CITY OF Lexington NEBRASKA
308-324-2341◆Fax: 308-324-4590◆www.cityoflex.com
406 East 7th Street◆P.O. Box 70◆Lexington, Nebraska 68850-0070

August 24, 2022

TO ALL BIDDERS:

Sealed bids will be received by the City of Lexington, Nebraska, at the office of the City Clerk, City Hall, 406 East 7th Street, Lexington, Nebraska, 68850, until 2:00 p.m. on September 30, 2022, and then publicly opened and then read aloud in the Conference Room at City Hall for the City's purchase of an ambulance to be used by the Lexington Volunteer Rescue Department. Copies of the specifications may be obtained from the office of the City Clerk, City Hall, 406 E 7th Street, Lexington, Nebraska 68850, or by going to the City's website at www.cityoflex.com.

One (1) complete set of bid documentation must be supplied (hard copy). The winning bidder will be asked to provide an electronic version of the same in PDF format (NOT before the bid opening). The General Conditions and Specifications shall be considered as part of the Bid Document.

The City of Lexington is an equal opportunity employer and requires all contractors and consultants to comply with all applicable Federal and State laws and regulations.

Bids must be made on the Proposal form found in the Specifications and submitted in a sealed envelope labeled "BID FOR AMBULANCE" to the office of the City Clerk. The City will accept only those sealed bids, either hand delivered or received via the U.S. Mail or other commercial carrier. Items transmitted by facsimile or electronically will not be accepted.

The City of Lexington reserves the right to reject any or all bids and to waive any irregularities or informalities in any bid received, and to accept any bid which is deemed most favorable to the City of Lexington, at the time and under conditions stipulated in the General Conditions. Bids received after the specified time of closing will be returned unopened.

BIDDERS PLEASE NOTE that no technical questions will be answered by the City of Lexington during the twenty-four (24) hours immediately preceding the bid opening time and date. The City of Lexington does not intend to issue any addenda to the bidding document within three (3) working days of the bid opening time and date.

If you have any questions regarding this invitation to bid, please contact Doug Glaze at (308) 217-2404.

CITY OF LEXINGTON

Dennis Burnside, Assistant City Manager, dburnside@cityoflex.com

NEBRASKA
ECONOMIC DEVELOPMENT
CERTIFIED COMMUNITY

EQUAL HOUSING
OPPORTUNITY

(This page left intentionally blank)

BID FORM FOR PURCHASE OF NEW AMBULANCE

TO: The City of Lexington/Lexington Volunteer Rescue Department
406 E 7th Street
P.O. Box 70
Lexington, Nebraska 68850

The undersigned hereby certifies that we have personally and carefully examined the specifications for your purchase of a custom Ambulance. Bidder accepts all the terms and conditions of the Advertisement for Bid, the Specifications and General Conditions, including without limitation those dealing with the disposition of bid security. This Bid will remain subject to acceptance for 60 days after the day of bid opening.

Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt all of which is hereby and acknowledged: (List Addenda by Addendum Number and Date)

Number	Date
_____	_____, 2022
_____	_____, 2022
_____	_____, 2022

Bidder is familiar with and is satisfied as to all federal, state and local laws and regulations that may affect cost, progress, performance and furnishing of said apparatus.

This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the City of Lexington.

We understand and agree that the City of Lexington reserves the right to reject any or all bids, to award the bid in part or in whole, and to waive any technicalities in awarding the bid.

Having made such examination, the undersigned hereby agrees to sell the following new custom Ambulance provided it is acceptable after an inspection by the City of Lexington/Lexington Volunteer Rescue Department personnel and that the bid is accepted by the Lexington City Council.

Custom Ambulance $ _____
Bid Amount

Delivery date (number of calendar days from date of order to date of delivery): _____

Bidder further agrees to deliver the custom Ambulance to the City of Lexington – 606 N Tyler Street, Lexington, Nebraska, by the anticipated delivery date listed above. Delivery of the custom Ambulance will be at the Bidder's expense and the City of Lexington will not be responsible for any delivery expenses incurred.

Dated this _____ day of _____ 2022.

_____ _____
Bidder/Company Name (Telephone Number)

_____ _____
(Business Address) (email Address)

Check appropriate box:

☐ Individual/Sole Proprietor ☐ Corporation ☐ Partnership ☐ Other _____

Employer Identification Number or Social Security Number _____

By: _____
Authorized Signature

ATTEST:

_____
(Secretary)

GENERAL CONDITIONS FOR AMBULANCE

A. SCOPE

The City of Lexington desires to purchase one custom Ambulance to be used by the Lexington Rescue Department meeting or exceeding these specifications. The apparatus shall meet the requirements of the most current CAAS Standard for ambulances that is required per State of Nebraska.

Any questions during construction of this apparatus are to be directed to the City of Lexington for clarification. At no point shall the bidder assume the City of Lexington's intent.

The City of Lexington reserves the right to reject any or all bids, to award the bid in part or in whole, and to waive any informalities or irregularities, and to accept any proposal which is deemed most favorable to the City of Lexington.

All bids must be submitted on the attached Proposal form. The bidder shall indicate "yes" if they meet the specification or "no" if they do not meet the specification. The bidder shall list on the attached sheet labeled "Exceptions to Bid Specifications Sheet A" any variations from, or exceptions to, the conditions and specifications of this bid and shall be attached to the bid and specifications. All items which are marked as being an exception to a line item bid specification must contain supporting literature and/or documentation that declares the exception will meet or exceed that specification. Without this supporting literature and/or documentation, the exception to the bid will be considered as not meeting the intended specification. Decisions regarding equal to or better than will be the sole responsibility of the recipient of the bids rather than those companies submitting bids.

Three (3) complete sets of bid documentation must be supplied, one marked "ORIGINAL" and two marked "COPY." The General Conditions and Specifications shall be considered as part of the Bid Document.

The price or prices quoted shall include all transportation charges fully prepaid to the City of Lexington – Lexington Rescue Department, 606 N Tyler Street, Lexington, Nebraska 68850. The bid price shall remain valid for a period of sixty days from the date of bid opening.

Awards will be made to the lowest responsible bidder. The quality of the articles to be supplied, their conformity with the specifications, their suitability to requirements, delivery terms and guarantee clauses shall be taken into consideration.

B. INTENT

It is the intent of this specification to describe the essential minimum requirements for construction and performance of the apparatus and associated equipment. Items not described in this specification for construction or performance, or in the most current CAAS Standard, may be accepted as the standard of the bidder, who shall be solely responsible for the design, construction and performance of apparatus and equipment.

The unit shall comply with all Federal, State, I.C.C., and D.O.T regulations, standards, and laws relating to commercial vehicles as well as to rescue apparatus. The unit shall be able to pass a state motor vehicle inspection for commercial vehicles.

Any error, omission, or inconsistency that is identified by the bidder shall be listed as such on the attached sheet labeled "Exceptions to Bid Specifications Sheet A," and a proposal to meet the intent of the specifications shall be listed.

C. APPROVAL OF DRAWINGS

Drawings for approval and blueprints with all details thereon must be furnished after the preconstruction conference and before the apparatus construction begins. The engineering drawing must be drawn to scale and representative of the bid unit after the preconstruction conference clarifications are incorporated. Views of both sides, as well as the front, back, and top must be shown. Generic drawings are unacceptable.

D. MANDATORY AND OPTIONAL WORK

Any person bidding on this ambulance must agree to price and perform all work, and furnish all equipment listed in both the specifications and the options.

The bid price that is used to determine the lowest responsible bidder shall include the price of the apparatus only and not the options.

E. EVALUATION AND EXCEPTIONS

In order to properly evaluate all bids, the specifications indicating compliance or lack therefore must be completed and returned with the bid. Bids submitted shall be in the same order as the specifications provided to you.

Whenever a brand or manufacturer's name is utilized in these specifications, it is included for descriptive purposes and to establish a level of quality. Products that are equivalent to those named may be proposed, providing that full supporting documentation is furnished establishing such equivalency. Simply providing manufacture's literature WILL NOT be considered justification for the substitution.

All substitutions must be listed as exceptions for evaluation.

The City of Lexington representatives shall be the sole judge if the substitution is acceptable as an equivalent.

Any exception or variation in construction, performance, test, or items of equipment between the City of Lexington's specifications and submitted on sheets provided along with the Bidder's Proposal, in bid sequence, and citing page and paragraph number. Bidder must explain in detail, and with full supporting data, how the proposed deviation meets or exceeds the specifications and why it is necessary.

Important Notice: Failure to comply with this requirement will automatically disqualify the bid.
The City of Lexington reserves the right to determine which, if any, deviations are acceptable.
A complete set of bidder's specifications of the proposed fire apparatus must be submitted with the bid, in bid order. Submission of the bidder's specifications in bid specification order is a requirement, not an option. "Yes" answers on the bid evaluation sheets do not relieve the bidder of the requirement to submit an accurate proposal.

Discrepancies found in the bidder's specifications will be considered noncompliant.

General layout drawings, showing the front, rear, left, right, and top view of a representative apparatus must be submitted with the bid for the purpose of comparison.

The specifications established by the City of Lexington shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved.

Any bid indicating that the manufacturer's proposal specifications will be considered a complete substitute specification will be immediately rejected.

F. BID BOND, PERFORMANCE BOND AND INSURANCE

A bid bond or certified check made payable to the City of Lexington in the amount of ten percent (10%) of the bid (not to exceed $20,000) shall be furnished with bidder's proposal. The bond will ensure that the bidder will enter into contract and submit a performance bond within fourteen days of notice of award of contract. The successful bidder's bid bond will be returned after a contract is executed and an acceptable performance bond has been delivered to the City Clerk. In case of failure to comply within the stated time, the bid bond will be forfeited as liquidated damages because of the default.

The bid bond or check of all other bidders will be returned after bids are opened, evaluated and award of the contract.

A performance bond in the amount of one hundred percent (100%) of the bid shall be furnished by the successful bidder within fourteen days after receiving the official notice of award of contract. Failure of the bidder to complete delivery according to the contract and specifications will be cause to begin action for forfeiture of performance bond.

The bond shall also guarantee compliance and performance with the warranty provisions of the specifications.

The bonds furnished by the successful bidder shall be from a surety company authorized to underwrite surety bonds in the State of Nebraska with a minimum AM Best rating of "A". The City of Lexington may review the financial condition of the surety and accept or reject any surety at its discretion. Sureties must submit bonds in a form that will be subject to the approval of the City of Lexington.

In addition to any other insurance which the bidder may be required to carry, the bidder shall maintain in effect, at its sole expense, Comprehensive General Liability Insurance, including, without limitation, Products and Completed Operations coverage, with a limit of not less than $2,000,000.00. If an Excess Liability Umbrella policy is used to meet a portion of this requirement, the bidder will need to provide evidence that such coverage is written without exclusions for Products and Completed Operations coverage as well. Documentation of the amount of Liability Insurance carried by the manufacturer and the name of the insurance carrier shall be provided by the bidder at the time of bid submission in the form of a Certificate of Insurance. The successful bidder shall defend any and all suits and assume liability for the use of a patented device or article forming a part of the apparatus furnished under the contract. Failure to supply a copy of the Certificate of Insurance to the City Clerk with the bid will be cause for immediate rejection of the bid. If the bidder is awarded the contract, the bidder will also be required to name The City of Lexington and The Lexington Volunteer Rescue Department as additional insureds with the bidder's insurance carrier.

G. CONTINGENCY FUND

All bidders shall incorporate a $5,000.00 contingency fund into the price of the ambulance. The fund is to be used "as-needed" by the City of Lexington relative to making custom modifications to the apparatus or the purchasing of equipment or components.

A full accounting of the funds shall be provided to the City of Lexington with any remaining funds deducted from the final invoice.

H. PAYMENT TERMS

The City of Lexington will accept NO contract form that requires down payments, progressive payments during construction, or contracts with escalator clauses. Terms of payment shall be 100 percent (100%) payment after acceptance of the vehicle (See Section I. "Acceptance" for terms). No other terms shall be acceptable.

Bidder shall be aware that it can take up to thirty days to process payment.

I. ACCEPTANCE

Acceptance of the delivered apparatus and equipment will be made at completion of all required tests, inspections, and receipt of all specified equipment. Equipment items not delivered at the time of the tests, or construction not in conformance with the proposal will be cause for the City of Lexington to withhold payment until delivery is complete and acceptable.

