



NEW LENOX FIRE PROTECTION DISTRICT

REQUEST FOR PROPOSAL

REQUEST FOR PROPOSAL PROJECT

Purchase of a 2019 Advanced Life Support Ambulance

INFORMATIONAL

REQUEST FOR PROPOSAL

Proposal packages must be received by Monday, February 4, 2019 at 9:00am¹

Proposal packages must be received at **261 E Maple Street, New Lenox, IL 60451 (Attn: Linda Baaske)** no later than the date/time listed above. Postmarks are not accepted. Late proposals will be returned unopened. Hand deliveries should be made to the New Lenox Fire District Staff at 261 E Maple Street, New Lenox, IL 60451.

Submit a complete original proposal and one (1) hard copy in a sealed envelope. Mark the outside of the envelope RFP – ALS Ambulance. Submissions may not include photographs, pamphlets, brochures or other extraneous promotional materials.

Questions and/or additional information concerning this RFP must be submitted in writing via email or fax, preferably via email, to:

Christopher Ward, Battalion Chief
New Lenox Fire Protection District
info@nlfire.com
Phone: 815.463.4500
Fax: 815.485.3959

Please do not contact any other District personnel about this RFP unless authorized prior to contact. Violating this rule is grounds for rejection of proposal.

The New Lenox Fire Protection District reserves the right to reject any or all Proposals, to waive any informalities in any Proposal, and to qualify the firms that best meet the District's needs.

¹ Time of submission will be determined by using the clock displayed on the phone system located at the fire district reception desk.



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SECTION I

INTRODUCTION

The New Lenox Fire Protection District (“District”) is soliciting proposals from qualified vendors (“Vendor”) for an ALS Ambulance. All equipment shall be new and of current design and manufacture. Used or refurbished equipment is unacceptable.

The District’s overall goal in soliciting these proposals is to identify the most responsible and capable Vendor that meets the requirements indicated in this proposal at a reasonable cost.

SECTION II

MINIMUM QUALIFICATIONS

It is the intention of the District to award a contract to a Vendor who:

1. Is able to provide the vehicle within the time constraints identified in the Request for Proposals.
2. Represents the best overall value to the District, including:
 - a. Warranties pertaining the vehicle²
3. To determine the degree of responsibility to be credited to a Vendor, the District will weigh any evidence that the Vendor has or has not performed satisfactorily on other contracts of like nature and magnitude or comparable difficulty.

SECTION III

PROPOSAL INFORMATION

Key Action Dates & Times

Event	Date
RFP available to prospective Vendors	January 14, 2019 at 08:00am
Final Date for RFP Submission	February 4, 2019 at 09:00am
RFP Opening (No public opening of Proposals)	February 4, 2019 at 10:00am

Submission of Proposal

All proposals must be submitted under sealed cover and sent to New Lenox Fire Protection District, Attention: Linda Baaske, by dates and times shown.

Proposals by Mail (e.g. USPS)	Proposals Hand Delivered or Overnight (e.g. Ups or FedEx)
New Lenox Fire Protection District Attention: Linda Baaske 261 E Maple St. New Lenox, IL 60451	New Lenox Fire Protection District Attention: Linda Baaske 261 E Maple St. New Lenox, IL 60451

² Price, though important, is NOT the sole determining factor in determining the Best Value for the District.



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1. A minimum of one (1) original and one (1) hard copy must be submitted.
2. A proposal may be rejected if it is conditional or incomplete, or if it contains any alterations of form or other irregularities of any kind. The District may in its sole discretion reject any or all proposals and it may waive an immaterial deviation in a proposal. The District's waiver of an immaterial deviation shall in no way modify the RFP document or excuse the Vendor from full compliance with all requirements if awarded the Vendor Agreement.
3. Costs incurred for developing proposals and in anticipation of award of the Vendor Agreement are entirely the responsibility and risk of the Vendor and shall not be charged to the District.
4. A Vendor may modify a proposal after its submission by withdrawing its original proposal and resubmitting a new proposal, but only if this is accomplished prior to the proposal submission deadline. Vendor modifications offered in any other manner, oral or written, will not be considered.
5. The District does reserve the right to negotiate the submitted prices with the submitting Vendors or to request clarifications and subsequent price alterations after the submission deadline, at the sole discretion of the District. Nothing whatsoever within Section IV.3 (i) shall be construed to limit the District's right under this subsection.
6. A Vendor may withdraw its proposal by submitting a written withdrawal request to the District, signed by the Vendor or an authorized agent. A Vendor may thereafter submit a new proposal prior to the proposal submission deadline. Proposals may not be withdrawn without cause subsequent to proposal submission deadline.
7. The District may modify the RFP prior to the date fixed for submission of proposals by the issuance of an addendum to all parties who received a proposal package. All addenda will be sent via electronic mail.
8. The District reserves the right to reject all proposals in its sole discretion.
9. Before submitting a response to this solicitation, Vendors should review, correct all errors and confirm compliance with the RFP requirements.
10. The District does not accept alternate contract language from a prospective Vendor. A proposal with such language will be considered a counter proposal and will be rejected.
11. No oral understanding or agreement shall be binding on either party.

Evaluation & Selection

1. At the time of proposal opening, each proposal will be checked for the presence or absence of required information in conformance with the submission requirements of this RFP.
2. The District will evaluate each proposal to determine its responsiveness to the published requirements.
3. Proposals that contain false or misleading statements, or which provide references which do not support an attribute or condition claimed by the Vendor, may be rejected.



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- Award, if made, will be to the lowest responsible Vendor, as determined by the District through its evaluation of submitted Proposals and modifications, if any. Award is not dependent on total cost of the Proposal, although cost is a factor in the evaluation of the Proposals.

Disposition of Proposals (Public Record)

Proposing Vendors understand that, as a general rule, all documents received by the District are considered public records. Upon proposal opening, all documents submitted in response to this RFP will become the property of the New Lenox Fire Protection District and will be regarded as public records under the Local Records Act (50 ILCS 205/ Local Records Act) and subject to production to and review by the public on request.

If a proposing Vendor considers any portion of its submittal proprietary and/or otherwise exempt from disclosure, it must clearly label such information or documentation and submit it, together with a written request for a determination of whether the documents can be withheld from public disclosure, no later than ten (10) business days prior to the due date of the submittal. The District's attorney shall make a determination of confidentiality.

If a determination is not obtained prior to the submittal deadline, all document(s) shall be subject to public disclosure. In the event a request is made for a document deemed confidential, the District will inform the applicable Vendor. Such Vendor will participate in the event proceedings are initiated to compel the disclosure of the same.

Unopened, sealed Proposal packages may be returned only at the Vendor's expense, unless such expense is waived by the District.

SECTION IV

MINIMUM SPECIFICATIONS & SCOPE OF WORK

The District requires the following minimum specifications. Bidders must meet or exceed these minimum specifications. A substitution may be made but must be indicated in writing.

Single Source Manufacturer

To simplify warranty coverage and to assure a consistent level of quality throughout the vehicle, a manufacturer is desired that manufactures the major components for the ambulance (excluding chassis). Major components are defined as: the module body to include the doors, the interior cabinets, and the cushions.

The highest degree of quality, both in materials and in the building processes, is required for the emergency medical vehicle being proposed.

Attention shall also be focused on American made products and suppliers.

General Conditions / Service Support and Availability

Service will be a major factor in the award of this proposal. Convenience and experience will be determining factors in determining acceptable service.

A service facility within a reasonable radius will be required. Personnel who perform the training shall be trained by the manufacturer. Special attention shall be given to electrical and HVAC service.



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Please include the following:

1. Facility name and address
2. Distance to the service facility
3. Name(s) of the service technicians

Quality Assurance

To ensure the purchaser that proper engineering and production control guidelines have been implemented the ambulance manufacturer shall employ an integrated quality and process control program including specific process controls for facets of the manufacturing process deemed to be "critical". These critical elements of the process shall be documented, and that documentation shall be available not only to manufacturing personnel but also to customers who visit the facilities.

The critical elements shall be denoted on the vehicle control document, which accompanies the vehicle through the manufacturing process. A sample of this document shall be available upon request. A continuous series of inspections shall be performed and signed off on the vehicle control document.

