

**TOWN OF BRIGHTON TOWN BOARD  
FINANCE AND ADMINISTRATIVE SERVICES COMMITTEE  
MEETING AGENDA**

**Meeting Date: Tuesday, May 19, 2015 (3:30 pm)  
Location: Stage Conference Room, Brighton Town Hall**

1. Accept Donation and Appropriate Funds (Public Works) – Request from Tim Keef for Town Board action to accept a donation of \$537 from the Garden Lovers Club of Brighton (Houston Barnard Neighborhood) to support planting of fruit trees at the Buckland House and to appropriate the funds in the Public Works Tree Replacement 2015 budget (see letter from T. Keef).
2. HVAC Materials & Professional Services Agreement – Request from Tim Keef for Town Board action to authorize the Supervisor to execute an agreement with BCS / Smart Edge not to exceed \$5,000 (see memo from T. Keef)
3. Mechanical Materials & Professional Services Agreement – Request from Tim Keef for Town Board action to authorize the Supervisor to execute an agreement per the City of Rochester bid with Pipitone Mechanical Contracting Co. not to exceed \$3,000 (see memo from T. Keef)
4. Bids for Replacement Ambulance (Ambulance District / Finance Dept.) – Request from Andrew Robinson for Town Board action for permission to seek bids for one replacement ambulance for the Brighton Ambulance Special District (see memo from A. Robinson).

The next regularly scheduled meeting of the FASC will be held **Tuesday, June 2, 2015 at 3:30 pm**, in the Stage Conference Room of the Brighton Town Hall. All members of the public are invited to attend FASC meetings.



# Town of Brighton

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FILE COPY

MONROE COUNTY, NEW YORK

## DEPARTMENT OF PUBLIC WORKS

2300 ELMWOOD AVENUE ROCHESTER, NEW YORK 14618  
PHONE: (585)784-5250 FAX: (585) 784-5368

May 6, 2015

Supervisor William W. Moehle and  
the Honorable Town Board  
Brighton Town Hall  
2300 Elmwood Avenue  
Rochester, New York 14618

Re: Donation Towards Town Annual Tree Planting Program

Dear Supervisor Moehle and Town Council Members:

The Garden Lovers Club of Brighton, situated in the Houston Barnard Neighborhood, has graciously provided a donation of \$537.00 towards the planting of fruit trees upon the Buckland House property. This gift will allow three trees to be installed, complimenting the other existing trees in the orchard. I recommend that your Honorable Body receive and file the attached check from the Garden Lovers Club of Brighton and accept the donation, with great appreciation and thanks, as an unanticipated revenue for the A.DPW 8560 4.11 account.

As always, thank you for your consideration of matters such as this.

Very truly yours,

Timothy E. Keef, P.E.  
Commissioner of Public Works

TEK/wp

attachment

cc: T. Anderson  
S. Zaso  
M. Hussar  
K. Gordon  
S. Constine, GLCOB



# Town of Brighton

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FILE COPY

MONROE COUNTY, NEW YORK

## DEPARTMENT OF PUBLIC WORKS

2300 ELMWOOD AVENUE ROCHESTER, NEW YORK 14618  
PHONE: (585)784-5250 FAX: (585) 784-5368

May 18, 2015

The Honorable Finance and Administrative Services Committee  
Town of Brighton  
2300 Elmwood Avenue  
Rochester, New York 14618

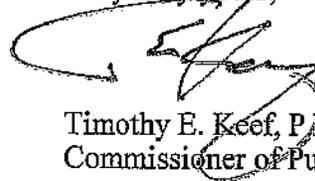
re: Authorize HVAC Service Agreement  
BCS/SmartEdge

Dear Chairman Werner and Committee Members:

As you will recall, modifications were made to the Town Hall HVAC by BCS in 2011, which included a new control system and an ongoing service agreement as part of the project bid. The service agreement needs to be renewed with the BCS subsidiary SmartEdge as the initial contractual period has expired and they are the sole provider for this service due to the proprietary nature of the system. Therefore, it is proposed to enter into said agreement for labor (at a not to exceed rate of \$127.25/hour) and materials, not to exceed \$5000.00. Funds have been allocated in this year's budget for these services.

As always, thank you for your consideration. I will be in attendance at your regularly scheduled May 19, 2015 meeting in the event that you have any questions regarding this matter.