The finished apparatus will be inspected upon delivery for compliance with specifications, change orders, and previously authorized exceptions. Deviations will not be tolerated and will be cause for rejection of the apparatus unless they were originally listed in the bidder's proposal or previously approved by the City Council.

Liquidated damages in the amount of $200.00 per calendar day, beginning the day after the declared delivery date, shall be deducted from the final payment until the apparatus is considered acceptable.

If after thirty days, the ambulance is not brought up to compliance, the bidder may be considered in default of the contract, and the procedures to institute the provisions of the performance bond may be started.

J. SOLE SOURCE WARRANTY

The ambulance and all major components shall be a sole source warranty.

Any warranty issues that arise will be the responsibility of the manufacture to resolve, not the City of Lexington's responsibility.

K. MANUFACTURER'S RELIABILITY

The manufacturer must be satisfactory to the City of Lexington from the standpoint of experience, reliability, service and demonstrated ability to manufacture equipment, comparable as to size and type as specified for the past five years. A list of Rescue Departments located in the State of Nebraska that have purchased the same type of apparatus from the bidder over the past five years must be supplied along with the bid for physical evaluation.

L. MANUFACTURER'S SOLVENCY

The solvency of the manufacturer is a prime concern to the City of Lexington. Each bid must include a financial statement from Dun and Bradstreet or other nationally recognized accounting firm.

M. NEW EMPLOYEE WORK ELIGIBILITY STATUS

Bidder is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If Bidder is an individual or sole proprietorship, the following applies:

1. The Bidder must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at www.das.state.ne.us.

2. If the Bidder indicates on such attestation form that he or she is a qualified alien, the Bidder agrees to provide the US Citizenship and Immigration Services documentation required to verify the Bidder's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

3. The Bidder understands and agrees that lawful presence in the United States is required and the Bidder may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

N. TRAINING

A training schedule shall be coordinated with the Rescue Chief for a factory representative to familiarize the firefighters with the basic operation of the apparatus and its components of the apparatus for a minimum of three consecutive days after delivery. The day of delivery shall not be considered one of these training days. No exceptions.

The bidder agrees to allow a City of Lexington representative to videotape the instructional presentation for future reference and training.

O. OPERATION AND SERVICE MANUALS

Two complete “Operation and Service” manuals shall be supplied at time of delivery. Service manual instructions shall include service, maintenance and troubleshooting for major and minor components of the truck. The apparatus manufacturer shall supply part numbers for the major components (i.e. Cummins Diesel, Rockwell, Spicer, Allison, etc.). A table of contents, hydraulic, air brake and overall apparatus wiring schematics shall be included.

Two copies of all manuals for component equipment such as the engine, transmission, pump, and generator must also be supplied.

Electronic or CD-ROM manuals are preferred in addition to printed manuals.

Specifications begin on next page.

(This page left intentionally blank)

One (1) Y___N___

SINGLE SOURCE MANUFACTURING

It is the intent of these specifications that the manufacturer of this vehicle has the ability to manufacture a completed ambulance with the exception of the chassis, within their own manufacturing facility. The basic modular body must be built in the manufacturer's facility and shall not be the product of a subcontractor or any company other than the manufacturer. The body prep and paint process as well as cabinet fabrication all must be completed in the manufacturer's facility. Accessories such as light bars, sirens and other add on components are not considered as basic components of the modular body. The ambulance manufacturer must have significant experience in the construction of ambulances bodies and shall have manufactured a minimum of 1000 comparable units.

This department requires that the manufacturer of the ambulance be a 100% American owned company. American owned defines the manufacturer as well as the majority equity owners of the manufacturer as US companies, individuals and/or stockholders.

There shall be an 100 % Employee Stock Ownership Plan (ESOP) or equivalent. This method of ownership gives each employee the incentive to perform their best. This work ethic ensures that the highest quality of workmanship is invested into each and every ambulance the manufacturer produces.

The ambulance and the allied equipment required by this specification shall be the manufacturer's current commercial ambulance model of the type and class specified. The ambulance shall be complete with the required options and accessories as specified herein. Items will be furnished with such modifications as may be necessary and specified to enable the ambulance to function reliably and efficiently in a strenuous, sustained operation. The design of the vehicle and the specified options shall permit accessibility for servicing, replacement and adjustment of components and accessories with minimum disturbance to other components and systems. The term "heavy-duty" as used, shall describe equipment or items that are in excess of the usual quality or capacity that is normally supplied with standard production vehicles or components.

Single Source Manufacturer

To simplify warranty coverage and to assure a consistent level of quality throughout the vehicle, a manufacturer is desired that is able to produce the major components for the ambulance (excluding chassis). Major components

are defined as but not limited to: the complete module body, the paint process, the interior cabinets, and the cushions.

The highest degree of quality, both in materials and in the manufacturing process, is required for the emergency medical vehicle being proposed. Attention shall also be focused on American made products and suppliers.

One (1) Y___N___

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.
Please include the following:

Facility name and address
Distance to the service facility
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.

One (1) Y___N___

REMOUNT – REFURBISHMENT

Proposals and/or bids will be evaluated based on projected longevity of the modular body and conversion. The ability to remount the modular body onto a new chassis at the end of the original chassis life will extend the longevity of the ambulance conversion as well as provide savings compared to the alternative of purchasing a new vehicle. Maintaining the original strength and quality is of utmost importance as it relates to the remounted vehicle. Likewise, it is important that the manufacturer chosen for this contract offers remounting of the vehicles that they have manufactured, in the same facility where the vehicles were originally produced. In order to assure this is the situation all Vendors must meet the this requirement.

The manufacturer for the vehicle being proposed must have an established and functioning in-house (Factory) remount program and submit evidence of this requirement.

The remount/refurbishment program must have been in continuous operation for a minimum of ten years. Remount/refurbishment programs that are done by the dealer or any outside sub - contractor are not acceptable. The remount/refurbishment process must be within the same facility in which the new vehicle was manufactured. The manufacturer may be required to submit documents and references in order to demonstrate the cost-effectiveness and durability of the remount/refurbishment process.

One (1) Y___N___

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. This will protect the purchaser from a false warranty

The Five Warranties Include:

1. Ambulance Modular body: 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 Limited Lifetime, unlimited miles.
4. Electrical: Elite Touch module components shall be for Ten years or 100,000 miles.
5. LL Paint Process: shall be for a period of six years with unlimited miles. The first three years 100%, paint and labor, with an additional three years, paint and labor pro-rated.

One (1) Y___N___

FUEL AT DELIVERY

The ambulance shall have a full tank of fuel at the time of delivery to the purchaser.

One (1) Y___N___

BODY STYLE

The modular 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 at the original manufacturing facility.
5. The ambulance body shall meet all current testing requirements.

The ambulance manufacturer shall design and construct its own bodies, and maintain a design staff at its manufacturing facility. Vehicle manufacturers

who design and build their own bodies and who have the expertise within their facility will possess a greater capacity to handle a custom project of this type and insure a finished product of the highest standards and quality.

One (1) Y___N___

TYPE I BODY

Body exterior shall be 167 3/4" long x 96" wide x 90" high. Overall vehicle length, including bumpers, shall be approximately 25' 2". Overall vehicle height, ground to top of module, shall be approximately 109".

The cab to module connection shall provide a crawl-thru space with a minimum dimension of 36" x 22". The metals used for the crawl-thru must match the cab metal. Aluminum cabs shall have aluminum framing and sheet metal. Steel cabs shall have steel tubing and sheet metal.

The cab rear window shall be removed. A full height opening in the middle of the rear wall of the cab shall be made. The opening shall be framed using 1" x 2" framing members, made of the appropriate metal, along this opening in the back wall of the cab. An appropriate metal sheet shall then be welded to the backside of the frame and the opening shall be cut through the sheet for the cab to module crawl-through. The framework shall then be welded to the floor and back wall of the cab. An appropriate sheet shall then be welded to the cab roof and steel framework for added headroom clearance throughout the crawl-through. Appropriate metal sheets shall be welded to the cab rear wall to fill the remainder of the OEM window opening. The entire sheeting assembly shall then be sealed, primed and painted per the paint specifications listed in this document to match the cab paint color.

An extruded EPDM closed cell rubber boot shall then be attached to the rear of the crawl-through opening to seal the opening between the module and cab. This rubber seal shall have continuous flexible steel core made of high carbon spring steel. It shall conform to the following minimum requirements: Compression deflection of 2-9 PSI at 25% deflection, temperature range of 40^{o} F to $+158^{o}$ F, and water absorption of not more than 1%. This extruded seal shall attach to a continuous flange on both the module and the cab. This flexible seal shall be installed as one continuous piece with only one seam at the bottom. This bottom seem shall then be sealed with Silicone and protected with an aluminum wear plate covered in the same material as described in section 25-01-1000.

One (1) Y___N___

CHASSIS

One (1) Y___N___

TYPE I CHASSIS

The chassis shall be a Ford Model F-450 4x4 Dual Wheel Super Duty Chassis Cab, 2023 model year.

The engine shall be a 6.7L Power Stroke Diesel 300 HP and 660 ft-lb Torque.

The transmission will be the TorqShift 10-Speed Automatic.

The chassis shall include the Ford Ambulance Prep Package #47L and be modified to meet the Ford QVM standards.

Gross Vehicle Weight Rating: 16,500 LBS

Wheelbase: 193"

Cab to Axle Dimension: 108"

Front axle will be: 7,000 LBS

Rear axle will be: 12,000 LBS

Fuel tank shall be: 40 gallons

The cab interior shall have OEM heavy duty rubber flooring.

One (1) Y___N___

SUSPENSION OPTION

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.

One (1) Y___N___

WHEEL OPTIONS

Polished stainless steel wheel inserts shall be provided for all outside wheels. They shall be removable without removing the lug nuts. Rear wheels shall include stainless steel braided valve stem extensions with stabilizers for both the inside and outside tires. Real Wheels brand shall be preferred.

One (1) Y___N___

WHEEL OPTIONS

The OEM spare tire shall be shipped loose in the completed ambulance.

One (1) Y___N___

MIRROR OPTIONS

OEM recreation type mirrors shall be located on each door of the cab and shall include a blind-spot mirror.

One (1) Y___N___

CAB OPTIONS

Manufacturer's O.E.M. radio shall be installed with speakers in the chassis cab.

One (1) Y___N___

CAB OPTIONS

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

One (1) Y___N___

CAB OPTIONS

There shall be a Streamlight Waypoint LED hand held spot light located in the vehicle cab. A 12v outlet shall also be provided to plug the light into.

One (1) Y___N___

CAB CONSOLE

A custom driver's control console shall be installed. This console shall be designed to allow easy access from either cab seat. This console shall be manufactured out of wood and a color coordinated laminate. The radius corners shall be an aluminum extrusion. The console shall include a switch and siren area, radio control area, map storage, and cup holders. The exact design and layout for the console shall be determined at the pre-construction conference.

One (1) Y___N___

CAB CONSOLE OPTIONS

The front touch control screen shall be mounted in an aluminum - powder coated enclosure. The enclosure shall then be mounted to the cab console using a swivel/ tilt monitor bracket. The swivel/tilt shall allow both the driver and the attendant easy viewing of the front touch screen.

One (1) Y___N___

SUSPENSION OPTION

There shall be an auto dump feature added to the 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.

One (1) Y___N___

BATTERY OPTION

The ambulance shall be equipped with 3 MATCHING batteries. The (2) batteries shall remain under the chassis hood with the third located in an exterior compartment. The exact location shall be determined at the pre-construction conference.

One (1) Y___N___

MANUALS

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 for the options provided.

One (1) Y___N___

MODULAR BODY

Design

Due to the unique requirements of individual EMS agencies, the design of a custom module body is integral to ensure a safe and efficient work environment. Modular body construction methods and materials must be certified in compliance with AMD Standard 001, "Static load test for ambulance body structure". In order to meet this need, a fully staffed engineering department is required to integrate the needs of individual agencies into a precisely and properly designed vehicle. The design and fabrication of the vehicle shall keep safety and reliability as the most important features. Therefore, the modular body must be completely designed, fabricated and assembled by the final stage manufacturer.

