s). (Requires relay option if lights are not 12v).</p>		
<p><b>Programming Instructions</b></p>		
<p>Auxiliary switch 3 on the steering wheel switch pod shall be programmed to operate the 12v scene light(s) on officer side of body.</p>		
<p><b>Cab USB Charging Port</b></p>		
<p><b>QTY: 3</b></p>		
<p>A dual USB charging port with 2.1A total power for cell phones, chargers, etc. shall be installed In cab driver side on 3 x 3 post rear facing just above engine cover (or seat riser if in a Hush), driver side dash, officer side dash. The receptacles shall be wired battery hot.</p>		
<p><b>DPF Regeneration Override</b></p>		
<p>A momentary override switch shall be provided for the Diesel Particulate Filter (DPF) regeneration. The switch will inhibit the regeneration process until the switch is reset or the engine is shut down and restarted. The switch shall be located within reach of the driver.</p>		
<p><b>Steering Wheel Switches</b></p>		
<p>The steering wheel shall be supplied with two (2) switch pods. Each switch pod shall include five (5) switches. The pods shall include switching for wipers, master warning, air</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>horns and auxiliary engine brake (on/off). In addition there shall be three (3) auxiliary switches that can be programmed to meet department specified functions.</p> <p>The wiper switches shall include high / low speed, intermittent, wipe / wash and off. The wiper motors shall be synchronized so as to wipe each windshield simultaneously.</p> <p><b>Auto Drain</b></p> <p>A Kussmaul model 091-9-086 12V auto drain shall be provided for a Kussmaul 12V air compressor model 091-9-12V.</p> <p><b>Riser Height Compartment Lighting</b></p> <p><b>QTY: 2</b></p> <p>One (1) EON LED light shall be provided to illuminate the interior of the riser height compartment(s) at the lower rear side of the cab. The light shall be wired through the compartment door switch.</p> <p><b>Cab Door Step Area Lighting</b></p> <p>There shall be eight (8) clear TecNiq model D07 LED lights provided to illuminate the cab step well areas. Two (2) lights shall be located at each door area, one (1) above each step. The lights shall have polished stainless steel housings. The lights shall be activated by the cab door ajar circuit.</p> <p><b>Cab Turn Signals</b></p> <p>A pair of TecNiq LED (Light Emitting Diode) turn signal lights with clear lens shall be installed on the front of the cab. The strip type lights shall be 1.25" high x 15" long and be mounted in a polished cast aluminum housing between the quad bezels.</p> <p><b>Black Quad Bezels</b></p> <p>The front facing quad bezels shall be provided black in lieu of chrome. Includes strip light mounting bezel between quad housings.</p> <p><b>Auto-Eject Inlet Receptacle</b></p> <p>The secondary inlet receptacle shall be a Kussmaul 30 amp 120 volt NEMA Super Auto-Eject #091-159-30-120. The Super Auto-Eject receptacle shall be completely sealed and have an automatic power line disconnect. The primary auto-eject will handle the batteries and air compressor (as applicable). The secondary auto-eject will handle only the 120V for the receptacles and auto transfer switch as applicable.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The receptacle shall be located outside driver's door next to handrail and the cover color shall be Blue.</p> <p><b>BODY COMPT LEFT SIDE</b></p> <p><b>Driver Side Roof Top Compartments</b></p> <p>Two (2) driver side roof compartments with increased inboard of hose bed side width shall be provided. The compartments shall be integral to the driver side assembly.</p> <p>The compartments shall be transverse front to rear and shall include flooring. The flooring shall be smooth plate and shall have drain holes to prevent the accumulation of water.</p> <p>The compartment top lids shall be raised and constructed of 1/8" (.125") aluminum treadplate. The lids shall include stainless steel hinges and shall be hinged to the outside of the compartment. Each lid shall include turn latches, grab handle(s) and be wired to the door ajar indicator in the cab. Each door shall be held in the open position by pneumatic shocks.</p> <p>Three (3) EON LED lights shall be provided for each compartment. The lights shall illuminate when the compartment lid is in the open position.</p> <p><b>Roof Top Compartments</b></p> <p>Rear aluminum smooth plate painted job color vertical hinged door on driver side roof top compartments. Includes thumb latch and wiring for door ajar switch.</p> <p><b>Roof Top Compartment Contents</b></p> <p>Driver side roof top compartment contents: (2) 6" x 10` hard suction hoses (not included) stored vertically.</p> <p>The hard suction storage shall have a front wall which will prevent the hoses from sliding too far forward while also creating a full depth coffin storage area forward of the wall if applicable.</p> <p><b>Side Assembly</b></p> <p>The 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 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 internal and external at each joint using an aluminum alloy welding wire.</p>		



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The side body shall be completely sanded and deburred to assure a smooth finish and painted job color.</p> <p><b>Side Compartments</b></p> <p>The four (4) 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 two (2) compartments located ahead of the rear wheel.</p> <p>The forward compartment ahead of rear axle shall be a pump operator`s panel area approximately 34" wide x 56.75" high. The door opening shall be approximately 34" wide x 68.75" high.</p> <p>The rearward compartment ahead of rear axle shall be approximately 48" wide x 12" high x 11.75" deep (upper) and 48" wide x 56.75" high x 26" deep (lower) and contain approximately 44.6 cu. ft. of combined storage space. The door opening shall be approximately 48" wide x 68.75" high.</p> <p>There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 12" high x 11.75" deep (upper) and 56" wide x 22.75" high x 26" deep (lower) and contain approximately 23.74 cu. ft. of combined storage space. The door opening shall be approximately 56" wide x 34.75" high.</p> <p>There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 56" wide x 12" high x 11.75" deep (upper) and 56" wide x 56.75" high x 26" deep (lower) and contain approximately 52.39 cu. ft. of combined storage space. The door opening shall be approximately 56" wide x 68.75" 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> <p>An external-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate.</p> <p><b>Storage Tunnel</b></p> <p>The area directly behind the upper area of the driver side compartments shall be for the storage of NFPA ladders and/or equipment. Contents to be to customer requirements.</p> <p><b>BODY COMPT RIGHT SIDE</b></p> <p><b>Officer Side Roof Top Compartments</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Two (2) officer side roof compartments with increased inboard of hose bed side width shall be provided. The compartments shall be integral to the officer side assembly.</p> <p>The compartments shall be transverse front to rear and shall include flooring. The flooring shall be smooth plate and shall have drain holes to prevent the accumulation of water.</p> <p>The compartment top lids shall be raised and constructed of 1/8" (.125") aluminum treadplate. The lids shall include stainless steel hinges and shall be hinged to the outside of the compartment. Each lid shall include turn latches, grab handle(s) and be wired to the door ajar indicator in the cab. Each door shall be held in the open position by pneumatic shocks.</p> <p>Three (3) EON LED lights shall be provided for each compartment. The lights shall illuminate when the compartment lid is in the open position.</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 four (4) 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 two (2) compartments located ahead of the rear wheel.</p> <p>The forward compartment shall be approximately 34" wide x 12" high x 11.75" deep (upper) and 34" wide x 56.75" high x 26" deep (lower) and contain approximately 31.8 cu. ft. of combined storage space. The door opening shall be approximately 34" wide x 68.75" high.</p> <p>The rearward compartment shall be approximately 48" wide x 12" high x 11.75" deep (upper) and 48" wide x 56.75" high x 26" deep (lower) and contain approximately 44.9 cu. ft. of combined storage space. The door opening shall be approximately 56" wide x 68.75" high.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 12" high x 11.75" deep (upper) and 56" wide x 22.75" high x 26" deep (lower) and contain approximately 23.74 cu. ft. of combined storage space. The door opening shall be approximately 56" wide x 34.75" high.</p> <p>There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 56" wide x 12" high x 11.75" deep (upper) and 56" wide x 56.75" high x 26" deep (lower) and contain approximately 52.39 cu. ft. of combined storage space. The door opening shall be approximately 56" wide x 68.75" 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> <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 Assembly</b></p> <p>The rear body shall be constructed entirely of aluminum extrusions and interlocking aluminum plates and includes a 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" (0.187") outside corner radius and 1/8" (0.125") aluminum smooth 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 full height center 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 38" wide and shall vary in height and depth dependent upon water tank capacity.</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>Storage Compartments</b></p> <p>A storage compartment shall be provided at the rear body compartment. The storage compartment shall be located to the driver side of the rear compartment.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The storage compartment shall be approximately 13” wide x 29” high x length of side assembly. The storage compartment shall store NFPA ladder and/or equipment.</p> <p>The storage compartment shall include a vertically hinged door to secure contents. The door shall be constructed of 3/16” (.187”) aluminum smooth plate and shall have a push-button style latch. The compartment door shall be securely attached with a full-length stainless steel piano type hinge with 1/4” pin. The hinge shall be ”staked” on every other knuckle to prevent the pins from sliding. The door shall be wired to the door ajar indicator light in the cab and shall be interlocked with the parking brake per NFPA.</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 tread plate 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 in a vertical direction 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> <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 hose bed 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- one (1) appropriately sized handrail mounted vertical on the trailing edge of the body opposite side of the rear access ladder and appropriately sized handrail(s) mounted horizontal below the rear hose bed opening.</p> <p><b>BODY MODULE FRONT</b></p> <p><b>Forward Body Extension</b></p> <p><b>Body Extension</b></p> <p>The front of the apparatus body shall have an integral compartment extension with upper and lower storage areas. The extension shall have had FEA analysis completed to ensure a robust design. The extension shall be constructed from 1.5" x 3" x 3/16" wall and 1.5" x 3" x 3/8" wall</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>webbed aluminum extrusions. The extension shall consist of upper and lower areas. The lower area floor shall be constructed from 1/8" smooth aluminum plate and be bolted in to facilitate pump system servicing. The outboard floors of the upper area shall be constructed from 1/8" smooth aluminum plate. The center upper floor shall be 1/8" smooth aluminum plate and removable to provide easy access to the pump manifold and valves.</p> <p><b>Pump Access</b></p> <p>A pump service access door shall be provided at the front of the extension for the custom chassis application only. There shall be an access door at the rear of the extension. The doors shall be secured with tool-free hardware.</p> <p><b>Pre-connect Storage</b></p> <p>The lower transverse storage area shall accommodate two preconnected handlines.</p> <p>The upper transverse storage area shall accommodate one preconnected handline offset to the rear.</p> <p>Plumbing for the handlines shall be from the ceiling of the storage areas to facilitate use of optional removable trays.</p> <p><b>Transverse Storage Compartment</b></p> <p>The upper transverse storage area shall include provisions for storage of backboards. The backboard storage sleeve shall be offset to the forward area of the compartment. A vertical hinged 1/8" aluminum treadplate door shall be provided on each end of the storage area.</p> <p><b>DOORS</b></p> <p><b>Painted Roll Up Compartment Door Short</b></p> <p><b>QTY: 2</b></p> <p>A ROM brand roll up door painted job color shall be provided on a compartment up to 45" tall. The door(s) shall be installed in the following location(s): L3, R3.</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 painted 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>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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>Painted Roll Up Compartment Door Tall</b></p> <p><b>QTY: 7</b></p> <p>A ROM brand roll up door painted job color shall be provided on a compartment greater than 45” tall. The door(s) shall be installed in the following location(s): L1, L2, L4, R1, R2, R4, 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 painted 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><b>QTY: 9</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, L4, R1, R2, R3, R4, B1.</p> <p><b>Strap for Roll-Up Door</b></p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>QTY: 9</b></p> <p>A bungee type strap shall be provided on the roll-up doors to assist in closing the door. The strap shall be affixed to both the door and the interior so the strap stays inside the compartment when lowering. The strap shall be provided on full height and high side (upper) compartments.</p> <p><b>SHELVES</b></p> <p><b>Permanent Shelf</b></p> <p><b>QTY: 2</b></p> <p>There shall be a permanent mounted shelf provided for a compartment as specified. The shelf shall be at the offset (unless otherwise specified) within the compartment.</p> <p>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>Aluminum bodies: Material to be 3/16" (.188") thick aluminum smooth plate.</p> <p>Stainless steel bodies: 12 ga smooth plate 304L stainless steel.</p> <p><b>Adjustable Shelf</b></p> <p><b>QTY: 6</b></p> <p>There shall be an aluminum adjustable shelf provided for a compartment as specified.</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 and shall be capable of holding 100 lbs on compartments with tracks mounted on back wall (compartments up to approximately 12" deep) or shall be capable of holding 250 lbs with tracks mounted on forward and rearward walls.</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><b>QTY: 3</b></p> <p>Tracks shall be provideed in the compartment as specified for use with adjustable shelves and/or trays in deep non-transverse compartments. The tracks shall be vertical mounted and attached to the side and/or rear walls of the compartments.</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p><b>COMPARTMENT DIVIDERS</b></p>		
<p><b>Partition Vertical Bolt-In</b></p>		
<p><b>QTY: 2</b></p>		
<p>Partition, bolt-in vertical partition wall. Locate in a compartment as specified. Partition constructed out of 3/16" 3003 smooth plate.</p>		
<p><b>TRAYS / TOOLBOARDS</b></p>		
<p><b>Roll-Out Tray</b></p>		
<p><b>QTY: 5</b></p>		
<p>There shall be a floor mounted roll-out tray provided in a compartment as specified.</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 gas spring to secure the tray in the open or closed position.</p>		
<p>The tray shall have a total capacity of 500 lbs.</p>		
<p><b>Roll-Out/Tilt Down Tray</b></p>		
<p>A roll-out/tilt-down tray(s) shall be floor mounted in compartment(s) as specified.</p>		
<p>The tray(s) shall be constructed of 3/16" (.187") smooth aluminum plate with welded corners for increased strength and rigidity. The tray shall be sized in width and depth as applicable.</p>		
<p>An Innovative Industries SlideMaster (model SMT) steel tip down frame and channel assembly powder coated silver shall be provided for the tray(s) for the ease of operation and long service life. A positive twist lock shall be provided to secure the tray(s) in the stored position. The tray(s) shall roll-out approximately 90% from the stored position and shall tip 30 degrees downward from horizontal.</p>		
<p>The capacity rating of the tray, in the extended position, shall be 250 lb. uniformly distributed load.</p>		
<p><b>Tool Board PAC TRAC</b></p>		
<p><b>QTY: 2</b></p>		



MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>Tool Board, Pac TRAC brand double sided adjustable slide out tool board on slide model VSO-24 shall be provided in a compartment as specified.</p> <ul style="list-style-type: none"><li>• The Vertical Slide Out P/N VSO-24 is a double sided full extension slide out mounting product. 24 inches of travel.</li><li>• Equipment mounting on both sides of panel.</li><li>• Compatible with all PAC tool brackets.</li><li>• 250lb capacity.</li><li>• Locks in closed and open positions for stability.</li></ul> <p>The tool board shall be mounted at top and bottom on adjustable tracking for ease of placement.</p> <p>The capacity rating shall be 250 lbs. maximum at full extension.</p> <p><b>COVERS</b></p> <p><b>Hose Bed Cover</b></p> <p>A cover constructed of Black 18 oz. PVC vinyl coated polyester shall be installed over the apparatus hose bed. 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 bed. The rear of the cover shall have an integral flap that extends down to cover the rear of the hose bed. This flap shall be secured in place along the lower edge with flexible cord that fasten to steel hook(s) mounted to body to comply with the latest edition of NFPA 1901.</p> <p><b>Speedlay Cover - Sides</b></p> <p>A pair of covers constructed of heavy duty black nylon cargo netting shall be installed over the side openings of the apparatus speedlay. One pair per opening shall be provided.</p> <p>The covers shall be secured in place to comply with the latest edition of NFPA 1901.</p> <p><b>Vinyl Access Cover</b></p> <p>A cover constructed 18 oz. PVC vinyl coated polyester shall be installed for the fill tower(s). 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 sewn to the vinyl hose bed cover. The sides and rear of the cover shall be held in place with heavy duty Velcro strips.</p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<h2>MISC PUMP PANEL</h2> <h3>Pump Panel Tags</h3> <p>Color coded pump panel labels shall be supplied to be in accordance with NFPA 1901 compliance.</p> <h3>Mechanically Fastened Tags</h3> <p>All tags installed on the exterior of the apparatus shall be mechanically fastened with stainless steel screws. These include but not limited to tags installed on the pump module, body, cab and bumper. Pump panel tags shall be mechanically fastened regardless whether panel is enclosed behind a door.</p> <h3>Push-Pull Handle Orientation</h3> <p>For improved ergonomics, the push-pull handles on the pump operator`s panel shall be oriented vertical.</p> <h2>PUMP MODULE</h2> <h3>Module Logos</h3> <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> <h3>Air Horn Switch</h3> <p>A heavy duty weatherproof push-button switch shall be installed at the pump operator`s panel to operate the air horns.</p> <p>The switch shall be labeled "Evacuation Alert".</p> <p>Location: driver side pump panel.</p> <h3>Removable Poly Speedlay Tray</h3> <p><b>QTY: 6</b></p> <p>The speedlay areas shall include storage trays. The trays shall be constructed of 1/2" PT2E polypropylene. The floor of the tray shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. The trays shall have vertical slots on each end to facilitate in grabbing the tray during loading and unloading.</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The tray shall also have horizontal slots on the upper sides to facilitate in carrying the tray.</p>		
<div data-bbox="162 327 493 373" data-label="Section-Header"> <h2>WATER TANK</h2> </div> <div data-bbox="162 415 542 453" data-label="Section-Header"> <h3>1030 Gallon Water Tank</h3> </div> <div data-bbox="162 495 863 529" data-label="Text"> <p>A 1030 gallon (US) "R" booster tank shall be supplied.</p> </div> <div data-bbox="162 571 1377 676" data-label="Text"> <p>The booster tank shall be constructed of polypropylene material. The booster tank shall be completely removable without disturbing or dismounting the apparatus body structure. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal.</p> </div> <div data-bbox="162 718 1383 1150" data-label="Text"> <p>The booster tank top, sides, and bottom shall be constructed of a minimum 1/2" (0.50") thick black UV-stabilized copolymer polypropylene. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The tank cover shall be constructed of 1/2" thick polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions.</p> </div> <div data-bbox="162 1192 1357 1407" data-label="Text"> <p>The tank shall have a combination vent and manual fill tower with a hinged lid. The fill tower shall be constructed of 1/2" polypropylene and shall be a typical dimension of 8" x 8" outer perimeter (subject to change for specific design applications). The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall have a 1/4" thick removable polypropylene screen and a polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid.</p> </div> <div data-bbox="162 1449 1390 1591" data-label="Text"> <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. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates per the tank fill inlet size.</p> </div> <div data-bbox="162 1633 1373 1776" data-label="Text"> <p>The sump shall be constructed of a minimum of 1/2" polypropylene. The sump shall have a minimum 3" N.P.T. threaded outlet for a drain plug per NFPA. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.</p> </div> <div data-bbox="162 1818 1360 1961" data-label="Text"> <p>The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each</p> </div>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength.</p> <p>Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with an I.D. of 3" or larger that is designed to run through the tank. This outlet shall direct the draining of overflow water past the rear axle, 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. All water tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale.</p> <p>Each tank shall be weighed empty and full to provide precise fluid capacity. Each tank shall be delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.</p> <p>A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.</p> <p>The tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from the tank manufacturer.</p> <p>Tank capacity is 1030 US gallon / 857 Imperial gallons / 3898 Liters.</p> <p><b>Fill Tower Location</b></p> <p>Fill tower(s) shall be located offset to officer side of water tank.</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>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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 Air Valve</b></p> <p>One (1) air actuated 3” Akron valve shall be installed between the pump suction and the booster tank. Includes flex hose with stainless steel hose clamps for connection to the 4" tank sump outlet. 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>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>A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p> <p><b>Auto Fill Direct Tank Fill</b></p> <p>A Hale Products Auto Fill direct tank fill system shall be supplied and installed on the right-side pump panel with a 2.5” tank inlet. The system shall monitor the tank level and automatic open and close the direct tank fill valve to keep the tank full.</p> <p><b>FOAM TANK</b></p> <p><b>30 Gallon Foam Tank</b></p> <p>A 30 gallon (U.S.) foam cell for Class A foam shall be supplied. The foam cell shall be integral to the water tank.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The integral tank top, sides, and bottom shall be constructed of black polypropylene material. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life.</p> <p>The foam tank shall have a manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a typical dimension of 8" x 8" outer perimeter (subject to change for specific design applications). Foam fill tower shall be constructed of a Green colored material indicating type of foam utilized. The capacity of the tank shall be engraved on the top of the fill tower lid. The fill tower shall be located in the forward area of the tank. The tower shall have a 1/4" thick removable polypropylene screen. Inside the fill tower, approximately 1.5" down from the top, there shall be an anti-foam fill tube that extends down to the bottom of the tank. A pressure vacuum vent shall be provided in the lid of the fill tower. The foam fill tower shall be removable to facilitate the cleaning of the foam tank.</p> <p>The foam tank shall undergo extensive testing prior to installation in the truck. All foam tanks shall be tested and certified as to capacity. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.</p> <p>The tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from the tank manufacturer.</p> <p><b>LADDER STORAGE / RACKS</b></p> <p><b>Ladder Brand</b></p> <p>The ladder brand capable of being carried on the unit shall be Alco-Lite.</p> <p><b>Ladders</b></p> <p>The length of ladders capable of being stored shall be the following: 24' 2-section, 14' roof ladder and 10' attic ladder w/shoes.</p> <p><b>Storage Tunnel Contents</b></p> <p>Storage tunnel capable of holding (1) 2-section, (1) roof, (1) attic, (2) pike poles, (1) backboard in Officer.</p> <p><b>HANDRAILS / STEPS</b></p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<b>NFPA Hose Bed Access</b>			
A Zico Quic-Ladder shall be provided for NFPA access to storage areas.			
The ladder shall include a pull-out and swing down lower section. This shall allow for easier access from ground level and shall allow the ladder to be stowed parallel to the body.			
The ladder shall have 10.75” wide cast aluminum rungs with a flat, non-skid surface to provide better traction during normal or wet conditions. <b>(The use of round rungs shall not be acceptable.)</b>			
The outer hand rails shall be heavy walled aluminum tubing and shall have a grit type powder coating for increased gripping by personnel access or egress from the hose bed area. <b>(The use of smooth or rubber coated hand rails shall not be acceptable.)</b>			
The ladder shall be positioned at the rear of body officer side. This position shall not block and/or obstruct rearward facing DOT and/or NFPA lighting. <b>(Lighting being blocked directly from the rear of the apparatus if applicable shall not be acceptable.)</b>			
<b>Handrail</b>			
Handrail(s) shall be installed in compliance with current NFPA. The handrail(s) shall be located officer side (vertically mounted) rearward facing on rear hosebed corner.			
The handrail(s) 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.			
<b>Hand Rails</b>			
All body and pump module (if applicable) exterior hand rails shall utilize Austin Hardware model GR-002-AL-BRT-144 knurled bright anodized aluminum tubes. The hand rail extrusions shall be machine extruded with integral ribbed surfaces and knurled grip surfaces to assure a good grip for personnel safety.			
<b>Pump Panel Step</b>			
<b>QTY: 2</b>			
A step shall be provided below each side intake / discharge panel. The stepping surface shall be constructed from formed and welded embossed 1/8" diamond plate. The step shall be approximately 10" deep x 2" thick. Each step shall be supported by a fabricated extruded aluminum framework.			
The step shall be constructed of 1/8” (.125”) aluminum tread plate. The step shall include a multi-directional, aggressive gripping surface incorporated into the tread plate. The surface shall			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>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". The step shall be bolted and be easily removable for replacement in the case of damage.</p> <p><b>Intermediate Rear Step</b></p> <p>An intermediate step shall be provided on the rear of the apparatus.</p> <p>The step shall be constructed of 3/16" (.187") aluminum embossed treadplate. The step shall be bolted to the rear assembly and be easily removable for replacement in the case of damage. The top rear surface of the step to have horizontal hand hold cut-outs IPO a hand rail.</p> <p><b>Folding Steps</b></p> <p><b>QTY: 2</b></p> <p>Innovative Controls dual lighted LED folding step(s) shall be located driver side rear of body. The folding step(s) shall meet current NFPA in step height and surface area.</p> <p>Innovative Controls dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 fc (20 lx) 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 500 lb with a 3 to 1 safety factor. The folding step shall also meet NFPA slip resistance qualifications. Corrosion resistance shall be demonstrated by a 1000 hr salt spray test with no visible signs of deterioration of the step body or hardware.</p> <p>One (1) hand rail shall be installed in compliance with current NFPA. The hand rail 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>Mud Flaps</b></p> <p>Black mud flaps with logo shall be provided for the body wheel wells.</p> <p><b>Body Mainframe</b></p> <p>The body mainframe shall be entirely constructed of aluminum. The complete framework shall be constructed of 6061T6 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</p>			



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO

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.