Very truly yours,



Timothy E. Keef, P.E.  
Commissioner of Public Works

TEK/wp

cc: S. Spencer  
M. Guyon  
M. Hussar  
S. Zaso  
A. Banker  
K. Gordon



# Town of Brighton

3

FILE COPY

MONROE COUNTY, NEW YORK  
DEPARTMENT OF PUBLIC WORKS  
2300 ELMWOOD AVENUE ROCHESTER, NEW YORK 14618  
PHONE: (585)784-5250 FAX: (585) 784-5368

May 18, 2015

The Honorable Finance and Administrative Services Committee  
Town of Brighton  
2300 Elmwood Avenue  
Rochester, New York 14618

re: Authorize Mechanical Service Agreement  
City of Rochester Bid - Mechanical Term Services

Dear Chairman Werner and Committee Members:

As you will recall, the contract for Crosby-Brownlie, Inc. was extended to June 1, 2015 pursuant to discussions at your February 17, 2015 Committee meeting. Having further researched this matter, we are able to avail ourselves to the services of Pipitone Mechanical Contracting via the City of Rochester's bid for term services. Therefore, it is proposed to utilize this option for labor (at a not to exceed rate of \$71.67/hour) and materials, not to exceed \$3000.00. Funds have been allocated in this year's budget for these services if we should require them.

As always, thank you for your consideration. I will be in attendance at your regularly scheduled May 19, 2015 meeting in the event that you have any questions regarding this matter.

Very truly yours,

Timothy E. Keef, P.E.  
Commissioner of Public Works

TEK/wp

cc: S. Spencer  
M. Hussar  
M. Guyon  
S. Zaso  
A. Banker  
K. Gordon



SUZANNE ZASO, DIRECTOR OF FINANCE  
2300 ELMWOOD AVENUE  
ROCHESTER, NEW YORK 14618  
Phone (585) 784-5210 Fax (585) 784-5396

## MEMORANDUM

To: The Honorable Town Board  
Attn.: Finance and Administrative Services Committee  
From: Andrew Robinson, Budget Officer  
Date: May 19, 2015  
Subject: Authorization to Seek Bids for a Replacement Ambulance

I request that Your Honorable Body authorize the Administration to seek bids for the purchase of a replacement ambulance by the Ambulance Services Special District. This ambulance would be utilized by Brighton Volunteer Ambulance, Inc. to respond to calls for service primarily in the District.

This proposed purchase was planned for in the 2015 Capital Budget. The town contributed \$37,500 in 2014 and \$50,000 in the current year capital budget towards an ambulance purchase. Any remaining amount could be funded from district fund balance which is currently at \$160,286. The Rig Selection Committee at Brighton Volunteer Ambulance, who devised the specs for the bid, is proposing a smaller sprinter chassis similar to the last ambulance purchased in 2013.

I would be happy to respond to any questions that members of the Committee or other members of the Town Board may have regarding this matter.

## SPECIFICATION FOR SPRINTER TYPE II

### SCOPE

The ambulance specification documented here establishes requirements for a new automotive emergency medical services (EMS) ground vehicle used for out-of-hospital medical care and patient transport. The term *new* as applied in this standard is intended to refer to the original construction of an ambulance using all new materials and parts.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### PURPOSE

The purpose of this document is to specify the purchaser's requirements, performance parameters, and essential criteria for the design this ambulance. This document shall layout exacting details and shall have accompanied drawings to clearly and accurately specify the ambulance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### APPLICATION

This specification shall apply to vehicles intended for use in both emergency and non-emergency operations. Vehicles proposed by the bidders must be new for the current ambulance manufacturers and chassis manufacturer's model year. Bidders shall not propose ambulances that are refurbished or remounted.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### EQUIVALENCY

This specification is intended to provide the bidder the guidelines and parameter of the ambulance to be purchased. This specification shall not prevent the bidder from bidding their standard or proposed ambulance. Many of the components specified here can be procured from common vendors. In those instances, the model or brand specified shall be used. The bidder is encouraged to propose a like model for those items in this specification which they cannot comply to. Alternative construction and design methods detailed by the bidder shall not be cause for automatic rejection. The specification for this ambulance has a desired level of quality and

workmanship. In instances where exceptions and clarifications are necessary, detailed descriptions and photographs may be used.

Each section requiring a response shall be marked by the bidder to acknowledge acceptance and compliance to the specification. Should the bidder choose not to comply with the specified requirements, the bidder shall indicate on the bid proposal whether they choose to include an exception. The bidder shall disclose to the purchaser what they are offering in comparison.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

EXCEPTIONS

Exceptions to the proposal shall be documented in a centralized location in this bid proposal. The exceptions section of the proposal shall include the section heading, the page number and a detailed description of what shall be proposed by the bidder. Bidders taking ‘total exception’ shall not be allowed and will be considered unresponsive as this disregards the purchasers request of a comparable product.