Computer Design Standards

The standard and optional equipment required shall be incorporated into a 2D drawing using computerized drafting software. These 2D drawings shall ensure that all of the equipment and options have been included in the vehicle to be produced. The 2D drawings shall also be used in bid presentations and for customer approval. These preliminary drawings shall then be converted to 3D for production purposes using 3D computerized drafting software. This software shall incorporate a feature that allows for visualization of multiple layers of the vehicle being designed. This shall be

used to determine tube size, tube thickness and location. It shall also determine the openings necessary for exterior compartments, light placement, side and rear entry doors and any other items needed to meet the specification. This level of software is mandated so a true 3D representation of the completed vehicle can be evaluated for accuracy and conflicts. This will make sure that production of the vehicle will be efficient as well as being reproducible. Upon the completion of this step, the information will be transferred to frame generator software in order to program the CNC machine used to cut the sheet metal for the vehicle and to provide an accurate cut list for programming a computerized band saw used to cut the necessary sized tubing needed to assemble the modular body.

Computer Controlled Metal Cutting

Because of the complexity of this vehicle and the tight tolerances required to produce it, computer controlled cutting machines will be used to the greatest extent possible. This ensures that all door openings, door latches, body windows, warning light locations, etc. are correctly placed, square to the body and properly sized. A microprocessor controlled, CNC machine shall be used to cut the aluminum sheet for the exterior side, front wall and rear wall panels, the roof panel, the exterior door panels and the exterior compartment enclosures. Any other optional equipment needing aluminum sheet shall be cut by this machine to ensure accuracy and reproducibility in the finished product. A computerized band saw shall be used to cut aluminum tubing needed for wall tubing, floor tubing, roof tubing and any other optional equipment needing tubing for assembly. Information from the computerized design process shall be used in programming these cutting machines. Finally, a computerized sheet metal bending brake shall be used to bend the sheet metal into its final shape. This is to ensure that the final product has the exact shape needed with the correct angles.

Construction

All body panels, structures, and extrusions shall be fabricated of ALL ALUMINUM materials using alloys and thicknesses consistent with the load requirements of the vehicle. Exterior panels shall be fabricated from 5052-H32 sheet aluminum, a highly corrosion resistant marine grade alloy, with minimum 2.2% magnesium and having an ultimate tensile strength of 33,000 PSI. Exterior body extruded framing members shall be fabricated from 6063-T6 grade aluminum with minimum 0.8% magnesium and minimum 0.4% silicon, having an ultimate tensile strength of 35,000 PSI. The aluminum sheets and extrusions will have a varying thickness, depending on the use, as described later in the specification.

Floor Construction

The floor shall be engineered using interlocking 0.125" 6063-T6 alloy custom aluminum extrusions set at a right angle from the frame rails thereby minimizing the twist felt in parallel mounting systems. The 0.125” floor extrusion shall consist of a "C" channel with hollow "V" joint receptacle on one end and an extruded solid "V" edge which mates with the hollow "V" receptacle on the adjoining extrusion. When the solid "V" edge of one piece is inserted into the hollow "V" receptacle of another, the toothed leg shall lock to form one side of the 2" tubular frame. These integrated extrusions shall form the sub floor with interlocking 2” x 2” tubes every ten inches. The floor extrusion sections shall be welded to each other both on top and on the bottom. A triple hollow 2” x 3” x 0.188” tube shall be placed fore and aft of the wheel well openings extending the full width of the body for maximum strength, crash protection and support of this critical area in the center of the body. Triple hollow is to be defined as a 2” x 3” x 0.188” aluminum tube with two integral 0.188” webs that serve to divide the tube interior into three equal cavities. A 2” x 3” x 0.125” tube shall be placed at the forward end of the floor assembly to provide additional strength at the cab to body interface. A 2” x 2” x 0.25” tube shall be placed at the rearward most end of the floor assembly to provide additional strength at the rear of the body and to provide a robust foundation for the threshold of the rear doors.

Two custom 6063-T6 alloy aluminum angles shall run lengthwise the entire length of the floor assembly. This custom angle shall be “L” shaped. The bottom of the “L” shall be 4.75” L x 0.75” in thickness. The vertical part of the “L” shall be 2.375” L x 0.375” in thickness. At each juncture where this aluminum angle crosses a 2” x 2” framing member of the interlocking extrusion, it shall be welded to that framing member along both edges of the aluminum angle. These high strength aluminum angles shall provide a continuous mounting surface to attach the body to the chassis at the chassis mounting locations. In addition, these aluminum angles shall provide additional strength to the floor system making it a solid, crashworthy foundation upon which the rest of the module shall be built.

As the floor assembly is constructed, provisions shall be made for the installation of the exterior compartment enclosures, the step well and any other options that will extend below the floor structure. At the edges of these intrusions, an additional 2” x 2” x 0.125 aluminum framing member shall be installed at the front and rear edges of the intrusion to provide additional support for the option. These additional 2” x 2” x 0.125” framing members shall extend beyond the custom aluminum angle. This will allow the additional tubes to be welded to the raw floor edge of the intrusion, the interlocking floor extrusions and also to the aluminum angle.

At the locations in the floor assembly where the cot mounting hardware is to be installed, there shall be additional reinforcement of the floor structure to allow for a safe and secure installation. This shall consist of a 0.375” solid aluminum block welded in the cot hardware mounting locations. At the

attendant seat location there shall be additional 2” x 2” x 0.125 aluminum tubing welded into the floor structure as well as an additional section of 0.125” aluminum sheet welded to bottom of the floor for additional strength and to provide for secure attachment of the attendant seat to the floor structure.

The voids between the 2" x 2" x 0.125 framing members of the extruded floor assembly shall be filled with 2” Certifoam extruded polystyrene insulator foam plank insulation. The insulation shall be custom cut by hand to fill the void spaces. In addition, the foam plank insulation shall be glued in place using high strength, low odor adhesive. To help dissipate noise and temperature, the bottom side of the sub floor shall be covered by a sheet of 0.050" aluminum with the seams sealed with seam sealer and then undercoated with automotive grade undercoating material. Finally, a heatshield shall be installed on the bottom of the floor as needed to shield from the heat generated by the chassis exhaust system. Upon completion, the floor system shall be a smooth, 2" thick, integrally insulated, heat shielded, double sided aluminum floor.

Side Wall Construction

The side walls shall be constructed on a specially designed table with an overhead laser light guide system to allow for the precise placement of the aluminum tubing used to form the side wall. Body wall vertical framing shall consist of 2" x 2" x 0.125" and 2” x 3” x 0.125” aluminum extruded tubing of 6063-T6 alloy. A 6063-T6 alloy 2” x 3” x 0.188” aluminum triple hollow tube shall be installed fore and aft of the rear wheel well housings. Triple hollow is to be defined as a 2” x 3” x 0.188” aluminum tube with two integral 0.188” webs that serve to divide the tube interior into three equal cavities. This shall tie into the same triple hollow tube used in the floor construction providing superior, integrated side impact protection. The rear of the side wall shall also incorporate a 2” x 3” x 0.125” tube. A horizontal 2" x 3" x 0.125" extruded tube shall be installed along the lower edge of the side wall to act as additional structure to attach the rub rails to the lower body. Each side wall shall have at a minimum five horizontal tube supports that will provide additional protection in the event of a side body impact.

At seating locations along each sidewall there shall be additional framing to ensure safe and secure attachment point for the restraint system at the seating location. A 2” x 2” x 0.250” framing member shall be installed to serve as an attachment point for the restraints. Additional 2” x 2” x 0.125” tubing shall be installed to allow for installation of the contoured seatback assemblies as needed for the restraint system. This extra framing also provides for added side impact protection directly behind the seating position.

Vertical aluminum radius-type corner extrusions, of a hollow core design, utilizing 6063 T6 alloy, which interlock with the body side sheets and vertical framing shall be utilized. These corner post extrusions must include an integral X-frame web, running full length of the extrusion for added impact resistance. 2” x 2” x 0.125” and 2” x 3” x 0.125” (where applicable) extruded tubes shall be welded to the outside of the X-frame on either side of the corner post extrusion to complete a 7.5” radius corner post design.

All exterior aluminum body panels shall be attached to the underlying structural supports via 3M VHB high performance, double sided tape. The tape shall provide an adhesion strength of 350 N/100 MM. The tape shall consist of acrylic foam with a thickness of 0.062 inches, which is viscoelastic in nature. Viscoelastic means the foam absorbs energy and relaxes stress, as compared with other types of foam core tape. The tape shall also provide for an environmental resistance creating a strong durable bond. The tape shall be used as an insulating agent to hold the panels tightly against the structural supports, thus eliminating vibration and oil-canning. In addition to the tape attachment system, all panels shall be welded to structural members at the perimeter. Hydro-Thermo absorption pads shall be used during the welding process to quickly dissipate the heat of the welding procedure. The use of the pads as described will eliminate heat distortion without damaging the structural integrity of the module body. Methods of panel attachment that utilize rivets will not be acceptable. The voids between the 2" x 2" x 0.125 framing members shall be filled with 2” Certifoam extruded polystyrene insulator foam, non-settling plank insulation. The insulation shall be hand cut to fill the space and shall be glued in place using high strength, low odor adhesive. Spray foam type of insulation is not permitted due to the uneven application characteristics of this material. In addition, the inside of the wall shall be covered by a 4mil vapor barrier.

Front And Rear Wall Construction

The front wall shall be constructed of 6063-T6 aluminum alloy 2” x 2” x 0.125 tubing. There shall be a minimum of five horizontal framing members to provide additional strength in the walls. There shall be a framed opening to allow for access to the chassis cab. A single sheet, 5052-H32 flat sheet shall cover the front wall. It shall be cut using a microprocessor controlled milling machine which will cut the circumference of the sheet as well as any openings for lights and other optional equipment to be installed. This front panel shall be attached to the underlying structural supports via 3M VHB high performance, double sided tape as well as fully welded to the structural members around the perimeter of the wall. The voids between the 2" x 2" frame members shall be filled with 2” Certifoam extruded polystyrene insulator foam plank insulation. The insulation shall be hand cut to fill the space and shall be glued in place using OSI-F38 high strength, low odor adhesive.

The rear wall shall be constructed of 6063-T6 aluminum alloy 2” x 2” x 0.125 tubing. There shall be a minimum of five horizontal framing members to provide additional strength on the walls. There shall be additional framing as required to support any optional equipment being installed on the wall. There shall be a framed opening to allow for the rear entry doors. Due to the severe duty cycle of the rear doors, there shall be additional bracing installed to ensure a strong mounting area for the rear doors as well as ensuring reliable operation. The hinge side for both rear doors shall include (2) 6063-T6 aluminum alloy 2” x 2” x 0.125 framing members, welded to each other. The bottom threshold shall be a 2” x 2” x 0.250 framing member, milled to interlock with the longitudinal floor angles. The top header of the doors shall be a 6063-T6 aluminum alloy 2” x 2” x 0.25” framing member. The top tube of the wall, where it meets the roof structure, shall be a 6063-T6 aluminum alloy 1.5” x 2” x 0.188 framing member. A minimum of (10) aluminum box style gussets shall be installed above the rear doors, along the width of the rear wall. Each gusset shall be fabricated from 6063-T6 alloy, 1” x 2” x 0.125” aluminum box members with 45 degree, angled ends. (2) shall be installed, one to each side of the double door frame vertical framing members, at the upper door edge on both sides of the door opening. Next, (2) shall be installed at the top edge of the rear wall on both sides of the double door frame vertical framing members where they meet the roof. Finally, (1) additional gusset shall be installed at the roof level at each outside corner of the rear wall where the rear corner framing member meets the roof. All (10) gussets shall be used except in the rare case where there is interference with a required option on the rear wall in this area. A single sheet, 5052-H32 flat sheet shall cover the rear wall. It shall be cut using a microprocessor controlled milling machine which will cut the circumference of the sheet as well as any openings for lights and other optional equipment to be installed. This panel shall be attached to the underlying structural supports via 3M VHB high performance, double sided tape as well as fully welded to the structural members around the perimeter of the wall. Hydro-Thermo absorption pads shall be used during the welding process to quickly dissipate the heat of the welding procedure. The use of the pads as described will eliminate heat distortion without damaging the structural integrity of the module body. The voids between the 2" x 2" frame members shall be filled with 2” Certifoam extruded polystyrene insulator foam plank insulation. The insulation shall be cut to fill the space and shall be glued in place using high strength, low odor adhesive.

