

# AMBULANCE SPECIFICATIONS

Hudson NH Fire Dept.  
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Hudson, New Hampshire 03051

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## Section 1- Ambulance Specifications - Bidder Instructions

The following specification describes a new ambulance that is expected to be acquired by this purchaser. The specification describes the needs of this purchaser as far as chassis configuration and module body design. A state of the art vehicle is required. However, manufacturers that utilize prototype equipment or manufacturing processes will not be considered. The builder's manufacturing history shall be supported by documentation where applicable, and by the reference section within this specification. The benchmark for the initial configuration of this ambulance shall be the current KKK Federal Specification for Ambulances. However, most requirements in this specification exceed the federal specifications because of the specific needs of this purchaser.

Please note that the following specifications represent minimum general terms or requirements. While it is not the intent of this purchaser to preclude any qualified bidder from submitting a proposal it must be clear that any bidder deviating in any substantial manner from these specifications will be rejected as being non-compliant.

Finally, manufacturers or distributors for manufacturers submitting bids shall include the following information with their proposal:

### Minimum Required Standards

The highest degree of quality, both in the materials and in the building processes, is required for the emergency medical vehicle being proposed. At a minimum the manufacturer being proposed must meet all current mandated and voluntary ambulance design standards in effect at the date of the proposal submission. All current Federal Motor Vehicle Safety Standards (FMVSS) must be met, as well as all current Federal Ambulance Design Standards (KKK-A-1822).

The bidder shall state the date of certification for the current KKK-A-1822:

The manufacturer shall also comply with the manufacturers company Quality Vehicle Manufacturer (Quality Vehicle Manufacturer (QVM)) program. A copy of the manufacturer's current QVM certification must be submitted with the bid.

- The current QVM certification is included.

Yes

No

Initial : \_\_\_\_\_

## Proposal Completion Process

Various areas in the following specifications require a response from the bidder. In order to aid in the evaluation process all responses must be consistent and, most importantly, legible.

- Does the bidder understand this requirement?

Yes

No

Initial : \_\_\_\_\_

## Quotation

The overall quotation shall include a firm price for a vehicle meeting these specifications. The length of time that the price will be held shall be clearly stated in the quotation. The quotation shall include a specific delivery window based on the number of calendar days following the award of the contract. The model year of both the chassis and the conversion shall be clearly stated in the contract.

A penalty of (\$200.00) two hundred dollars per day shall be charged the bidder for any delay in delivery of the ambulance. The actual date of delivery shall be determined and included in the final contract after the bid is awarded.

## Warranty

The proposal shall include all warranties that are required in the following detailed specification. All warranties must have specific time durations and shall define warranties on specific components. The minimum acceptable warranty periods are noted below. In the blank lines the bidder shall note the terms of the warranties that apply to the manufacturer being proposed.

MODULAR BODY STRUCTURAL WARRANTY	Unlimited	Years /	Unlimited	Miles
Proposed warranty term :	<input type="text"/>	Years /	<input type="text"/>	Miles
ELECTRICAL WARRANTY	6	Years /	72,000	Miles
Proposed warranty term :	<input type="text"/>	Years /	<input type="text"/>	Miles
CONVERSION WARRANTY	3	Years /	36,000	Miles
Proposed warranty term :	<input type="text"/>	Years /	<input type="text"/>	Miles
PAINT WARRANTY	5	Years /	Unlimited	Miles
Proposed warranty term :	<input type="text"/>	Years /	<input type="text"/>	Miles

For verification of the completed warranty terms stated above the bidder must include printed manufacturer's warranty certificates that meet or exceed the minimum required periods stated above.

- Are the manufacturer's warranties included?

Yes

No

Initial : \_\_\_\_\_

Warranties shall not be pro-rated in any manner and shall be transferable for their duration. All warranties shall be from the manufacturer as opposed to a distributor or service center. This is necessary for the protection of the purchaser, and to guarantee a certain known level of service and warranty. If, however, the bidder feels that it is necessary to modify the manufacturer's warranties, then the bidder shall state why this modification is necessary. In addition, the bidder shall provide a full descriptive warranty certificate describing the warranty modification and the fact that it takes specific precedence over the warranty offered by the manufacturer. If no such certificate is provided, then the modified warranty shall be considered invalid and the manufacturer's warranty shall remain in force. If a warranty modification is proposed through either a distributor or service center, then complete financial statements for that business covering the past five (5) years MUST BE SUBMITTED with the bid. If the manufacturer states that no party is permitted to modify its warranty, then any warranty modification provided by the bidder, despite being in writing, shall automatically be rejected.

- Does the bidder conform to the above-written section?

Yes  No  Initial : \_\_\_\_\_

Does the builder/dealer act as the warranty agent coordinating claims with the component builders?

Yes  No  Initial : \_\_\_\_\_

In order to simplify the evaluation process the following questions must be answered and this section must be initialed by the bidder.

- Are the warranties pro-rated in any manner?

Yes  No  Initial : \_\_\_\_\_

If 'yes' explain.

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- Are the warranties transferable?

Yes  No  Initial : \_\_\_\_\_

If 'yes' explain.

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- Has the bidder modified the manufacturer's warranties?

Yes  No  Initial : \_\_\_\_\_

If 'yes' explain.

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- If 'yes' was chosen above, has the bidder included modified written warranties?

Yes  No  Initial : \_\_\_\_\_

If 'yes' explain.

---

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- If 'yes' was chosen above, has the bidder included financial statements, for the last five (5) years, of the warranty modifier?

Yes

No

Initial : \_\_\_\_\_

If 'yes' explain.

- Bidder shall initial that this section is understood and has been answered truthfully.

Yes

No

Initial : \_\_\_\_\_

**NOTE**

Bidders, who are found to be untruthful in this, or in any other section of this bid, will have their bid automatically rejected.

## Owner's Manual/ Drawings/ Weigh Bill

An owner's manual shall be provided and consists of the following items:

- Chassis Warranty Card and Owner's Information
- Chassis Maintenance and Operating Tips
- Extra Set of Keys
- Care and Maintenance Instruction
- Module Remounting Procedure
- Climate Control Information and Warranty
- OEM Chassis Manual
- Schematic for Standard Systems:
  - Dual Battery and Charging System
  - Power Distribution and Terminal Board
  - Front Switch Panel
  - Rear Switch Panel
  - Climate Control System
  - OEM Drawings
  - Individual Circuit Diagrams for all Systems
- Dual (140 AMP and 120 AMP) Alternators
- Alternator Warranty
- Conversion component Information
- Operations Manual
- Warranty and Parts List, Siren, Light bar, etc.
- 2 Sets of hard copy Apparatus Service Manuals as well as CD format
- Weigh Bill **the slip shall be supplied by a Certified Weight Station.**

**A weight slip shall be supplied with the BID. It shall show the TOTAL WEIGHT of a similar vehicle being bid.**

***Any manufacturer that does not comply will not be accepted.***

## Quotation

Service will be a major factor in the award of this proposal. Convenience and experience will be determining factors in defining acceptable service. Personnel performing the service shall be trained by

the manufacturer with emphasis in the area of electrical service. In order to evaluate the proposed service facility the following information shall be provided on the appropriate lines.

Facility Name :		
Address :		
City :		State
Contact :		
Phone number :		
Training description :		

## Service: Pre-delivery

Prior to delivery of the new vehicle to the customer, the dealer shall perform a complete "pre-delivery" inspection. The inspection shall include: chassis inspection and fluid level checks and adjustments. The dealer shall check for compliance to conversion specifications, equipment, and quality manufacturing. Any deficiencies shall be corrected. The vehicle interior and exterior shall be fully detailed. The customer shall perform a pre-delivery inspection.

Service Provider :

Above section bid exactly as written :	<input style="width: 40px; height: 20px;" type="checkbox"/>
Section not provided	<input style="width: 40px; height: 20px;" type="checkbox"/>
Bidder is offering an alternative to this section	<input style="width: 40px; height: 20px;" type="checkbox"/>

## Service: Post

After the vehicle has been delivered, placed in service, and 75 miles accumulated, the dealer shall perform a complete "post-delivery" inspection. The inspection shall include: chassis inspection, fluid level check, lubrication, front-end alignment and other adjustments. All electrical systems and accessories shall be inspected for proper operation. Doors, linkages, cabinets shall be inspected, adjusted and lubricated as needed. Oxygen, suction and safety systems shall all be inspected,

calibrated and corrections made as needed. Pick-up and delivery of the vehicle shall be the responsibility of the dealer. The builder shall provide training of routine maintenance and repair to vehicle with particular attention to the electrical systems.

Service Provider :

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Engineering Support

Due to the complexity of the design of the vehicle, proposals will be accepted only from manufacturers that utilize well-defined engineering techniques. Computer Aided Design (CAD) drawings of both the interior of the patient area and the overall layout of the module body will be mandatory. At a minimum these drawings shall include all exterior elevations, all interior views (4), and a plan view of the roof/ceiling. All options and elements required within these specifications shall be depicted on the prints. The purpose of this requirement is to assure this purchaser that vehicle proposals indeed meet the stated requirements as set forth in these specifications. Generic CAD drawings are not acceptable. The drawings, as submitted, shall accurately depict the exact vehicle that is being proposed. Bidders not including the required drawings will be considered non-responsive and will, therefore, be rejected.

- Are the required drawings included with this bid?

Yes

No

Initial : \_\_\_\_\_

## Safety Certification

The verification of construction techniques used throughout the building process must be furnished by the manufacturer/bidder. The installation methods and construction techniques associated with seat belt retention, cabinet construction and installation, oxygen cylinder retention and module to chassis mounting systems must be verified.

Finally, a manufacturer is desired that has an ongoing testing program. The testing, as described above, shall be current and shall have been conducted on a continuous basis for a period of time.

- Who Tests:  Initial: \_\_\_\_\_

- What was the date of the last test:  Initial : \_\_\_\_\_

- Has this specified body construction method been tested?

Yes

No

Initial : \_\_\_\_\_

- If not, what body construction method was tested?

Initial : \_\_\_\_\_

- Has the testing program been in place for a period of at least ten (10) years?

Yes

No

Initial : \_\_\_\_\_

- If the program has not been in place for at least ten (10) years, then how long has the testing program been in place?

Initial : \_\_\_\_\_

**NOTE**

This requirement is in addition to the current minimum KKK requirements. The KKK requirements do not suffice as a substitute for this requirement as they do not address impact crash testing.

- Does the bidder understand these requirements?