**Body Mounting System**

The main body shall be attached to the chassis frame rails with six (6) of 5/8” (0.625”) diameter steel U-bolts. This body mounting system shall be used to allow easy removal of the body for major repair or disassembly.

**Water Tank Mounting System**

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.

**Hosebed Side Assembly**

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 95” high body.

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.

**Hose Bed**

The area above the booster tank shall have a hose storage area provided. The hose bed 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.

The hose bed design shall incorporate adjustable tracks in the forward area and the rearward area of the hose bed 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 (as is practical with other hose bed mounted equipment).

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The hose bed shall be easily removable to allow access to the booster tank below.</p> <p><b>Hose Bed Divider</b></p> <p><b>QTY: 3</b></p> <p>There shall be a hose bed divider provided the full fore-aft length of the hose bed.</p> <p>The hose bed 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 de-burred to prevent damage to the hose.</p> <p>The divider shall be adjustable from side to side in the hose bed to accommodate varying hose loads.</p> <p><b>Storage Pan</b></p> <p>A storage pan shall be provided in the forward area of the hose bed.</p> <p>The storage pan shall be constructed of 3/16" (.188") aluminum tread plate.</p> <p><b>Hose Bed Divider Hand Hold</b></p> <p>There shall be a hand hole cut-out(s) on the trailing edge of each hose bed divider. The cut-out(s) is specifically sized for use in adjusting of the hose bed divider.</p> <p><b>Divider</b></p> <p>Long hose bed divider(s) shall be held short to allow for adjustability of the divider(s) with hose bed preconnect(s) if applicable per hose loading and option locations.</p> <p><b>Hose Bed Walkway</b></p> <p>Walkway made out of embossed diamond plate shall be provided in the hose bed.</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>Swirled Finish</b></p> <p>The body compartment interior (ceilings and walls) shall have a swirl finish. The swirl finish shall also be included on the inner pan of hinged doors and compartment floors (if smooth plate)</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>and tool compartments (as applicable). Compartment floors shall remain diamond plate if so equipped.</p> <p><b>Anodize Aluminum Trim</b></p> <p>A anodize aluminum trim shall be located at the bottom edge of all body compartment openings including pump enclosure with painted edge (as applicable). The trim shall provide added protection of the painted surface of the body when equipment is removed from the compartment.</p> <p><b>Angled Tailboard Corners</b></p> <p>The corners of the rear tailboard shall be angled inward for increased clearance around the rear of the apparatus.</p> <p><b>Tilt Jack Location</b></p> <p>The cab tilt jack shall be located R2.</p> <p><b>Wheel Chocks</b></p> <p><b>QTY: 2</b></p> <p>Zico Model #SAC-44-E Chocks for up to a 44” diameter tires shall be supplied and located driver side below compartment just ahead of rear tire. The SQCH-44-H horizontal holder and pair of chocks require a minimum storage area of 6” high, 10-1/2” wide and 22-3/8” deep.</p> <p><b>Seamless Overlays</b></p> <p>The outboard panels of the roof top compartments or full width hose bed as applicable to be smooth plate overlays. These areas are to be seamless and painted job color.</p> <p><b>Storage Pan</b></p> <p>A storage pan shall be provided over the forward transverse storage area(s).</p> <p>The storage pan shall be constructed of 3/16” (.188”) aluminum tread plate.</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 3/16” (0.188”) aluminum smooth plate supports. The outer body side wheel well plate shall be 3/16” (0.188”) aluminum smooth plate welded flush with the body side and painted job color.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>The fenderettes shall be bolt-on and shall be easily removable. The fenderette shall be constructed from .080" aluminum with a mirror finish. The fenderette shall be 2 1/2" (2.5") wide x 2 1/4" (2.25") tall with a 26 7/8" (26.875") radius. A "P" shaped rubber gasket shall be provided between the fenderette and wheel well body panel.</p> <p>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>Poly Rubrails</b></p> <p>Rubrail assemblies shall be provided on the apparatus body sides and shall be constructed of 3 inch x 2 inches black U.H.M.W. polyethylene mitered 45 degrees at leading and trailing ends. The rubrails shall be bolted to the lower exterior edge of the apparatus body sides using stainless steel hardware. Rubrail mounted lighting or other options shall be recessed into the poly rubrails to minimize damage.</p> <p><b>SCBA BOTTLE STORAGE</b></p> <p><b>SCBA Strap</b></p> <p>Straps shall be provided in each exterior storage compartment to provide secondary means to hold each SCBA bottle in the compartment. The straps shall be constructed from 1" nylon webbing formed in a loop. The strap(s) shall be mounted to the storage compartment ceiling directly inside the door opening at each bottle location.</p> <p><b>SCBA 1 Bottle Storage</b></p> <p>(1) SCBA bottle storage compartment constructed with aluminum plate with hinged door and push button latch shall be provided in the body wheel well area.</p> <p>The door shall match wheel well area material and finish.</p> <p>The door shall cover the recessed fuel fill if located in the wheel well adjacent to the SCBA storage.</p> <p>U-shaped trough made out of aluminum smooth plate with rubber insert shall be provided to store SCBA bottles.</p> <p>Location: driver side rear wheel well offset rearward</p> <p><b>SCBA 3 Bottle Storage</b></p> <p><b>QTY: 3</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>(3) SCBA bottle storage compartment constructed with aluminum plate with hinged door and push button latch shall be provided in the body wheel well area.</p> <p>The door shall match wheel well area material and finish.</p> <p>The door shall cover the recessed fuel fill if located adjacent to the SCBA storage.</p> <p>U-shaped troughs made out of aluminum smooth plate with rubber inserts shall be provided to store standard size SCBA bottles up to 6.75" in diameter and 24.5" in length. The upper two troughs can also store a standard size 20lbs ABC Extinguisher or 2.5 gal Water Extinguisher in each trough.</p> <p>Location: driver side rear wheel well offset forward, officer side rear wheel well offset forward, officer side rear wheel well offset rearward</p> <p><b>PUMP</b></p> <p><b>Pump Rating</b></p> <p>The fire pump shall be rated at 1500 GPM.</p> <p><b>Fire Pump System</b></p> <p><b>Fire Pump</b></p> <p>The pump shall be a single stage fire pump, capable of a 1500 GPM rating.</p> <p>Power to drive the pump shall be provided by the same engine used to propel the apparatus. The pump shall be midship mounted and designed to operate through an integral transmission, including a means for power selectivity to the driving axle or to the pump.</p> <p>The pump casing shall be a fine grain cast iron alloy, vertically split, with a minimum 30,000 psi tensile strength and bronze fitted.</p> <p>The impeller shall be a high strength bronze alloy of mixed flow design, accurately balanced and splined to the pump shaft for precision fit and durability. The impeller shall feature a double suction inlet design with opposed volute cutwaters to minimize radial thrust.</p> <p>The seal rings shall be renewable, double labyrinth, wrap around bronze type.</p> <p>The pump shaft shall be precision ground stainless steel. The shaft shall be splined to receive broached impeller hubs, for greater resistance to wear, torsional vibration, and torque imposed by the engine.</p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The bearings provided shall be heavy duty, deep groove, and radial type ball bearings. They shall be over-sized for extended life. The bearings shall be protected at all openings from road dirt and water splash with oil seals and water slingers.</p> <p>The transmission case shall be heavy duty cast iron alloy with adequate oil reserve capacity for low operating temperatures. A magnetic drain plug shall be provided. Transmission case shall include a dip stick for checking oil level.</p> <p>The pump drive shaft shall be precision ground, heat treated alloy steel, with a minimum 2-1/2" x 10" spline ends. Gears shall be helical design, and shall be precision cut for quiet operation and extended life. The gears shall be cut from high strength alloy steel, carburized and ground. The gear face shall be 2-5/8" minimum width.</p> <p>The gear shift shall be a heat treated alloy steel splined spur gear to engage either the pump drive gear or the truck drive shaft gear. The gear ratio of the pump shall be selected by the pump and apparatus manufacturer`s Engineering Department.</p> <p>A discharge manifold, as supplied as part of the pump by the pump manufacturer, shall include a discharge check valve assembly to allow priming of the pump from draft with discharges open and caps off.</p>		
<p><b>Mechanical Seal</b></p>		
<p>The pump shall be furnished with a maintenance free mechanical seal. The mechanical seal shall be a non-contacting, non-wearing dual seal design.</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. 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. 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 lock-up (4th gear lock-up).</p>		
<p><b>Heat Exchanger &amp; Heated Pump Core</b></p>		
<p>An automatic heat exchanger system shall be provided in the pump. Antifreeze from the vehicle engine shall flow through the pump core jacket. Water flow from the fire pump shall be used to cool the engine antifreeze. This feature shall assist against the pump freezing in cold climates.</p>		
<p><b>Suction Inlets</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Two (2) 6” diameter suction ports with 6” NST male threads and removable screens shall be provided, one (1) each side. The ports shall be mounted one (1) on each side of the mid-ship pump and shall extend through the side pump panels. Inlets shall come equipped with long handle chrome caps.</p> <p><b>Discharge Manifold</b></p> <p>The pump system shall utilize a stainless steel discharge manifold system and flexible high pressure hose with stainless steel ends that allows a direct flow of water to discharge valves. The manifold and fabricated piping systems shall be constructed of a minimum of Schedule 10 stainless steel to reduce corrosion.</p> <p><b>Test Ports</b></p> <p>Two (2) test plugs shall be pump panel-mounted for third party testing of vacuum and pressures of the pump.</p> <p><b>Tank to Pump Check Valve</b></p> <p>The fire pump suction inlet shall be provided with a tank to pump check valve. The check valve shall is designed to automatically open when drafting from an on-board water tank, and close if the pump suction receives water pressure from an outside source.</p> <p><b>Pump Mounting Frame</b></p> <p>The entire pump, side intake / discharge panels and pump operator`s panel (side mount applications) shall be supported by a modular steel framework. The framework shall consist of 3/8” formed steel angles bolted to the frame (C-frame applications) with 2” x 2” angles supporting the discharge manifold and pump operator’s panel (side mount applications).</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 manufacturer`s 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>		

<div> <div>MONROE FIRE PROTECTION DISTRICT</div> </div>	<div> <div>BIDDER COMPLIES</div> </div>	
<div> <ul style="list-style-type: none"> <li>100% of rated capacity at 150 psi net pump pressure</li> <li>100% of rated capacity at 165 psi net pump pressure</li> <li>70% of rated capacity at 200 psi net pump pressure</li> <li>50% of rated capacity at 250 psi net pump pressure</li> </ul> <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> <h2>MISC PUMP</h2> <h3>Steamers, Flush+1</h3> <p>The pump 6" steamer intake(s) shall be mounted approximately 1” from the pump panel to back of cap when installed. The "Flush+1" dimension can vary + or - 1-1/4" or as practicable depending on the pump module width and options selected. (Example 72" or 76" modules.)</p> <p>Location: driver's side, officer's side.</p> <h3>Master Drain Valve</h3> <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) individual-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> <p>The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.</p> <h3>Anodes, Darley Pump</h3> <p>The anode help prevent damage caused by galvanic corrosion within the pump. The system provides a sacrificial metal which helps to diminish or prevent pump and pump shaft galvanic corrosion. One (1) anode will be located on the suction side of the pump.</p> <h3>Anodes, Darley Pump</h3> </div>	<div>YES</div>	<div>NO</div>



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO

The anodes help prevent damage caused by galvanic corrosion within the pump. The system provides a sacrificial metal which helps to diminish or prevent pump and pump shaft galvanic corrosion. One (1) additional anode will be located on the discharge side of the pump.