The sign off shall include such areas as:

1. Visual inspection of the body, welds, and exterior attachments.
2. Visual and mechanical inspection of the HVAC lines, cables, grommets, valve connections, clamps, mounting brackets and belts.
3. Visual inspection of cabinets, sliding/hinged cabinet doors, flooring, walls, headliner, and cushions.
4. Visual inspection of exterior paint and finish.
5. Operational inspection of all electrical systems. This testing must consist of a battery voltage, electrical load, alternator output, emergency lighting, non-emergency lighting, siren, exhaust fan, HVAC, and all optional equipment required by this specification. The current and total load requirements of each device tested must be noted on an inspection sheet.
6. The oxygen and vacuum systems shall be tested both prior to and after installation. All documentation shall be recorded.
7. All chassis fluids shall be checked and filled to capacity. All doors, locks, latches, windows and tires shall be inspected for proper operation or condition. The completed vehicle must be test driven for a minimum of ten miles on different terrain. All operational components including any noises shall be documented and repaired if necessary. Upon completion of all tests the vehicle shall be water spray tested and checked for any leaks.

BODY

Body Style

The module body shall be designed and fabricated with the following key elements in mind:

1. The greatest possible load carrying capacity.
2. The safety of all EMS providers and patients shall be of paramount concern.
3. The body design, including construction materials and fabrication techniques shall be proven to be durable.
4. The ambulance body shall be easily retrofitted to a new chassis.
5. The ambulance body shall meet all current testing requirements available.



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Body exterior shall be approximately 170" long x 96" wide x 90" high. All body panels, structures, and extrusions shall be fabricated of ALL aluminum construction using alloys consistent with the load requirements of the vehicle. Overall vehicle length, including bumpers, shall be approximately 26'.

Overall vehicle height, ground to top of module, shall be approximately 114". The cab to modular connection shall allow for a pass thru with a minimum dimension of 12" x15".

CHASSIS

Chassis

Chassis shall be a Ford Model F-550 4x4 Dual Wheel Super Duty Chassis Cab, 2019 model year.

1. Engine shall be a 6.7L Power Stroke Diesel 300 HP and 660 ft-lb Torque.
2. Transmission will be the TorqShift Heavy Duty 6-Speed SelectShift Automatic.
3. The chassis shall include the Ford Ambulance Prep Package #47A and be modified to meet the Ford QVM standards.
4. Gross Vehicle Weight Rating: 18,000 LBS
5. Wheelbase: 189"
6. Cab to Axle Dimension: 108"
7. Front axle will be 7,000
8. Rear axle will be 13,660
9. Fuel tank shall be 40 gallon minimum.
10. The cab interior shall have OEM heavy duty rubber flooring.
11. Wheels shall be OEM Aluminum Wheels
12. Side view Mirrors shall be located on each door of the cab and shall include a blind-spot mirror

SUSPENSION

Suspension

The suspension shall be Liquid Spring Suspension which utilizes a compressible liquid contained in the struts and secondary volumes. The liquid within the struts, and in conjunction with the secondary volumes, provide the spring and damping forces. Valving, in conjunction with an ECU, shall be configured to control the spring rates and damping. A hydraulic pump, coupled to a motor and controlled by the ECU, shall regulate vehicle height. The ECU shall process and utilize data derived from speed sensor, brake sensor, height sensors, and steering sensor. (CONTROLLER TO BE LOCATED ON LEFT SIDE OF STEERING WHEEL ON OEM DASH)

Throttle Manager

A low voltage throttle manager shall be installed as part of the ambulance package. All safety interlocks must be in place for the manual throttle to activate the high idle function.

Hand Held Cab Spotlight

There shall be a 400,000-watt candlepower "Optronics Blue-Eye" hand held spot light (or equivalent) located in the vehicle cab. A Polyurethane covered open top box large enough to accommodate the hand-held spot light shall be supplied.



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Drivers Console

A custom driver's control panel console shall be installed. This console shall be designed to allow easy access from either cab seat. The console shall include a switch and siren area, radio control area, map storage, and cup holders.

Engine Hour Meter

An engine hour meter shall be provided and mounted on the driver's side of the custom console.

Rear Suspension

There shall be an auto dump feature added to the liquid spring suspension system. This auto dump shall be tied to the secondary rear door and include a safety cutoff switch mounted to the primary rear door.

Batteries

The ambulance shall be equipped with matching dual batteries, each battery shall have a minimum 750-CCA for Diesel motors. Batteries shall be mounted on a separate slide out tray for serviceability and easier access without increase movement and noise. The battery compartment shall be sealed off from the patient compartment, exterior compartments, and cab. The compartment shall be located so that battery cable lengths are no longer than the right-side battery cable located under the hood. All battery cables shall be ran in flexible conduit. Battery cables shall be minimum 1.0 gauge in size.

Owner's Manual

A complete ambulance manufacturer's owner's manual shall be included with vehicle. The manual will include wiring diagrams as well as a wiring narrative about the vehicle. Also included will be all additional manufacturer instructions from options provided.

Theft Protection

An ignition override theft protection device shall be supplied and installed. The device shall allow the keys to be removed without turning off the engine. The engine shall "kill" when the brake is applied.

MODULAR BODY

Modular Body

Modular body construction methods and materials must be certified in compliance with AMD Standard 001, "Static load test for ambulance body structure".

Undercoating

After the body is assembled, all under body surfaces are to be heavily coated with automotive grade petroleum-based undercoating to protect against road salts and to provide additional sound deadening.

KKK Package

To assist in meeting the federal procurement specification - KKK-1822-F the following components shall be included:

1. Oxygen Regulator
2. 2 - Five Pound Fire Extinguishers
3. Oxygen Wrench



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Finished Headroom

The interior of the patient compartment will provide no less than 72 inches of finished headroom from floor to ceiling.

Pass-Thru Window

A chassis cab to modular pass through entrance to the patient compartment shall be provided. It shall be a minimum of 18" wide. This entrance shall have a sliding window/door that latches open and closed only from the cab side. The track provided shall be rattle free operation. The window /door shall be lockable from the cab side.

MODULE DOORS & WINDOWS

Module Entry Doors

There shall be entry doors on the curbside and the rear of the patient compartment. The entry doors shall be recessed into the extruded frame that shall be level with the exterior wall skin.

Protective Padding

There shall be protective pads directly above the side and rear doors. These pads shall be a minimum of 2" thick and shall be constructed of high-density foam and heavy-duty vinyl. No piping shall be used, and all seams shall be sealed to repel contaminants. The cushions shall be installed with industrial grade plastic hook and loop Velcro allowing easy removal for cleaning. Pads over entry doors shall extend below the Nader pins to prevent serious head injury. These pads shall be trimmed on the exterior side with stainless steel.

Door Seals

The door seals must be EPDM hollow core and provide a 360-degree uninterrupted seal with a full 1/2" of compression. Door latches shall be inboard of the seal, therefore protecting latches from dirt, moisture, and weather deterioration. NO EXCEPTION ALLOWED. Seals shall be mounted in a way to protect them from abuse.

Door Hardware

Each modular body entrance door shall be equipped with two heavy-duty rotary latches to meet FMVSS 206 standards. Each rotary latch shall close on a post (Nader pin) mounted to the doorframe extrusion. A minimum 2" x 2" x .125" frame member shall be placed behind the extrusion for positive two-point latching. Both rear doors must latch onto the doorframe. All door latch posts shall be adjustable. A continuous door gasket shall be installed 360 degrees around the entire door. A dielectric barrier to include "Eck" and anti-corrosive tape shall be provided between the hinge and the door-frame.

Door Open Indicator Light

A red, flashing, compartment door open indicator light will be placed inside the vehicle cab. The location shall be determined at the pre-build conference.

Module Entry Door Reflectors

There shall be two (2) model number B491R red reflectors mounted on each module entry door.

Module Side Entry Door

The side entrance door shall be equipped with a heavy-duty gas dampening hold open device that shall hold the door open at 90 degrees.

Side Entry Door

The side patient entry door shall have a threshold with non-slip tape installed.



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Side Entry Door Window

Side entry door shall be equipped with a manufacture sized approximately 16" x 20" sliding, dark tinted safety plate window in an aluminum frame.

Rear Module Doors

The ambulance module shall have a minimum of 56 inches of pass thru height at rear doors. The rear doors shall also have Grabber style hold opens with replaceable rubber catches. The Cast Products "Grabber" style hold opens shall be installed on each door with the appropriate socket being installed on the rear body wall attached to a support member.