Yes

No

Initial : \_\_\_\_\_

## References

The proven durability and reliability of this product is of the utmost concern. Each bidder submitting a proposal must furnish references consisting of in-service units of similar chassis make and conversion processes being proposed. All references shall include owner, address, contact name and phone number, and the model owned. A minimum of ten (5) references shall be provided:

(1)

---

Owner :

Address :

Contact :

Phone number :

Model :  Year :

(2)

---

Owner :

Address :

Contact :

Phone number :

Model :  Year :

(3)

---

Owner :

Address :

Contact :

Phone number :

Model :  Year :

(4)

---

Owner :

Address :

Contact :

Phone number :   
Model :  Year :

(5)

Owner :   
Address :   
Contact :   
Phone number :   
Model :  Year :

## Liability

The bidder shall defend, indemnify, and save harmless the purchaser and its officials from all claims, demands, payments, suits, actions, recoveries, and judgments of every description, whether or not well founded in law, brought or recovered against it, by reason of any act or omission of said bidder, his agents or employees, in the execution of the contract or in consequence of insufficient protection or for the use of any patented invention by said bidder, and a sum sufficient to cover aforesaid claims may be retained by the purchaser from money due or to become due to the bidder under this contract, until such claims have been discharged or satisfactorily secured.

Each bidder must furnish a Certificate of Insurance showing aggregate total of insurance which shall not be less than twenty-five million dollars (\$25,000,000).

- Certificate of Insurance included with proposal?

Yes

No

Initial : \_\_\_\_\_

In addition, the bidder is to assume any risk of loss to the ambulance until the ambulance is delivered to this purchaser.

- Does the bidder understand this requirement?

Yes

No

Initial : \_\_\_\_\_

## Payment

Payment shall be made on delivery of the purchased item, or upon completion of all work contracted for (whichever occurs later) and performed to the satisfaction of the purchaser. Bidder shall include information on payment options or alternatives that will result in a cost savings to the buyer.

- Does the bidder comply with this requirement?

Yes

No

Initial : \_\_\_\_\_

If 'no' explain.

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## Delivery Process

The vehicle shall be delivered over the road to the purchaser. Delivery shall be 120 days after award of contract. The purchaser has the right to reject the vehicle if it does not conform to these specifications.

- Does the bidder understand this requirement?

Yes

No

Initial : \_\_\_\_\_

## Section 2 - Ambulance Specifications – Specification Design

The following specifications were created by the purchaser in order to best describe a need. However, it is not the intent of the purchaser to exclude any manufacturer from submitting a bid on these specifications. In many places required equipment or features are identified by brand name. The bidder shall note that the use of brand names within this document is meant to describe a required level of quality or performance. The bidder may substitute equipment or features provided that the substitutions meet the intent of the specification. The bidder shall note, however, that substitute components shall be included in the list of exceptions. Exceptions should be listed per the following bid completion requirements.

### BID COMPLETION REQUIREMENTS:

1. All proposals shall be submitted to:

Purchaser :	Town of Hudson				
Address :	12 School Street				
City :	Hudson	State :	NH	Zip Code :	03051
Attention	<b>Town Clerk – Fire Department- Ambulance Proposal</b>				
<b>Proposal must be submitted by:</b>	<b>Wednesday, September 5, 2012 at 2:00 pm</b>				

2. All proposals shall be submitted in a sealed envelope with the following information marked on the outside of the envelope: **“Ambulance Proposal”**
3. All proposals shall be submitted in a hard-bound binder. In order to facilitate evaluation, the binder shall be divided by header into the following minimum sections:
  - A. Proposal: Bidder’s proposal showing product bid, model year, price, and delivery date.
  - B. Specification: Purchaser’s advertised specifications completed as required.
  - C. Design: CAD generated drawings of both interior and exterior of the product being proposed.
  - D. Warranty: Complete written certificates of Modular, Electrical, Paint, and Conversion warranties.
  - E. Weight Bill

- Bidder’s proposal meets all of the requirements listed above.

Yes

No

Initial : \_\_\_\_\_

## Type of Bids to be Submitted

In the event that the bidder represents more than one ambulance manufacturer meeting the manufacturer requirements outlined herein, then the bidder shall only bid the highest quality vehicle that the bidder represents. Under no circumstances will multiple bids from the same bidder on different manufacturers be accepted. Should a bidder submit two or more bids representing more than one manufacturer, then all bids submitted by that bidder will be rejected as being non-compliant with the requirements of this specification. This purchaser is seeking quality equipment. Bidders are asked to bid only the product of the highest level of quality represented by that bidder.

- Is this requirement understood and met?

Yes

No

Initial :

## Information to be Submitted with Proposal

The information requested within this bid must be furnished in full. Any bidder not completing this proposal or not furnishing any required information will not be considered. If a bidder will not furnish a material or fabrication process exactly as described in this specification, then that difference must be designated in the list of exceptions. If a substitution is being proposed, then the bidder must note the section to which the alternative is being proposed and provide technical data, supporting the fact that the substitute is equal to or better than the item as specified. If this data is not submitted with the bid, then the bid shall be rejected as being non-compliant. Bidder added narrative describing a substitution as being a "clarification", "exceeding", being "equal to", etc. will not be accepted. Statements such as these, with or without the technical data described in this section, will cause the bid to be rejected as being noncompliant.

This purchaser reserves the right to require samples of any deviating material to be provided for evaluation.

- Does the bidder comply with these requirements?

Yes

No

Initial : \_\_\_\_\_

## Directions for Responding to Each Section

Each individual section of the specification shall be followed by three (3) response lines. The lines shall read as follows:

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

On the line to the right of each statement the bidder shall mark an 'X' to signify the appropriate response. If a bidder is offering an alternative to the written section, then an exception must be taken for the section. The exception must be accompanied by data supported by documentation to demonstrate the equivalency of the alternate item. The bidder shall note that the data submitted must correspond with the substitutions offered. If the data submitted does not cover all substitutions offered, then the bid shall be rejected as being noncompliant.

- Does the bidder understand this requirement?

Yes

No  Initial :

## Section 3 - Ambulance Specifications – Exceptions to Specifications

Exceptions to these specifications shall be noted below. All exceptions taken shall be recorded per the guidelines defined above. Each exception shall be noted by page number and item header. If additional space is required for exceptions, then the bidder shall use additional paper as necessary, however the same format shall be used.

Page # :

Header :

Exception :

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Page # :

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## Section 4 - Ambulance Specifications – Chassis

The Hudson Fire Department has identified its desire to obtain a 2013 Chevy G4500 Chassis. However, the bidder(s) may submit an alternative chassis manufacturer or configuration for our consideration. The chassis required for this project is specified in detail below. Alternative chassis specifications shall be provided as a standalone document with cost differences detailed. Exceptions will be made only if the bidder can prove that a required feature is unavailable from the chassis Original Equipment Manufacturer (O.E.M.)

### Chassis: 2013 Chevy G4500: 158" Wheelbase

The vehicle converter shall supply a 2013 G4500 chassis. Vehicle will meet all specifications for weight bearing capacity.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

### Engine and Related Equipment

- 6.6L Duramax diesel engine, with 250 horsepower/460 lb.-ft. of torque.
- 57 gallon fuel tank
- Engine tachometer
- Low pressure oil indicator and high water temperature warning with light and buzzer
- Electronic cruise control

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

### Transmission

- 6-speed automatic overdrive with external cooler

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

### Rear Axle

- Limited –Slip in proper ratio for engine/ transmission specified

- Factory installed "On Spot" automatic tire chain system

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Overall Weight Ratings

- GVWR: 14,200 lbs.
- GAWR Front: 4,600 lbs.
- GAWR Rear: 9,600 lbs.
- Front Suspension: Coil springs, shock absorbers and OEM stabilizer bar
- Rear Suspension: Non-independent live axle, leaf springs and shock absorbers and OEM stabilizer bar

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Tires and Wheels

- Quantity: Seven (7) OEM tires with spare. All rear tires shall be of all-season design. No spare mounting in vehicle required.
- Tires will be Michelin LTX M/S
- Tire changing tools

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Brakes

- ABS brake system.
- Front: vented disc
- Rear: vented disc

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

---

## Exterior Appointment Standards

- Glass - tinted
- Daytime Running Lamps (with ability to be disabled)
- Wheel Trim – none
- Spare tire & wheel
- Windshield Wipers – interval
- Engine Block Heater – Single Element (with ability to be disabled)
- 50 State Emission System
- Mirrors, Power with lower parabolic mirror
- License Plate Bracket

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Batteries

The vehicle shall be equipped with a total of (3) three minimum 750 CCA batteries. A slide-out tray made of aluminium shall be used in all locations where access to batteries is not easily available. The addition of a fourth battery is acceptable.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Interior Appointment Standards

- Dual Airbags
- Front cloth headliner
- High-series door trim panels
- Dual VINYL Captain's Chairs
- Steering – power, tilt
- Cruise control
- Vinyl Floor covering
- Power door locks and windows
- Electronic AM/FM Radio
- Speaker Upgrade Package – incl. 2-speakers in module box (4 total)
- Day/Night Interior Rear-view Mirror

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Ambulance Preparation Package

The chassis shall be equipped with the Ambulance Preparation Package 47A or equivalent. or equivalent.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Alternator

Alternators shall be installed on the chassis (one 140-amp and one 120-amp).

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Chassis Interior Color

The chassis interior shall be O.E.M. grey.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Chassis Paint Color

The OEM chassis shall be painted per the Hudson Fire Department's color scheme.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Undercoating

The OEM chassis and module shall be undercoated with an automotive-grade undercoating.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Warranty

The chassis manufacturer's standard vehicle warranty policies shall apply.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## KKK-A-1822 Certification Label

The vehicle shall have weight/payload, electrical load, and the current KKK-A-1822 certification stickers installed in the electrical compartment. Failure to provide these certification labels will be cause for rejection of the completed vehicle. Labels that are found to be falsified will also be cause for rejection of the completed vehicle.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Section 5 - Ambulance Specifications - Chassis Hardware and Accessories

The items to follow represent chassis modifications, hardware, and accessories that are required. Failure to provide these features will be cause for rejection of the bidder's proposal as being non-responsive.