**Additional Darley Primer**

**QTY: 3**

An additional primer valve shall be provided and installed on the 5 in. front intake, officer side before master intake valve, driver side before master intake valve and controlled at the pump operator`s panel.

One (1) priming control shall open the priming valve in conjunction with the priming valve that comes with the pump 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.

If plumbed to front or rear intakes the connection shall be at the highest point of the piping.

**Priming System**

One (1) 12V positive displacement type rotary vane primer of a fluid-less design shall be provided for the fire pump priming system. The pump shall be constructed of heat-treated and hard-coated anodized aluminum alloy.

A single, push-pull control shall be located on the pump operator`s panel with a "Pull to Prime" label. The primer shall not require a lubrication tank. The priming pump shall be constructed of heat treated aluminum and hard coat anodized.

**Master Pump Intake Valve**

**QTY: 2**

An Akron valve (electric) shall be provided for the specified pump inlet. The inlet valve shall be operated by a 12 VDC electric motor with a remote switch provided at the pump operator`s position. The 12 VDC motor shall be provided with an automatic resetting, thermally-compensated overcurrent protection circuit breaker to protect the 12 VDC motor and apparatus electrical system. The gear actuator on the valve will cycle from full closed to full open in not less than three (3) seconds. A manual override shall be provided.

An adjustable pressure relief valve shall be provided. The pressure relief valve shall be factory set to 125 psi. The pressure relief valve shall provide overpressure protection for the suction hose even when the intake valve is closed.

A 1/4" air bleeder valve shall be provided and controlled at the pump panel.

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A 3/4" water bleeder shall be supplied and controlled at the pump panel.</p> <p>Location: driver side pump panel, officer side pump panel.</p> <p><b>INTAKES</b></p> <p><b>Left Intake 2.5" Akron Valve Integral 30 Degree Chrome Droop</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 30 degree chrome droop, 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>5" Front Intake w/Relief Electric Akron</b></p> <p>One (1) 5" intake with an Akron electric actuated valve shall be provided from the intake side of the pump to the front of the apparatus terminating with 5" MNPT threads. An intake relief valve shall be installed external of the electric valve to relieve excess pressure.</p> <p>The valve shall be 5" Akron 7900 series electric butterfly. The valve shall utilize an electric driven worm gear actuator. The valve may also be operated manually in case of electrical system failure.</p> <p>Quarter turn valves shall be provided at the lowest point to allow water to be drained from the intake.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p>		
<p><b>INTAKE OPTIONS</b></p>		
<p><b>Adapter 5” FNPT x 6” MNST Front Intake</b></p>		
<p>The outside end of the front suction shall have a 5” female NPT x 6” male NST chrome plated adapter with suction strainer and 6” long handle chrome cap shall be installed on the front suction piping.</p>		
<p><b>DISCHARGES AND PRECONNECTS</b></p>		
<p><b>Front Jump Line 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 blow-out 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>		
<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 Front 2.5” Hose Bed Akron Valve</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>One (1) 2-1/2” preconnect outlet with a manually operated Akron valve shall be supplied to the lower left of the apparatus hose bed. The preconnect shall consist of a 2-1/2” heavy-duty hose coming from the pump discharge manifold to a 2-1/2” adapter.</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>Second Left Front Hose Bed 2.5” Akron Valve</b></p> <p>One (1) 2-1/2” preconnect outlet with a manually-operated Akron valve shall be supplied to the lower left of the apparatus hose bed. The second preconnect shall consist of a 2-1/2” heavy-duty hose coming from the pump discharge manifold to a 2-1/2” adapter.</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>Front Bumper Discharge Swivel, 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 on lower back wall.</p> <p><b>Discharge Left Panel 2.5” Akron Droop</b></p> <p><b>QTY: 2</b></p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<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 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 valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>The discharge shall extend out beyond the pump panel with a 30 degree downward angle with 2-1/2" NST threads to help prevent kinking of the discharge hose. The 30 degree chrome droop shall be an integral part of the discharge valve and shall be equipped with a chrome plated rocker lug cap with a retainer chain.</p> <p>The discharge 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>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p>Location: left side discharge 1, left side discharge 2.</p> <p><b>Right 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 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>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Location: right side discharge 2.</p> <p><b>Speedlay Triple 1.5”/2.5” Akron Valve</b></p> <p>One (1) triple speedlay discharge shall be provided. The bottom (2) speedlay sections shall include one (1) 2” brass swivel with a 1-1/2” NST male and one (1) 2.5" brass swivel with a 2.5" NST male hose connection each to permit the use of the hose from either side of the apparatus. One (1) upper speedlay section shall include one (1) 2” brass swivel with a 1-1/2” NST male hose connection to permit the use of the hose from either side of the apparatus.</p> <p>The discharges shall include a manual-operated Akron valve. The speedlay shall consist of heavy-duty hose from the pump discharge manifold to the swivel.</p> <p>The valves shall be Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valves 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 valves 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 controls 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>Each discharge shall include a 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 valve on the pump panel.</p> <p><b>Speedlay Plumbing Location</b></p> <p>The plumbing for the speedlays in the lower storage area to have the 1.5" outlet forward and the 2.5” outlet rearward.</p> <p><b>3" Panel Discharge Electric Akron</b></p> <p>One (1) 3” panel discharge with an Akron electric actuated valve shall be provided. The discharge shall extend out beyond the pump panel with a 30 degree downward angle with 3” NST threads to help prevent kinking of the discharge hose. The 30 degree chrome droop shall be an integral part of the discharge valve and shall be equipped with a chrome plated rockerlug cap with a retainer.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The valve shall be an Akron 8600HD series with 316 stainless ball and polymer seals 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 ball when in a throttle position with water flowing. 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 shall utilize an electric driven worm gear actuator. The valve may also be operated manually in case of electrical system failure.</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: right side discharge 1.</p> <p><b>3" Deck Gun Discharge Electric Akron</b></p> <p>One (1) 3" deck gun discharge outlet with an electrically operated Akron valve and 3" stainless steel pipe with MNPT termination shall be provided.</p> <p>Piping shall be rigidly braced as necessary and installed securely so no movement develops when the line is charged.</p> <p>The valve shall be 3" Akron 8600HD series with 316 stainless ball and polymer seals 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 ball when in a throttle position with water flowing. 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 shall utilize an electric driven worm gear actuator. The valve may also be operated manually in case of electrical system failure.</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 Location</b></p> <p>Deck gun piping shall be positioned driver side of hose bed storage pan. This location shall allow for optimal operation of a deck gun monitor once installed.</p> <p><b>MISC DISCHARGE</b></p> <p><b>Extend-A-Gun</b></p> <p>A Task Force Tips 12" Extend-A-Gun piping shall be supplied for the deck gun discharge to allow for raising and lowering the deck gun monitor.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>The Extend-A-Gun shall include a raised monitor sensor connected to the door ajar light.</p> <p><b>IC Push/Pull Control</b></p> <p>The apparatus pump panel shall be equipped with Innovative Controls Side Mount Valve Controls. The ergonomically designed ¼ turn push-pull T-handle shall be chrome-plated zinc with recessed labels for color-coding and verbiage. An anodized aluminum control rod and housing shall, together with a stainless spring steel locking mechanism, eliminate valve drift. Teflon impregnated bronze bushings in both ends of the rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long-term operation. The control assembly shall include a decorative chrome-plated zinc panel-mounting bezel with areas for color-coding and/or FOAM and CAFS identification labels.</p> <p><b>Bleeder Drain Valve</b></p> <p><b>QTY: 11</b></p> <p>The bleeder/drain valves shall be Innovative Controls ¾” ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag identifying each valve, also supplied by Innovative Controls. The color labels shall also include valve open and close verbiage.</p> <p><b>Discharge/Intake Bezel</b></p> <p>Innovative Controls intake and/or discharge swing handle bezels shall be installed to the apparatus with mounting bolts. These bezel assemblies will be used to identify intake and/or discharge ports with color and verbiage. These bezel are designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.</p> <p><b>Akron Electric Valve 9333 Controller</b></p> <p><b>QTY: 5</b></p> <p>An Akron Brass Style 9333 Valve Controller shall be provided with a five year manufacturer warranty. The display shall be a full color LCD display with a backlight and manual adjustment of the brightness as well as an auto-dimming option. The electric controls shall provide true position feedback, requiring no clutches in the motor or current limiting. The unit shall be sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. The controller will provide an LCD display showing valve position indication and have up to three preset locations that can be user set and easily recalled upon each use.</p>		



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Valve position indication will be determined from true position feedback and indicate the exact position of the valve.</p> <p>Two additional buttons shall be available to be used for preset selection, preset activation and menu navigation.</p> <p>Locate on pump operator panel to control 5 in. front intake, deck gun, right side discharge 1, driver side intake, officer side intake.</p> <h2>PRESSURE GOVERNOR</h2> <h3>FRC Pump Boss Pressure Governor</h3> <p>Fire Research Pump Boss model PBA400 series pressure governor and monitoring display kit shall be installed. The standard kit shall include a control module, pump discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 6-3/4" high by 4-5/8" wide by 1-3/4" deep. Inputs for engine information shall be from a J1939 databus or from independent sensors and pump discharge pressure input shall be from a pressure sensor.</p> <p>The following continuous displays shall be provided:</p> <ul style="list-style-type: none"> <li>* CHECK ENGINE and STOP ENGINE warning LEDs.</li> <li>* Engine RPM; shown with four daylight bright LED digits more than 1/2" high.</li> <li>* Engine OIL PRESSURE; shown on an LED bar graph display in 10 psi increments.</li> <li>* Engine TEMPERATURE; shown on an LED bar graph display in 10 degree increments.</li> <li>* BATTERY VOLTAGE; shown on an LED bar graph display in 0.5 volt increments.</li> <li>* PSI / RPM setting; shown on a dot matrix message display.</li> <li>* PSI and RPM mode LEDs.</li> <li>* THROTTLE READY LED.</li> </ul> <p>A dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator.</p> <p>The program shall store the accumulated operating hours for the pump and engine, previous incident hours, and current incident hours in a non-volatile memory. Stored elapsed hours shall be displayed at the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:</p> <ul style="list-style-type: none"> <li>* Low Oil Pressure</li> <li>* High Engine Coolant Temperature</li> <li>* High Transmission Temperature</li> <li>* Low Battery Voltage (Engine Off)</li> <li>* Low Battery Voltage (Engine Running)</li> </ul>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>* High Battery Voltage</p> <p>* High Engine RPM</p> <p>The governor shall operate in two control modes; pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A control knob that uses optical technology shall adjust pressure or RPM settings. It shall be 2" in diameter with no mechanical stops, a serrated grip, and have a red idle push button in the center.</p> <p>A throttle ready LED shall light when the pump engaged interlock signal is recognized. The governor shall be in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 PSI. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.</p> <p>The pressure governor and monitoring display shall be programmed to interface with a specific engine.</p> <p>The display module shall be mounted at the pump operator`s panel.</p> <p><b>GAUGES</b></p> <p><b>Foam Tank Level Gauge</b></p> <p>One (1) Class 1 brand Intelli-Tank <sup>TM</sup> foam tank level gauge shall be located at the pump operator`s panel to provide wide angle viewing and a high-visibility display of the foam 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><b>2.5" Line Gauges</b></p> <p><b>QTY: 11</b></p> <p>The valve discharge gauges shall be 2 1/2"(63mm) diameter Innovative Controls pressure gauges. Each gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>internal mechanisms, prevent lens condensation and ensure proper operation from –40F to +160F. Each gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.</p> <p>A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve-identifying verbiage and/or color labels. The gauges shall display a range from 0 to 400 psi with black graphics on a white background.</p> <p><b>4" Master Pressure Gauges w/Bezel</b></p> <p><b>QTY: 2</b></p> <p>The master intake and master discharge gauges shall be 4“(101mm) diameter IC pressure gauges. Each gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from –40F to +160F. Each gauge shall meet ANSI B40.1 Grade 1A requirements with an accuracy of +/- 1% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.</p> <p>The two master gauges shall be installed into decorative chrome-plated zinc mounting bezel that also incorporates a test port manifold and a graphic overlay that identifies the master intake and discharge gauges, the vacuum test port, and the pressure test port. The test port manifold is solid cast brass with chrome plated plugs. The master gauges shall be installed on the pump panel no more than 6 inches apart. The gauge on the left shall be the master pump intake gauge and display a range from 30” vac to 400 psi with black graphics on a white background. The gauge on the right shall be the master pump discharge gauge and display a range from 0 to 400 psi with black graphics on a white background.</p> <p><b>Water Tank Level with Whelen PSTank Lights</b></p> <p>One (1) Class 1 brand Intelli-Tank <sup>TM</sup> water tank level gauge system shall be located at the pump operator`s panel to provide wide angle viewing and a high-visibility display of the water tank level.</p> <p>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>			