Exceptions shall include the heading of the section being clarified, the page number and a full written explanation of the deviation from the specification. Exceptions with descriptions claiming they meet or exceed the specification with no backing documentation will be considered non responsive and subject to disqualification.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

DRAWINGS

The ambulance proposal shall include computer aided design (CAD) drawings for the model specified here. Sales drawings modeled in 2 dimensions shall be acceptable for this proposal. The bidder shall not accept standard model or generic drawings as these are not an accurate depiction of the vehicle specified. Drawings provided “upon request” shall not be permitted by the purchaser.

Upon acceptance of the proposal and finalization of the order, the bidder shall have 3D modeled drawings to complete the ambulance. These 3D models shall be available to view at the purchasers request during the build process. To maintain a level of quality and craftsmanship, the entire ambulance shall be modeled with 3D CAD software before any fabrication begins. Manufacturers utilizing a different engineered drawing method shall document this in the exceptions section of this document.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

### REFERENCED PUBLICATIONS

#### GENERAL

This ambulance specification specifically sites documents or portions of the documents listed below. It is the bidder's responsibility to ensure the ambulance proposed meets the requirements set forth in the documents listed in this specification.

#### RESPONSIBILITY OF THE PURCHASER

It shall be the responsibility of the purchaser to consider the amount of equipment and personnel that will be carried on the ambulance and to specify a minimum usable payload that will accommodate this weight once the ambulance is placed in service. It shall be the responsibility of the purchaser to specify any details of the ambulance that would exceed the minimum specifications of this standard. After acceptance of the ambulance, the purchaser shall be responsible for ongoing training of personnel to develop and maintain proficiency regarding the proper and safe use of the ambulance and the associated equipment.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### RESPONSIBILITY OF THE CONTRACTOR

The bidder shall provide a detailed description of the ambulance with the proposal along with a list of equipment to be furnished. Documentation of all testing data done by the manufacturer to ensure compliance will be provided (summaries are sufficient). I special interest is in safety and crash related testing. Failure to comply with this requirement is considered to be non-responsive and will be subject to rejection for this cause.

The detailed description of the ambulance shall include, but shall not be limited to, minimum usable payload, wheelbase, curb-to-curb turning clearance radius, principal dimensions, angle of approach, and angle of departure per the requirements detailed in the forthcoming edition of the NFPA 1917 Standard for Automotive Ambulances guidelines and the KKK 1822-A-F revision of the Federal Ambulance Specifications. The bidder's detailed description shall include exceptions and clarifications clearly defining each section of the proposal not be fully compliant with the requirements of detailed specification defined here.

The bidder shall supply a copy of their specifications with this bid proposal. The purpose of these bidders specifications shall clearly define what the contractor intends to furnish and deliver to the purchaser. Responsibility for the ambulance and no customer supplied equipment shall remain with the contractor until they are accepted by the purchaser.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### MANUFACTURING CAPABILITY

The ambulance manufacturers shall use a continuous flow production system to assemble their models of ambulances. The advantage of this continuous flow system is the entire assembly of the vehicle is broken down into logical assembly phases to which resources are attributed and properly trained.

The manufacturer supplier base shall be horizontally integrated. Therefore; the manufacturer shall have a light supplier base able to supply the manufacturer with a vast array of components. The advantage of horizontally integrated supplier is being able to rapidly respond to fluctuations in product and that is being able to meet production demands during peak periods.

The ambulance manufacturer's production facility shall be capable of producing over 500 units any given fiscal or calendar year. The manufacturer shall have produced at least 500 units of varying models for the last 5 years consecutively. Documentation of the quantity of these manufactured products shall be provided at the purchaser's request. The manufacturer shall also provide a list of like models to the purchaser upon request. This list shall include the contact information of the customer's these models were purchased.

The manufacturer shall be able to accurately schedule the ambulance into its production cycle to give an accurate deadline of completion from the time of the signed accepted order. The bidder shall note on a pricing page of this proposal the proposed lead time of the completed unit.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### ***PRE-BUILD CONFERENCE AND INSPECTION***

A pre-build conference shall be held within (2) two weeks of bid award at a time and location selected by the Town and/or BVA.

The bidder must present a recent example of similar work in the form of a completed Type III ambulance for inspection.