## Wheel hub and Lug Nut Covers

Polished stainless steel wheel hub and over the lug jam nut (must be DOT approved) covers shall be installed on each of the four outside wheels.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Lateral Step & Mud Flaps, Front

Front cab aluminium running boards shall be installed on each side. They shall run the entire length of each side of the front cab. Diamond Plate step ups on each side will not be accepted. An aluminium mud guard should also be installed in front of each running board. Lights shall be installed to illuminate the board, upon opening doors.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Mud Flaps, Rear

The vehicle shall have individual rubber mud flaps behind each rear wheel.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Rear Step/Bumper Reinforcement

The rear of the vehicle shall be equipped with a full width rear step/bumper designed with a flip-up, grip strut step. Diamond Plates on the flip up itself is not acceptable. The center section of the assembly shall pivot up and over center and recess into the body 'up' position. This section shall be full width of the rear door opening be constructed with grip-strut on the stepping surface to provide for better footing. The ends of the assembly shall be fixed diamond tread plate.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Bumper Pads

The end caps of the rear step shall be equipped with rubber bumper pads for added impact protection. The reinforcement shall tie into the rear bumper reinforcement structure.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Diamond Plate Step Well Covers

Diamond plate step well covers shall be installed on both the curb side and street side cab step wells. The covers shall be made of .100" thick polished diamond tread plate.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Reverse Alarm

An audible alarm shall be installed to activate when the vehicle is placed into reverse gear. There shall be, installed on the front console and wired through the vehicle electrical system, a momentary cut-off switch to disable the alarm. This switch shall automatically reset each time the vehicle is placed into reverse gear.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## AM/FM Stereo/Clock

The OEM AM/FM/ shall be installed in the cab and wired to the OEM cab speakers. This unit shall also be capable of being wired to patient area speakers as required within this specification.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 6 - Ambulance Specifications - Conversion

The following section describes the required body design, manufacturing process, and materials. Adherence to this section is of extreme importance to this purchaser due to space requirements and safety concerns. The bidder must meet this section as closely as possible without utilizing experimental or prototype designs in order to be considered for bid award.

## Minimum Body Dimensions

The completed vehicle shall have the following minimum dimensions:

### EXTERIOR Module

- Height: 76"
- Width: 96"
- Length: 172"

### INTERIOR Module

- Height: 70"
- Length: 160"

### OVERALL DIMENSIONS (Including Chassis, Module and Step)

- Height: 107"
- Width: 117" w/ mirrors
- Length: 267"

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Modular Body Structural Design Requirements

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

1. The greatest possible load carrying capacity is desired.
2. The safety of all vehicle occupants is of paramount concern.
3. The body design, including construction materials and fabrication techniques shall be proven to be durable.
4. The body shall be easily retrofitted to a new chassis should that need ever arise.

With these concerns in mind the following requirements have been established for the purposes of this specification:

The vehicle converter shall design its own module bodies, and maintain an engineering staff at its manufacturing facility to handle any custom body changes that may be necessitated by this design. It is the intent of this purchaser to receive a finished product of the highest standards of quality available. Vehicle manufacturers who design and build their own bodies and who have the expertise of an engineering staff will possess a greater capacity as far as handling a custom project of this type than manufacturers who purchase their bodies from an outside vendor. Accountability and quality of the design and construction of the body are enhanced when the vehicle converter manufactures the body.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## General Body Description

The construction process described within this specification will ensure that the body shall remain structurally intact. However, to achieve this level of quality and durability, the module body, including all doors, must be constructed correctly initially.

This specification requires that the module body, including all doors, be built within a tolerance of one five-thousandths of one inch. To achieve the vehicle manufacturer must use, as standard practice, precision computerized equipment. Use of precision equipment will ensure that all door openings, door handles and latches, body windows, and warning light assembly installation locations are of the correct size and square to the body. Cutting done by hand, such as with a jigsaw, is not desired unless it involves the chassis, or unless a warning light assembly must be located in such a way that it depends on the layout of the finished vehicle. (E.g. when a light must be centered within a paint stripe since the exact stripe location will not be determined until the module is built and mounted.) In addition, utilization of computerized equipment will simplify the production of replacement body panels in the event of an accident since the computer can duplicate a given part exactly. This includes documentation of all body light locations.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Payload Requirements

The vehicle payload shall meet or exceed that called for in the current KKK-A-1822 specification. The payload must be specified by manufacturer. The vehicle manufacturer shall, upon notice by this purchaser, provide a written statement from an independent engineer that the model being offered has met this set of criteria. Before delivery of the completed unit the manufacturer shall weigh the vehicle. A written statement of those weights shall be affixed to the inside of the street side front compartment door.

This purchaser reserves the right to have the finished vehicle weighed independently upon delivery.

If it is found that the written statement of weight provided by the manufacturer is inaccurate beyond what may be reasonably explained as a slight difference in the calibration of the scales, then the vehicle will be rejected. It should be noted that this purchaser, while interested in attaining the greatest possible payload, is unwilling to compromise on the structural requirements of a strong, durable, and safe body. All bidders must understand these factors supersede concern over payload, and that the lightest body (greatest payload) will not necessarily be deemed sufficient to meet the stringent quality and safety requirements set forth herein.

**Proposed vehicle payload capacity \_\_\_\_\_ lbs.**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Module Body Construction and Warranty

The module body shall be constructed per the following detailed specifications. Generally speaking the body shall be of all-aluminium construction. Aluminium is shown to reduce weight over several other materials. It also possesses anti-corrosion properties that are essential for a vehicle of this type. The preferred aluminium material requirements are explained in further detail below. The choice of materials and the design shall allow the manufacturer to warrant the materials and workmanship of the module body for the lifetime of the vehicle as set forth in the "warranty" section of this specification. The manufacturer's structural warranty shall specifically cover:

- The continued and correct alignment of both compartment and access doors.
- Seam or joint separation in door construction.
- Interior cabinetry.

The warranty shall be fully transferable to a new owner should the vehicle ever be sold.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Corner Post Supports

The body structure must be able to support the loaded weight of the vehicle in the unlikely event of a rollover. A structure is required that will enhance the safety of both patients and attendants in the event of an accidental collision. The structure must pass the AMD-001 test.

The foundation of a solidly built module body is the utilization of strong corner posts in both the sidewalls and the roof. A one-piece post is required.

Because the structural integrity of a body is derived from the corner posts, subfloor, and framework, corner posts that are a part of the exterior body skin (e.g. rolled corner posts) will not be considered, nor will corner posts which do not have integral center reinforcement as part of the extrusion.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Roof Extrusions

The horizontal roof extrusions shall conform to the same construction description as the vertical wall extrusions. At this point, we would like to include an aluminium drip rail, for the full length of the body.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Wall and Roof Skin Supports

The exterior wall and roof skins shall be supported on the inside by 2" square tubing with .090" wall. These structural supports shall be strategically located at the load bearing points of the module body. The roof structural support beams shall be spaced on minimum 16" centers for adequate load support.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Exterior Body Panels

The materials selected for the body skin have been chosen because of this vehicle's expected heavy-duty cycle and the good wear characteristics that this material has shown in the field. The minimum thickness required for exterior body panels is:

- Side, front, and rear walls: .090"
- Ceiling panel: .040"
- Floor panel: .060"

### NOTE

The roof, floor and walls shall be constructed with a single sheet. This one-piece construction is preferred over a multiple piece design. The roof shall incorporate a 1/2" crown designed to allow water to drain.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Floor Construction

Floors that are uneven or are incapable of adequately supporting the load being carried on the vehicle are unacceptable. For that reason thin floor panels and/or a lack of floor supports are not desirable. To prevent buckling, sagging, oil canning or any other structural breakdown of the flooring system a detailed description of the required construction process is provided.

The exterior floor skin shall be a minimum of .060" thick aluminium. The floor, from the front to the rear and from curbside to street side shall be supported by a minimum 2" x 2" and 1.5" x 3" tubular beams with a .125" wall. All beams shall be strategically located at the load bearing points of the floor and welded into place.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Support Attachment

Each body panel shall be welded to all horizontal frame members, including the roof extrusions. In addition, the panels shall be welded to the vertical corner posts. In the case of the roof, the perimeter of the one-piece roof sheet shall be welded. This method of attachment shall provide a total welding application to the entire perimeter of the body skin and an adhesive/insulating application to the interior surfaces of all walls. Methods of panel attachment that utilize rivets will not be acceptable.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Module to Chassis Mounting System

This purchaser requires a mounting system that provides a stable and durable attachment of the module body to the chassis frame. To accomplish this requirement the following body attachment method shall be used:

There shall be a minimum of ten of attachment assemblies installed (five on each side). Each attachment assembly shall consist of grade #8 bolts and one (1) thick rubber insulation mount.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 7 - Ambulance Specifications - Modular Doors

The following section describes the required door design, manufacturing process, and materials. Adherence to this section is of extreme importance to this purchaser due to safety concerns. The bidder must meet this section as closely as possible without utilizing experimental or prototype designs in order to be considered for bid award.

### Modular Door Design

Door panel separation, dirt accumulation at seams, paint imperfections, misalignment, and even malfunctions whereupon the door cannot be operated has been observed in many styles of door construction. These problems, along with the expected rugged use of the vehicle doors, shall be eliminated with a superior overall design and construction process. With these thoughts in mind the modular doors shall be constructed as follows:

### Outer Door Skin

The door facing and edges shall be box pan formed from a single sheet of aluminium. The aluminium used for the doors shall not be less than .125" thick. All module doors shall be flush fit to the body side. The door panels must be welded at the corners.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Inner Door Pan

An inner door pan shall fit flush with the inner edges of the door. Inner door pans that do not fit flush will have sharp or ragged edges exposed and will not be acceptable. The panels must be attached to the door structure with stainless steel machine screws and lock washers. Sheet metal screws or rivets will not be accepted.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Door Seal

All module doors shall incorporate rubber seals located around the perimeter of the door and door jams. These seals will isolate the latching mechanism from all exterior weather to prevent mechanical failure and prohibit dust/dirt from entering. Seals that are installed around compartment openings will not be easily torn by the movement of equipment across them. In addition, glue will not be permitted except in the case of a double door compartment. Glue for all seals is not desirable because of increased replacement time and insufficient durability.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Door Jamb

All door jambs must be separate from the body skin and must be welded to the body frame members so as to ensure continued door alignment and proper latching. The compartment frame shall be designed in such a manner as to provide extra protection around the compartment openings. For added strength, the frame must be made from extruded aluminium.

Prior to door installation the doors shall be true fit to the doorjambs. The fitting, prior to installation, shall provide added assurance that the door aligns properly with the doorjamb.