Rear Entry Door Window

Rear entry doors shall be equipped with a manufacture sized 16" x 20" non-opening, dark tinted safety plate window in an aluminum frame.

Door Latches

Doors shall be equipped with free float handles with chrome Exterior and Black Pocket. (A Tri- Mark 030-18 latch is preferred.) A nonskid easy-grip surface shall be applied to the backside of the handle to permit a gloved or wet hand from easily gripping the handle. The right rear and side entrance doors shall be lockable from inside or outside. There shall be a rubber gasket installed between the paddle handle and the door. All screws shall be coated with an anti- corrosive paste prior to application. All entrance doors and exterior compartment doors shall be keyed alike.

Door Latches

All exterior module doors shall have a pre-stressed shielded cable as the means to activate door latches and door rotaries. The shielded cable shall have machine crimped ends.

Step Well Grip Strut

The side entry patient door step shall have a removable grip strut plate and include a drain plug located beneath it.

EXTERIOR COMPARTMENTS

Module Exterior Compartments

The exterior compartments shall be formed from a minimum .090" aluminum sheet. The compartments shall be welded to the body floor and sidewall structure for strength and rigidity. All corner seams shall be welded and caulked.

Module Door Design

Door panel separation, dirt accumulation at seams, paint imperfections, misalignment and malfunctions where the door cannot be operated have been identified in many styles of door construction. These problems, along with the heavy use of vehicle doors shall be eliminated by using a process that includes an extruded, pan formed construction.

Compartment Door Hardware

Doors shall have rotary latches with stainless steel, slam style paddle handles. A nonskid easy- grip surface shall be applied to the backside of the handle to permit a gloved or wet hand to easily grip the handle. There shall be a rubber gasket between the paddle handle and the door. All door latch posts shall be adjustable. All compartment doors shall be keyed alike and lockable with a double bit key.



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A continuous door gasket shall be installed 360 degrees around the entire door. Stainless Steel sill plates shall be installed on all inner and outer doorsills. All doors, except the battery compartment, shall have a heavy-duty gas dampener style hold open device. The battery compartment, as a minimum shall open near 180 degrees. It shall be equipped with rubber bumpers to protect the doors and finish. A dielectric barrier to include both "Eck" and an anti-corrosive tape shall be provided between the hinge and the door-frame. All single compartment doors on sides shall be front hinged for safety and convenience. All doors taller than the belt line shall have two (2) latches and Nader pins. Compartments requiring double doors shall provide frame latching for the second door.

Door Seals

The door seals must be EPDM hollow core and provide a 360-degree uninterrupted seal with a full 1/2" of compression. Door latches shall be inboard of the seal, therefore protecting latches from dirt, moisture, and weather deterioration.

Venting

In order to prevent airlock inside compartments, all exterior equipment storage compartments shall be vented. There shall be two vents in each compartment, one left side, and one right side. All vents shall be above the floor line to prevent dust from entering the compartment. The only exception (unless otherwise specified) shall be the oxygen compartment, which may have a vent in the door and/or below the floor line. All vents below the floor line shall have a scotch-brite style filter installed to help prevent moisture and dust from entering the compartment. Other vents in compartment doors will not be acceptable.

Reflectors

There shall be two model number B491R red reflectors mounted on each full height compartment door.

Door Panels

All compartment interior door panels shall be polished diamond plate aluminum.

Door Switches

Door jamb switches for interior lights, exterior compartment lights, door ajar lights and rear load lights shall be magnetic style with ground wire trigger activated relays. This method of wiring eliminates hot wires running into door jams and therefore any amp load on the switch itself.

Exterior Compartment Lining

All exterior compartments shall be lined. The material shall be nonporous and allow for easy cleaning. It must be highly resistant to scratching and scuffing. The minimum performance specifications for this coating material are:

1. Shore "A" Hardness 55 +
2. Tensile Strength 3,025 PSI
3. Elongation at Break 275%
4. Tear Strength 475 PLI
5. Compaction/Impact Factor 52,000 PSI

This material shall be sprayed on all exterior compartment surfaces and finished in a mottled texture to minimize slippage; it shall provide a water/air tight seal and superior noise suppression. The lining will not crack, peel or warp and will resist scratches. The color of this material shall be medium gray.



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Compartment Lights

All exterior module compartments, except the battery compartment shall have LED strip lighting.

1. 12VDC (white)
2. 30 Lumens per LED minimum
3. Low-Profile surface mount adhesive design
4. High flexibility conforms to irregular surfaces
5. Over 50,000 hours of life
6. High quality LED's don't change color over time
7. 180-degree output
8. 10-year limited warranty

Compartment Vents

All exterior compartments shall be vented using stainless steel vent covers. All vents shall be installed above floor line. The only exception shall be the oxygen compartment.

Curbside Compartment (P1)

The Curbside front inside/outside compartment shall be full height. There shall be a pull-out tray on the bottom of this compartment with a 12-volt electric outlet. Actual compartment size and outlet location shall be determined at the pre-build conference.

Compartment Shelves

The inside/outside right front cabinet shall have one fixed and two adjustable shelves.

Cabinet Lining

The inside/outside right front cabinet shall have a smooth interior laminate lining.

Battery Compartment (P2)

There shall be an exterior battery compartment with slide out tray. The tray shall have a lockable latch on each side. It shall be capable of holding a minimum of two batteries.

Curbside Rear Compartment (P3)

There shall be a curbside rear backboard compartment. Actual compartment size shall be determined at the pre-build conference.

Street Side Compartment (D1)

There shall be a full height street side front storage compartment. Actual compartment size shall be determined at the pre-build conference.

Street Side Compartment (D2)

There shall be a double door street side front intermediate storage compartment. Actual compartment size shall be determined at the pre-build conference.

Street Side Rear Compartment (D3)

There shall be a double door street side rear storage compartment. Actual compartment size shall be determined at the pre-build conference.



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Compartment Shelves

There shall be [4] diamond plate adjustable shelves installed. Each shelf shall have two-inch lips and ribbed rubber shelf matting.

Sweep Out Compartments

Exterior compartment floors shall be raised to the level of the door frame. This will allow the compartments to be easily swept out.

Compartment Drain

Street side rear exterior compartment shall have a drain hole.

Inside/Outside Compartment

The following compartments shall have inside/outside access. Specify Compartment(s): Curbside Rear

Compartment Flooring

There shall be black Dri-Dek on all compartment floors with the exception of the battery compartment.

Mounting Hooks

There shall be two "Ferno J" hooks installed street side rear compartment. Location shall be determined at time of final inspection.

REAR STEP & BUMPER ASSEMBLY

Module Rear Bumper

There shall be a heavy-duty bumper extending to each side of the step. There shall be a 45" wide by 10" deep passenger step at the rear of the body. It shall be constructed of open face "Grip-Strut" safety grating, rigidly framed and supported. The rear step shall be hinged to allow it to be folded against the rear of the body. End sections outboard of the step shall be covered with .125 aluminum diamond tread with all corners TIG welded.

The outboard sections shall be level with the open face "Grip Strut". The outside corners of the covers shall be tapered 15 degrees to minimize bumper dragging. Two heavy-duty rubber dock bumpers shall be installed on the outer face of the diamond plate. Two tow hooks shall be installed under each bumper pod and attached to the bumper frame.

Rear Kick Panel

The vertical surface at the rear of the modular body between the rear step and the floor of the patient compartment shall be faced with a full width 3003 diamond tread aluminum. The rear kick panel shall be attached using stainless flathead countersunk machine screws. The screws shall be tapped and applied with "ECK" prior to installation. The top edge of the rear kick panel shall be caulked using auto body sealant.

Lower Side Impact Rails

The impact rails are to be mounted to the lower structural members of the body framing. Rails shall be designed to absorb impact, minimize body damage, and to be easily replaceable.

Diamond Plate Running Boards

Bright finished aluminum diamond plate running boards of .125 with grip strut surface mounted plates shall be installed on both the curb and street side of the cab doors. Running boards shall incorporate a center grip strut surface. The running boards shall include front splash shields.



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Diamond Plate Running Board Lights

Running boards shall be illuminated by surface mounted lights and include a cover. These lights shall be installed on the front of the module body.

Mud Flaps

The chassis shall have heavy-duty rear rubber mud flaps with metal stabilizers installed.