Roof Construction

The roof shall be one piece .090 sheet, 5052-H32 alloy, which is supported by a grid consisting of a minimum 6" x 2" x 0.150" channel with .230" flanges running longitudinally and 4" x 2" x 0.125 "hat channels extending transversely from the longitudinal channel to the roof frame extrusions. These hat channels shall be spaced no more than 18" apart. The minimum

6" x 2" x 0.150" center spine channel shall also function as a wiring raceway. Aluminum plates shall be welded between each "hat channel" to provide support for all ceiling mounted hardware. The roof frame extrusions and corner extrusions shall be the reinforced "X" type, hollow core design. All roof rail extrusions shall be 6063-T6 alloy. Radius corners consisting of a rolled sheet will not be acceptable.

The horizontal roof extrusions shall incorporate an extruded drip rail on all four sides of the body. The roof shall be crowned 1/2" to facilitate water runoff. The roof sheet shall interlock with the roof frame extrusions. The voids between the 2" x 2" x 0.125 framing members shall be filled with 2" Certifoam extruded polystyrene insulator foam plank insulation. The insulation shall be hand cut to fill the space and shall be glued in place using high strength, low odor adhesive and shall include a 4mm vapor barrier. A single sheet of 0.090 5052-H32 aluminum alloy shall be attached to the roof grid using 3M VHB high performance, double sided tape. The edges of the sheet shall be fully perimeter welded to the top roof corner extrusions to ensure a strong and waterproof seal.

Module Mounting

The modular body shall be mounted using outrigger type mounts and rubber puck style spacers with steel sleeves. The rubber puck shall be of a two piece design with an upper puck and a lower puck containing a metal tube extending above it. The lower puck is installed under the "L" of the outrigger and the metal tube extends through the outrigger. The upper puck is then placed back onto the tube of the lower puck. Metal caps are then placed on both upper and lower pucks to provide a firm platform for attaching the body to the mount. A minimum # 8 grade bolt and locking nut shall be used. There shall be a minimum of 10 mounting points. These mounting points shall utilize existing OEM frame rail holes whenever possible.

One (1) Y___N___

CAAS GVS COMPLIANCE

The Ambulance manufacturer must be duly registered and authorized to certify GVS compliant vehicles that they have produced by supplying the CAAS GVS label and documents, verifying the vehicle's components, performance and equipment meet or exceed all the requirements and tests set forth in the standard.

(1) Oxygen Regulator
(2) Five pound fire extinguishers
(1) Oxygen wrench
40oz or better Heavy Duty Seating Vinyl
3/4" White Reflective around entry door extrusions

One (1) Y___N___

FINISHED HEADROOM

The interior of the patient compartment will provide 72 inches of finished headroom from floor to ceiling.

One (1) Y___N___

CAB TO MODULE DOOR

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

One (1) Y___N___

VENTS

There shall be a minimum of three Perko style mounted high on the ambulance body as follows: (1) for powered exhaust fan, (1) to vent the oxygen compartment and (1) as a passive intake for the climate control system.

One (1) Y___N___

WHEEL WELL TRIM

There shall be one-piece, stainless steel wheel well trim rings installed around the rear body cutout above the rear wheels. These trim rings shall provide an aesthetically pleasing rounded opening as well as provide impact and paint protection.

Housings shall attach to the modular body utilizing stainless steel bolts. Fastener inserts shall be applied between the fender and the modular body.

FORMED SHEET METAL, RUBBER, OR FIBERGLASS FENDERS ARE NOT ACCEPTABLE**.**

One (1) Y___N___

FUEL FILL HOUSING

Chassis OEM fuel-fill assemblies shall be utilized. A cast aluminum fuel fill protector shall be recessed into the body above and behind the street side rear wheel well.

One (1) Y___N___

DEF FILL HOUSING

Chassis OEM Diesel Exhaust Fluid (DEF) fill assemblies shall be utilized. For the best unintrupted flow of (DEF) to the chassis, the fill will be mounted to the streetside of module in front of wheel well utilizing CPI housing.

One (1) Y___N___

LOWERED FRONT BODY SKIRT

The ambulance module body skirts ahead of the rear wheels on both the passenger side and the driver's side shall be dropped 3" lower than the rear module skirt.

One (1) Y___N___

MODULE DOORS AND WINDOWS

One (1) Y___N___

MODULE ENTRY DOOR REFLECTORS

There shall be two (2) 3M 2" x 7" tape style red reflectors mounted on each of the side and rear module entry doors, one in the upper half of the door and the other on the lower half of the door.

One (1) Y___N___

MODULE SIDE ENTRY DOOR

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

One (1) Y___N___

MODULE SIDE ENTRY DOOR THRESHOLD

The side patient entry door shall have a threshold with Black/Yellow Safety Anti-Slip tape installed.

One (1) Y___N___

SIDE ENTRY DOOR WINDOW

Side entry door shall be equipped with a manufactured, 16" x 20", sliding, safety plate window in an aluminum frame with standard light tint.

One (1) Y___N___

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 2 x 2 aluminum support tube.

One (1) Y___N___

REAR ENTRY DOOR WINDOW

Both rear entry doors shall be equipped with a manufactured, 16" x 20", non-opening, safety plate window in an aluminum frame with standard light tint.

One (1) Y___N___

DOOR ASSIST HANDLE

Both rear entry doors and the side entry door shall be equipped with exterior chrome assist handles. They shall be installed on the exterior of the door in the area of the door handle

One (1) Y___N___

ENTRY DOOR HANDLES

The side and rear entry doors shall be equipped with Tri-Mark free float handles with chrome exterior and black pocket. 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 the 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.

One (1) Y___N___

ENTRY DOOR HANDLES

Both rear entry doors will have an exterior and interior door handle.

One (1) Y___N___

ADDITIONAL DOOR RELEASE

On the side and rear entry doors there shall be a manual rotary latch release system that will allow the rotary to be manually activated in the rare event of a broken activation cable. The activation handle for this system shall have an amber plastic cover to be readily visible in an emergency. There shall be (6) of these release handles located on the inside of the doors, (1) adjacent to the upper and lower rotary latches in each of the (3) entry doors.

Specifications they must follow:

Must be cycle Tested a minimum of 500 cycles
Frozen linkage load test: freeze latch trip lever
Impact test
Torque test on mounting fasteners.
Extreme temp function test
Corrosion Test: 500 hours
Must meet FMVSS 206
Must Meet FMVSS 302

One (1) Y___N___

LATCH ACTIVATION

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. The ends shall be crimped at a 100 psi setting and be subject to a minimum 175 peak load, lbf. "Locktite" shall be applied on both ends.

One (1) Y___N___

MODULE DOOR PANELS

All module door interior panels shall be installed using stainless steel, fine thread, flathead machine screws with locking cage nuts. All machine screws shall be dipped in ECK anti-corrosive coating prior to assembly. All areas that will not accommodate a cage nut shall be a minimum quarter inch thick and be tapped. The use of self-tapping screws will not be allowed.

One (1) Y___N___

MODULE DOOR PANELS

Each modular entrance door shall have removable .100" aluminum inside access panel to facilitate latch adjustment or repair. The lower interior panel shall be .100 polished, bright aluminum tread plate. The upper interior door panels shall be .100" aluminum covered with laminate. They shall be recessed into the door extrusion and attached using stainless flathead machine screws and locking cage nuts. All machine screws shall be dipped in ECK anti-corrosion coating before assembly. All areas where a locking cage nut cannot be applied, a stainless steel machine screw will be tapped into a minimum .250 aluminum. Interior door panels that are not recessed could have sharp edges and increase the probability of contamination by blood borne pathogens. The use of self tapping fasteners or rivets will not be accepted. No Exceptions.

One (1) Y___N___

SIDE DOOR STEPWELL

A formed aluminum side entrance door stepwell shall be recessed into the body and be lined with bright aluminum tread plate on all exposed surfaces. The step well shall be lighted.

One (1) Y___N___

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 Compartment Doors

All doors shall be a minimum of 3" thick, framed by aluminum extrusions of labyrinth design. The door jamb extrusions shall be made from 6063-T5 aluminum. The door frame extrusion will be continuously welded to the wall skin and a minimum, two-inch square framing extrusion. The door frame extrusion shall be level with the side and rear body skin. In addition to the extrusions reinforcing each outer door pan, the extrusions themselves shall be reinforced through a dual joining method. Each mitered corner, where the framed corners join, shall be fitted with an angled gusset and an exterior .125 door pan. The corners shall then be welded and finished smooth. The door facing and the edge shall be a single .125 skin. All doors shall include 2” foam plank insulation. Doors that employ square tube and box pan sheet construction are not acceptable.

The compartment door jamb shall be welded to a minimum 2" x 2" tube. The door jamb trim shall also be welded on the interior where each door pin is located. All doors shall mate with the doorframe extrusion, forming a gasket area for the pneumatic door seal. The exterior door panels shall be formed to surround the extruded perimeter framing and be welded in place. Door corners shall be welded and ground smooth. The maximum space between each of the three quarter welds shall be fifteen inches. Interior panels shall be recessed into the extruded frame and screwed into place using stainless steel flat head machine screws and locking cage nuts. All areas that will not accommodate a locking cage nut will have screw holes tapped into a quarter inch of aluminum.

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.

A continuous Clean Seal #50512 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, and the rear oxygen storage door (if applicable) 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.

Each door shall have a continuous stainless steel hinge with a .250" pin. Hinges shall be slotted for adjustment and attach to the door with .250" stainless steel truss head bolts for easy removal and cleaning. The truss head bolts shall be mated with a machine applied nutsert. Hinges shall not be riveted to body or doors. 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.
Doors that latch to each other shall not be acceptable. Each door shall have an exterior latch.

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. All door latch Nader pins shall be adjustable.

Inner and outer sills of the compartment doorframes shall be trimmed with formed brushed stainless steel plates to protect painted surfaces. They shall be applied with adhesives. No mechanical fasteners may be used.

Venting

In order to prevent airlock inside compartments, all exterior equipment storage compartments shall be vented. There shall be two black powder coated aluminum 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.

One (1) Y___N___

COMPARTMENT DOORS

There shall be one 3M, 2" x 7", tape style, red, reflector mounted on each compartment door that is half height or lower. Doors over half height shall have two reflectors, one in the upper half of the door and one in the lower half of the door. The reflectors shall be installed vertically, to wrap around the outer labrynth of the door extrusion.

One (1) Y___N___

COMPARTMENT DOORS

All compartment door interior panels shall be polished diamond plate aluminum. They shall be recessed into the door extrusion and attached using stainless flathead machine screws and locking cage nuts. All areas where a locking cage nut cannot be applied, a stainless steel machine screw will be tapped into a minimum .250 aluminum. The machine screws shall be dipped ing ECK anti-corrosion coating prior to installation. Where a tapped screw is used, it will be coated with LocTite before installation.

Interior door panels that are not recessed could have sharp edges and increase the likely-hood of contamination by blood borne pathogens. The use of self tapping fasteners or rivets will not be accepted. No Exceptions.

One (1) Y___N___

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.

One (1) Y___N___

EXTERIOR COMPARTMENTS

All exterior compartments shall be lined with a blended component polyurethane/polyurea coating. This coating shall have a minimum thickness of .0625" in low wear areas and .125" to .188" in all other areas. 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 walls, floors and ceiling surfaces and finished in a mottled texture to minimize slippage; it shall provide a water/air tight seal and superior noise suppression. The polyurethane/polyurea Lining will not crack, peel or warp and will resist scratches. The color of this material shall be medium gray.

One (1) Y___N___

EXTERIOR COMPARTMENT LIGHTING

All exterior module compartments, except the battery compartment, shall have TecNiq brand LED strip lighting, Model E41-W010-1, (1) vertical strip per compartment. The appropriate size of the standard lengths listed below will be used depending on the height of the compartment.