Above all door jambs shall be a full length drip rail, with radius corners, installed with bonding tape designed to withstand climatic conditions.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Hinges

All doors shall have full-length stainless steel piano hinges. The hinges shall have mounting and adjustment holes along entire length and shall incorporate a .25" diameter pin.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Hold-open Devices

The following door hold-open devices shall be installed:

- Compartment doors: Gas filled, 100-degree extension actuator with limiter strap
- Side access door: Spring loaded, at least 90-degree extension with limiter strap
- Rear doors: Cast Products "grabber" style devices

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Door Handles and Latching System

A door latching system is required that provides safety to all on-board personnel and security to all stored equipment. The patient area must be capable of being quickly secured. The following minimum features are to be designed into the module door latching system:

- All door handles shall be rugged automotive style handles that are near flush with the outer door panel. Each handle shall actuate two Nader rotary safety latches.
- The entire exterior handle assembly shall be cast metal.
- All entry door handles and compartments shall have an exterior key lock.
- All entry doors and compartments shall be activated by OEM automatic door locks.
- The side and rear doors shall have an activator installed on the outside of each door. The interior activators shall be located in a recessed pan on the door, as high as practical. A manual lock/unlock device shall be located within the pan.
- All door mechanisms will utilize threaded stainless steel rod. Wire cable will not be accepted.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Patient Area Door Openings

**REAR DOORS:**

Two (2) doors shall be provided at the rear of the module body. The overall opening of the access to be a minimum of 56" in height x 46" in width. Both inside and outside door handles shall be installed on each rear door. Left rear doors that can only be activated from the inside are not acceptable.

**SIDE DOOR:**

One (1) side door shall be provided on the curb side of the module body. The opening shall have minimum overall dimensions of 67" in height x 30" in width.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Street side Front Top (#1) Compartment

The compartment described above shall feature the following dimensions:

- **17.5" height x 18.6" width x 19.4" depth**

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. The compartment shall house the inverter and air compressor for the on-spot chains. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be polished aluminium diamond plate that is continuously welded at all seams.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Street side Front Bottom (#2) Compartment

The compartment described above shall feature the following minimum dimensions:

- **60.0" height x 23.0 width x 21.0 depth**

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. The compartment shall house the vehicle's primary O2 cylinder and shall be accessible from the inside. The compartment itself shall be constructed as an individual box and welded into the body structural framing. The material used shall be polished aluminium diamond plate that is continuously welded at all seams.

There shall be one fixed vertical aluminium divider and one fixed shelf above the oxygen tank to the right side of the compartment. The left side of the compartment shall have an adjustable shelf. A cylinder-changing wrench shall be tethered inside the compartment.

The lower left side of this compartment shall accommodate a bracket to secure a Stryker brand stair chair.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Cylinder Bracket

An oxygen cylinder universal bracket shall be installed in the main O2 compartment.

- **Locate:** **Street side forward**
- **Tank Size:** **"M" or "H"**

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Street side Compartment (#3) directly behind #1

The compartment described above shall feature the following minimum dimensions:

- **Door Opening:** **34" height X 44" width X 21" depth**

This compartment shall be accessed through a double hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. The compartment itself shall be constructed as an individual box and welded into the body structural framing. It shall contain one (1) adjustable shelf of pan-style aluminium. The remainder of the compartment shall be utilized for storage of miscellaneous items as required by this purchaser. This compartment shall be free from any electrical or mechanical equipment.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Street side Rear Compartment (#4)

The compartment described above shall feature the following minimum dimensions:

- **Door Opening:** **55" height X 35" width**

This compartment shall be accessed through a double hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be utilized for storage. The compartment itself shall be constructed as an individual box and welded into the body structural framing. It shall contain three (3) adjustable shelves of pan-style aluminum. It shall have inside/outside access as specified later in these specifications.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Curbside Rear Compartment (#5)

The compartment described above shall feature the following minimum dimensions:

- **Door Opening:** **79" height 25" width X 21" depth**

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be utilized for storage of spine boards, backboards, etc. There shall be inside/ outside access to the patient compartment as specified later in these specifications. The compartment itself shall be constructed as an individual box and welded into the body structural framing.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Fixed Vertical Compartment Divider

A 16" vertical divider shall be installed as noted below. The divider shall be non-adjustable and shall be fabricated from the same material used in the construction of the compartment in which it is to be installed. Rubber spacers shall be installed to separate and secure the backboards. Just forward of the divider, shall be three (3) adjustable shelves. An adjustable vertical divider shall also be installed.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Curbside Compartment (#6)

The compartment described above shall feature the following minimum dimensions:

- **Door Opening: 21" height X 14" width**

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall be located just forward of the #5 compartment, and just rearward of the wheel well. The compartment itself shall be constructed as an individual box and welded into the body structural framing.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

Curbside Compartment (#7)

The compartment described above shall feature the following minimum dimensions:

- **Door Opening: 64" height X 23" width X 30" depth**

This compartment shall be accessed through a single hinged door meeting the standards for door construction, hinging, and latching outlined within this specification. This compartment shall also be accessible from the vehicle interior through Lexan doors with locking latches; with a full length aluminum handle (similar to those used on the sliding door), and include three (3) shelves of which two (2) shall be adjustable shelves of 150 lb. capacity each (to be located prior to construction). This compartment shall be utilized for storage of purchaser-supplied jump kits, cardiac monitor and other miscellaneous items as required by this purchaser. The compartment itself shall be constructed as an

individual box and welded into the body structural framing. There shall be capacity for two (2) separate oxygen bottles in this location. This will be in a location selected by the Hudson Fire Department.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

Spare "D" bottle storage

**A Ferno Washington #521 bracket shall be provided and installed in the location listed below.**

- **Quantity:** 2
- **Locate:** Curbside Compartment #7

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Section 8 - Ambulance Specifications - Module Body Hardware

The following section lists hardware items that are to be installed on the vehicle body.

### Windows, Module Body Entry Doors

The module body access doors shall include windows. The two rear doors shall feature fixed windows while the side access door shall feature a sliding window, with screen. Each of these windows shall measure 19"H x 13.25"W and shall be glazed and tinted in accordance with FMVSS. All windows in the patient compartment shall be equipped with a privacy feature. Above the bench seat shall be a fixed window, located between seat backs as specified elsewhere. The windows shall be encased in extruded aluminium frames. Under no circumstances will RV style windows, windows that rely on rubber gaskets, windows that do not feature extruded aluminium frames, or windows that do not meet the above stated minimum dimensions be acceptable.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Extended Fenders

Fender flares shall be installed above each wheel well opening. The mounting of these flares shall provide for easy replacement. These fender flares shall be painted in the primary body color.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Rub Rails

Lower body rub rails shall be installed on each side of the module body. Each rail shall be securely installed yet simple to remove and replace in the event of damage. Rails shall extend along the entire length of the body and tie to the fenders.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Extend Corner Guards

Extended stainless steel stone guards and polished aluminium diamond plate corner guards shall be installed as noted below. The guards shall be extended and shall terminate where noted.

**Locate: 10" high/ Front of body , wrapped around corner**

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Rear Access Door Hold-open Devices

Cast Products "Grabber" style rear door hold-open devices shall be installed to maintain the rear access doors in the 'open' position. One loop shall be installed on each door, and the appropriate socket shall be installed on the body. An emergency lock release system to be installed on each door. Releases are mounted on each door as control levers.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Electric Locks, Access Doors

Power activated door locks shall be installed on patient area access doors. Locks shall be activated by switches located at each patient area access door. Locks may be overridden by a manual slide lever or

by the door key. An "ELR" system, Emergency Lock Release system to be installed interior on each door, to provide an alternative escape route in the event the door handles fail. Two (2) releases are mounted on upper and lower section of each door as control levers.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Door Locks Wired Through OEM Switches

The power door locks specified above are to be wired to the OEM chassis door lock switches. The converter-added switches in the module shall operate the module body only. They are not to operate the cab door locks.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Reflectors on Entry Doors

Red tape reflectors shall be installed on the inside on the patient area doors.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## DryDek in Exterior Compartment

DryDek or similar material shall be cut to size and installed on the bottoms of all exterior compartments.

- **Color:**            **black**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 9 - Ambulance Specifications - Paint and Preparation

An acrylic urethane paint process is required on the module body.

This process shall extend to the chassis if the vehicle converter must perform paint or body work to the chassis. The acrylic urethane process is required so that the highest possible gloss will be provided. Acrylic urethane possesses superior color and luster retention characteristics when compared to other types of paint. In addition, an acrylic urethane process provides a higher resistance to chemical sprays, salt sprays, humidity, and temperature changes. Lastly, this process, given the expected life of the vehicle and its heavy-duty cycle, will best resist chipping. The final paint application shall be free of material application imperfections such as orange peel, streaking, stains or a dull finish. Any such imperfections shall be repaired prior to the conclusion of the paint inspection process. The final application shall provide a high gloss on all body surfaces including the roof and excluding the underside.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### Preparation

To produce an acceptable paint finish, the following paint process must be used:

All material impurities and oils must be removed from the bare aluminium body. The entire module body, excluding the underside, will have all visible welds ground down and all material imperfections filled. All holes (e.g. for hinge mounting, etc.) shall be plugged at this stage to prevent any cleaning agents from entering the module body framework. The body shall be prepared for paint by cleaning with an acid-based cleaner to remove dirt and oil and to etch the body for superior paint adhesion. Next, a primer shall be applied to the body to enhance paint adhesion and to prevent corrosion. The body shall be rinsed with de-ionized water to prevent salts from accumulating on the surface. The primed body shall be finish sanded and made ready for the final paint application. All module doors, though handled separately from the body, shall undergo the same process as described above.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### Paint Manufacturer's Inspections

The manufacturer shall maintain an outside paint audit system. As part of that audit the paint manufacturer shall regularly receive and test sample paint panels that are painted along with module

bodies. The paint manufacturer shall also provide regular onsite inspections of the vehicle manufacturer's paint process to assure a consistent level of quality. Audit reports from these inspections shall be provided to management.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Additional Corrosion Prevention Measures

All locations where fasteners penetrate the outer skin of the module body shall be coated with an anti-corrosion agent. In addition, all fasteners that penetrate the outer skin of the module body shall be treated with an anti-corrosion agent to assure the maximum protection against vehicle corrosion and electrolysis. All fasteners shall be compatible with any dissimilar metals used in construction.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Body Paint Color

The final paint application to the vehicle body shall be made with acrylic urethane paint, with clear coat.

- **Paint Color:** Red with white roof
- **Paint Number:** To Be Determined

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 10 - Ambulance Specifications - Cabinet doors, Lexan, Handles and Hardware

Information relative to interior door materials, handles, and hardware is provided below:

## Handles for Lexan Windows

All sliding Lexan windows within the patient compartment of the vehicle are to have extruded handles installed the full height of each door at the outermost edge. All sliding windows will latch securely in the closed position.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

### Curbside #7 Compartment

Due to flexing the Lexan doors of the compartment a full length aluminum handle (similar to those used on the sliding cabinet doors) shall be added to the latches specified in this section.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Latches for Hinged Doors

The hinged doors within the patient compartment are to utilize South Co latches as noted below. The latches shall be both positive (mechanical latching) and passive (latches automatically).