Drip Rails

Polished aluminum drip rails shall be installed over all exterior compartment and modular entry doors. Drip rails shall be installed with double stick tape to prevent corrosion. Drip rails installed with screws shall not be acceptable due to the probability of corrosion from dissimilar metals. Specify Compartment: D2, D3, R1, P1, P2

Front Stone Guards

There shall be diamond tread aluminum stone shields 36" high wrapped around each front corner of the body and extending into cab depth. The edges shall be sealed.

Rear Stone Guards

There shall be diamond tread aluminum rear corner stone shields at rear kick plate height installed. The edges shall be sealed.

ELECTRICAL SYSTEM

Electrical Control Systems Requirements

A Microcomputer and Microprocessor based electrical system with driver's and attendant's control centers shall be supplied and installed by the ambulance manufacturer. Only systems manufactured independently will be considered.

NO SYSTEMS MANUFACTURED BY THE AMBULANCE MANUFACTURER WILL BE CONSIDERED.

The electrical system modules shall be designed for simple, quick replacement. The system shall incorporate a fully programmable design allowing the user to select and define how the system will operate now and into the future.

All electrical and electronic components shall be selected to minimize electrical loads, thereby allowing the vehicle's generating system to not only meet the vehicle's electrical load requirements but to maintain an adequate reserve generating capacity.

The system shall include automatic load management and automatic high idle control. The electrical system shall be a "Touch Screen" System or an equivalent. The technology used is to preserve the life of the system by removing current loads before it disconnects. The display shall be easy to read with a minimum character of eight points, or graphical icons that indicate function.

The system shall be scalable and allow the OEM the ability to expand the number of outputs. The expansion of the system will be accomplished through the addition of output modules. The system will include (1) camera for back-up/reverse & will allow for additional video camera. It must also have provisions for:

1. Full screen camera display
2. Automatic full screen camera in reverse



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The system must allow for full programmability by the manufacturer, where he/she can create and select only the required number of outputs. Programmability shall also include control panel switch placement.

The system must have real time monitoring of all critical functions. The system must have the following protections built in:

1. Full reverse voltage protection
2. Full RFI protection
3. Full over voltage protection
4. Full transient protection
5. Full under voltage protection
6. Protection during a brown out voltage scenario
7. Protection during slow rise or recovery mode
8. Protection against voltage stutter
9. Protect from failure of relay boards

The system will be thoroughly tested to assure dependability in a variety of different elements. The testing shall include the following:

1. Thermal Stability Testing to include; non-powered resistance to cold testing, low temperature operating testing and high temperature operating testing.
2. Highly Accelerated Life Testing to meet standards; MIL-STD-810G and SAE J1455.
3. Highly Accelerated Stress Screening to meet standards; MIL-STD-810G and SAE J1455.
4. Thermal Shock Testing meeting standards; MIL-STD-810G Method 503.5 and IEC 60068- 2-14.
5. Vibration Testing meeting standards; MIL-STD-810G Method 514.6, SAE J1455, and ISO 16750-3.
6. Mechanical Shock Testing meeting standards; MIL-STD-202G Method 213B, and ISO 16750-3.
7. Immersion Testing meeting standard; ISO 20653.
8. Controls Durability Testing including; set Duration, Actuation Force, CycleRate, Temperature, Operational Status, Monitoring and Test Criteria.
9. Fluid Contamination Testing meeting standards; SAE J1455 and MIL SPEC 461F.
10. Salt Spray testing meeting standards; MIL-STD-810F and Method 509.4 ASTM B117.
11. Dust Testing meeting standard; MIL-STD-810F.
12. Power/Temperature/Humidity Testing to meet standard; MIL-STD-810F.
13. Solar Radiation Testing meeting standards; SAE J1960 and ASTM G 155.
14. The Power Modules shall have solid state current limiting protection.

The system must survive the initial crank voltages without experiencing a computer reboot down to seven volts. The system starts to ready to function duration shall not exceed twenty seconds. The system start shall be activated by cab door open circuit, or remote activation.

Each output Module shall be equipped with its own diagnostic LED's including Communication Status, Module Status and Output Status LED's. These LED's are useful in quickly determining the status of each output. There must be multi-levelled brightness and audio controls.

The Main System shall also include:

1. Programmable Emergency Master Sequencing for Pursuit and On-Scene modes.
2. Primary battery disconnect
3. Programmable Load Management



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4. Automatic Climate Control, with fan control and at least one temperature sensor.
5. Cancels out electromagnetic interference Differential signaling
6. Automatic Throttle Control output.
7. Easy to read LED diagnostics.
8. The System shall include:
9. Easy to read diagnostic LEDs allowing the user to determine if the system is functioning properly. These will include Input status, Module status and Output status LED's.
10. Components that are easily exchanged with minimal work for the service personnel.
11. Output Modules that are interchangeable without the need for reprogramming to aid in ease of repair and reduction in part inventory.
12. A main electrical compartment containing all main electrical components for ease of trouble shooting and repair.
13. The control modules shall be protected by fuses and high current outputs utilizing solid state protection. The system must be allowed to sense a fault and shut off the appropriate output.

Front Touch Screen

1. The front control screen shall be a Color LCD panel with programmable switch functions.
2. The front control screen must be able to interface with perimeter cameras.
3. In an effort to give the driver more rear patient control. All rear screen controls must be available at the front screen.
4. All alarms (both visual and audible) must be present in the front panel. Alarms must include Compartment and Patient Doors, O2 /Medical Air Low Warning.
5. All Emergency Master Functions must be available in the front panel.
6. There must be selectable switches/buttons on each tab of the screen. The panel must be able to display warnings and alerts.
7. The system must incorporate:
 - a. The ability Add/Remove/Reposition buttons, on the same screen
 - b. The panel must also contain active voltage indicators.
 - c. There must be provisions for an engine hour meter.
8. The system must have optional provisions to automatically switch between Primary or "Pursuit" Modes and Secondary or "On Scene" modes through inputs from the chassis for automatic control; or manual control through the panel.
9. The Emergency Master sequencing, Primary/Secondary operations, and Load Management functions must be user-selectable. The system must have a fully- interlocked, auto throttle control.
10. The front touch screen must include the following; Volts, Message Center, Door Open indicators, Emergency Master, Module Disconnect, Shore Power indicator, Sequencing (EM), Load Management (LM) and access to patient panel.

Rear Touch Screen Controls

1. The rear control screen shall be a color LCD panel.
2. Include a brightness and volume control.
3. The screen must be (IP67) rated and tested.
4. Each panel must have definable switches/buttons. All buttons and menus must be available on screen. Buttons will include provisions for diagnostic controls. Buttons must be re configurable (labels, functions, and outputs).



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5. Rear screens must have complete HVAC (heating and air) controls. There must be semi- automatic and manual controls of the HVAC system. The rear screens must have provisions for optional configurable tank displays (O2).
6. There must also be a low-level warning for O2 with alarm override functionality.

The completed ambulance must meet or exceed AMD Standard 005 / NFPA 1917 Standard 7.4.1, Ambulance 12-Volt DC Electrical Load Test. A complete Owner's/Operating/Service Manual shall be provided. It shall contain a complete set of wiring schematics of the ambulance manufacturer's electrical system. It shall also contain the owner's manuals for all add-on and after-market components supplied by the ambulance manufacturer.

Battery System

The battery compartment shall be sealed off from the patient compartment, exterior compartments, and cab. Battery cables shall be a minimum of 1/0 gauge. See chassis specification for description of size, number and location of batteries.

High Idle Control

A Manufacturer's throttle control device or equivalent shall be installed. It shall be preset so that when activated it will operate the engine at a speed necessary to maintain proper system voltage. The device shall operate only when the vehicle is in "park" and the parking brake is engaged.

The device shall disengage when the service brake pedal is depressed, or the transmission is placed in gear. The device shall automatically reengage when the service brake is released, or the vehicle is again placed in "park" and the parking brake engaged.

SIREN TO SOUND THROUGH OEM HORN BUTTON WHEN SIREN IS ACTIVATED.

Reverse Activated Alarm

The backup lamp switch shall be a cut off for the backup alarm and shall automatically reset when the vehicle is taken out of the reverse gear. This switch shall be capable of being set prior to going in reverse, allowing the backup alarm to not activate.