- Ultra thin 3/16" strip
- 12VDC Not to draw anymore than.40A per yard (white)
- 30 Lumens per LED
- Low-Profile surface mount adhesive design
- High flexibility conforms to irregular surfaces
- Over 50,000 hours of life
- High quality LED's don't change color over time
- 180 Degree output
- 10 Year Limited Warranty
- Standard lenghts are 9", 18", 31.5", 54" and 72"

One (1) Y___N___

EXTERIOR COMPARTMENT VENTS

All exterior compartments shall be vented using a 9" x 12" or 6" x 15" black texture coated .125" aluminum vent covers. All vents shall be installed above floor line. The only exception shall be the oxygen compartment which shall be vented below floor level. A Scotch Brite filter shall be installed in addition to

the vent cover to prevent moisture and dirt from entering the oxygen compartment. All compartments shall have at least one vent with additional vents as necessary, depending on the compartment size, to allow for easy closure of the compartment door.

One (1) Y___N___

CURBSIDE COMPARTMENTS

There shall be a curbside front compartment with inside/outside access. This compartment shall be full height. Actual compartment size shall be determined at the pre-construction conference.

One (1) Y___N___

CURBSIDE COMPARTMENTS

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

One (1) Y___N___

CURBSIDE COMPARTMENTS

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

One (1) Y___N___

CURBSIDE COMPARTMENTS

There shall be a curbside front exterior battery compartment located below the curbside front inside/outside access compartment. The compartment shall have a slide out tray capable of holding two batteries. The heavy duty slides shall lock in the extended and retracted positions. The vertical hinge side of the door shall have a stainless guard attached. The actual size shall be determined at the pre-build conference.

One (1) Y___N___

CURBSIDE COMPARTMENTS

There shall be a full height backboard compartment located at the curbside rear of the modular body. A full height, fixed, aluminum vertical divider and fixed, aluminum horizontal shelf are included. The divider and shelf shall be polyurethane/polyurea coated. Actual compartment size shall be determined at the pre-construction conference.

One (1) Y___N___

STREETSIDE COMPARTMENTS

There shall be a full height streetside front storage compartment. Actual compartment size shall be determined at the pre-construction conference.

One (1) Y___N___

STREETSIDE COMPARTMENTS

There shall be a double door, streetside front intermediate storage compartment. Actual compartment size shall be determined at the pre-construction conference.

One (1) Y___N___

STREETSIDE COMPARTMENTS

There shall be a 3/4 height, single door, streetside rear compartment. Actual compartment size shall be determined at the pre-construction conference.

Four (4) Y___N___

COMPARTMENT SHELVING

There shall be a smooth aluminum plate, adjustable shelf installed in a compartment. Each shelf shall have two inch lips and ribbed rubber shelf matting. The location and quantity of the shelving shall be determined at the pre-construction conference.

One (1) Y___N___

VERTICAL DIVIDERS

There shall be a fixed, 0.125 inch aluminum, vertical divider installed in a compartment. It shall be covered with polyurethane/polyurea coating. The location and quantity of the dividers shall be determined at the pre-construction conference.

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

One (1) Y___N___

COMPARTMENT OPTION

An exterior compartment shall have inside/outside access to the inside of the modular body. The location and quantity shall be determined at the pre-construction conference.

One (1) Y___N___

COMPARTMENT OPTION

An exterior compartment shall have a notch installed in it to allow for intrusion from cabinetry on the inside of the module. The exact location and dimensions of the notch shall be determined at the pre-construction comference.

One (1) Y___N___

COMPARTMENT OPTION

There shall be a custom mounted stair chair bracket shall be installed on the interior of a compartment door. The bracket shall be a 5" high open box style in design and have openings cut into the bottom of the box so the wheels of the stair chair can recess through the bottom of the box. A two inch, seat belt style strap to secure the stair chair shall be included. The compartment location and the dimensions of the bracket needed shall be determined at the pre-construction conference.

One (1) Y___N___

REAR STEP AND BUMPER ASSEMBLY

One (1) Y___N___

Module Rear Bumper
There shall be a heavy duty bumper extending to each side of the step. The under carriage shall be constructed of 4 inch aluminum channel and tubing, bolted to the body and the chassis frame rails with a minimum of eight bolts. The bumper framing shall be reinforced with an additional 4 inch aluminum support coming out from the chassis frame rails at a 45-degree angle to the outside corners of the bumper. The entire assembly shall be spaced out from the rear kick plate a minimum of one inch.

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 outside corners of the covers shall be tapered 15 degrees to minimize bumper dragging. Two tow hooks shall be installed under each bumper pod and attached to the bumper frame.

One (1) Y___N___

REAR BODY OPTION

The vertical surface at the rear of the modular body, between the rear step and the bottom of the rear door opening, shall be faced with 3003 polished aluminum diamond plate. This panel shall be the width of the module. The rear kick panel shall be attached using stainless steel, flathead, countersunk machine screws. The screws shall be tapped and dipped into "ECK" anti-corrosion coating prior to installation. The body plate, where the diamond plate kick plate is in contact with it, shall also be coated with ECK anti-corrosion coating prior to installation. The top edge of the rear kick panel shall be sealed using auto body sealant.

One (1) Y___N___

IMPACT RAILS, STONE SHIELDS AND RUNNING BOARD

One (1) Y___N___

IMPACT RAILS

The impact rails shall consist of a three component system. The three components are the impact rail, the impact rail base and the impact rail end caps. The impact rail is a 6063-T5 custom extruded, anodized aluminum "C" channel, 3" by 1.5" x 0.125". The edges of this "C" channel shall have a half arrow style notch. The impact rail base shall be a 6063-T5 extruded aluminum "C" channel, 2 3/4" x 1/2" x 0.125". The edges of this "C" channel shall have the mirror image, half arrow style notch, designed to mate with the impact rail. The impact rail end caps shall be cast aluminum design with a three tab collar to insert into the impact rail so it is flush with the rail and provide mounting tabs to secure the cap to the rail. The cap design shall curve through an approximate 2.5" radius to provide a pleasing look where the impact rails end.

The impact rail base shall be mounted through the 0.125" body skin and into the 3" x 2" x .125" rectangular aluminum tube which is the lower structural member of the body framing. ECK anti-corrosion coating shall be brushed on the entire surface of the back of the impact rail base where it is in contact with the modular body as well as the machine screws used to mount it. The impact rail shall be snapped in place on top of the impact rail base by engaging the half arrow notch on the impact rail base with the notch on the impact rail. This system of notches allows for the rail to be securely attached to the base but provide some "give" to reduce damage from minor impacts. To finish off the system, the end caps shall be installed by using stainless steel machine screws coated with the ECK anticorrosion coating. The only exposed mounting hardware allowed are the four stainless steel machine screws needed to secure the end caps to the impact rail.

Rails shall be designed to absorb impact, minimize body damage, and to be easily replaceable.
For this reason, the lower body tube described above must continuously back all impact rails. The rails shall be installed along the entire length on the both sides of the lower modular body.

RUB RAILS MUST BE ALUMINUM TWO PIECE EXTRUSIONS. BREAK FORMED "C" CHANNEL OR OTHER FABRICATED RUB RAILS WILL NOT BE ACCEPTABLE.

RUB RAILS ATTACHED ONLY TO THE SKIN OR VERTICAL SUPPORTS WILL NOT BE ACCEPTABLE.

One (1) Y___N___

RUNNING BOARDS

Heavy duty bright finished 0.125" aluminum diamond plate running boards shall be installed on both the curbside and streetside below the cab doors. Running boards shall incorporate front splash shields as well as a center grip strut surface for additional traction.

One (1) Y___N___

RUNNING BOARD LIGHTS

Running boards shall be illuminated by two Whelen model 20C0CDCD 4" round LED lights. The Whelen model 2GROMMET mounting kit is included as well as the optional Deutsche connector. These lights shall be installed, one on each side of the front of the module body, positioned to illuminate the running boards.

One (1) Y___N___

MUD FLAPS

The chassis shall have heavy-duty rear rubber mud flaps with metal stabilizers installed in the rear wheel well area.

One (1) Y___N___

FRAME RAIL COVER

There shall be 0.100", bright finished, aluminum diamond tread frame rail cover full width between cab and module to cover the frame rails.

One (1) Y___N___

STONE GUARDS

There shall be 0.100", bright finished, aluminum diamond tread stone shields, 36" high, wrapped around each front lower corner of the body and extending

to just inside the cab width. The entire back of the shields shall be brushed with ECK anti-corrosion coating prior to installation. After installation, the edges shall be sealed.

One (1) Y___N___

ELECTRICAL SYSTEM

One (1) Y___N___

ELECTRICAL CONTROL SYSTEM REQUIREMENTS

A Microcomputer and Microprocessor based electrical system, with driver's and attendant's control panels, shall be supplied and installed by the ambulance manufacturer. The system architecture shall be of the master – slave style. This is important so that the slave modules can be replaced without the need to be reprogrammed. This will reduce time needed for replacement as well as reduce inventory requirements. The system shall be located in a main electrical compartment containing all main electrical components for ease of troubleshooting and repair. Only systems manufactured independently will be considered. **NO "IN HOUSE" SYSTEMS PRODUCED BY THE AMBULANCE MANUFACTURER WILL BE CONSIDERED.**

The system shall incorporate a fully programmable design allowing the purchaser 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 electrical system must have a quick start of twenty seconds. The system must incorporate the ability to add, remove or reposition buttons, on the same screen and 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 screens. 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.

System Testing Standards

The system will be thoroughly tested to ensure 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, Cycle Rate, Temperature, Operational Status and Monitoring.
- 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.

Front Control Screen

The front control screen shall be a color LCD touch screen with instant-on technology and programmable switch functions. At the bottom of the screen there shall be five hard coded “hot” buttons. These five “hot” buttons shall guarantee control of critical functions in the rare event of touch screen failure. The screen must be IP67 rated and tested and must be able to interface with up to four perimeter cameras. In an effort to give the driver the ability to assist with rear patient control, the rear screen controls must be able to be selected as a page on the front control screen. All alarms, both visual and audible, must be present in the front screen. Alarms must include compartment and patient doors, oxygen, medical air low pressure warning. All emergency master functions must be available in the front screen. The front touch screen must include the following: volts, message center, door open indicators, emergency master, module disconnect, shore power indicator, emergency master sequencing and load management. The front control screen must also auto revert to main page after 10 seconds of no input.

Rear Control Screen

The rear control screen shall be a color LCD touch screen with instant-on technology and programmable switch functions. There shall be five hard coded “hot” buttons. These five “hot” buttons shall guarantee control of critical functions in the rare event of touch screen failure. The screen must be (IP67) rated and tested. The system must allow for additional rear screens to be installed and be able to function independently. The screen must have definable switches/buttons. The rear screen must have complete heating and air conditioning (HVAC) controls. There must be automatic operation of the HVAC system, regulated by a “set” temperature. The system shall select heat or cool based on set and actual temperature. Manual controls of the HVAC system can also be selected if needed. The rear screen must have provisions for tank displays (O2/Medical Air) as necessary. The combinations of available tanks are: one O2 tank, two O2 tanks, or one O2 tank and one Medical Air tank. There must also be a low pressure warning for O2 /Medical Air with an alarm override function.

System Master Control Module

The system start shall be activated by cab door open circuit, or remote activation and be fully ready to function within 20 seconds.
The system shall be scalable and allow for 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 and will allow for up to three additional video cameras. It must also have provisions for full screen camera display, automatic full screen camera in reverse as well as integrating a built-in turn signal display option. The system must allow for full programmability by the manufacturer, where they 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 and must have the following protections built in:

- Full reverse voltage protection
- Full RFI protection
- Full over voltage protection
- Full transient protection
- Full under voltage protection
- Protection during a brown out voltage scenario
- Protection during slow rise or recovery mode
- Protection against voltage stutter Protect from failure of relay boards.

The system must allow for full programmability by the manufacturer, where they can create and select only the required number of outputs. Programmability shall also include control panel switch placement. The system must survive the initial crank voltages down to seven volts without experiencing a computer reboot. There must be multi-leveled brightness and audio controls. Operating temperature range must be from -40 F to 158 F. Screens must connect to system network via a two conductor cable using “J 1939 CAN” protocol. The system shall also incorporate 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.