- **Locking: Drug storage**
- **Non-Locking: all others**

### NOTE

Locking latch locations are to be noted on the drawings.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

### Curbside #7 Compartment

To prevent damage to the EMS equipment, there shall be no interior lower latches in the door opening of this compartment; lower latches shall be recessed into the lower frame.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Lexan Color

The Lexan interior cabinet doors shall be a light gray tint.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 11 - Ambulance Specifications - Interior Colors, Upholstery and Seating

The patient area interior design is specified below:

### Interior Color Scheme

#### BLUE /GREY/ WHITE

Floor: Safety floor, with coin pattern, blue  
Ceiling: Light grey/ white  
Walls: Light grey/ light blue  
Lower section: Dark grey  
Furniture: Light grey/ light blue  
Upholstery: Blue

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

### Flooring

Safety flooring shall be installed due to its ability to be a homogeneous material, fire-retardant, anti-slip and anti-bacterial. Any other material utilized for flooring will not be accepted. Any points where floor and wall join are to be backed with a radius cove moulding, to prevent cracking. Where flooring terminates at entry doors, a distinctive striping pattern is to be installed, indicating the opening.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Attendant Seat

- The adult seat will include lap and shoulder belts in a 3 or 4 point configuration.
- The seat will include integrated infant and child seating:
  - The child seat will include a 5 point restraint system and accommodate children from 23-85 pounds
  - The infant seat will include a 5 point restraint system and accommodate infants from 5-22 pounds
  - The infant seat will automatically lock at a 45 degree angle
  - The seat will include a safety mechanism to ensure that the infant seat may only be deployed in the rear facing position.
- The seat will include a four leg platform mount that allows the seat to swivel 360 degrees, lock at 0 and 180 degrees, and adjust forward and back 6"
- Seat will comply with all applicable standards specified in KKK-A-1822F
- Seat will include seamless upholstery on and around both adult and child seating surfaces.
- Bidder will submit documentation of third party testing proving their seat meets or exceeds the standards specified in FMVSS 207, FMVSS 208 and FMVSS 210. Adult seat must be tested and meet or exceed FMVSS 208 standards in both forward and rear facing positions. Computer modeling or testing is not acceptable.
- Bidder will submit documentation of third party testing proving their seat meets or exceeds the standards for pulse and ATD forces specified in FMVSS 213. Documentation must be provided proving compliance in both infant and child seat configurations. Child configuration must be tested both forward and rear facing. Infant configuration may be tested rear facing only if seat design precludes deployment in the forward facing position. Computer modeling or testing is not acceptable..

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Interior Cabinets, Street side

This specification requires an anodized aluminium extrusions structure cabinet. Fiberglass and aluminium is required over wooden cabinetry due to its lighter weight, greater durability, and the ease with which it can be decontaminated. Elimination of sharp corners, by the use of smooth finish compartments along with full rounded cabinet extrusions, does combat dangers of infection and helps speed up the cleaning process throughout. On all upper band cabinets the door and frame shall be held in the "up" position with two gas-charged cylinders, and in the "down" position with positive catch latches. Middle band cabinets will be constructed the same as upper, but without hold-open devices.

All cabinets are expected to be maximum possible depth, in all cases, within the confines of all exterior/ interior dimensions.

Anodized aluminium extrusions will be permitted.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Cabinet Shelving

All interior cabinet shelves shall be fabricated from anodized aluminium. The shelves shall utilize mini unistrut adjustable shelf track. Bottoms to be lined with a non-hygroscopic material.

- Quantity: all

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Restocking Cabinet Frames, Curbside

The curbside cabinet(s) listed below shall feature sliding Lexan doors that hinge upward for cleaning and restocking of the cabinet in addition to the normal sliding mode of operation. The extruded door frame shall be installed at the top with a full length piano hinge. This will allow the entire frame to flip upward providing complete access to the cabinet. On all upper band cabinets the door and frame shall be held in the "up" position with two gas-charged cylinders, and in the "down" position with positive catch latches.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Bench Ceiling Cabinet

A cabinet shall be installed at ceiling level over the full length of the squad bench. This shall be a single unit but divided into two sections. Each shall have a restocking door.

**Door Opening: 77" wide x 12" high X 12" deep**

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Rear Squad Compartment Access

The compartment installed from the rear of the bench to the end of the module, shall be provided with inside/outside access, by a single, hinged right swinging Lexan door, with latch. The door shall provide access to the shelves in Compartment #5. The rear portion holding the backboards shall not have access to the patient compartment.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Squad Bench Storage

A storage area, fabricated from aluminium, shall be installed beneath the squad bench cushions. This storage area shall be painted and trimmed per the cabinet construction section of this specification. Access to this area shall be gained by raising a two-piece hinged lid bench cushion. This area shall be as large as possible given the design mandates present in the federal 'KKK' specifications, and the presence of the wheelhouse directly beneath this area.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Squad Bench

Split squad bench cushion, with no visible seams, shall be provided on the curb side of the patient area. The cushion shall incorporate posts and wheel cups for the cot listed below. Three seat belts shall also be installed in this area for the seated position, and for backboard retention for a secondary patient.

- **Stretcher Model Number:** **Ferno Washington #11**
- **Locate Cups:** **Wheel cups forward, post cups at rear**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Squad Bench Hold-open

The squad bench shall be equipped with pneumatic lifting device of 85 degrees, which will provide for smooth and simple operation.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Squad Bench Hold Down

Heavy-duty paddle styles latches shall be installed on each flip-up bench cushion to hold the cushions in the 'closed' position. The operation of these latches shall be passive and shall required intentional unlatching in order to raise the squad bench cushion. Each latch is to be flush mounted in the face of the squad bench riser.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Bench Restraint Safety Device

Manufacturer will provide some style of restraint system be installed at the end of the squad bench to provide maximum protection and safety.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Waste: Front of Squad Bench

A structure shall be installed at the front of the squad bench to house a sharp/waste disposal area.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Interior Cabinets, Forward Wall

Like all other cabinets in the patient area that are to be fabricated and installed by the manufacturer, the cabinets on the forward wall are to be fabricated as dictated in the appropriate section above.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Cabinet behind Attendant Seat

A horizontal storage cabinet shall be located behind the attendant seat and over the pass through for miscellaneous storage. The area shall be accessed through sliding doors. The cabinet shall have a

restocking feature and one (1) adjustable shelf. It shall extend to the same depth of the ALS compartment.

A horizontal storage cabinet shall be located behind the attendant seat on the floor for miscellaneous storage. The area shall be accessed through two (2) swing doors with 1 adjustable shelf.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Lockable Drawer

A single lockable drawer shall be located under the action area and designated in the vehicle drawings. The door shall include a South Co. locking/latching device, and shall be constructed of solid material.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Front Wall ALS Cabinet

A front wall ALS cabinet shall be provided on the patient area just inside the side access door. This cabinet shall run from floor to ceiling. It shall contain an I.V warmer specified by the buyer in the bottom of the cabinet, tied to the 110-volt system. The cabinet shall be insulated to maintain fluids in a warmed state. The lower shall be the same height as the exterior #7 and provide inside access to this compartment. This area will have a 12 volt Laerdal style outlet and a 110 volt outlet located prior to construction.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Pass through Partition Door

A partition door shall be provided between the cab and the patient area. The door shall be trimmed on both sides with an ABS composite. The door shall include a fixed window that measures 15" in height by 12.25" in width. The door shall latch securely in both the open and closed positions.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Restocking Cabinet Frames, Street side

The street side cabinet(s) listed below shall feature sliding Lexan doors that hinge upward for cleaning and restocking of the cabinet in addition to the normal sliding mode of operation. The extruded door frame shall be installed at the top with a full length piano hinge. This will allow the entire frame to flip upward providing complete access to the cabinet. On all upper band cabinets the door and frame shall be held in the "up" position with two gas-charged cylinders, and in the "down" position with positive catch latches. Middle band cabinets will be constructed the same as upper, but without hold-open devices.

All cabinets are expected to be maximum possible depth, in all cases, within the confines of all exterior/interior dimensions.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Upper Left # 4 Cabinet

This cabinet shall be the rearmost street side. It shall contain one (1) adjustable shelf, and a minimum of four (4) adjustable/removable dividers on the shelf and four (4) adjustable/removable dividers on the bottom of the cabinet.

**Door Opening: 46" wide x 21" high X 14" deep**

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Center Left # 4 Cabinet

This cabinet shall be the rearmost street side. It shall provide inside/outside access to the exterior #4 Compartment. There is no restocking feature on this cabinet door.

**Door Opening: 20" wide x 21" high**

**There shall be a 22" work area rearward of the CPR seat to accommodate the Lifepak 12 monitor.**

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Upper Left # 3 Cabinet

This cabinet shall be above the CPR seat.

**Door Opening:**

**27" wide x 12" high X 13" deep**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Lower CPR seat Cabinet

This cabinet shall be under the CPR seat and as large as possible. The seat will have a positive latching mechanism.

**Door Opening:**

**To be seat bottom**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Upper Left # 2 Cabinet

This cabinet shall be just forward of the CPR seat and it shall have two (2) shelves with six (6) removable adjustable vertical dividers. Directly below this cabinet shall be the console area housing the switch panel, AC/Heating control, and rear speaker volume controls. This console shall be accessible for repairs and installation of related switches and radio cables.

**Door Opening:**

**30" width x 17" high X 17" deep**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Upper Left #1 Cabinet

This cabinet shall be just forward of the #2 and it shall have two (2) shelves with four (4) removable/adjustable vertical dividers, each shelf.

**Door Opening: 30" width x 21" high X 17" deep**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Radio Cabinet

The radio cabinet shall be easily accessible and shall be located in such a manner as to make for easy routing of radio cables and antenna lines, with predrilled holes for ease of installation.

**Door Opening: 26" wide x 47" high**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Front Action Area

Action wall shall be conveniently located below the forward upper left cabinet. It shall contain one (1) oxygen outlet, one (1) additional oxygen outlet shall be located rearward of the CPR seat, on the wall in that area, one (1) vacuum regulator and stainless steel holder bracket with disposable clear canister, one (1) 110V duplex outlets, and two (2) 12V outlets. Rear electrical switching control panel and climate control thermostat shall be on a removable faceplate and will be incorporated within the left half of the cabinet immediately above the action wall. A full depth counter top shall be located below the action wall. The countertop shall be constructed with formed backsplash and retaining lip creating a seamless countertop area. The entire back wall shall be one (1) piece.

NOTE: The use of molded, scratch resistant ABS plastic with ability to withstand a load of 50 lbs. per square foot or the use of Corian-like product is acceptable.