Ejector Type Shoreline

A 20-amp Kussmaul super auto eject device shall be provided which disconnects the shore power plug when the chassis ignition is energized. The ambulance shall be equipped with a 2- wire plus ground 115 VAC wiring system that is separate and distinct from the vehicle's 12 VDC system. The 115V system shall incorporate a ground fault interrupter (GFI) device and shall have a 20-amp circuit breaker that can be used as a master disconnect switch.

The exterior inlet shall have a hinged, heavy duty Hubble spring loaded inlet cover to prevent moisture. The inlet shall be located near the driver door on the ambulance body. The inlet shall be properly marked 115 VAC and shall be provided with a mating plug. The interior duplex outlets shall have indicator lights at each outlet to indicate when 115 VAC power has been applied. Outlets shall be marked "115 VAC".

Shoreline Indicator

An indicator "on" (Whelen OS) Series Non-Flashing (Red) light shall be supplied and mounted above or near the shoreline inlet.



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Inverter

A Vanner model number 20-1050 CUL (Or Equivalent), 1050-watt inverter with 55Amp charger and display shall be supplied and installed. The inverter shall be equipped with an automatic transfer relay which disconnects the inverter when the shore power is applied. A remote on/off switch shall be provided in the attendant control panel.

12 Volt Outlet (Action Area Wall – To Be Determined at time of Drawing)

The patient action area shall be furnished with a 12-volt, cigarette style outlet. This separately protected circuit shall have one receptacle located in the main action area, cigarette type connector of the following designation, ms3112e12-3s.

The polarity of the connector shall be as follows: pin a- + 12v, pin b - ground and pin c - not used. One (1) mating-plug shall be furnished and shall be ms3116f12-30. Mating plug shall be tagged with polarity requirements. This circuit shall also include a "SCHOTTKY" diode isolator with heat sink to isolate medical equipment and medical equipment batteries from any electrical loads that the remainder of the ambulance electrical system may impose.

125 Volt Outlet (Quantity 3 – To Be Determined at time of Drawing)

An Interior duplex outlet shall be installed in the action area. An Indicator light shall be included at the outlet to indicate when 125v AC power has been applied. The outlet shall be labeled "125v AC". This 125v AC system, including wiring and associated equipment, shall comply with AMD Standard 009.

Power Door Locks

Side entry & rear entry doors shall have power locks installed. These power locks shall be activated from the OEM cab area and be thermally protected with a pulsed signal.

Power Door Locks (Exterior Compartments)

Five (5) designated exterior doors shall have power locks installed. These power locks shall be activated from the OEM cab area and be thermally protected with a pulsed signal. Compartments: D1, D2, D3, P1, P3

Power Door Locks

A hidden, power door unlock switch shall be installed in the grille area.

Power Door Locks (Module)

Two (2) interior body power door lock switch(s) shall be installed. It shall use a pulsed signal and provide both lock and unlock for all designated doors. Doors: PRIMARY CURBSIDE REAR ENTRY DOOR & SIDE PATIENT ENTRY DOOR.

Speakers

There shall be at least two (2) speakers recessed mounted into the ceiling duct above the squad bench.

Flashlight Circuit

There shall be two (2) 12-volt relay-controlled power and ground circuit(s) for each flashlight. Location: IN D3 BOTH ABOVE SHELF ON WALL #2 WITH 36" LOOP

Wiring Diagrams

Ambulance manufacturer shall supply as-built wiring diagrams.



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INTERIOR LIGHTING

Compartment Light

An oxygen compartment light shall be installed and controlled from the action area control panel.

Step-Well Light

A step-well light shall be installed in the side door step-well. This light shall illuminate when the side door is open.

Interior Lighting

The patient compartment shall be illuminated, by eight (8) Whelen # 80C0EHZR 18-Diode ceiling lights with clear lens. The left and right banks of lights shall each have their own "high" and "low" switch positions. The right bank "low" setting shall also be activated by doorjamb switches at the side and rear doors. A 5-minute timer shall activate one bank of lights on "low" when the battery switch is off.

Interior Lighting

The patient action area shall have a 12-volt LED strip light installed.

Center Strip Lights

The center strip lights shall be (6) surface mounted 3" Whelen Round Super-LED with chrome flange.

EXTERIOR LIGHTING

Stop/Tail Lights

There shall be Whelen M6 Series "LED" stop/tail lights with chrome trim bezels installed. The actual location shall be determined at the pre-build conference.

Turn Lights

There shall be Whelen M6 Series "LED" populated amber turn signals with chrome trim bezels installed. They shall be wired to flash sequentially in the direction of the arrow. The actual location shall be determined at the pre-build conference.

Turn Lights

There shall be additional Whelen M6T Series LED amber arrow turn lights with chrome trim bezels installed. They shall be wired to flash sequentially in the direction of the arrow. The actual location shall be determined at the pre-build conference.

Back-up Lights

There shall be Whelen M6 Series LED backup lights with chrome trim bezels installed. The actual location shall be determined at the pre-build conference.

Rear Load Lights

There shall be two reverse activated, Whelen M9ZC series rear load lights with chrome trim bezels installed. The actual location shall be determined at the pre-build conference.

Side Scene Lights

There shall be four Whelen M9ZC series scene lights installed. Two scene lights shall be installed on each side of the module body. They shall be located at the top of the module next to the warning lights. The light head



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refraction design shall create a flood of light and shall be optically projected at a downward angle approximately thirteen degrees from the horizontal plane.

The scene lights shall meet or exceed federal specification KKK-A-1822F. All scene lights shall have bright chrome-like flanges. The side scene lights shall illuminate when the side entry door is opened. Switching for the side scene lights shall be included in the front and rear control panels.

Rear Side Scene Lights

The rear scene lights shall come on when the vehicle is placed in reverse.

Recessed Door Lights

There shall be three (3) recessed LED flashing door lights with guards installed. The lights shall be installed on the lower interior door panel. The actual location shall be determined at the pre-build conference.

ICC Marker Lights

The exterior ambulance body ICC lights shall be Weldon model number 9186-1500-10 (red) and 9186-1500-20 (amber). They shall be installed above the integrated drip rail extrusion.

Rear DOT Clearance/Brake Light

There shall be a red Innovative Slimline light mounted above the rear doors. Unless otherwise specified, it shall be mounted above the drip rail. The mid sections are to be wired thru the brake light circuit.

Front DOT Clearance Light

There shall be a front amber Innovative Slimline light center mounted above the drip rail.

RADIO PROVISIONS AND AIR HORNS

Power Studs

The ambulance shall include three power point studs located in the interior electrical compartment. The studs shall include a full-time hot, ignition hot, and ground.

Air Horn Compressor System

There will be a Buell Strombos air horn compressor #15412 for two (2) Air Horns with reserve tank.

Activation shall be from a weatherproof driver's side floor switch.

Air Horns

There shall be one 10" and one 12" Buell air horns mounted thru the front bumper.

Radio Antenna

One RG58U antenna coaxial cable shall run from antenna access base on the roof of the patient compartment and terminate behind the driver's seat. This cable shall have a 36" service loop.



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CENTER MIDDLE MODULE ROOF TO THE FRONT CONSOLE

Radio Antenna

One (1) KE-794 antenna base shall run from antenna access port in the roof of the patient compartment and terminate in the ambulance module. This cable shall have a 36" service loop. REAR OF ROOF TO BEHIND ACTION AREA.

Radio Power

There shall be one (1) 12-volt positive with negative lead provided for radio power. The location of which shall be within the ambulance body. This lead shall be wired through the battery switch.

Below front console

Run a 1.5" conduit from the slanted radio panel below the lfo to the electrical cabinet for future radio wire pull capabilities.

SIRENS AND EMERGENCY LIGHTING

The emergency lighting amount and locations are subject to change and shall be determined at the pre-build conference.

Siren

There shall be a Federal Model number EQ2B electronic siren system installed. Actual location shall be determined at the pre-build conference.

Siren Speakers

There shall be Federal Signal ES100 DynaMax speaker bumper warning siren speakers installed.

Front Module Warning Lights

There shall be two Whelen model number M9 Series "LED" front module warning lights installed.

Rear Module Warning Lights

There shall be two Whelen model number M9 Series "LED" rear module warning lights installed on the outer most corners of the module.

Center Rear Module Warning Light

M7AC with clear lens

Grille Lights

There shall be two Whelen model number 500 LIN6 LED forward facing grille lights installed.

Rear Wheel Well Lights

There shall be two Whelen model number M7 Series "LED" rear wheel well lights installed.