<div>MONROE FIRE PROTECTION DISTRICT</div>	<div>BIDDER COMPLIES</div>	
	YES	NO
<div> <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>In addition to the pump panel mounted lights there shall be one (1) Whelen PSTank2 series LED (Light Emitting Diode) strip-light installed each side as specified.</p> <p>The system shall be controlled by a Class 1 electronic tank level driver module that is integral to the NFPA required pump panel mounted tank level light assembly.</p> <p>The additional tank level system shall be interlocked through the parking brake assembly so as not to be on while the vehicle is in motion.</p> <p>The remote strip-light shall be arranged as follows.</p> <p>Full Green 3/4 Blue 1/2 Amber 1/4 Red</p> <p>Location of Whelen PSTank2 Strip-Lights: each side of cab towards rear.</p> <p><b>FOAM SYSTEM</b></p> <p><b>Foam Pro Foam System</b></p> <p>There shall be a fully automatic 2002 Foam Pro electronic direct injection foam proportioning system furnished and installed on the apparatus for the specified discharge(s). The system shall be capable of Class A foam concentrates and most Class B foam concentrates. The proportioning operation shall be based on an accurate direct measurement of water flow with no restriction. The proportioning system shall meet NFPA standards for foam proportioning systems and the design shall have passed testing against SAE automotive reliability standards appropriate for the application. The foam system shall be installed in accordance with the manufacturer recommendations.</p> <p>The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:</p> <p>Provide push-button control of foam proportioning rates from 0.1% to 10.0%, in 0.1% increments.</p> <p>Show current flow-per-minute of water</p> <p>Show total volume of water discharged during and after foam operations are completed</p> <p>Show total amount of foam concentrate consumed</p> </div>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Simulate flow rates for manual operation</p> <p>Perform setup and diagnostic functions for the computer control microprocessor</p> <p>Flash a “low concentrate” warning when the foam concentrate tank(s) runs low</p> <p>Flash a “no concentrate” warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty</p> <p>The display shall have the capabilities when using a Hypro/FoamPro manual or electronic dual tank switching system of the following additional functions:</p> <ul style="list-style-type: none"> <li>• Display which foam concentrate tank is selected (tank A: PA or tank B: PB)</li> <li>• Separate default setting for foam concentrate injection rate.</li> <li>• Total amount of foam concentrate used from selected tank.</li> <li>• Dual foam concentrate foam pump calibration.</li> </ul> <p>Foam Pro 2002 Maximum Water Flow Concentration GPM (L/min)</p> <p>0.2% @ 2,500 (9,464)</p> <p>0.5% @ 1,000 (3,785)</p> <p>1.0% @ 500 (1,893)</p> <p>3.0% @ 166 (628)</p> <p>The Foam Pro 2002 system shall have a 12 volt, 3/4 hp ”TENV” electric motor designed for wet and high humidity environments, direct coupled to a positive displacement piston type foam pump with a rated capacity of .01 to 5.0 gpm with operating pressures up to 400 psi.</p> <p><b>Foam System Certification</b></p> <p>The foam system performance shall be tested and certified in compliance with the applicable NFPA 1901 requirements.</p> <p><b>Foam System Plumbing</b></p> <p>The specified foam system shall be plumbed to 2.5 in. speedlay preconnect, driver's side hose bed preconnect 1, 1.5 first speedlay, 1.5 second speedlay, center bumper front jump line.</p> <p><b>ELECTRICAL SYSTEM</b></p> <p><b>Multiplex Electrical System</b></p> <p><b>Electrical System</b></p> <p>The apparatus shall incorporate a Weldon V-MUX multiplex 12 volt electrical system. The system shall have the capability of delivering multiple signals via a CAN bus. The electrical</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>system installed by the apparatus manufacturer shall conform to current SAE standards, the latest FMVSS standards, and the requirements of the applicable NFPA 1901 standards.</p> <p>The electrical system shall be pre-wired for optional computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics.</p> <p>The electrical circuits shall be provided with low voltage over-current protective devices. Such devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. The over-current protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.</p> <p>Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions.</p> <p><b>Multiplex System</b></p> <p>For superior system integrity, the networked multiplex system shall meet the following minimum component requirements:</p> <ul style="list-style-type: none"> <li>• The network system must be Peer to Peer technology based on RS485 protocol. No one module shall hold the programming for other modules. One or two modules on a network referred to as Peer to Peer, while the rest of the network consists of a one master and several slaves is not considered Peer to Peer for this application.</li> <li>• Modules shall be IP67 rated to handle the extreme operating environment found in the fire service industry.</li> <li>• All modules shall be solid state circuitry utilizing MOS-FET technology and utilize Deutsch series input/output connectors.</li> <li>• Each module that controls a device shall hold its own configuration program.</li> <li>• Each module should be able to function as a standalone module. No “add-on” module will be acceptable to achieve this form of operation.</li> <li>• Load shedding power management (8 levels).</li> <li>• Switch input capability for chassis functions.</li> <li>• Responsible for lighting device activation.</li> <li>• Self-contained diagnostic indicators.</li> <li>• Wire harness needed to interface electrical devices with multiplex modules.</li> <li>• The grounds from each device should return to main ground trunk in each sub harness by the use of ultrasonic splices.</li> </ul> <p><b>Wiring</b></p> <p>All harnessing, wiring and connectors shall be manufactured to the following standards/guidelines. No exceptions.</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<ul style="list-style-type: none"> <li>• NFPA 1901-Standard for Automotive Fire Apparatus</li> <li>• SAE J1127 and J1127</li> <li>• IPC/WHMA-A-620 – Requirements and Acceptance for Cable and Wire Harness Assemblies. (Class 3 – High Performance Electronic Products)</li> </ul> <p>All wiring shall be copper or copper alloys of a gauge rated to carry 125 of the maximum current for which the circuit is protected. Insulated wire and cable 8 gauge and smaller shall be SXL, GXL, or TXL per SAE J1128. Conductors 6 gauge and larger shall be SXL or SGT per SAE J1127.</p> <p>All wiring shall be colored coded and imprinted with the circuits function. Minimum height of imprinted characters shall not be less than .082” plus or minus .01”. The imprinted characters shall repeat at a distance not greater than 3”.</p> <p>A coil of wire shall be provided behind electrical appliances to allow them to be pulled away from mounting area for inspection and service work.</p> <p><b>Wiring Protection</b></p> <p>The overall covering of the conductors shall be loom or braid.</p> <p>Braid style wiring covers shall be constructed using a woven PVC-coated nylon multifilament braiding yarn. The yarn shall have a diameter of no less than .04” and a tensile strength of 22 lbs. The yarn shall have a service temperature rating of -65 F to 194 F. The braid shall consist of 24 strands of yarn with 21 black and 3 yellow. The yellow shall be oriented the same and be next to each other.</p> <p>Wiring loom shall be flame retardant black nylon. The loom shall have a service temperature of -40 F to 300 F and be secured to the wire bundle with adhesive-backed vinyl tape.</p> <p><b>Wiring Connectors</b></p> <p>All connectors shall be Deutsch series unless a different series of connector is needed to mate to a supplier’s component. The connectors and terminals shall be assembled per the connector/terminal manufacturer’s specification. Crimble/Solderless terminals shall be acceptable. Heat shrink style shall be utilized unless used within the confines of the cab.</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><b>1. Reserve capacity test:</b></p>		

<div> <div>MONROE FIRE PROTECTION DISTRICT</div> </div>	<div> <div>BIDDER COMPLIES</div> </div>	
<div> <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><b>2. Alternator performance test at idle:</b></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><b>3. Alternator performance test at full load:</b></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><b>4. Low voltage alarm test:</b></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> <div> <div>A. Documentation of the electrical system performance tests required above.</div> <div> <div>B. A written load analysis, including:</div> <div> <div>a. The nameplate rating of the alternator.</div> <div>b. The alternator rating under the conditions.</div> <div>c. Each specified component load.</div> <div>d. Individual intermittent loads.</div> </div> </div> <p><b>Vehicle Data Recorder</b></p> </div> </div>	<div> <div>YES</div> </div>	<div> <div>NO</div> </div>