LOWER LEFT AREA BELOW ACTION AREA: The area just forward of the CPR seat shall have one (1) pull out lockable drawers approximately 12" wide x 6" deep x 12" long. They shall be mounted as high as practical. A waste disposal draw will be installed in this location also.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Rear Action Area

The rear action area will be located from the CPR seat back towards the rear compartment. It shall contain the following items:

- O2 outlet
- 115 volt outlet
- Shall be of sufficient size to accommodate a Life pack 15
- Two (2) non-locking draws shall be located below this area.

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 12 - Ambulance Specifications – Module Interior Accessories and Trim

The following section addresses interior accessories and trim features.

All installation locations, as noted below, shall be strictly adhered to by the bidder. The items in this section will directly influence the quality of care given to the patient, as well as the safety of the attendants. For these reasons the installation locations listed below must be met without exception.

## IV Hooks

Swing-down IV hangers shall be installed per the instructions listed below. These hangers are to be near flush mounted into the patient area ceiling to reduce their interference with the walkway when not in use. This style IV hanger shall be sufficient to meet Federal KKK-1822.

- **Quantity:** 4
- **Locate:** (2) Mid body over squad bench
- **Locate:** (2) Mid body over cot

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Cot Ceiling Grab Rail

A grab rail shall be installed in the ceiling as noted below. This rail is to be constructed of stainless steel with a brushed finish. The rail is to have a 2" diameter so that it is easy to hold onto. Integral stanchions shall be welded into place at fixed points along the length of the rail for attachment to the ceiling. The

rail shall attach through aluminium mounting plates that are welded to the module roof structure for strength and durability.

- **Locate:** **Between the CPR seat and over the cot**

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Patient Area Door Grab Rails

Angled door handles shall be installed on the interior door panels of each access door. The handles shall be one-piece and shall be constructed of stainless steel with a brushed finish. The handles shall feature a 2" diameter gripping surface, smooth radius corners, and flange mounts at each attachment point.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Cove Moulding

A radius cove moulding shall be installed at all areas of the floor that curve up onto walls. This is to prevent cracking at wall joint.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Ceiling

The patient area ceiling shall be constructed of material that shall be smooth, easy to clean, and durable. Headliner material that is padded or upholstered in any way will not be considered due to the lower degree of durability and the risk of contamination inherent in such materials. Headliner materials of this type do not adequately serve to comfort or protect the vehicle occupants and, therefore, are neither a necessary nor a desired feature.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Fire Extinguisher

Two (2) 5# ABC fire extinguishers, with steel mounting brackets, shall be supplied on the completed vehicle per the notations below.

- **Quantity:**                      **2; HFD to mount**

---

Above section bid exactly as written :     

Section not provided                             

Bidder is offering an alternative to this section     

## Patient Area Radio Speakers

Two (2) speakers shall be installed on the area above the rear doors. The speakers shall include a volume switch that is integral to the rear action area switch panel.

---

Above section bid exactly as written :     

Section not provided                             

Bidder is offering an alternative to this section     

## Section 13 - Ambulance Specifications - Cot Mount and Patient Handling

The cot mount, as well as any additional patient handling equipment that may be required, is noted below:

### Cot Mount

One (1) Stryker MX-Pro cot center mount shall be installed per the instructions and recommendations of the hardware manufacturer in a position as directed by the purchaser.

---

Above section bid exactly as written :     

Section not provided                             

Bidder is offering an alternative to this section

## Section 14 - Ambulance Specifications - Emergency Lights

### Forward Emergency Light Package

An LED emergency lights package shall be installed in the area over the cab and on to the module. This should include 4 red emergency lights (2 on each side) with red lenses (one on each side). It should also include 1 central clear light with clear lens. All lights to be from Whelen Mfg.

Provisions should be made for installation of Hudson Fire Department supplied 3M Opticom 4592 emitter. The wiring for the device shall be installed and shall go to an emergency master with cut out in park/ neutral and shall be installed with an on/off switch on the front console.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### Emergency Lights: Body

Whelen 900 Series flashing red LED light assemblies shall be installed per the quantity and location requirements listed below. Each light is to be synchronised to flash.

- Quantity: 8
- Lens Color: Red
- Locate:
  - Right Side -- Upper Corners (2)
  - Right Side – Middle Length (1)
  - Left Side – Upper Corners (2)
  - Left Side – Middle Length (1)
  - Rear End – Upper Corners (2)

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### Rear Amber Lights

One (1) Whelen 600 Series flashing amber LED light is to be installed in the middle of the rear end upper section of the module between the two loading lights.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Additional Rear Emergency Lights: Body

Two (2) Whelen 900 Series flashing red LED lights are to be installed at window height on both the left rear and right rear of the module.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Front Intersection Lights

One pair of Whelen 700 Series LED red and clear light assemblies shall be installed. One light shall be installed on each chassis front fender. Each light is to include the optional chrome flange.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Rear Intersection Lights

One pair of Whelen 700 Series LED red light assemblies shall be installed. One light shall be installed over each rear wheel well and rear compartment door. Each light is to include the optional chrome flange.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Front Valence Lights

One pair of Whelen 700 Series LED red light assemblies shall be installed. The lights shall be installed on front valence (below each headlamp). Each light to be installed with an engineered bracket.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Lights Integrated into Grille

One pair of Whelen 700 Series LED red light assemblies shall be integrated into grille.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Section 15 - Ambulance Specifications - Non Emergency Lights

The lighting, as noted below, shall be furnished and installed by the successful bidder:

### Marker Lights

14 total LED marker lights to be mounted to top of module.

Front layout should be: Five (5) Amber marker lights on the front face of the module, one (1) on the front left side and one (1) on the front right. All of them to be operated in conjunction with the OEM headlights.

Rear layout should be: Five (5) Red marker lights on the rear end of the module, one (1) on the back left and one (1) on the back rear to be in conjunction with the OEM headlights

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

### Scene Lights

Four (4) Whelen **900 White** Super LED scene Lights shall be installed on the module. Two (2) scene lights on each side of the module. Each light shall include the optional chrome flange.

Two (2) Whelen **600 Series** White Super LED scene lights shall be installed on the module. One (1) scene light on each side of the module a waist height just above and forward of the wheel well. Each light shall include the optional chrome flange.

These lights shall be activated by rear, right and left side switches located within the front electrical console.

Also, both scene lights located on the right side should be activated whenever the right side module door is open. Same configuration should be made on the rear end scene lights so that whenever the rear doors of the module are opened, both rear loading light should be activated.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Loading Lights

Two (2) Whelen **600 series White** Super LED shall be installed on the rear end of the module. Each light shall include the optional chrome flange. The lights shall be centered over each door.

These lights shall be activated by a switch located within the front electrical console. Also, both loading lights should be activated whenever the rear module door is open or when the reverse gear is engaged.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Tail Lights

Sealed round LED tail/brake signal (red), LED turn signal (yellow) and LED back-up (white) lights shall be installed on the rear diamond plate below the rear doors.

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Middle Length Turn Signal

An amber LED turn signal light shall positioned at middle length of both right and left side of the module.

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Auxiliary Rear Turn Signal

Whelen 600 or 700 Series amber LED turn signals shall positioned on the rear end of the module located next to Auxiliary Stop Lights.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Auxiliary Brake Lights

Two Whelen 600 or 700 Series Red LED lights shall be installed half way up on each side of the rear doors .This lighting is in addition to the specified brake/tail lights.

### NOTE

Feature to activate regardless of module disconnect status

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Exterior Compartment Door Safety Light

On the interior of each exterior compartment door one (1) warning light shall be installed in a location that is agreeable to the Hudson Fire Department. This light will only be activated when the door is in the open position.

Above section bid exactly as written :   
Section not provided   
Bidder is offering an alternative to this section

## Section 16 - Ambulance Specifications - Audible Emergency Warning Systems

The following audible emergency warning features shall be installed on the vehicle:

### Siren

A Whelen WS295HFS2 siren with Simulated Air horn, Public Address, Wail, Yelp, and Override Functions is mounted in the Driver's Control Console. The siren shall be connected to the horn ring for

Hands Free Operation or when switched to "radio" mode, it allows the VHF radio to transmit through the "Forewarn" speakers.

- **Siren Location:** **Integrated into the console**
- **Quantity:** **1**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Siren Speakers

Two (2) Whelen siren speakers specified above shall be mounted and integrated inside the grille and positioned at the highest level for maximum sound wavelengths and protection from road debris. Speakers mounted below the bumper will not be accepted.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Section 17 - Ambulance Specifications - Electrical Power Group

The vehicle electrical system is extremely important to this purchaser. The requirements for the onboard electrical system are noted in detail below. The bidder's electrical system, should it deviate in any way from that, which is specified, shall be explained in great detail. This explanation shall present facts relative to the bidder's system only. The bidder shall not draw any comparisons between the electrical system being offered, and the system being specified. Any comparisons or decisions regarding one system versus another will be made solely by the purchaser and shall be based entirely on the written description as provided by the bidder at the time the proposal is submitted. All decisions made by the purchaser as to the merits of one system over another will be final and will not be subject to discussion, either verbal or written, at any point.

## Converter Added Electrical System Standards

The converter added electrical system must meet all current KKK ambulance design standards. The converter added electrical system has proven to sometimes be the most complex and troublesome system on this type of vehicle. A system is desired that is simple in design so that electrical problem diagnosis and repair time can be minimized. The electrical system must be thoroughly engineered and manufactured to allow simple personnel operation. Finally, the system must be designed so that the probability of experiencing dead batteries, shorted electrical components and engaging in lengthy troubleshooting procedures will be reduced. Past experience has shown that the electrical output provided by the chassis charging system can be marginal and under certain circumstances the electrical load can exceed the alternator output. In addition, some electrical systems have not provided

proper circuit protection and at times have not provided adequate wiring for the load. To address the above objectives, the following minimum electrical system design is required:

## Converter Added Chassis Charging Enhancement

The basic design for the chassis electrical output system must include equipment that provides adequate electrical needs to operate the vehicle's electrical components. In addition, a system is desired that continually monitors the chassis voltage and amperage outputs. The end result of the desired electrical output system is longer battery life, less down time associated with charging system repairs, and the fulfillment of each and every emergency response.