The system shall also include:
- Programmable Emergency Master Sequencing for Pursuit and On-Scene modes.
- Primary battery disconnect
- Programmable Load Management
- Automatic Climate Control, with Pulse Width Modulated (PWM) fan control and 1 temperature sensors.
- Climate Control must have intelligent automatic control, via the monitoring of temperature differentials between actual temps and set points.
- Robust communications
- Twisted pair cabling
- Cancels out electromagnetic interference
- Differential signaling
- Automatic Throttle Control output.
- Easy to read LED diagnostics.
- High Speed “J 1939 Compliant CAN Bus”

System Power Module

The Power Modules shall have solid state current limiting protection. Each power 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. The power modules shall be easily exchanged, with minimal work for the service personnel, without the need for reprogramming. This shall aid in ease of repair and reduction in parts inventory.

System WIFI Module

The electrical system shall have, as standard, a password secured self-contained Wi-Fi module. This Wi-Fi module will host its own web page accessible from any Wi-Fi enabled device. The web page will allow access to the following:

- Power locks,
- Climate control
- Perimeter flood lights
- “Real time” access to the status of each input and output in the system.
- Maintenance and instructional videos
- Scheduled maintenance reminders
- System event log.

System Wire Harnesses

All wiring and cable assemblies shall be totally encased in protective, convoluted, high temperature, 300-degree flame resistant, automotive type, polyethylene loom or equivalent braiding. Wiring which is routed near potentially sharp edges shall be protected by grommets or edge guard material. All wiring shall be permanently color-coded and permanently embossed with number and function codes, spaced every 4 inches on each wire. Wiring labels that are glued or otherwise attached to the wire shall not be considered permanent and will not be acceptable. All wiring used shall be copper with GXL thermoplastic insulation rated to 125 degrees Centigrade**. Within the main harnesses, where there is a necessary splice, the connection must be made using a cold friction ultrasonic weld process to make a permanent, lasting connection.** The splice shall be protected using heat shrink tubing. **Splices within the main harnesses using butt connectors shall not be acceptable.** All splices and terminals provided shall comply with SAE J163, J561, or J928 as applicable. All wiring between the cab and module shall be connected to a terminal block located in an exclusive wire terminal interior cabinet. This exclusive interior electrical cabinet shall limit the access by EMS providers and provide a clean/dry environment for all electrical control components.

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. (When allowable, the above the throttle system shall interface with the Electrical Control System)

Ground Straps

A single ground connection shall exist between the system and the vehicle chassis. Two copper-strand, plated, woven type ground straps with crimped and soldered lugs shall be installed between modular body and chassis frame. Two copper-strand, plated, woven type ground straps with crimped and soldered lugs shall be installed between cab and chassis frame. One copper-strand, plated, woven ground strap with crimped and soldered lugs shall be installed between the engine and the chassis frame.

One (1) Y___N___

MOMENTARY CARLING SWITCH

There shall be a Carling momentary switch provided. The exact location, quantity and function of the switch(es) shall be determined at the pre-construction conference.

One (1) Y___N___

GUARD FOR CARLING SWITCH

There shall be stainless guard (s) installed with a Carling switch provided. The exact location, quantity shall be determined at the pre-construction conference.

One (1) Y___N___

BACKUP ALARM

A backup alarm shall installed and shall activate when the vehicle is placed in reverse gear. It shall automatically reset when the vehicle is taken out of the reverse gear. This switch controlling the alarm shall be capable of being set prior to going in reverse, allowing the backup alarm to not activate. The model shall be an ECCO 575 back up alarm.

One (1) Y___N___

SHORELINE INLET

A 20 amp Kussmaul 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 110 VAC wiring system that is separate and distinct from the vehicle's 12 VDC system. The 110V 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 Kussmaul spring loaded inlet cover to shield the inlet from moisture. The inlet shall be located on the streetside of the ambulance body above the streetside exterior intermediate compartment unless otherwise specified. The inlet shall be properly marked "110-125 volt AC, 60 HZ, 20 Amps". A separate mating plug shall be shipped loose with the delivered vehicle.

One (1) Y___N___

INVERTER

A Vanner model number LSC12-1100,1100 watt inverter with 55 amp 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.

One (1) Y___N___

POWER PORTS

The patient action area shall be furnished with a combination dual 2.4 amp USB port with integral 20 amp cigarette style outlet.

This circuit shall also include a diode isolator to isolate medical equipment and medical equipment batteries from any electrical spikes and surges that the remainder of the ambulance electrical system may impose.

One (1) Y___N___

POWER PORTS

The inside/outside cabinet shall be furnished with a combination dual 2.4 amp USB port with integral 20 amp cigarette style outlet.

This circuit shall also include a diode isolator to isolate medical equipment and medical equipment batteries from any electrical spikes and surges that the remainder of the ambulance electrical system may impose.

One (1) Y___N___

125 VOLT OUTLETS

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. This 125v AC system, including wiring and associated equipment, shall comply with AMD Standard 009.

One (1) Y___N___

125 VOLT OUTLETS

An Interior duplex outlet shall be installed in the R.F.S. Cabinet. 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.

Four (4) Y___N___

125 VOLT OUTLETS

An additional Interior duplex outlet shall be installed in the vehicle. 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. The exact quantity and location shall be determined at the pre-construction conference.

Two (2) Y___N___

POWER PORTS

An additional combination dual 2.1 amp USB port with integral 20 amp cigarette style outlet shall be provided.

This circuit shall also include a diode isolator to isolate medical equipment and medical equipment batteries from any electrical spikes and surges that the remainder of the ambulance electrical system may impose.

The exact location and quantity of the additional port(s) shall be determined at the pre-construction conference

One (1) Y___N___

POWER DOOR LOCKS

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

One (1) Y___N___

POWER DOOR LOCKS

A hidden, power door lock switch shall be installed in the license plate enclosure on the rear of the body. This switch shall be used only for the unlock feature.

One (1) Y___N___

SPEAKERS

There shall be two Kenwood or equivalent speakers recessed into the center ducted A/C tract in the module body. The speakers shall be hooked to the OEM AM/FM radio system and shall include a volume control located in the primary action area unless otherwise specified.

One (1) Y___N___

FLASHLIGHT OPTION

There shall be a relay controlled power and ground circuit for future installation of a rechargeable flashlight. This circuit shall be fused for 5amps maximum. The quantity and location(s) shall be determined at the pre-construction conference.

One (1) Y___N___

INTERIOR LIGHTING

One (1) Y___N___

INTERIOR LIGHTING

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

One (1) Y___N___

INTERIOR LIGHTING

A Whelen 3SC0CDCR 3" round, surface mount, Super LED light shall be installed in the side door step-well. This light shall illuminate when the side door is open.

One (1) Y___N___

INTERIOR LIGHTING

The patient compartment shall be illuminated by eight Tecniq model E08 LW00-1 with white trim, recessed into the patient compartment headliner and mounted to a .125 aluminum plate.

The left and right banks of lights shall each have their own "high" and "low" switch positions.

One (1) Y___N___

INTERIOR LIGHTING

The patient action area shall be illuminated by a TecNiq 12-volt LED strip light.

One (1) Y___N___

CENTER STRIP LIGHTING

The ceiling shall have (6) surface mounted Whelen model 3SC0CDCR 3" round super LED lights spaced along the length of the center strip

One (1) Y___N___

INTERIOR LIGHTING

A Whelen model 0SR00SCR red LED light shall be mounted on the rear head cushion. This light shall illuminate when the vehicle brake is applied. The exact quantity shall be determined at the pre-construction conference.

One (1) Y___N___

INTERIOR LIGHTING

Two Whelen model 0SA00SCR amber LED lights shall be mounted on the rear head cushion, one to the left side and one to the right side of the cushion. One light shall illuminate when the corresponding turn signal on that side is activated. The exact quantity shall be determined at the pre-construction conference.

One (1) Y___N___

EXTERIOR LIGHTING

One (1) Y___N___

TAIL LIGHT OPTION

There shall be (2) Whelen 600 Model 60BTT Series "LED" stop/tail lights with chrome trim bezels installed. The actual location shall be determined at the pre-construction conference.

One (1) Y___N___

TAIL LIGHT OPTION

There shall be (2) Whelen Model 60A00TAR 600 Series "LED" populated amber turn signals with chrome trim bezels installed. They shall be programmed to flash sequentially in the direction of the arrow. The actual location shall be determined at the pre-construction conference.

One (1) Y___N___

LICENSE PLATE HOUSING

The rear license plate housing shall be a recessed style Cast Products or comparable housing. It shall include two clear LED license plate lights. The actual location shall be determined at the pre-construction conference.

One (1) Y___N___

TAIL LIGHT OPTION

There shall be (2) Whelen Model 60C00VCR 600 Series “LED” minimum-populated backup lights with chrome trim bezels installed. The actual location shall be determined at the pre-construction conference.

One (1) Y___N___

SCENE LIGHTING

There shall be two reverse activated, Whelen Model M9ZC M9 series rear load lights with chrome trim bezels installed. These lights shall also be controlled by the front control panel. The actual location shall be determined at the pre-construction conference.

One (1) Y___N___

SCENE LIGHTING

There shall be four Whelen Model M9LZC M9 series Super LED scene lights installed. Two scene lights shall be installed on each side of the module body. All scene lights shall have bright chrome flanges. The right side scene lights shall illuminate when the side entry door is opened. Switching for the side scene lights shall be included in the front control panel.

One (1) Y___N___

SCENE LIGHTING

The right side scene lights shall come on when the side entry door is opened.

One (1) Y___N___

SCENE LIGHTING

The rear side scene light on each side shall come on when the vehicle is placed in reverse.

One (1) Y___N___

TAIL LIGHT OPTION

Specified rear emergency warning lights shall activate when the vehicle brakes are applied. The exact lights that are to be activated shall be determined at the pre-construction conference.

One (1) Y___N___

ICC MARKER LIGHTS

The required exterior ambulance body corner ICC lights shall be Federal Signal Commander Series LED lights. They shall be installed above the drip rail extrusion.

One (1) Y___N___

REAR D.O.T. LIGHT

There shall be a red Innovative Slimline ICC light mounted above the rear doors. It shall be mounted above the drip rail. The mid sections are to be wired thru the brake light circuit.

One (1) Y___N___

FOG LIGHTS

A switch shall be provided on the drivers switch panel and all associated wiring shall be included for installation of fog lights on the chassis bumper.

One (1) Y___N___

RADIO POWER

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. They shall be rated and protected for a maximum of 20 amps.

One (1) Y___N___

ANTENNA OPTIONS

One RG58U antenna coaxial cable, with a KE-794 base, shall be installed. This cable shall have a 36” service loop. The exact mount location, quantity and cable termination shall be determined at the pre-construction conference.

One (1) Y___N___

ANTENNA OPTIONS

A KE-794 antenna base with coax cable, shall be installed on the roof of the patient compartment and terminate in the ambulance module. This cable shall have a 36” service loop. The exact location, termination point and quantity shall be determined at the pre-construction conference.

One (1) Y___N___

RADIO OPTIONS

There shall be a 12-volt positive and negative lead, wired to power studs, provided for radio power. The positive lead shall be wired full time hot and rated for over 20amps. A separate switched lead, wired to a power stud, shall be also provided, wired through the ignition "on" circuit. The exact location, amp requirement and quantity shall be determined at the pre-construction conference.

One (1) Y___N___

SIRENS AND EMERGENCY LIGHTING

One (1) Y___N___

SIREN OPTION

There shall be a Whelen Model number 295HFSA7 dual amplifier siren system installed.Exact location for the remote control head shall be determined at the pre-construction conference.

One (1) Y___N___

SIREN SPEAKERS

There shall be (2) Federal ES100C thru bumper siren speakers installed. They shall be installed behind cutouts in the front bumper. The installation opening shall be covered with the
The Federal Signal P/N MSFMT-EF grill.

One (1) Y___N___

WARNING LIGHT OPTION

There shall be four Whelen M9 Series Super LED side module warning lights installed. They shall be mounted, (2) on each side of the body, at the top upper outside corners, but below the drip rail. Each light shall include the chrome flange option. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

WARNING LIGHT OPTION

There shall be two Whelen M9 Series Super LED rear module warning lights installed. They shall be mounted, (2) on the rear of the body, at the top upper outside corners, but below the drip rail. Each light shall include the chrome flange option. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

WARNING LIGHT OPTION

There shall be one Whelen M9 Series Super LED rear module warning light installed. It shall be mounted on the rear of the body, at the top center, but below the drip rail. The light shall include the chrome flange option. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

GRILLE LIGHT OPTION

There shall be two Whelen M2 Series Super "LED" warning lights installed on the grille area of the chassis. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

INTERSECTION LIGHT OPTION

There shall be two Whelen M2 Series Super "LED" warning lights installed, one on the forward area of each chassis front fender. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

REAR WHEEL WELL LIGHTS

There shall be two Whelen M6 Series Super "LED" rear wheel well lights installed, one over each rear wheel well. The exact model number, color and lens color shall be determined at the pre-construction conference.