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A vehicle data recorder system shall be provided to comply with the 2009 and 2016 editions of NFPA 1901. 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> <p>The visual warning shall consist of a graphical representation of each cab seat in the multiplex display screen that will continuously indicate the validity of each seat position.</p> <p>The system shall include a seat sensor and safety belt latch switch for each cab seating position, audible alarm and braided wiring harness.</p> <p><b>Multiplex Display</b></p> <p>The V-MUX multiplex electrical system shall include a Vista IV color display.</p> <p>The display shall have the following features:</p> <ul style="list-style-type: none"> <li>• Aspect ratio of 16:9 (Wide Screen)</li> <li>• Diagonal measurement of no less than 7”</li> <li>• Master warning switch</li> <li>• Engine high idle switch</li> <li>• Five (5) tactile switches to access secondary menus</li> <li>• Eight (8) multi-function programmable tactile switches</li> <li>• Specific door ajar indication</li> <li>• Real time clock</li> <li>• Provides access to the multiplex system diagnostics</li> </ul>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<div data-bbox="207 247 1091 285" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Video capability for optional back-up camera(s) and GPS display</li> </ul> </div> <div data-bbox="160 321 1206 359" data-label="Text"> <p>The display shall be located officer's side engine cover, driver's side engine cover.</p> </div> <div data-bbox="160 394 662 434" data-label="Section-Header"> <h3>Electrical Connection Protection</h3> </div> <div data-bbox="160 472 1370 619" data-label="Text"> <p>The vehicle electrical system shall be made more robust by the application of a corrosion inhibiting spray coating on all exposed electrical connections on the chassis and body. If equipped with an aerial device, the exposed connections on the aerial components shall also be protected.</p> </div> <div data-bbox="160 655 1385 766" data-label="Text"> <p>The coating shall use nanotechnology to penetrate at the molecular level into uneven surfaces to create a protective water repellant film. The coating shall protect electrical connections against the environmental conditions apparatus are commonly exposed to.</p> </div> <div data-bbox="160 802 548 844" data-label="Section-Header"> <h3>Smart Truck Technology</h3> </div> <div data-bbox="160 879 357 917" data-label="Section-Header"> <h4>User Interface</h4> </div> <div data-bbox="160 955 1393 1211" data-label="Text"> <p>The apparatus shall be equipped with a smart truck technology system designed specifically for first responder apparatus. The system shall interconnect major apparatus CAN networks including but not limited to the chassis J1939/OBD2 data, vehicle multiplex system, water pump pressure governor, electric valves and electric actuated deck gun. The system shall securely report real-time vehicle information from these systems via cellular data to a globally supported cloud computing service for storage and real time access via web dashboards. The dashboards shall be accessible by the department's computers, tablets and smartphones.</p> </div> <div data-bbox="160 1247 1344 1358" data-label="Text"> <p>The smart truck technology installed on the apparatus shall provide real-time notification via text or e-mail when a check engine light is displayed. The notification shall include the fault code and brief explanation for the code to reduce down-time.</p> </div> <div data-bbox="160 1394 1365 1503" data-label="Text"> <p>The system shall feature a truck down feature on the web-based user interface to allow instant notification of needed apparatus service to both the authorized dealership and OEM via text or e-mail.</p> </div> <div data-bbox="160 1539 1344 1614" data-label="Text"> <p>The system shall provide remote diagnostics of vehicle subsystems such as VMUX, pressure governors, electric monitors and electric valves.</p> </div> <div data-bbox="160 1650 1330 1726" data-label="Text"> <p>By use of the web based user interface, the system shall allow for over the air programming updates to various subsystems should the need arise.</p> </div> <div data-bbox="160 1761 954 1799" data-label="Text"> <p>The web-based user interface shall also provide the following:</p> </div> <div data-bbox="207 1835 823 1946" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Fuel and DEF levels</li> <li>• GPS tracking</li> <li>• Data logging for apparatus multiplex system</li> </ul> </div>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<ul style="list-style-type: none"><li>• Easy access to the NFPA VDR data</li></ul> <p>The smart truck technology shall also feature seamless integration to the HAAS ALERT Safety Cloud providing Responder to Vehicle (R2V) alerts to motorists using navigation apps such as WAZE.</p> <p>The system shall be designed with an open architecture to incorporate future growth with new technology partners designed to enhance fireground operations</p> <p><b>Hardware</b></p> <p><b>Vehicle Gateway</b></p> <p>The vehicle gateway module shall be rugged in construction using a durable cast aluminum enclosure designed for emergency vehicle applications. The module shall have sealed Deutsch connectors providing four (4) CAN network ports, one (1) RS-485 port, one (1) Ethernet RJ45 port, embedded cellular modem, Bluetooth and GPS capability. The IoT Core Vehicle Gateway shall be capable of 2 way vehicle telemetry, supporting both remote diagnostics and remote over-the-air software updates.</p> <p><b>Antenna</b></p> <p>A low profile cellular antenna shall be installed on the cab roof.</p> <p><b>Data Plan</b></p> <p>A 5 year data plan shall be provided with the initial vehicle purchase. At the end of the 5 year period the department shall be given the option to extend service.</p> <p><b>LIGHT BAR</b></p> <p><b>Light Bar Mounts</b></p> <p>One (1) pair of Whelen aluminum mounts shall be provided on the front light bar.</p> <p><b>Front Light Bar Color(s)</b></p> <p>The front light bar shall be provided with the following color LED modules: Red with clear lenses</p> <p>If applicable, includes side facing light bars when colors are the same.</p> <p><b>Light Bar</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A Whelen Freedom IV Series 72” LED light bar model F4X7 with fourteen (14) LED modules shall be provided; two (2) front corner mounted LED modules, ten (10) forward facing LED modules and two (2) side facing LED modules (with front vista windows) or two (2) rear corner LED modules (without front vista windows).</p> <p>No rear facing LEDs.</p> <p>The light bars shall have clear lenses.</p> <p>The white LEDs (if equipped) shall be switched off in blocking right of way mode.</p> <p>The light bar shall be installed centered on the front cab roof.</p> <p><b>WARNING LIGHT PACKAGE</b></p> <p><b>Lower Level Warning Light Package</b></p> <p>Eight (8) Whelen M6R Super LED red light heads and two (2) Whelen M2R Super LED red light heads shall be provided.</p> <p>The lights shall include chrome flanges where applicable. The lights shall be wired with weatherproof connectors and 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) Whelen M6R Super LED Red lights on the front of the apparatus facing forward</li> <li>• Two (2) Whelen M6R Super LED Red lights on the rear of the apparatus facing rearward</li> <li>• Two (2) lights each side of the apparatus, one (1) Whelen M6R Super LED Red each side at the forward most point (as practical), and one (1) Whelen M2R Super LED Red each side at the rearward most point (as practical).</li> <li>• One (1) Whelen M6R Super LED Red light each side of the apparatus centrally located to provide mid ship warning light.</li> </ul> <p>The side facing lights shall be located at forward most position, centered in rear wheel well, and side facing at rear of body in rubrail if equipped.</p> <p>All warning devices shall be surface mounted in compliance with NFPA standards.</p> <p><b>WARNING LIGHTS</b></p> <p><b>Hazard (Door Ajar) Light</b></p> <p>There shall be a 2” red LED hazard light installed as specified.</p> <p>The light shall be located center overhead.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Additional Warning Lights</b></p> <p>Two (2) Whelen M9 series Linear Super LED light heads with red lens shall be provided. The rectangular lights shall include chrome flanges where applicable.</p> <p>Location: (1) each side of body rear facing up high, (1) each side of body on forward upper body corners, (1) each side of body on rearward upper body corners.</p> <p><b>Additional Warning Lights</b></p> <p>Two (2) Whelen M6 series Linear Super LED red light heads with red lens shall be provided. The rectangular lights shall include chrome flanges where applicable.</p> <p>Location: (1) each side in front quad inboard of NFPA warning light.</p> <p><b>Black Bezels</b></p> <p>All warning lights shall have black bezels in place of chrome where applicable.</p> <p><b>DIRECTIONAL LIGHT BAR</b></p> <p><b>Directional Light Bar Control Location</b></p> <p>The directional light bar control head shall be located in the center overhead.</p> <p><b>Directional Traffic Warning Light</b></p> <p>One (1) Whelen model TAM83 LED Traffic Advisor™ with clear lenses shall be provided. The light bar shall include Eight (8) TIR3™ Super-LED® lamps.</p> <p>The directional bar shall include a TACTLD1 control head. The control head shall include a remote flash control and end lamp enable/disable feature.</p> <p>The light shall be installed at rear of body to direct traffic around the apparatus.</p> <p>Dimensions: 2.875" high x 2.25" wide x 30.36" long.</p> <p><b>Directional Light Wired to Warning Lights</b></p> <p>The rear directional light bar shall be activated when the upper level warning lights are activated to provide additional lighting, in addition to the warning lights, when the vehicle is responding to a scene.</p> <p><b>Recessed Directional Light Bar Mount</b></p>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>Recessed, Directional light bar to be recess mounted. Qty. is each. Qty. shall be two (2) for split style light bar. Located on rear area of body.</p> <p>An area at the rear of the body shall be provided for recess mounting of a directional light bar. The recess shall reduce the opening height of the rear compartment(s) (if applicable).</p> <p><b>SIRENS</b></p> <p><b>Electronic Siren</b></p> <p>A Whelen 295SLSA1 electronic siren shall be installed in the cab. The siren amplifier and control panel module shall include a rotary selector for six (6) functions, on/off switch, push button switch for manual siren or air horn tones, and noise canceling microphone.</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 flush mounted Federal Q2B-NN coaster siren shall be installed in the front bumper. An electric siren brake switch shall be located in the cab accessible to driver.</p> <p>The siren shall be located officer side front bumper.</p> <p><b>SPEAKERS</b></p> <p><b>Siren Speaker</b></p> <p><b>QTY: 2</b></p> <p>One (1) Federal Signal model ES100 Dynamax 100 watt speaker shall be flush mounted as far forward and as low as possible on the front of the vehicle. A polished model MSFMT with "E-ONE" grille shall be provided on the outside of the speaker to prevent road debris from entering the speaker.</p> <p>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 at 10 feet to meet current NFPA 1901 requirements.</p> <p>The speaker shall be located driver side front bumper inboard of frame, officer side front bumper inboard of frame.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<h2>DOT LIGHTING</h2> <h3>License Plate Light</h3> <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> <h3>Tail Lights</h3> <p>Three (3) Whelen model M6 series LED (Light Emitting Diode) lights shall be installed in a four (4) light vertical housing 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>• LED red running light with red brake light in upper position.</li><li>• LED amber populated arrow pattern turn signal in middle position.</li><li>• LED clear back-up light in lower position.</li></ul> <p>A one-piece cast housing shall be mounted around the three (3) individual lights in a vertical position. The lower space will be used by the M6 or equivalent lower NFPA warning light.</p> <h3>License Plate Bracket</h3> <p>There shall be bracket fabricated from aluminum diamond plate, secured to rear of the body to accommodate a license plate.</p> <h3>LED Marker Lights</h3> <p>LED clearance/marker lights shall be installed on the cab. The body marker lights shall be TecNiq 3/4" grommet mounted LED.</p> <h4>Upper Cab:</h4> <ul style="list-style-type: none"><li>• Five (5) amber LED clearance lights on the cab roof.</li></ul> <h4>Lower Cab:</h4> <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> <h4>Upper Body:</h4> <ul style="list-style-type: none"><li>• One (1) red LED clearance light each side at rear of body, facing rear.</li></ul> <h4>Lower Body:</h4>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<ul style="list-style-type: none"> <li>• Three (3) red LED clearance lights centered at rear.</li> <li>• One (1) red LED clearance light side facing at the trailing edge on either side of the apparatus body.</li> <li>• One (1) amber LED clearance light side facing at front of body/pump module.</li> <li>• One (1) amber LED auxiliary turn light side facing at front of body/pump module.</li> </ul> <p><b>LIGHTS - COMPARTMENT, STEP &amp; GROUND</b></p> <p><b>Medical Cabinet Lighting</b></p> <p><b>QTY: 7</b></p> <p>One (1) ROM V4 LED compartment light strip shall be mounted in the medical cabinet(s).</p> <p>The light bar shall include super bright white LEDs mounted to circuit boards that have acrylic conformal coating for corrosion protection. The LED circuit boards shall be mounted to an extruded aluminum base with lexan lens. The light shall produce 250 lumens per foot and 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>Two (2) ROM V4 compartment light strips shall be mounted in each body compartment greater than 4 cu. ft. Transverse compartments shall have four (4) lights located two (2) each side.</p> <p>Each light bar shall include super bright white LEDs mounted to circuit boards that have acrylic conformal coating for corrosion protection. The LED circuit boards shall be mounted to an extruded aluminum base with lexan lens. The light shall produce 250 lumens per foot and 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 EON LED (Light Emitting Diode) with clear lenses. The wiring connections shall be made with a weather resistant plug in style connector.</p>		