The system shall be designed to charge all battery powered equipment, while on shoreline or vehicle running. Additional wiring (two circuits) shall be made available in both the chassis and module areas, for the addition of equipment that requires recharging. Such wiring shall be tagged at dead end.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Isolator Battery Selector Switch

An automatic isolator to disconnect module power when the ignition switch is in the off position shall be provided. Three (3) batteries are preferred in the unit, (2) OEM batteries and 2 (two) conversion batteries. All added batteries shall be 750 CCA, 180-min. reserve, and deep cycle. Unless otherwise specified, the battery switch shall not disconnect power to the OEM chassis systems. Note: O.E.M. products are not permitted to disconnect chassis power with this switch.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Variable Throttle Advance

In order to reduce the number of component parts and unnecessary throttle linkages, the OEM electronic throttle control shall be utilized to activate the throttle advance system. The controls shall require that the chassis be placed in "Park" or "Neutral" with the "Module Disconnect" switch in the "On" position and the "Park Brake" engaged before activation of the throttle advance. A display warning on the driver console, accompanied by an audible tone, must instruct the driver to "Set Park Brake" or "Release Park Brake" to engage or disengage the automatic throttle control. No Exceptions.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Automatic Load Management

In order to insure that onboard personnel attention is focused on victim care rather than being occupied with monitoring vehicle systems, an automatic load management system is required. The bidder must provide a system that continually monitors the vehicle's charging system while it is sitting "on scene." The system design shall have the ability to automatically shut down not less than ten pre-programmed electrical circuits to prevent a deficit charging condition while the vehicle is sitting at idle. The system shall be programmed to automatically scan the electrical system on one-minute intervals.

If a deficit charging condition continues for more than one minute, a preprogrammed circuit shall shut down, correspondingly reducing the electrical draw. If the deficit condition continues, a second circuit shall automatically shut down. This process shall continue to repeat at one-minute intervals until at least ten circuits are shut down with corresponding load reductions. In the event any circuits are being controlled (disabled) by the load management system, the driver must be informed in two ways. First, a digital display warning shall appear on the driver information panel indicating "Load Management Active." At the same time, the LED switch indicator light shall begin to flash for each specific circuit that is being disabled. Systems that cannot indicate specific circuits being affected by the Load Management System are not acceptable.

Load management systems must be programmed through a microprocessor based logic and memory system rather than a series of mechanical relays. Systems that require manual activation of Load Management will not be acceptable. Once the deficit condition ceases to exist, the system must be capable of restarting any disabled circuit without any action required by the driver.

The bidder is required to furnish a system that permits the end user, if they so desire, to determine prior to production the order of priority for shedding loads. Although the entire system must function automatically, it must also be designed so that it can be set by the end user to a "System Off" mode for restocking, training, or maintenance convenience. The "System Off" setting shall not be merely a switch which would permit the operator to easily turn off Load Management. The intent is to keep the system active at all times when the vehicle is in operation.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Switch "ON" Indicator Light

All switches (unless otherwise noted) on the panels described below shall include a red LED indicator light that will indicate when power is being applied to a circuit. Designs that have indicator lights that activate to indicate switch position only are not acceptable. In addition, the indicator lights shall be independently programmable to flash or steady burn as required meeting the end user specification.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Switch Panel Decontamination and Spill Resistance

Both the driver and the patient area switch panels must be designed so they can be easily decontaminated. For this reason, the switch panels must be built in such a manner that there are no openings or crevices on the panel faces. The entire switch panel must be sealed with a protective overlay material. There shall be no printing or labeling on the face of this material.

The panels must be cleanable with any commercially available spray type cleaner or disinfectant commonly used by fire and EMS services with no damage created by fluids leaking through openings onto the circuit boards or switch contacts.

The panels shall be spill resistant to shed accidental moisture from spilled liquids.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Cab Console Control Switching and Digital Display

### SWITCH ACTIVATION:

The console shall include rocker switches installed in a back lighted polycarbonate control panel. The following minimum circuits shall be provided on the console:

- Main Power
- Module Disconnect
- Emergency Lts. Primary/Secondary
- Emergency Light Dimmer
- Wig Wag Headlamps
- Right Scene Light
- Left Scene Light
- Rear Scene Lights
- Dome Lights
- Anti-Theft
- Opticom
- Master Emergency
- Blank
- Blank

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Patient Area Control Switches

### SWITCH ACTIVATION:

The patient area control center shall include a rear console with the following switches:

- Rear Heat Control
- Rear A/C Control
- Dimmer Switch for Control Panel
- Volume Control for AM/FM
- Cabinet Lights
- Suction
- 115 Volt AC Inverter on/off
- Electric O2 outlets
- Vacuum switch/Aspirator
- Cot lights
- Exhaust Fan
- Auxiliary Dome
- Interior Dome
- Bench Lights
- Silent Signal Red
- Silent Signal Yellow
- Silent Signal Green
- Signal Buzzer
- Temperature Control

There shall be sufficient wiring at termination to facilitate easy removal of panel

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Spare Switches

Any spare or unused switches must be capable of being programmed later for additional functions including the ability to act as "macro" switches (one switch activating multiple features) without the need for rewiring.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Central Electrical Distribution Center

The converter-added electrical system is to be centered on the use of a logic-controlled microprocessor. This logic control system is required to maximize reliability of the electrical system and to minimize downtime. It must be provided in order to match the type of control system used in the

chassis and to prevent communication problems caused when dissimilar systems are employed. The design of the system must totally separate chassis operation from converter feature installations. In the unlikely event of converter component failure, the chassis must still remain operable.

The computer based electrical system must utilize components similar in design to the computerized chassis functions such as the OEM cruise control system, fuel feed system, transmission control system and braking system.

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Circuit Protection

Must be in accordance to current KKK or NFPA standards.

Each converter added electrical circuit must have circuit protection for both over current limit and over temperature condition. The circuit protection shall be provided by solid-state circuit breaker/switching devices (MOSFETS) for both the input and output wire feeds for each circuit. The circuit protection shall require no user intervention such as that required for circuit breakers or fuses. For added protection and system reliability, all MOSFETS shall have heat sinks. Lack of heat sinks will be cause for automatic rejection of the system being offered. The system shall indicate an output fault warning on the digital display in the driver control area. Should a problem occur, the warning shall identify the specific module and the output number for easy troubleshooting and to minimize the down time of the vehicle.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Field Proven and Time Tested Electrical System

The converter-added electrical system represents the most important system in the design of this ambulance. Reliability and proven performance is essential. Therefore, the bidder must be able to demonstrate that he has experience with solid state logic-controlled electrical systems installed in emergency vehicles. Further, the bidder must be capable of all programming required by the system without turning to outside vendors. This includes custom programmed items as may be delineated in this specification.

The bidder may be required to demonstrate an "in production" or "in service" vehicle in order to guarantee compliance with this requirement. Prototype or "first of a kind" electrical systems are not acceptable. The purchaser may require the bidder to furnish specific references to further document compliance.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Splice-Less Wiring

Each converter-added circuit shall be powered through an individual wire that is free of any splices within the wire harness. For ease of troubleshooting and for greater reliability, one end of the wire shall plug directly into the output module and the other end shall connect to the device or the pigtail of the device being powered.

The use of "daisy-chain wiring" will not be acceptable. The direct wiring technique described above is the only wiring system that will be accepted.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Wiring

The following minimum wiring standards are required:

- Identification - By color, by itemized number, and by actual circuit name, stamped every 4" - 6"
- Size - Size will vary and will be dependent upon each wire being able to carry a minimum of 125% of the actual circuit load.
- Routing - No service point shall terminate in locations without removable panels.
- Protection of Wiring - All wiring, on chassis and module must be run in breakaway wire loom for protection against abrasion or chafing. No wiring must pass over exhaust.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Sequenced Start Circuit Activation

To prevent the heavy load burden placed on the alternator and charging system when all emergency warning circuits are activated at the same time by "pre-loading" the master switch, the vehicle electrical system shall automatically sequence all load-managed warning circuits so they come on one at a time. This sequenced start activation shall be an integral part of the electrical system and shall be accomplished without the use of relays or "after market" add-on systems.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Electrical System Diagnostic Check

Being able to service the electrical system should the need arise is of the utmost importance. To reduce the down time associated with servicing, the following information shall be provided at the time of delivery:

1. Electrical system operating instructions
2. Patient area heating/AC schematic and parts list
3. Oxygen and vacuum system schematic, parts list and leak check instructions
4. Battery and alternator schematic and system description
5. Radio communications installation instructions
6. Wire description list for converter added wiring
7. Individual schematics for all converter added electrical circuits

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Electrical Inverter System

There shall be a 1050 watt inverter with 55 amp battery charger installed as specified elsewhere.

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## 115V Interior Outlet

Duplex 115V interior electrical outlets shall be installed. Quantity and location information is noted below. Each outlet shall be GFI protected and shall illuminate when powered.

- **Quantity:** 3
- **Locate:** Action area wall
- **Locate:** Curbside rear wall
- **Locate:** ALS front wall cabinet

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## 12V outlets

12 volt electrical outlets shall be installed within the vehicle. Quantity, location, and adapter type are provided below. All 12 volt outlets shall be protected by a Schottky medical isolator. In addition, the 12 volt outlets shall be wired through a 20 amp manual reset circuit breaker. All 12 volt outlets shall be labeled.

- **Adapter Type:** Cigarette Lighter Style
- **Quantity:** 3
- **Locate:** (2) Action wall
- **Locate:** ALS cabinet, Laerdal-style, direct to battery

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Shoreline

The vehicle shall be equipped with a 20A Kussmaul Auto Eject shoreline. The male shoreline inlet shall be installed as noted below. This inlet shall be a straight three-prong type and shall include the female adapter plug. The shoreline shall be designed so that the plug will automatically eject from the inlet in the event that the vehicle is started while still plugged in. The shoreline shall include a hinged cover to protect it from the elements. The shoreline system shall be designed to handle a 20 amp load, and shall also include a 20 amp inline GFI breaker. Male Plug to be included

- **Locate:** Street Side of Module Body as Far Forward as Possible

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Shoreline Indicator

A small AC pilot indicator light shall be installed as noted below. The light shall be wired in after the applicable circuit breaker so as to indicate not only the presence of AC power, but the fact that the circuit breaker is in the closed position.

- **Locate:** Over Shoreline Inlet

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Reverse Activated Loading Lights

The load lighting on the rear of the vehicle shall be programmed to be activated when the vehicle is placed into reverse gear. This is in addition to the other modes of operation as described elsewhere within this document. This feature shall be attained through the programming of the onboard electrical system. Systems that require additional wiring in order to provide this feature are not acceptable.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Clock

A battery operated clock shall be installed as follows. The clock shall feature a second hand, 12/24 hour time, and shall be installed at the rear of the vehicle (over the rear doors).