Emergency Lights

There shall be two (2) Whelen model number "LED" light(s) installed. Location shall be determined at the pre-build conference.

1. One (1) M4GC with clear lens as upper grille light curbside and
2. One (1) M4RC with clear lens as upper driver side



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Emergency Lights

There shall be Whelen model number M9 Series "LED" lights installed at rear window height.

Emergency Lights

There shall be four (4) Whelen model number M9 Series "LED" light(s) installed. The actual location and color shall be determined at the pre-build conference.

Crash Rail Light

There shall be six (6) Hella model number 959073701 12V Red LED one-piece flush mount lights to be installed in the rub/crash rail. Install six (6) Hella 9073 led lights in the impact rails, three (3) per side.

There will be four (4) red and two (2) white total all with clear lens. Configure R/W/R per side. Tie the red lights into the ICC circuit so that the red

Lights will come on with the chassis lights in non-emergent mode. Emergent mode will be all six (6) lights and override the ICC lights for flashing purposes. Alternating red/white comet flash on ULF44 #1.

Front Grill

Install two (2) Whelen Ion Wionsmc wide angle clear led lights and chrome flanges on each side of the grille housing frame next to the headlight lens so that it flashes both forward and partially to the side. Center with the headlight lens and conforming to the natural angle of the grille housing. On wig-wag switch.

375 alternate double flash to emulate wig wag pattern.

Traffic Preemption

TOMAR 3065R emitter install with 700 strobes mounted on front wall, centered between emergent lights. Emitter cancels in park/neutral.

PATIENT COMPARTMENT

Cabinet Construction

Cabinet construction may vary greatly between manufactures, if your process varies significantly please specify construction materials and manufacturing process.

Cabinets shall be constructed of Formaldehyde free, furniture grade exterior-rated hardwood plywood. The plywood shall be made from a deciduous wood with the face, core and back all being the same species. A melamine bonding glue shall be used to join the 7-ply together. The exposed layers shall be hardwood on both sides of the sheet. The layers shall be 99% void free. Cabinet interiors and exteriors shall be covered with high pressure plastic laminated at least 28 mils thick. All cabinets shall be constructed using both glue and screws for maximum strength. Screws shall be a maximum of 10" from each other. All exterior chamfered corners shall have a 6063-T5 aluminum extrusion installed. This extrusion shall be screwed in-place from inside the cabinet.

THE USE OF STAPLES IN THE ASSEMBLY OF CABINETS SHALL NOT BE ACCEPTED.

Cabinet Doors

The cabinet openings shall have sliding polycarbonate doors, hinged doors, or a combination of both. The sliding doors shall slide in felt / nylon lined 4-sided aluminum extrusions that completely surround each opening and are removable. Each sliding door shall have a full height, beveled corner extruded aluminum handle on the outer edge. This shall provide additional strength and rigidity.



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Impact Protection

All exterior corners subject to abuse shall have an extrusion installed for added durability and rounded for occupant safety. A 6063-T5 aluminum radius shaped corner with inside X-frame shall be used on any corner not protected by a padded vinyl covered cushion. The use of this extrusion will allow the cabinet exterior corners to be attached from the inside, thereby eliminating the use of screws on the cabinet face.

Cabinet Shelves

All cabinets over 14" high shall have fully adjustable shelves. The shelves shall be made of glossy PVC to help eliminate issues caused by blood-borne pathogens. All shelves shall be fastened to the adjustable track to eliminate rattle. A polished aluminum lip shall be provided on all shelf outer edges.

Cabinet Attachment

All interior cabinets including the squad bench shall be bolted securely to modular body frame members and floor. The attachment bolts shall be a minimum 1/4" machine grade bolts. All fasteners and washers shall be stainless steel or coated to protect from corrosion or another non-corrosive material. All cabinets must be removable for ease of future interior modification.

Fit and Finish

Mitered joints throughout the interior conversion shall have a gapless, hairline fit. Sliding polycarbonate door assemblies shall be scratch free and all edges shall be smooth and free of saw marks and sharp edges.

Cabinet to cabinet joints shall not require more than a 7/32" diameter welting to create a finished and well fit look. Cabinets shall fit tightly against the ceiling as well.

Sub-Floor

A PVC material that is a closed-cell, matte-finish surface with a fine cell structure shall be installed. The thickness shall be 1/2" or 3/4" depending on cot litter securing system being used. This PVC material shall meet or exceed 650222 these application requirements:

1. Chemical and corrosion resistance
2. Moisture resistance, low water absorption
3. Low flammability (UL-940VO)
4. Thermal and sound insulation – absorbs vibrations and oscillations

Patient Compartment Testing

The vehicle shall meet or exceed AMD Standard 006, "Sound Level Test Code for Ambulance Compartment Interiors" and AMD Standard 007, "Carbon Monoxide Levels for Ambulance Compartment Interiors".

Smooth Ceiling Headliner

The ambulance module ceiling shall be a two-piece smooth thermoplastic sheet. To be Fire retardant ABS/PVC (FR-ABS) formulations with significantly higher impact and extensibility. To have great resistance to corrosive chemicals and cleaning solutions. Meet Fungus resistance testing in accordance with ASTM G-21 and bacteria resistance testing in accordance with ASTM G-22, Procedure B.

Sliding Doors

There shall be quarter inch clear polycarbonate sliding cabinet doors on all interior cabinets. The sliding door handle shall be made from an aluminum extrusion and shall run the full length of the polycarbonate door. The full-length door handle corners shall be cut at forty-five degrees.



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Cot Mount

A Stryker MTS Power Load for the Power Pro XT cot fastener shall be provided. It shall provide for a Stryker cot to be center mounted in the patient compartment. The cot fastener installation must meet or exceed AMD Standard 004, Litter Retention System. Further discussion and details shall be provided at the pre-build conference.

Left Rear Overhead Cabinet

There shall be a left rear overhead cabinet with speed load polycarbonate doors installed. The bottom of the cabinet is to be sweep-out style. The cabinet door frame shall be secured at the top by a full-length piano hinge. The entire frame shall hinge upward and be held in place by gas piston hold-open devices.

The cabinet frame shall be held in the down position by two spring-loaded dead bolt style slide catches. The vertical ends of the speed load framed cabinet will have EPDM rubber foam to protect the handles from damage.

All speed load cabinets that are taller than 23" and wider than 32" shall have a 1/8" x 1-1/2" anodized aluminum support. The actual dimensions shall be decided at the pre-build conference.

Left Top Center Cabinet

Further discussion and new design layout (with possible deletion) shall be determined at the pre-build conference.

Left Front Overhead Cabinet

There shall be a left front overhead cabinet with speed load polycarbonate doors installed. The bottom of the cabinet is to be sweep-out style. The cabinet door frame shall be secured at the top by a full-length piano hinge.

The entire frame shall hinge upward and be held in place by gas piston hold-open devices. The cabinet frame shall be held in the down position by two spring-loaded dead bolt style slide catches. The vertical ends of the speed load framed cabinet will have EPDM rubber foam to protect the handles from damage.

All speed load cabinets that are taller than 23" and wider than 32" shall have a 1/8" x 1-1/2" anodized aluminum support. The actual dimensions shall be decided at the pre-build conference.

Lower Telemetry Cabinet

There shall be a lower telemetry area cabinet with sliding polycarbonate doors installed. The sliding door handle shall be made from an aluminum extrusion and shall run the full length of the polycarbonate door.

The full-length door handle corners shall be cut at forty-five degrees. The vertical ends of the framed cabinet will have EPDM rubber foam to protect the handles from damage. The actual dimensions shall be decided at the pre-build conference.

Action Area Cabinet

The attendant's action area shall have a slanted panel to accommodate the switches and the radio. The actual dimensions shall be decided at the pre-build conference.

Lower Action Area Cabinet

There shall be a lower action area cabinet with sliding polycarbonate doors installed. The sliding door handle shall be made from an aluminum extrusion and shall run the full length of the polycarbonate door. The full-length door handle corners shall be cut at forty-five degrees.



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The vertical ends of the framed cabinet will have EPDM rubber foam to protect the handles from damage. The actual dimensions shall be decided at the pre-build conference.

CPR Seat

A seat approximately 21" wide with rear hinged lid allowing for cabinet storage shall be recessed into the street side cabinet wall directly rearward of the main action area. A 2" thick foam seat cushion, a backrest, a left and a right thigh protection cushion all covered with heavy-duty vinyl shall also be provided.