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<ul style="list-style-type: none"> <li>• One (1) ground light shall be supplied under each side of the front bumper extension (if equipped).</li> <li>• One (1) light shall be supplied to illuminate the ground below each cab door. Lights in areas under the driver and crew area exits shall be activated automatically when the exit doors are opened.</li> <li>• One (1) ground light shall be supplied under each side of the pump panel area (if equipped).</li> <li>• One (1) ground light shall be installed below each side body staircase (if equipped).</li> <li>• Three (3) ground lights shall be supplied under the rear of the apparatus.</li> </ul> <p>Ground area lights shall be switched from the cab dash with the work light switch.</p> <p><b>LIGHTS - DECK AND SCENE</b></p> <p><b>Deck/Scene Light Wired to Back-Up Lights</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>Cab Scene Light Switching</b></p> <p>The cab scene lights shall be wired to activate through the appropriate side cab door ajar switch. This application allows the cab scene lights to be used as additional illumination of the ground area for personnel entering or exiting the vehicle. The switching for this application is in addition to the standard cab scene light switching.</p> <p><b>Scene Lights</b></p> <p>Two (2) Whelen model M6ZC series Linear Super LED clear scene lights shall be provided.</p> <p>Each shall have Linear Super LED diodes with internal light deflecting optics. The internal light deflecting optics shall redirect the light without the use of angle brackets.</p> <p>The lights shall be located (1) each side of cab, rearward of forward doors, up high and be controlled by a switch in cab accessible to driver (lights on sides of apparatus to be switched separately).</p> <p><b>Scene Lights</b></p> <p><b>QTY: 2</b></p> <p>Fire Research model SPA900-Q70 surface mount lights shall be installed. The lights shall be mounted with four (4) screws to a flat surface. It shall be 6-3/4" high by 9" wide and have a profile of less than 1-3/4" beyond the mounting surface. Wiring shall extend from a weatherproof strain relief at the rear of the light.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>Each light shall have twenty-four (24) white LEDs that generate a rated 7000 lumens at 12 or 24 volts DC. The lens shall redirect the light along the vehicle and out onto the working area. The light housing shall be aluminum with a chrome colored bezel.</p> <p>Lights shall be located (1) each side rear compartment face up high.</p> <p><b>Hose Bed Light</b></p> <p>One (1) Amdor H2O Luma-Bar shall be installed at the front area of the hose bed to provide hose bed lighting per current NFPA 1901. All electrical connectors are to be enclosed in the housing providing protection against the elements.</p> <p>The hose bed light shall be switched with work light switch in the cab.</p> <p><b>Hose Bed Light</b></p> <p>A white Amdor Luma-Bar H2O LED lighting system shall be provided to illuminate the hosebed area. The strip type lights shall be located on one side of the hosebed upper extrusion and directed toward the center of the hosebed. The lights shall be mounted to a 1.25" x .5" x .125" extruded aluminum channel. The lights shall be controlled by the work light switch in the cab.</p> <p><b>LIGHTS - NON-WARNING</b></p> <p><b>Pump Compartment LED Light</b></p> <p>An LED 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> <p><b>LED Pump Panel Light Package</b></p> <p>Three (3) LED lights shall be mounted under a light shield directly above each lower intake / discharge panel. The lights shall be TecNiq EON with polished stainless steel housings. The light shields shall be formed from 14 gauge brushed finish stainless steel. The work light switch in the cab shall activate the lights when the park brake is set.</p> <p><b>Engine Compartment Light</b></p> <p>There shall be lighting provided to illuminate the engine compartment area in compliance with NFPA 1901. The light shall be an Optronics ILL22 Series LED that has a polycarbonate lense, sealed / waterproof housing and integral switch. The light wiring circuit shall activate when the cab is tilted and master power is switched on.</p> <p><b>CONTROLS / SWITCHES</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>SCBA Door Ajar Switch</b></p> <p><b>QTY: 4</b></p> <p>Door ajar indicator switch for each SCBA air bottle storage compartment door on body wired to "Door Open" indicator inside cab. Switches as optioned are in addition to standard SCBA bottle retainer straps.</p> <p><b>Door Ajar Alarm</b></p> <p>An audible alarm shall be provided through the multiplex display(s) in the cab wired into the door ajar or indicator.</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 driver's side.</p> <p><b>CAMERAS / INTERCOM</b></p> <p><b>Intercom System</b></p> <p>A David Clark 9900 series wireless intercom system shall be provided for four (4) positions in the cab.</p> <p>The system shall include:</p> <p>One (1) U9922-G38 Gateway, 3800.  One (1) Power cord  One (1) A99-14CRG 4-Bay charging unit  One (1) C99-14DC1 Power supply cord kit, 20ft.  Four (4) 43200G-01 Headset hangers  Four (4) 40688G-90 Battery packs  One (1) 40688G-96 Permanent mount remote antenna kit</p> <p><b>360 Camera System</b></p> <p>A FRC inView 360 HD camera system shall be installed on the apparatus. The system shall feature four (4) ultra wide-angle cameras located on the front, sides and rear of the vehicle. A control module shall be provided that shall take the simultaneous digital images from the cameras and process them (video stitch) into a single 360° birds-eye view image. The system shall automatically switch to a camera / area specific priority based on inputs from reverse, right turn, left turn and park brake. The video image shall be displayed on the multiplex color monitor viewable by the driver. A button shall be provided next to the dash mounted multiplex display(s) to allow view selection. The camera system shall have a built in DVR for use with</p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>department supplied SD card(s). The camera system shall be capable to hold up to four (4) 256 GB SD cards for a total storage of one (1) TB.</p>			
<b>MISC ELECTRICAL</b>			
<b>Trailer Hitch Wiring and Connector</b>			
<b>Trailer Wiring</b>			
<p>There shall be wiring provided under the rear of the apparatus for a department supplied Type I, II or III trailer as defined by the 2009 edition of NFPA 1901.</p>			
<b>Trailer Wiring Connector</b>			
<p>The trailer wiring shall be terminated with a model 12-907 9 pin connector. The connector shall be wired to the stop/turn/tail circuits only.</p>			
<p>The wiring and connector shall be rated for a maximum distributed load of 45 amps.</p>			
<b>Back-Up Alarm</b>			
<p>An electronic back-up alarm shall be supplied. The 97 dB alarm shall be wired into the chassis back-up lights to signal when the vehicle is in reverse gear.</p>			
<b>12 Volt Power Lead</b>			
<b>QTY: 6</b>			
<p>One (1) 12 volt 12 gauge constant hot lead shall be provided. The lead shall be 24” long and include a ground wire and fuse.</p>			
<p>The lead shall be located forward upper vista cabinet backwall offset to officer side, upper rear vista cabinet centered on back wall low as possible, driver side wheel well medical cabinet back wall up high centered, officer side wheel well medical cabinet back wall up high centered, on back wall of rear engine cover medical cabinet approximately centered, under the rear bench seat.</p>			
<b>12V Power Lead</b>			
<p>One (1) 12 volt 12 gauge wired through ignition lead shall be provided. The lead shall be 24” long and include a ground wire and fuse.</p>			
<p>The lead shall be located below officer's seat.</p>			
<b>Trailer Brake Controls</b>			

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A Tekonsha model Prodigy 2 trailer brake controller shall be provided. The controller shall be self adjusting for various driving terrains. The control shall be located in the cab accessible to the driver and wired to a 9-pin trailer connector at the rear of the vehicle.</p> <p><b>Refrigerator</b></p> <p>Norcold N1090 AC/DC refrigerator:</p> <p>Color: Black</p> <ul style="list-style-type: none"> <li>• Danfoss BD35 compressor improves performance, especially at higher ambient temperatures</li> <li>• LED interior light</li> <li>• Improved styling - new hidden ventilation grill</li> <li>• Base model is 12/24 DC - AC operation requires optional Power Cord</li> <li>• Closing freezer door</li> <li>• Self-venting - a Norcold exclusive</li> </ul> <p>Weight: 50 lbs.</p> <p><b>LIGHTS – LED SCENE</b></p> <p><b>Cab Brow Light</b></p> <p>One (1) FireTech 12V LED model FT-B-72-ML 75" black housing brow light with integral marker lights shall be provided. The light shall be installed on the front cab brow in place of the standard DOT marker lights. the light shall feature 54 LEDs` producing 19,665 usable lumens and five (5) DOT approved marker lights. The 285W 12V light shall draw 23.75 amps.</p> <p><b>Cab Brow Light – Side Facing</b></p> <p><b>QTY: 2</b></p> <p>One (1) FireTech 12V LED mini-brow flood light model FT-MB-27-B 35" long shall be provided. The light shall feature 27 LEDs` producing 9,317 usable lumens. The 135W 12V light shall draw 11.25 amps. A switch shall be provided, accessible to driver, for activation of light.</p> <p>The light assembly shall be located driver and officer side over rear cab door.</p> <p><b>FireTech LED Flood Light</b></p> <p><b>QTY: 2</b></p> <p>One (1) FireTech LED mini-brow flood light model FT-MB-2.18-B 21" long with black housing shall be provided. The 180W 9-32V light shall feature 36 LEDs` producing 12,422</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>usable lumens. A recess mounted constructed of 1/8" smooth aluminum shall be provided painted job color (two-tone if applicable).</p> <p>The light assembly shall be located Rearward upper body panel officer side (inboard of warning lights if equipped), Rearward upper body panel driver side (inboard of warning lights if equipped).</p> <h2>RECEPTACLES</h2> <h3>Receptacle</h3> <p><b>QTY: 5</b></p> <p>A 20 amp, 110 volt 3-prong straight blade NEMA 5-20 duplex household receptacle with stainless steel cover plate shall be installed in a non-weather exposed area as specified by the department. The receptacle shall be wired to the inlet receptacle where it will have overcurrent protection from an external source.</p> <p>Location: In cab officer side on 3 x 3 post rear facing just above engine cover (or seat riser if in a Hush), L2 high on forward wall, R2 high on forward wall, L4 high on forward wall, R4 high on forward wall.</p> <h2>MISC LOOSE EQUIPMENT</h2> <h3>DOT Required Drive Away Kit</h3> <p>Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.</p> <h3>Pumper Equipment Package</h3> <p>Five (5) David Clark headsets for intercom system. Four (4) Reflective stop signs installed on interior cab door panels.</p> <h2>EXTERIOR PAINT</h2> <h3>Paint Break with Dip to Grille</h3> <p>The cab shall have a two-tone paint break. The break line shall be approximately 31.5 inches below the cab roof drip rail. The paint break shall include a dip down to the corners of the cab grille.</p> <h3>Paint Spray Out</h3>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>A paint sample spray out of the cab two-tone paint colors will be provided for approval prior to painting.</p> <p><b>Painted Header Plate</b></p> <p>The roll up door header plates shall be painted job color for all painted roll-up doors.</p> <p><b>Painted Aluminum Wheels</b></p> <p>The exterior facing surface of the front aluminum wheels and the exterior facing surface of the outer rear aluminum wheel on a custom chassis with single rear axle shall be painted black.</p> <p>Option is not included with OEM provided paint warranty.</p> <p><b>Paint Custom Cab</b></p> <p>The apparatus cab shall be painted Sikkens FLNA3044 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. Cab doors and any hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on cab, door jambs and door edges.</p> <p>Paint process shall feature Sikkens high solid LV products and be performed in the following steps:</p> <ul style="list-style-type: none"> <li>• Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.</li> <li>• Sikkens 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>• Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.</li> <li>• Sikkens High Solid LVBT650 (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, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). 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, hand rails,</p>		

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO

doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

**Paint Cab Two-Tone Color**

The upper section of the cab shall be painted FLNA4145 Black.

The paint process of the secondary cab color shall be the same as the primary color.

**Paint Body Small**

The apparatus body shall be painted Sikkens FLNA3044 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.

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 doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (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.