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Dome Lighting General

All dome lighting installed shall be of the LED style.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Programmed Light Timer

A momentary switch shall be installed as noted below to operate the specified lighting with the battery switch in the 'Off' position and even if the shoreline isn't plugged in. The switch shall activate a programmable timer that will automatically shut the lights off after the specified period of time. This timer shall be field-programmable to allow the time to be adjusted after the vehicle has been delivered. The initial time setting shall be as follows:

- **Locate:** **next to side entrance door**
- **Light(s) Controlled:** **3 dome lamps**

SET ELAPSED TIME FOR 15 MINUTES

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Dome Lighting

Dome lighting shall be installed in the patient area ceiling. Quantity and location information is provided below. The lighting shall be operable from the action area control console, as well as through any other means that may be outlined elsewhere within this specification.

- **Quantity:** 3
- **Locate:** Spaced evenly

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Auxiliary Patient Area Light Control

The lighting defined below shall be controlled as follows. The control is in addition to the method of control dictated in the preceding section.

- A switch on the front control panel can be used to activate the patient area lighting should it be off. The switch can also be used to deactivate the patient area lighting should it be on.
- The patient area lighting shall reset to normal operational programming should a patient area access door be opened, or if the master battery switch is turned 'off', and then 'on' again.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Panel Light

A Hella goose neck panel light shall be installed at the location described below. An 'On/Off' switch shall be incorporated into the light fixture.

- **Quantity:** 1
- **Locate:** Cab Console

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Hand Held Spot Light

An Optronics 400,000 CP hand-held spot light shall be installed in the cab area. The light shall include a momentary switch for activation. A molded ABS bracket shall be included to hold the light when it is not in use. This bracket shall provide quick and simple access to the light. Retention designs that require two hands to remove the light for operation will not be acceptable.

- **Locate:** **Beside passenger's seat**

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Security Idle System

A secure idle system shall be provided on the vehicle. This system shall allow the engine to operate with the transmission in 'park' and the ignition key removed. If the brake is depressed, or if an attempt is made to shift the transmission into gear, then the engine will shut off, the marker lights will flash, and the horn will sound. The system must be integrated into the converter's electrical system. The system shall be activated by a switch on the driver's control panel. The onboard converter-added electrical system shall provide a digital display to warn of the activated security mode.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Heating and Air Conditioning

A temperature control system is desired that provides quick and simple operation while maintaining a uniform temperature throughout the patient compartment. The unit itself must be located so that it is easy to access for service. This location must also be near the O.E.M. heat/AC connection points when provided so as to increase the overall efficiency of the unit. The following minimum design standards must be adhered to in order to best meet the needs of this purchaser.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Thermostat

The temperature level shall be adjustable from rear electrical control panels for the 12V system. Once the desired temperature is set, then the system shall retain that setting regardless of the position of the battery switch. The temperature sensor for the system shall be located at the action wall panel so as to attain a true patient compartment temperature.

Under no circumstances shall household type thermostats be acceptable.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Unit Location and Service

It is required that the heat unit be installed within the medical cabinet lower section. The panel in front of the unit shall include proper airflow to the heating unit as well as angled louvers.

It is required that the A/C unit be installed over the ALS compartment at the front of the vehicle. The panel in front of the unit shall include proper air flow to the A/C unit as well as louvers. This is required for efficiency, serviceability, and safety.

It is preferred that the heating and air conditioning units be located to maximize efficiency, serviceability and safety.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Antenna Coax # 1

A removable access plate in the patient area ceiling shall be provided for access to the exterior termination point located on the module body roof. Under no circumstances shall the vehicle design necessitate disassembly of the interior finish work to access the coax termination point. The coax shall terminate at the following locations:

- **Exterior Termination:**      **Roof of module body**
- **Interior Termination:**      **Radio Compartment**

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Antenna Coax # 2

A removable access plate in the patient area ceiling shall be provided for access to the exterior termination point located on the module body roof. Under no circumstances shall the vehicle design necessitate disassembly of the interior finish work to access the coax termination point. The coax shall terminate at the following locations:

- **Exterior Termination:**      **Roof of module body**

▪ **Interior Termination: Radio compartment**

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Radio Power/Ground

The vehicle manufacturer shall install heavy gauge cable positive and ground for radio power. Termination is to be to insulated studs.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Laptop Installation Points

The vehicle manufacturer shall install HFD Supplied GPS/Cell antenna cable along with a 20 amp power feed run to the cab and coiled in the dog house area (Or electronics console) for future laptop installation.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Section 18 - Ambulance Specifications - Oxygen and Suction Systems

Reliability, safety, and ease of operation are essential characteristics of the onboard oxygen and suction systems. System design must meet the following minimum guidelines. Bidders are asked to respond to each section appropriately per the bid requirements and to explain any variations to these requirements.

### Switching for Suction

The rear switch panel shall contain one switch "SUCTION". This switch shall electrically activate the suction system. That activation shall be instantaneous. Systems that are not instantaneously responsive to their activation will not be considered.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### System Design

A single piece manifold assembly shall serve as the basis for the oxygen delivery system. The manifold assembly shall incorporate ports for installation of O2 lines to all specified outlets, an electrically activated oxygen delivery solenoid, and a manual bypass valve. The assembly shall be installed behind the action wall panel and shall be easily accessible.

---

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

### System Regulation

The patient area shall be free of high pressure oxygen lines. To accomplish this vehicle converter shall install a KKK approved regulator at the oxygen cylinder. The regulator shall include an integral dial type gauge to monitor the cylinder contents. A single low pressure line shall be installed from the regulator to the O2 manifold assembly. This method shall insure that all high pressure is maintained in an exterior compartment away from the interior patient area.

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Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Oxygen Lines

The O2 line connecting the regulator to the manifold assembly shall be rated at 200 psi working pressure and 1,250 psi burst pressure. There shall be NO connections installed in the line between the regulator and manifold assembly as these create a possibility for leakage. All connections shall be DISS style and shall be specific to the gas being supplied.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Preliminary System Testing

The oxygen system shall be tested prior to installation in the vehicle. This test shall be performed by the vehicle manufacturer. This test shall be conducted for a minimum of four (4) hours.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Final System Testing

The completed system shall be tested again once it is installed in the vehicle. This test shall be performed at working pressure for a minimum of four (4) hours. After the system has passed the inspection process it shall be capped and tagged per Federal KKK specifications.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Additional Oxygen and Vacuum Supplies

The oxygen and suction systems shall be complete upon delivery with the exception of the O2 cylinder. The cylinder shall be supplied and installed by the purchaser after delivery of the vehicle has taken place.

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Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Access to Cylinder Valve from Patient Area

A clear Lexan door shall be provided in the patient area wall for access to the oxygen cylinder valve. The door shall be hinged so that it swings into the oxygen cylinder storage compartment. The opening shall be trimmed with aluminum edging.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Oxygen Outlets

All oxygen outlets shall be installed in the walls, same height, unless otherwise noted below.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Additional Oxygen Outlets

Additional oxygen outlets shall be installed as noted below.

- **Quantity:** 4
- **Locate:** Head of squad bench
- **Locate:** Action wall
- **Locate:** Rearward of CPR seat
- **Locate:** Overhead of patient

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## DISS Medical Oxygen and Suction Outlets

The oxygen and suction outlets installed in the vehicle shall be DISS style outlets.

---

Above section bid exactly as written :

Section not provided

Bidder is offering an alternative to this section

## Cylinder Wrench

A cylinder wrench shall be installed inside the oxygen compartment. The wrench shall be installed in such a way as it will not move or rattle. The wrench shall be chained to the compartment so that it cannot be removed, however, the chain must not interfere with the operation of the wrench.

Above section bid exactly as written :	<input type="checkbox"/>
Section not provided	<input type="checkbox"/>
Bidder is offering an alternative to this section	<input type="checkbox"/>

## Section 19 - Ambulance Specifications – Lettering / Striping

Lettering /striping information is noted in detail below: All lettering and striping shall be approved in writing and with a diagram before completing.

A single white, 3M reflective stripe on the module and cab with two (2) reflective border stripes. There shall be one (1) 4" wide white stripe and two (2) ¾", separated to show body paint, ½ inch top and bottom going around the entire vehicle, beginning at a point in line and just below the top of the front wheel well and terminating at the other front wheel well. One "ribbon fold" design, around cornered and shadowed in the corner so as to be a lighted from above, beginning at the center point of the curbside module door, folding upward and forward at an angle to the center of the forward-most compartment and then folding rearward as a point so as to intersect with the door handles on module body (repeat at the street side of the module). This design shall have a cut out for a white, non reflective, half "Star of Life" with cadusus, which shall be equal dimensions of 21" in all directions, but using the vertical point on the curbside, it shall be the full height of the module and at the widest point shall be from the rear corner of the module. A ¾" reflective white stripe with ½" paint separation, with border the star on all sides except the rear edge. All paint color to be supplied. All lettering and striping shall be approved in writing and with a diagram before completing.

### DECALS:

The word "AMBULANCE" in Gothic cut, die cut, and reflective white letters with grey border shall be installed. The "Ambulance" decal package shall consist of three (3) six (6") "Ambulance" and one (1) four (4") "Ambulance" decals. The 4" shall be for mounting on the hood area. There shall also be a blue "Star of Life" decal 32" applied to the roof so as to not interfere with the antenna positions. The "Ambulance" and "Star of Life" decal packages shall be from the same manufacturer and shall conform to the KKK specifications. They shall be installed as per Federal and State regulations and as per the Chief of this department. Additional lettering using the words, "Hudson Fire Department", will be chosen and located at time of build.

### LETTERING:

The vehicle shall be lettered with Scotchlite reflective lettering with drop shadow. All lettering shall match current lettering style of this department.

### CHEVRON: REAR

Chevron striping will be provided on the rear of the ambulance per the Hudson Fire Department's supplied pictures.

## Section 20 - Ambulance Options Specifications – Separate Option List

### Option List:

The following items are listed as optional items and specifications. The bidder may provide pricing and specifications for these options on a Separate Options page within the bid specification.

1. Remote camera (for backing)
2. Upgrade to all screws/fasteners.
3. Mounted glove box holder – (Pt. comp to be located by the Hudson Fire Department).
4. Heated Velvac mirrors.
5. Trade in of 2003 Road Rescue
6. Cab floor mats
7. Run Hudson Fire Department supplied radio cables to front/rear radio head locations (no technical radio installs)
8. Rino liner style coating on interior of all exterior compartments
9. Second set of radio controls located curbside rear
10. White boards in patient compartment
11. Privacy glass upgrade to one way glass
12. Information on payment options
13. Restraint system to squad bench, CPR seat, Attendant's seat
14. Installation of Hudson Fire Department radio system.
15. Installation of a small grab rail located above squad bench window in a location agreeable to the Hudson Fire Department.
16. Installation of a redundant set of action area switches located near squad bench.
17. Installation of a map book and glove box holder in center console in driver's compartment.

End of Specifications