One (1) Y___N___

UPPER FRONT MODULE WARNING LIGHTS

There shall be (7) Whelen M9 Series Super "LED" front module warning lights installed, evenly spaced, across the upper front wall of the module body. The lens on each light shall be clear. The exact model number, color and location of each light shall be determined at the pre-construction conference

One (1) Y___N___

WARNING LIGHT OPTION

There shall be (2) Whelen M9 Series, solid color, Super LED lights installed on the rear of the body so that they will show through the windows on the rear doors when the doors are open. The exact model, quantity and location shall be determined at the pre-construction conference.

One (1) Y___N___

PATIENT COMPARTMENT

One (1) Y___N___

CABINET CONSTRUCTION

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 laminate 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.

Because of the superior sound dampening and insulating qualities of plywood cabinetry, aluminum or other metal cabinetry will 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. All hinged doors shall have a polished stainless steel hinge with .125" pin diameter.

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 camfered 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 650222these application requirements:
• Chemical and corrosion resistance
• Moisture resistance, low water absorption
• Low flammability (UL-940VO)
• 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".

Warranty

The interior cabinet warranty shall be a Lifetime Limited, unlimited miles.

One (1) Y___N___

MODULE BODY HEADLINER

The ambulance module headliner shall be high gloss, two piece, smooth thermoplastic sheets. One sheet on each side of the center strip in the ceiling. This material shall be fire retardant with significantly higher impact resistance and be resistant to corrosive chemicals and cleaning solutions. It shall meet Fungus resistance testing in accordance with ASTM G-21 and bacteria resistance testing in accordance with ASTM G-22, Procedure B.

One (1) Y___N___

CABINET OPTION

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 height of the polycarbonate door. The door handle corners shall be cut at forty-five degrees.

One (1) Y___N___

PATIENT COT OPTION

The manufacturer shall install a Customer Supplied Stryker Power Load System.

One (1) Y___N___

CABINET OPTION

There shall be a left rear overhead cabinet with a speed load style, polycarbonate door 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.

One (1) Y___N___

CABINET OPTION

There shall be a cabinet above the side CPR seat with a top hinged, frameless, 3/8" thick polycarbonate door installed.

One (1) Y___N___

CABINET OPTION

There shall be an overhead cabinet installed above the action area with speed load style polycarbonate doors. 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.

One (1) Y___N___

CABINET OPTION

A storage cabinet shall be installed on the left side of the interior module, below the overhead cabinet. This cabinet shall be to the rear of the telemetry

area with framed, sliding polycarbonate doors installed. The sliding door handle shall be made from an aluminum extrusion and shall run the full height of the polycarbonate door. The 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 cabinet shall include (2) adjustable shelves.

One (1) Y___N___

CABINET OPTION

The telemetry area cabinet shall be turned so that the opening faces the side CPR seat.

One (1) Y___N___

CABINET OPTION

There shall be a lower telemetry area cabinet with a bottom hinged, laminated wood door installed. The actual dimensions shall be determined at the pre-construction conference.

One (1) Y___N___

CABINET OPTION

There shall be a cabinet installed in the primary action area with sliding polycarbonate doors. The sliding door handle shall be made from an aluminum extrusion and shall run the full height 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.

One (1) Y___N___

CABINET OPTION

There shall be a cabinet, with polycarbonate sliding doors, installed below the prinary action area. Included in this option is a notch in the exterior compartment to allow for this cabinet. The actual dimensions shall be determined at the pre-construction conference.

One (1) Y___N___

CPR SEAT OPTION

A seat approximately 21" wide with rear hinged lid, allowing for storage under the seat, shall be recessed into the street side cabinet wall directly rearward of the main action area. A structurally reinforced steel frame encompassed 7" torso form fitted backrest providing user stability, support, proper ergonomics and safety in the event of an impact in a side facing seat. The

design will assist in positioning an individual to better absorb an impact, whether it be a frontal, side or rear. The Contoured Lumbar Backrest has been tested to meet SAE Safety Standards. There will be left and right thigh protection cushions. All cushions shall be covered with heavy-duty vinyl. There shall be no piping on the cushions to accumulate contaminated material. All seams shall be sealed to repel contaminants. An IMMI 4-Point seat belt appropriately secured to the side wall shall be provided. Upper cabinets shall have left and right head protector cushions to match the seat cushion.

One (1) Y___N___

ATTENDANT'S SEAT OPTION

There shall be a high back, EVS brand child seat Model 1802. 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 safety harness with push button release and a 5 point restraint for the child seat option. 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 seat 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.)

One (1) Y___N___

CABINET OPTION

A storage cabinet shall be installed on the left front wall behind the rear facing attendant seat. Access shall be gained from behind the attendant seat. This cabinet shall be for storage of the module electrical components.

One (1) Y___N___

RIGHT FRONT CABINET OPTION

A storage cabinet shall be installed on the right front wall consisting of equally sized upper and lower sections. The upper section shall be designed so that equipment can be accessed from either the patient compartment, through two, side hinged, laminated, wood doors or through an exterior compartment door. The laminated wood doors shall have a polycarbonate windows installed with stand-off fasteners to allow air to escape the compartment as the doors are closed.

One (1) Y___N___

RIGHT FRONT CABINET OPTION

A storage cabinet shall be installed on the right front wall consisting of equally sized upper and lower sections. The lower section shall be designed so that equipment can be accessed from either the patient compartment, through two, side hinged, laminated, wood doors or through an exterior compartment door. The laminated wood doors shall have a polycarbonate windows, installed with standoff fasteners to allow air to escape as the doors are closed.

One (1) Y___N___

RIGHT FRONT CABINET OPTION

There shall be a cabinet mounted above upper right front stack cabinet. The cabinet shall have a top hinged, laminated, wood door installed. The actual dimensions shall be determined at the pre-construction conference.

One (1) Y___N___

RIGHT FRONT CABINET OPTION

There shall be a cabinet mounted above upper right front stack cabinet. The cabinet shall have a top hinged, laminated, wood door installed. The actual dimensions shall be determined at the pre-construction conference.

One (1) Y___N___

SQUAD BENCH OPTION

The ambulance shall be equipped with a squad bench approximately 73" long by 22" wide. The squad bench lid shall have a 2" foam cushion. Three, structurally reinforced, steel frame encompassed, 7" form fitted backrests, providing proper ergonomics and safety in the event of an impact shall be supplied. They shall be located in the right side wall, facing to the side along the length of the squad bench. The design will assist in positioning an individual to better absorb an impact, whether it be a frontal, side or rear. This contoured lumbar backrest system shall be tested to meet SAE Safety Standards.

All cushions to be covered with heavy-duty vinyl and shall be installed with industrial grade, plastic hook and loop Velcro for easy removal and cleaning. There shall be no piping on the cushions to accumulate contaminated material. All seams shall be sealed to repel contaminants. A total of three IMMI 4-Point seat belts appropriately secured to the side wall shall be provided. The squad bench lid shall be two piece, with no divider, and have two heavy-duty, gas piston hold-open devices. The lids shall be attached to the bench with a continuous hinge. The lids shall have a self-latching, stainless steel, paddle style-latching device.

Three sets of encased restraints shall be installed on the squad bench to be used to secure a patient on a backboard to the bench. Retractors shall be installed against the outer wall.

One (1) Y___N___

SQUAD BENCH OPTION

At the head end of the squad bench there shall be a 1.5" staimless steel "U" shaped retaining board, 10" high with a cushion attached to it. It shall be mounted with a fold down hinge so it can be moved out of the way so a backboard can be placed on the squad bench.

One (1) Y___N___

SQUAD BENCH OPTION

There shall be a recessed open storage area, sprayed with polyurethane / polyurea coating at head end of squad bench. This storage area shall open toward the step well.

One (1) Y___N___

SQUAD BENCH OPTION

There shall be a headrest covering the wall directly behind the squad bench, above the restraint system for the seating positions. This headrest shall be a minimum of 2" thick, have PVC bases 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 help prevent contamination.

One (1) Y___N___

SQUAD BENCH CABINET

There shall be a two section cabinet, with speed load style doors, mounted above the squad bench. The bottom of the cabinet is to be sweep-out style. In each section, the cabinet door frames shall be secured at the top by a full length piano hinge. The entire door frame shall hinge upward and be held in place by gas piston hold-open devices. The door frame shall be held in the down position by two spring-loaded dead bolt style slide catches. Within this frame shall be (2) sliding Polycarbonate doors to allow for access without lifting the frames. The sliding doors shall run in sound deadening tracks to hold the door secure and provide resistance so the door does not slide due to vehicle movement. The sliding door handles shall be made from an aluminum extrusion and shall run the full height at the ends of the doors. The door handle corners shall be cut at forty-five degrees and finished so there are no burrs or sharp corners. The vertical ends of the door frame will have EPDM rubber foam inserts to protect the handles from damage.The actual dimensions shall be decided at the pre-construction conference

Two (2) Y___N___

GLOVE BOX OPTION

The rear head pad shall include a recessed area for a double glove box. The glove box holder shall be compliant to SAE J3058. The glove box holder shall be made from ABS plastic and include a clear Marine grade acrylic door, top hinged with stainless steel hardware, and a stainless steel flush pull, push-to-close latch. The exact quantity and location shall be determined at the pre-construction conference.

One (1) Y___N___

GLOVE BOX OPTION

The head pad shall include a recessed area for a triple glove box. The glove box holder shall be compliant to SAE J3058. The glove box holder shall be made from ABS plastic and include a clear Marine grade acrylic door, top hinged with stainless steel hardware, and a stainless steel flush pull, push-to-close latch. The exact quantity and location shall be determined at the pre-construction conference.

One (1) Y___N___

GRAB RAIL

There shall be a formed, 2" diameter, aluminum, overhead assist rail. It shall be located over the main patient care area. This grab rail shall be 100" in length. The exact location shall be determined at the pre-construction conference.

One (1) Y___N___

GRAB RAIL

There shall be a formed, 2" diameter, aluminum, overhead assist rail. It shall be located over the squad bench. This grab rail shall be 100" in length. The exact location shall be determined at the pre-construction conference.

One (1) Y___N___

ASSIST RAIL

There shall be “L” shaped, 2" diameter, aluminum entrance door assist rails installed on the side 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.

One (1) Y___N___

ASSIST RAIL

There shall be a formed, 2" diameter, brushed stainless steel assist rail. It shall be located at the left rear wall.

One (1) Y___N___

IV OPTION

There shall be two CPI Model IV2008 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. The exact location and quantity shall be determined at the pre-construction conference.

One (1) Y___N___

CABINET OPTION

There shall be black, Southco C5 lever cabinet latches installed on the interior cabinet doors.

One (1) Y___N___

CABINET DRAWER

There shall be an interior, locking cabinet drawer installed. The drawer shall be made from aluminum and include a wood face. A separate key lock shall be included. The actual dimensions and location shall be determined at the pre-construction conference.

One (1) Y___N___

CLOCK OPTION

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-construction conference.

One (1) Y___N___

CABINET DOOR LOCK OPTION

An interior cabinet shall include a Simplex push button lock on the door. The exact location shall be determined at the pre-construction conference.

Two (2) Y___N___

SHARPS / WASTE OPTION

There shall be bottom hinged door that trash and sharps containers shall be attached to. The actual location and types of containers shall be determined at the pre-construction conference.

One (1) Y___N___

<Need To Select> Interior Laminate Finish

One (1) Y___N___

<Need to Select> Interior Seam Sealed Seat, Head, and Arm Cushion Vinyl

One (1) Y___N___

<Need to Select> "Federal K-Spec" Interior Seam Sealed Seat, Head, and Arm Cush

One (1) Y___N___

<Need to Select> Interior Welting Between Cabinet Sections

One (1) Y___N___

<Need to Select> Interior Counter Top Corian For Main With 1" Lip

One (1) Y___N___

<Need to Select> Interior Lonseal Floor

One (1) Y___N___

CUSTOM OPTION

One (1) Y___N___

PATIENT COMPARTMENT ENVIRONMENTAL SYSTEMS

One (1) Y___N___

FRESH AIR INTAKE

A filtered fresh air intake shall be mounted on the curb side of the modular body in the upper front corner. 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.