There shall be no piping on the cushions to accumulate contaminated material. All seams shall be sealed to repel contaminants. A seat belt with outside wall-mounted retractors shall be provided. Upper cabinets shall have left and right head protector cushions to match the seat cushion.

Attendant's Seat

There shall be a high back, EVS brand child seat Model 1880S. The EVS seat shall be a captain's chair-type attendant seat located at the front of the patient compartment. This seat shall be covered with color coordinated heavy-duty vinyl with heat sealed seams for ease of cleaning.

The seat shall include a 3-point adult safety harness with push button release and a 5-point child safety harness. The seat shall have a fore and aft adjustment of six inches on heavy duty sliding tracks. The seat shall be mounted on an EVS swivel pedestal base. This and all seats in the patient compartment shall meet all FMVSS requirements.

EVS states that this is "not an infant seat", it is not to be used by children less than one year old. Recommendations include children who weigh between 20 and 50 pounds and are 28 to 47 inches tall and capable of sitting upright alone.

Electrical Cabinet

A storage cabinet shall be for storage of the Power Distribution Center.

Right Front Cabinet

A storage cabinet shall be installed on the passenger side right front wall. The upper section shall permit equipment to be accessed from either the patient compartment through heavy polycarbonate doors or through an exterior compartment door.

The polycarbonate doors shall be a minimum of 3/8" thick and without metal framing. It shall have one (1) adjustable shelf. The actual dimensions shall be decided at the pre-build conference.

Right Front Cabinet

A storage cabinet shall be installed on the right front wall, lower section that permits equipment to be accessed from either the patient compartment through heavy polycarbonate doors or through an exterior compartment door.

The polycarbonate doors shall be a minimum of 3/8" thick without metal frames. It shall have one (1) adjustable shelf. The actual dimensions shall be decided at the pre-build conference.

Right Front Cabinet

There shall be a cabinet mounted above upper right front stack cabinet. The cabinet shall have a top hinged solid door installed. The actual dimensions shall be decided at the pre-build conference.



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Walk-Thru Cabinet

There shall be a cabinet mounted in the lower walk thru area. The actual dimensions shall be decided at the pre-build conference.

Squad Bench

The ambulance shall be equipped with a squad bench approximately 75" long by 22" wide. The squad bench lid shall have a 2" foam pad covered with color coordinated heavy-duty vinyl. The squad bench lid shall be two-piece 70/30 split, and have two heavy-duty, bi-directional gas piston hold-open devices. The force value selected, and ball stud locations shall provide lift assistance after twenty degrees of bench lid lift angle. The ball stud mounts shall be at least ten millimeters.

The lids shall be attached to the bench with a continuous hinge. Each lid shall have a self-latching, stainless steel, paddle style latching device. The lids shall be finished with minimum 2" thick cushions. There shall be no piping and all seams shall be sealed to preclude absorption of contaminants. These cushions shall be installed with industrial grade, plastic hook and loop Velcro for easy removal and cleaning. Three sets of encased restraints and seat belts shall be installed on the squad bench. Retractors shall be installed against the outer wall.

Squad Bench-Head End Retention System

There shall be a formed "A" style retention bar rigidly mounted but removable at the head end of the squad bench. It shall include an area for sharps and waste to be attached.

Squad Bench Cushion

There shall be a backrest covering the wall directly behind the squad bench. This backrest shall be a minimum of 2" thick and shall be constructed of high-density foam and heavy-duty automotive grade vinyl. There shall be no piping and all seams shall be sealed to repel contaminated material.

Bandage Cabinet

There shall be a two-section bandage cabinet with top hinged heavy 3/8" polycarbonate doors mounted above the squad bench. The actual dimensions shall be decided at the pre-build conference.

Glove Box

The rear head pad shall include a recessed area for two (2) glove box(s). The glove box holder shall be made from ABS plastic and include a clear top hinge door.

Grab Rail

There shall be two (2). There shall be a formed 2" diameter brushed aluminum overhead assist rail. It shall be located on the ceiling over the patient area. This rail shall be a minimum of 100" long.

Grab Rail

There shall be "L" shaped formed 2" diameter brushed aluminum entrance door grab handles installed on the curbside and both rear entry doors. The "L" shall start horizontally under the door window and turn at a 90-degree angle up alongside the hinge side of the window to provide safe entry from the street level and safe exit from the patient floor.

Grab Rail

There shall be a formed 2" diameter brushed aluminum grab assist handrail mounted at the head end of the squad bench.



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Grab Rail

There shall be a formed 2" diameter brushed aluminum grab assist handrail. It shall be located at the left rear wall.

IV Hangers

There shall be two CPI Model IV 2008 recessed rubber, non-swinging type IV hangers that fold flat when not in use mounted in the ceiling over the lower portion of the patient area. They shall be bolted to the roof framing structure.

Cabinet Latches

There shall be stainless Southco M1 cabinet latches installed on all interior door style cabinets.

Cabinet Drawer

There shall be two (2) interior locking cabinet drawer(s) installed. The drawer(s) shall be made from aluminum and include a wood face. A separate key lock shall be included. The actual dimensions shall be determined at the pre-build conference.

1. One (1) center of RFS. Drawer to be 8" deep with three (3) adjustable dividers.
2. One (1) Rear-forward facing squad bench wall drawer per drawing. Drawer to be 6" deep with three (3) adjustable dividers.

Clock

There shall be an Intellitec clock/time manager mounted in the rear head cushion. This clock shall be digital and include an elapsed timer with alarms. The actual location shall be determined at the pre-build conference.
CENTERED IN REAR CUSION ABOVE REAR DOORS.

Locking Cabinet Door

The interior cabinets shall include a locking cabinet door with a Simplex push button lock.

Interior Walls

High Pressure Laminate to be supplied and installed. The laminate finish selected shall be Fashion Gray D381-30.

Interior Cushions

To be seam sealed cushions with high density foam with PVC base. Installed with heavy duty hook & loom for easy removal for cleaning. The vinyl shall meet the following specifications:

1. Nominal Weight of 32 oz.
2. Contents 100% Virgin Vinyl
3. Cold Crack to meet -10 Degrees F
4. Meets Class Rating of ASTM- D-3690
5. Passes Abrasion Resistance (HD Wyzenbeek)
6. Thickness of 1.02
7. Passes UV Stabilized Pigments 300 Hour Min.
8. Passes Flammability Reg.: MVSS 302
9. Passes Cal. Tech. Bulletin 117 Section E

The cushion vinyl color shall be Montana Oxford Gray MON-6033.



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Cabinet Welting

There shall be color matched automotive grade welting placed between cabinet sections. The color is to be Light Gray.

Counter Tops

The counter top is to be of a solid surface material. Solid polymer components

1. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.
2. Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
3. Does not support microbial growth.

Solid surface color shall be Rain Cloud. (Or Determined by Customer)

Counter Tops

The counter top is to include accent stripe to be of a solid surface material. Solid surface color(s) shall be Glacier White.

Interior Floor

The flooring is to be Lonseal (or Equivalent). The style and color of the flooring shall be Loncoin II Flecks #157 Moonstone.

PATIENT COMPARTMENT ENVIRONMENTAL SYSTEMS

Fresh Air Intake

A filtered fresh air intake shall be mounted on the upper right front (passenger side) corner of the modular body. The heater / air conditioner fans shall control the intake of fresh air. The system shall be a constant flow style with a thermostat to control heating and cooling, therefore providing a fresh environment throughout the patient compartment.

The air return system shall be located within the right front cabinetry. This cabinetry shall include an integral plenum wall and duct system. This system shall allow the blower fans to pull air from the floor, thereby speeding the process of heating/cooling and therefore provide a consistent temperature at all levels of the patient compartment.

Exhaust Fan

A power exhaust vent fan shall be installed in the rear upper wall below the roof line. The fan shall be controlled from the rear control switch panel. The vent shall be filtered and located on the rear outside body sidewall. The front fresh air intake vent and the rear (power) exhaust vent shall provide efficient cross through patient compartment ventilation. The exhaust fan shall have a minimum of 100 CFM in system and 145 CFM open flow.

Ducted HVAC

The HVAC shall be ducted down the center ceiling strip. There shall be a minimum of six round adjustable ducts. The ducting shall be tapered to allow full flow of air to the further most vents.