Any location where aluminum is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). 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, hand rails,



MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
	YES	NO
<p>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. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.</p> <p><b>Grille Painted Flag</b></p> <p>The front cab grille mesh shall be air brush painted with a waving United States flag.</p> <p>Standard and/or extended warranties shall not apply to this option.</p> <p><b>Air Conditioning Condenser(s)</b></p> <p>The air conditioning condenser cover(s) mounted on the roof of the cab shall be painted color: FLNA4145 Black.</p> <p><b>Paint Cab Grille</b></p> <p>The entire front cab stainless steel cab grille shall be painted black in color.</p> <p><b>Paint Front Intake Elbow</b></p> <p>Paint 5" front intake elbow job color above gravelshield. Not applicable when chrome swivel is selected.</p> <p><b>INTERIOR PAINT</b></p> <p><b>Cab Interior Paint</b></p> <p>The interior of the cab shall be painted Zolatone gray #20-64. Prior to painting, all exposed interior metal surfaces shall be pretreated using a corrosion prevention system.</p> <p><b>PROTECTIVE COATINGS</b></p> <p><b>LINE-X Package.</b></p> <p>One or more components installed on this unit shall have LINE-X coating. The LINE-X coating shall be XS-350, a two-component, 100% high performance aromatic polyurea spray elastomer system. XS-350 being an elastomeric protective coating shall provide excellent skin formation for chemical resistance and moisture protection. When used on walking surfaces, slip resistance shall meet or exceed NFPA 1901 test requirements.</p>		

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>Color shall be Black unless otherwise specified.</p> <p><b>LINE-X Pump Panels</b></p> <p>The pump panels including gauge panels shall be coated with LINE-X.</p> <p><b>LINE-X package for miscellaneous parts and brackets mounted</b></p> <p>LINE-X package for miscellaneous parts mounted on the body: Includes aerial style or similar brackets used for beacon lights, camera shield, license plate bracket, traffic advisor box (non-recessed only), fabricated shield over traffic advisor, fabricated light boxes and other brackets used for mounting scene and warning lights, stirrup style switch as applicable.</p> <p><b>LINE-X bumper package</b></p> <p>LINE-X bumper package: Includes all visible diamond plate (smooth aluminum if equipped) surfaces including gravel shield, exterior surface of trays and lids(flat or raised). If equipped, exterior of the fabricated booster reel housing, fabricated box for booster reel rollers and winch access door shall be included in this package.</p> <p><b>LINE-X package for Pumper Body</b></p> <p>Includes the following as applicable</p> <ol style="list-style-type: none"> <li>1. Body compartment tops</li> <li>2. Coffin compartment tops including raised lip portion for lids</li> <li>3. Exterior surface of coffin compartment lids</li> <li>4. Forward transverse compartment top</li> <li>5. Intermediate step/rear platform/landing surface</li> <li>6. Tailboards including welded (exterior surface only), bolt on (exterior surface only) or flip down style (exterior and interior surfaces)</li> <li>7. Rear bumper overlay</li> <li>8. All surfaces of the storage pan(s) visible from top of the truck and all plate work fabricated at E-ONE mounted inside the pan(s) such as hydraulic system cover, generator shield, reservoir cover, cooler cover, cord reel cover, boxes, dividers, trays, etc.</li> <li>9. Pump panel running boards including stirrup steps if applicable</li> <li>10. Mounting plates and brackets installed under the running board or body for plumbing options like bleeders, drains, etc</li> <li>11. Top mount walkway plate and formed walkway steps</li> </ol> <p><b>LINE-X package for body fenderettes</b></p> <p>LINE-X package for body fenderettes.</p> <p><b>LINE-X package for Pumper or Tanker body stepping surfaces</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>Includes the following as applicable</p> <ol style="list-style-type: none"> <li>1. Intermediate step/rear platform</li> <li>2. Landing surface area</li> <li>3. Enhanced extended box top and inboard side plates</li> <li>4. Beavertails (all visible surfaces)</li> <li>5. Tailboards including welded (exterior surface only), bolt on (exterior surface only) or flip down style (exterior and interior surfaces)</li> <li>6. Rear bumper overlay</li> <li>7. Running Boards</li> </ol> <p><b>LINE-X for Hosebed Walkway</b></p> <p>LINE-X hosebed walkway only. Does not include any other surfaces - only walkway floor plate.</p> <p><b>LINE-X package for custom cab fenderettes</b></p> <p>LINE-X package for custom cab fenderettes.</p> <p><b>LINE-X package for custom cab steps</b></p> <p>LINE-X package for custom cab steps: Includes cab step wells (everything below the cab floor) and all welded and bolt on steps including stirrup and swing out steps as applicable. Steps hanging below the cab shall have LINE-X coating inside and outside. DEF tank door or any other access doors are also included in this package if located in the step well area below the cab floor.</p> <p><b>LINE-X package for side mount pump module</b></p> <p>LINE-X package for side mount pump module: Includes exterior surfaces of all running boards (including speedlay running boards if applicable), integral slide out platforms (underbody style not included), exterior surface of runningboard trays and lids, intermediate steps and all fabricated mounting plates installed under the module or body for plumbing options like drains, bleeders, etc. as applicable.</p> <p><b>LINE-X package for rollerless platform(s)</b></p> <p>LINE-X package for exterior surface of the wheel chock mounting brackets.</p> <p><b>LETTERING</b></p> <p><b>Sign Gold Letter</b></p> <p><b>QTY: 27</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p>Sign Gold letters upto 6" tall shall be applied.</p> <p>The exact size and location of the letters shall be as specified by the customer.</p> <p><b>Sign Gold Letters</b></p> <p><b>QTY: 18</b></p> <p>Sign Gold letters upto 12" tall shall be applied.</p> <p>The exact size, color and location of the letters shall be as specified by the customer.</p> <p><b>Lettering Shade and/or Outline</b></p> <p><b>QTY: 60</b></p> <p>Existing letters shall be shaded and/or outlined as specified by the customer to provide a contrast.</p> <p><b>STRIPING</b></p> <p><b>CAB AND BODY STRIPE</b></p> <p>A single Scotchlite stripe, up to 6 inches in width shall be installed on the cab and body . The stripe shall have a hockey style, Z or S style or any other customer specific design style.</p> <p>The stripe shall be NFPA compliant and the size, color and location shall be as specified by the customer.</p> <p><b>CAB AND BODY STRIPE ADDITIONAL</b></p> <p><b>QTY: 2</b></p> <p>An additional Scotchlite stripe, up to 3 inches in width shall be installed on the cab and body.</p> <p>The stripe shall be NFPA compliant and the design, size, color and location shall be as specified by the customer.</p> <p><b>Scotchlite Cab Stripe</b></p> <p>Scotchlite cab stripe shall be 3/4" in width total, 1/2" gold stripe with a 1/8" customer specified color outline on both sides and a clear polyurethane coating. Stripe shall be centrally located and shall contour with the cab, following the paint break.</p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES	
		YES	NO
<p><b>Front Bumper 3M Diamond Grade Striping</b></p> <p>Chevron style 3M Diamond Grade striping shall be provided on the front bumper of the apparatus. The stripes shall consist of 6" Red/Black alternating stripes in an "A" pattern.</p>			
<p><b>Rear Body 3M Diamond Grade Striping</b></p> <p>Chevron style 3M Diamond Grade striping shall be provided on the rear of the apparatus. The stripes shall consist of 6" Red/Black alternating stripes in an "A" pattern. The striping shall be located on the rear facing extrusions, panels and doors inboard and outboard of the beavertails if applicable.</p>			
<p><b>Designated Standing / Walking Area Indication</b></p> <p>1" wide yellow perimeter marking consisting of individual Reflexite diamonds shall be applied to indicate the outside edge of designated standing and walking areas above 48" from the ground in compliance with 2016 NFPA 1901. Steps, ladders and areas with a railing or structure at least 12" high are excluded from this requirement.</p>			
<p><b>GRAPHICS</b></p>			
<p><b>Window Graphics</b></p> <p>One (1) Vision graphic shall be provided per sales administration and/or customer. The design of the material shall allow normal viewing through the windows.</p>			
<p><b>Customer Logo [Qty: 4]</b></p> <p>A customer logo shall be supplied from an existing E-ONE design. The logo shall be located on reference graphics layout drawing.</p>			
<p><b>Graphics Drawing</b></p> <p>A graphics drawing shall be provided for the apparatus. The drawing shall include striping, lettering and logos meeting NFPA guidelines. The drawing shall be presented for review and approval by the end user prior to application of the graphics.</p>			
<p><b>Logo</b></p> <p>A logo with a grey background shall be provided on each of the rear vertical M6 tail light housings.</p>			
<p><b>WARRANTY / STANDARD &amp; EXTENDED</b></p>			

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES					
		YES	NO				
<p><b>Standard 1 Year Warranty</b></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 structural warranty. This warranty shall cover all apparatus manufacturer designed frame, frame members, and cross-members against defects in materials or workmanship for the lifetime of the covered apparatus. A copy of the warranty document shall be provided with the proposal. Frame warranties that do not cover cross-members for the life of the vehicle shall not be acceptable.</p> <p><b>10 Year 100,000 Mile Structural Warranty</b></p> <p>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.</p> <p><b>10 Year Stainless Steel Plumbing Warranty</b></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>10 Year Paint and Corrosion Warranty</b></p> <p>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.</p> <p>The paint shall be prorated for 10 years as follows:</p> <p><b>Topcoat &amp; Appearance:</b>          (Gloss, Color Retention, Cracking)</p> <table> <tr> <td>0 to 72 months</td> <td>100%</td> </tr> <tr> <td>73 to 120 months</td> <td>50%</td> </tr> </table>		0 to 72 months	100%	73 to 120 months	50%		
0 to 72 months	100%						
73 to 120 months	50%						

112

MONROE FIRE PROTECTION DISTRICT		BIDDER COMPLIES							
		YES	NO						
<p><b>Coating System, Adhesion &amp; Corrosion:</b> (Includes Dissimilar metal corrosion, Flaking, Blistering, Bubbling)</p> <table><tr><td>0 to 36 months</td><td>100%</td></tr><tr><td>37 to 84 months</td><td>50%</td></tr><tr><td>85 to 120 months</td><td>25%</td></tr></table> <p>Corrosion perforation shall be covered 100% for 10 years. Corrosion perforation is defined as complete penetration through the exterior metal of the apparatus.</p> <p>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.</p> <p>UV paint fade shall be covered in a separate warranty supplied by Akzo Nobel (Sikkens) and shall be for a minimum of 10 years.</p> <p><b>25 Year Frame Rail Corrosion Warranty</b></p> <p>The chassis manufacturer shall provide a 25 year corrosion warranty on the chassis frame rails. This warranty shall cover the chassis frame rails, including frame rail liners (if equipped), for a period of 25 years after the date on which the vehicle is delivered to the original purchaser. A copy of the warranty document shall be provided with the proposal. Please refer to warranty document for complete details and exclusions.</p> <p><b>20 Year Frame Components Corrosion Warranty</b></p> <p>The chassis manufacturer shall provide a 20 year corrosion warranty on the galvanized chassis frame components. This warranty shall cover the front frame extensions, chassis crossmembers (from engine rearward), battery tray brackets and rear underbody support (if applicable) for a period of 20 years after the date on which the vehicle is delivered to the original purchaser. A copy of the warranty document shall be provided with the proposal. Please refer to warranty document for complete details and exclusions.</p> <p><b>Meritor Front Axle Warranty</b></p> <p>A warranty shall be provided for the front axle by Meritor Automitive. The warranty period shall be as follows based on axle type:</p> <ul style="list-style-type: none"><li>• FL-941, FL-943 and MFS up to 21,500: 5-year / unlimited miles parts and labor</li><li>• MFS rated at 22,800: 2-year / 200,000 miles parts and labor</li><li>• Front drive axle: 2-year / unlimited miles parts and labor</li></ul> <p><b>Meritor Rear Axle Warranty</b></p> <p>A 5-year/unlimited miles, 5-year parts and 5-year labor rear drive single or rear drive tandem axle warranty shall be provided by Meritor Automotive.</p>		0 to 36 months	100%	37 to 84 months	50%	85 to 120 months	25%		
0 to 36 months	100%								
37 to 84 months	50%								
85 to 120 months	25%								

113

MONROE FIRE PROTECTION DISTRICT	BIDDER COMPLIES	
<p><b>SUPPORT, DELIVERY, INSPECTIONS AND MANUALS</b></p> <p><b>Pump Panel Approval Drawing</b></p> <p>A detailed large scale approval drawing of the pump panel(s) shall be provided. The drawing shall be provided on an purchased unit prior to the construction process.</p> <p><b>Approval Drawings</b></p> <p>A general arrangement drawing depicting the vehicles 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>Approval Drawings - Dash Panel Layout</b></p> <p>A detailed large scale approval drawing of the dash/console panel layout shall be provided. The drawing shall be provided on an purchased unit prior to the construction process.</p> <p><b>Electronic Manuals</b></p> <p>Two (2) copies of all operator, service, and parts manuals <b>MUST</b> be supplied at the time of delivery in digital format -<b>NO EXCEPTIONS!</b> The electronic manuals shall include the following information:</p> <ul style="list-style-type: none"> <li>• Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, aerial (if applicable), installed components, and auxiliary systems.</li> <li>• Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and firefighting systems.</li> <li>• Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.</li> <li>• Instructions regarding the frequency and procedure for recommended maintenance.</li> <li>• Maintenance instructions for the repair and replacement of installed components.</li> <li>• Parts listing with descriptions and illustrations for identification.</li> <li>• Warranty descriptions and coverage.</li> </ul> <p>The electronic document shall incorporate a navigation page with electronic links to the operator`s 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 electronic document 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>	YES	NO