One (1) Y___N___

EXHAUST FAN

A power exhaust vent fan shall be installed in the rear upper corner of the street side cabinet wall. The fan shall be controlled from the rear control switch panel. The exterior vent shall be filtered and located on the streetside exterior wall of the modular body, in the rear upper corner, below the drip rail. The combination of the front fresh air intake vent and the rear powered exhaust vent shall provide efficient cross through patient compartment ventilation.

One (1) Y___N___

ENVIRONMENTAL OPTION

A Pro Air brand, Model 940, HVAC system shall be used. The unit shall have as a minimum 32,000 BTU cooling, and 35,000 BTU heating with a 650 CFM fan.

There shall be a digital thermostat to select interior temperature. The heat or air conditioner mode shall be selected automatically by the temperature setting of the thermostat.

An electrically controlled valve shall automatically turn on the flow of hot water to the rear heater whenever the thermostat is adjusted to call for heat, and off whenever the thermostat is adjusted to call for air conditioning. All clamps shall be of a type approved by the HVAC manufacturer. All hoses are to meet the Ford QVM regulations.

The HVAC exhaust shall be ducted down the center ceiling strip. There shall be a **minimum** of six round adjustable ducts, arranged in pairs, evenly spaced along the ceiling center strip. The internal ducting shall be engineered to allow for an evenly distributed flow of air to all of the vents.

One (1) Y___N___

ENVIRONMENTAL OPTION

A 12-volt, centrifugal, liquid pump shall be installed in the module heater supply hose. The pump shall boost the flow capacity of the engine coolant.

One (1) Y___N___

ENVIRONMENTAL OPTION

The vehicle shall have a Pro-Air Model 106 auxiliary AC condenser installed under the module body.

One (1) Y___N___

INSULATION PACKAGE

There shall be two inch thick, non-deteriorating, high density, "Yellow CertiFoam" plank used as insulation. The thermal resistance of the insulation shall hold a five year aged value of 11.2 R at 25 degrees F mean temperature. The importance of using the aged value, as it relates to the initial “R” values, is that over a five year period, the initial R value will deteriorate and overestimate the long term insulating ability.

This Insulation shall be placed between all framing to include the module body walls, floor, ceiling and patient doors. There shall also be a 4 mil vapor barrier placed in the module walls, ceiling and patient doors. This vapor barrier shall serve a moisture barrier for the changing outside environment.

An acoustic dampening material shall be installed on all (4) sides of the side entry step well and both wheel wells. This material shall include the follow characteristics:
***** Vinyl wear surface with 1/2 lb/sf PVC barrier
* 1/4 inch Nitrile/PVC decoupler
***** Flammability MVSS-302
* Service Temperature -40 F to 220 F
* Chemical Resistance Excellent for most acids, mild alkalis, oils and grease

One (1) Y___N___

UNDERCOATING

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

Four (4) Y___N___

ENVIRONMENTAL SYSTEM OPTION

Four (4) Code 3 Vital Vio Bacteria Killing Light(s) shall be installed in the ceiling.

One (1) Y___N___

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.

One (1) Y___N___

OXYGEN SYSTEM OPTION

There shall be one Ohio style oxygen outlet located on the back wall of the primary action area.

One (1) Y___N___

OXYGEN SYSTEM OPTION

There shall be one Ohio style oxygen outlet located in the ceiling center strip of the module, in the area above the patient's head.

One (1) Y___N___

OXYGEN SYSTEM OPTION

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.

One (1) Y___N___

OXYGEN SYSTEM OPTION

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

One (1) Y___N___

OXYGEN SYSTEM OPTION

An "M" size, oxygen cylinder storage cradle shall be mounted in the streetside 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 compartment wall allowing for added strength and safety.

The oxygen cylinder storage cradle installation must meet or exceed AMD Standard 003, Oxygen Tank Retention System.

One (1) Y___N___

OXYGEN SYSTEM OPTION

The main oxygen cylinder mount shall have accommodations made for future adjustment depending on the type of oxygen cylinder, "M" or "H", used at any given time.

Two (2) Y___N___

OXYGEN SYSTEM OPTION

ZICO Model QR-D-2 Quick Release Strapless Portable Oxygen Tank Bracket shall be included. The location and quantity shall be determined at the pre-construction conference.

One (1) Y___N___

SUCTION SYSTEM

One (1) Y___N___

SUCTION OPTION

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

One (1) Y___N___

SUCTION OPTION

An Ohio style suction outlet shall be mounted on the back wall of the primary action area.

One (1) Y___N___

SUCTION OPTION

A permanent on board suction system shall be installed. The system shall include a quick disconnect outlet mounted on the back wall of the primary 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 wall of the primary action area.

One (1) Y___N___

PAINT

One (1) Y___N___

PAINT PROCESS

The ambulance manufacturer shall use an Epoxy Primer and Polyurethane Topcoat paint system.

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, isocyanate reacts with a hardener to form a crosslinked polyurethane film. Polyurethane paint has excellent performance characteristics: adhesion, hardness, gloss, flexibility, and resistance to abrasion, impact, weathering, acids and solvents. The epoxy primer, which is also a two-component paint, is applied under the polyurethane topcoat. It provides adhesion to the substrate as well as excellent resistance to corrosion and humidity.

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

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

All painters shall be certified. Documentation shall be available upon request. Training documentation shall include:

Spray gun set up and usage
Spray gun maintenance
Hands on practical use of HVLP and RP Equipment
Cycle time reductions and improving productivity with correct equipment and usages
Air volume requirements
Air filtration and filter maintenance
Supplied air respiration
CO monitor requirements
Spot repair procedure
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 bare substrate of the module is first cleaned with a strong surface

cleaner to remove fabrication and pneumatic tool oils. The reason? Cleaning the surface prior to sanding prevents oils and contaminants from being imbedded into the substrate. After sanding process, a mild surface cleaner removes any sanding dust residue along with pneumatic tool oil. A waterborne surface cleaner is available in case substrate was touched with bare hands or skin.

The following steps must be followed in sequence to properly apply paint to the ambulance.

1) SURFACE PREP
Clean entire modular body with Sikkens OTO using the two-cloth method: one used to wipe on wet, the other used to wipe dry.
Reason: Wiping our surface cleaners on wet, contaminants loosen and float to the top.
Those floating contaminants then get wiped off with an absorbent towel.

Using an orbital sander, (where polyester filler will be applied) 80 grit is used to provide
a mechanical tooth for optimal adhesion. 180 grit is then used surrounding the 80-grit area. Sikkens M600 surface cleaner is used to remove sanding dust and pneumatic tool oil. If bare hands or skin accidentally touched the surface, Sikkens Autoprep waterborne cleaner is used to remove natural oils. Again, all surface cleaners are applied wet with one towel and wiped dry with another.

Life Line's approved polyester body filler is applied over the 80 grit ground areas to cover the imperfections from welds. When body filler dries, it is first sanded with 80 grit then finish sanded with 180 grit to remove all 80 grit sand scratches. Blow off surface dust using approved air wand. After body work has been completed, the rest of the aluminum substrate on the module gets sanded with 180 grit sandpaper until the surface is bright and sand scratches are consistent. Module gets blown off again to remove all sanding dust.

Step 1 is essential in achieving proper adhesion.

2) EPOXY PRIMER and HIGH BUILD primer surfacer APPLICATION PROCESS:

First, if sanded aluminum substrate has not been primed within 8 hours, aluminum substrate gets re-abraded to remove oxidation that may have started on aluminum surface. Aluminum substrate gets cleaned with Sikkens M600 surface cleaner using the 2-towel method. Surface cleaners do <u>not</u> get applied over body filler due to polyester filler being absorbent.

One coat of AkzoNobel LV262 Epoxy primer is applied. This epoxy primer slows down corrosion from happening if in case the unit (once out in the field) has stone chips or scratches down to aluminum. This product is a 2-component epoxy primer meaning it mixes with a hardener. Paint technicians are training to properly apply this product to achieve a minimum of 1 mil DFT (Dry Film Thickness) as required by AkzoNobel. A blank module schematic showing specific areas to measure dry film thickness is completed for each module /unit.

Allow LV262 40 minutes minimum dry time prior to applying AkzoNobel LV650 primer surfacer. Apply three wet coats of AkzoNobel LV650 two component low VOC high build primer surfacer. A dry film thickness of up to 8 mils can be achieved prior to sanding.
Minimum flash between coats is 30 seconds to 5 minutes. LV650 surfacer dries 2 different ways. One way is overnight dry without accelerator; the other is with accelerator, which dries in 45 minutes at 70 degrees prior to block sanding.

3) SANDING

Block sand entire module with 320-grit sandpaper minimizing any accidental cut throughs on edges.
Blow off body with air gun and move unit to seam sealer department.

4) PRE-TOPCOAT PREPARATION

Clean areas where Life Line approved seam sealer is applied with Sikkens M600 surface cleaner. If by accident, bare hands or skin touched surface on module, Autoprep waterborne cleaner is used on these areas prior to using M600 cleaner. Both cleaners are used with the 2-towel method.

Seam seal with Life Line approved non-shrinking moisture-cured urethane seam sealer. Technicians follow seam sealer technical data sheets pertaining to application and dry times prior to applying AkzoNobel BT LV650 basecoat or BT LV650 Topcoat single-stage paint.

Move module into paint booth, prepare surface for paint.

Clean module with M600 surface cleaner. If by accident, bare hands or skin touch surface on the module, Autoprep waterborne cleaner is used on these areas prior to using M600 cleaner. Both cleaners are used with the 2-towel method.

Apply reduced LV262 epoxy over any visible cut throughs and give a 10-minute flash prior to applying BT LV650 basecoat or Topcoat.

Tack rag unit to remove any lint or dust that may have landed on surface.

5) TOPCOAT PROCEDURE

Mix BT LV650 basecoat or Topcoat (single stage) polyurethane paint. Fluid and spray pattern checks are done prior to applying BT LV650 Basecoat, Topcoat and Clear coat. Apply BT LV650 basecoat until complete coverage is achieved. If Topcoat is applied, a minimum of 1.8 mils are recommended after cut and buff procedure. Note: Topcoat doesn't get clear coated. Allow solid color BT LV650 basecoat to flash 20 minutes prior to applying 3 coats Sikkens ACIII clearcoat.

If using a metallic color, allow BT LV650 basecoat to flash 45 min. prior to applying 3 coats ACIII clearcoat. Bake body for 45 minutes once surface temp has reached 140 degrees.

The mil thicknesses are as follows:

Autocoat BT LV262 Epoxy Primer	1.0 to 1.5 mils
Autocoat BT LV650 2K Primer Surfacer	1.0 to 3.0 mils
Autocoat BT LV650 Basecoat color	1.0 to 1.8 mils
Autocoat BT ACIII Clearcoat	2.0 to 3.0 mils
Combined total:	5.0 to 9.3 mils

One (1) Y___N___

PAINT OPTION

The chassis standard color shall be OEM white.

One (1) Y___N___

PAINT OPTION

The module body shall be painted to match the chassis OEM STD white color.

One (1) Y___N___

PAINT OPTION

The Nader pins for the conpartment and entry doors on the modular body shall no be painted. They shall be installed after the paint process is completed.

One (1) Y___N___

EMBLEMS AND DECALS

One (1) Y___N___

DECALS

Manufacturer shall install the roof Star of Life decal only. The remaining Star of Life decals shall be deleted.

One (1) Y___N___

DECALS

No smoking and Fasten seat belt decals shall be installed. The exact location where the decals are to be installed shall be determined at the pre-construction conference.

One (1) Y___N___

REFLECTIVE STRIPING

There shall be 3/4" white reflective striping applied around the inside door extrusions of the side and rear entry doors. This is to meet the current KKK1822F specifications.

One (1) Y___N___

Graphics Package:

Each Bidder Shall Be responsible for Providing a Budgetary amount of $6,500 dollars for Customer Decided Graphics

EXCEPTIONS TO BID SPECIFICATIONS SHEET A

Line #	Explanation