In-Line Booster Pump

A 12-volt centrifugal liquid pump shall be installed. The pump shall boost the flow capacity of the engine coolant.



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AC Condenser

The vehicle shall have an auxiliary AC condenser.

Insulation

There shall be two-inch-thick plank non-deteriorating high density "Yellow Certifoam" insulation. The thermal resistance of the insulation shall hold a five-year aged value of 11.2 @25-degree F mean temperature. The importance of aged value relates to initial "R" values that over a five-year period deteriorate and allow for a false "R" value.

Insulation shall be placed between all framing and include the module body walls, floor, ceiling and patient doors. There shall also be a four MIL vapor barrier placed in the module walls, ceiling and patient doors. This vapor barrier shall serve as an additional moisture barrier for the changing outside environment.

Undercoating

The ambulance module shall be undercoated with automotive grade under-coating. All chassis manufacturer recommendations shall be followed.

OXYGEN SYSTEM

Oxygen System

The oxygen system shall be capable of storing and supplying a minimum of 3000 liters of oxygen. A suitable high-pressure hose shall be provided. The hose shall be certified to meet 250 psi and have a 1000-pound burst rating. The entire oxygen system shall be subjected to a 200-psi leak test for a minimum two hours. A certification label shall be located in the oxygen compartment.

Oxygen Outlet

1. There shall be one Ohio style oxygen outlet located on the back wall of the front action area.
2. There shall be one Ohio style oxygen outlet located in the Ceiling of the module in the area above the patients' head.
3. There shall be one Ohio style oxygen outlet located on the right interior wall at head of squad bench midway between the squad bench and the ceiling.

Oxygen Door

Access to the oxygen cylinder gauge shall be provided through a hinged 7" x 16" Lexan Glass door with a passive latch mechanism. The door shall be located on the inside of the patient compartment opposite the exterior oxygen compartment.

Oxygen Tank Bracket

The "M" size, oxygen cylinder storage cradle shall be mounted in the street side front compartment. The oxygen cradle shall have three web style restraining straps with ratchet attachments and a front retaining yoke. The bracket shall be securely bolted to a five-inch aluminum channel which shall be welded to the modular body frame compartment allowing for added strength and safety. The oxygen cylinder storage cradle installation must meet or exceed AMD Standard 003, Oxygen Tank Retention System.

Oxygen Tank Adjustment

The main oxygen cylinder mount shall have accommodations made for future adjustment.



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Oxygen Wrench

An oxygen wrench shall be mounted in the oxygen compartment.

SUCTION SYSTEM

Suction System

A permanent on-board suction system shall be installed. The system shall include a quick disconnect outlet mounted on the back wall of the action area and a 12-volt GAST suction pump to be mounted in the power distribution cabinet. The system shall be controlled from the action area switch panel.

Suction System

A permanent on-board suction system shall be installed. The system shall include a quick disconnect outlet mounted on the back wall of the action area and an electric suction pump. The system shall be controlled from the action area switch panel.

The suction regulator and adjustment valve shall be a wall mounted SSCOR 22000 brand. The collection bottle shall be a wall mounted disposable Bemis (or equivalent) collection bottle. Both units shall be mounted on the back of the front action area.

Recessed Suction Unit

The suction canister and bracket shall be mounted in a recessed compartment below the action area.

PAINT

Paint Design

The ambulance manufacturer shall use an American made Polyurethane paint. All paint contains a film forming component, a solvent thinner, and a pigment. In conventional paint the film forming component and pigment are deposited on the surface as the solvent evaporates.

In polyurethane paint, however, the film is formed when isocyanate, a chemical unique to polyurethane paint, becomes a plastic like substance. In one component polyurethane paint, this happens as isocyanate reacts with moisture in the air. In two component paint, a moisture curing chemical is added.

Polyurethane paint has excellent performance characteristics: adhesion, hardness, gloss, flexibility, and resistance to abrasion, impact, weathering, acids and solvents.

The paint must have:

1. High gloss retention and DOI
2. Strong UV properties to resist fading
3. Strong Chemical resistance
4. Strong Chip resistance
5. A 3.5lbs/gal VOC content or less (green component)
6. A proven durability in the commercial fleet industry



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Please note, that because of the importance of proper paint preparation and application, any differences in materials, preparations or procedures must be noted and explained in detail. Non-compliance with this requirement will result in immediate rejection of entire bid response.

Facility Certification

The paint facility shall be in current compliance with 40 CFR (code of federal regulations) part 63 subpart HHHHHH national emission standards for hazardous air pollutants: Paint stripping and miscellaneous surface coating operations at area sources (6H-NESHAP). Spray guns shall also be high volume – low pressure certified.

Painter Certification

1. All painters shall be certified. Documentation shall be available upon request.
2. Training documentation shall include:
3. EPA Rule 40 Part 63 Painter Requirements
4. Spray gun set up and usage
5. Spray gun maintenance
6. Hands on practical use of HVLP and RP Equipment
7. Cycle time reductions and improving productivity with correct equipment and usages
8. Air volume requirements
9. Air filtration and filter maintenance
10. Supplied air respiration
11. CO monitor requirements
12. Spot repair procedure
13. RPS cups

Ambulance Module Prep

Prior to assembly, all joints and seams are to be mechanically etched. All welds shall be ground smooth prior to priming. The entire body shall be sanded and then washed with a silicone wax and degreaser remover prior to application of the primer. This process significantly aids in proper adhesion of the primer.

Warranty

A paint warranty between the paint manufacturer, the ambulance manufacturer, and the end user shall be provided. The warranty shall include the paint manufacturers audit procedure to include spot checks made by the paint manufacturer.

The warranty shall be for a period of three years at 100% and three additional years prorated at 50% fourth year, 25% fifth year and 10% at sixth year. The warranty shall be honored at any AXALTA authorized body shop. With approval, the vehicle need not be returned to the ambulance manufacturer for warranty paint repairs.

Paint Design

The chassis shall be color matched painted to the body. Specify Color: **WHITE OVER RED**

RED - 29059EW

WHITE - N6431EX

Roof and pillars will be white. Remaining chassis will be red. Roof will be white down to drip edge, including the drip edge. Remainder of module will be red.



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A customer provided custom two-tone paint design shall be included. The actual color shall be determined at the pre-build conference.

Door Pins

All Door Nader pins shall not be painted. They shall be installed after the paint process is completed.

Pinstripe

A quarter inch reflective pinstripe shall be applied to outline the paint stripe.

GOLD REFLECTIVE FOR THE PAINT BREAK ON THE CHASSIS ONLY. SHIP LOOSE.

Striping

There shall be 6" Scotchlite Reflective, adhesive backed striping tape applied to the vehicle. The actual design shall be supplied at the preconstruction meeting.

This will be a 1-6-1 white Scotchlite stripe down both sides and stop at rear corners for chevrons. Stripe will transition down on forward portion of module to meet requirement for lower cab stripe placement. Match recent build #3820.

Chevron Striping

There shall be a 6" wide two color Scotchlite reflective chevron applied to the rear wall of the module and back doors. The actual design shall be supplied at the pre-build conference.

3M DIAMOND GRADE RED 1172EC
3M DIAMOND GRADE YELLOW 3991

EMBLEMS & DECALS

Decal

Manufacturer shall install the roof Star of Life decal only. The remaining Star of Life decals shall be deleted. "No Smoking" and "Fasten Seat Belt" decals shall be installed.

Reflective Tape

There shall be 3/4" white reflective tape applied around the edge of the side and rear entry doors to meet only for "KKK".

Rear Windows

Rear window Gerber visions in black with no images. Further discussion shall be at the pre-build conference.

SECTION V

MAINTENANCE & WARRANTY

The proposal shall include all printed warranties that are required in the following detailed specification. All Vehicles shall be covered by a minimum of five individual warranties. All warranties shall be from the manufacturer as opposed to a distributor or a service center. Thus, protecting the purchaser from a false warranty. The District requires the following minimum maintenance and warranties.



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The Five Warranties Include:

1. Ambulance Modular: shall be Lifetime with unlimited miles
2. Ambulance Conversion: shall be for a period of five years or 60,000 miles.
3. Interior Cabinet: shall be Lifetime Limited, unlimited miles.
4. Electrical: Elite Touch module components shall be for Ten years or 100,000 miles.
5. Paint: shall be for a period of three years 100% with an additional three years pro-rated for a total of six years with unlimited miles.