Not more than one week after such conference, the bidder shall provide a final approval packet inclusive of drawings, documenting all exceptions taken and approved by the Town, and providing an estimated delivery date.

Should the Town determine, in its sole discretion, that the bidder has not properly interpreted these specifications, or does not intend to manufacture the ambulance as specified, or that the service facility is inadequate, the purchase contract will be deemed null and void and the bid bond or check forfeited as liquidated damages.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### QUALITY PROCESSES

A manufacturer's internal quality process system shall be in place. This quality processed system shall conform to ISO-9001 specifications. To ensure the quality system is continually maintain the manufacturer shall be audited by an independent agency. Documentation of this internal quality process system shall be provided upon request of the purchaser.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### TESTING CAPABILITIES

The ambulance manufacturer shall be equipped to do a majority of the ambulance testing at their facility. An exception shall be for heating and cooling tests would require a top climate chamber. All pull tests, load tests, (including the module load test), lighting levels, noise levels, and pressure tests shall be done in this on site facility. The manufacturer shall have a full range of testing equipment proven by an independent engineering agency. In-house testing facilities are preferred by this purchaser as this gives the manufacturer flexibility to perform tests and various designs on a continual basis. All testing shall be audited and documented by a third-party accredited, approved, engineering agency.

If the Ambulance manufacturer does not have its own testing facility on-site, a detailed description of how continual testing is provided shall be detailed in the bid proposal. No exceptions shall be allowed to this requirement.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_\_ N\_\_\_\_

#### **Testing Requirements**

The bidding manufacturer shall be capable of passing testing certifications for North America. All testing performed shall meet or exceed the highest requirement set forth in any of the North American standards listed here. The manufacturer shall be able to provide testing or certification

results for the following requirements. Copies of testing documentation and certification for the **AMD** requirements shall be provided with this proposal: Copies of different vehicle certifications for the following vehicle specifications shall be provided with this proposal:

- **KKK**: Federal Specification for the Star of Life Ambulance (KKK-A-1822)
- **FMVSS**: US Federal Motor Vehicle Safety Standards and Regulations
- **DOT**: US Department of Transportation

Any manufacturer who exceeds these specifications is welcomed to provide data. However, it needs to be useful in the application of the purchaser to be considered a plus.

**Does your bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**Does your proposal include an exception to this requirement?** Y\_\_\_ N\_\_\_

**DELIVERY CAPABILITY**

The completed ambulance shall be delivered to the end user under its own power by the manufacturer or a manufacturer's representative. This vehicle shall be complete on or before the designated delivery date.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**DELIVERY**

The manufacturer shall deliver the completed ambulance in 120 calendar days after acceptance of the formal contract from the purchaser. The manufacturer shall not be held liable for changes arising from its failure to make or delay in making delivery because of fire, flood, strike, riot, chassis shortage, accidents, acts of force majeure, or any circumstances beyond the bidding manufacturer's control.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

AMBULANCE COMPONENTS

All components shall be installed in accordance with the applicable manufacturer's installation instructions. The emergency medical care vehicles; including chassis, ambulance body, equipment, devices, medical accessories, and electronic equipment shall be standard commercial products, tested and certified to meet or exceed the requirements of this standard. All medical devices furnished shall comply with Food and Drug Administration (FDA) regulatory requirements. Vehicles shall be free from defects that may impair their serviceability or detract from appearance. All bodies, systems, equipment, and interfaces with the chassis shall be done in accordance with the OEM Body Builders Book.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

LEGAL REQUIREMENTS

The ambulance shall comply with the following applicable Federal Motor Vehicle Safety Standards (FMVSS), and state regulations as specified by the purchaser.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

LIABILITY

The bidding manufacturer shall furnish a Certificate of Insurance showing an aggregate of liability insurance which shall not be less than eleven million dollars (\$11,000,000.00). This general liability Certificate of Insurance shall be provided by the manufacturer's insurer. Failure to provide a Certification of Insurance shall be considered non-responsive and cause for rejection of the proposal.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

PERSONNEL PROTECTION

Protection in the form of guards and shields shall be provided on the completed ambulance to prevent injury of personnel by temperature sensitive, moving, or rotating parts during non-maintenance operations. Access to these areas shall be restricted yet still accessible for qualified technicians to perform maintenance when necessary. Electrical insulation or isolation shall be provided on all electrical components to prevent electrical shock from onboard electrical systems.

Electrical systems and wiring shall be properly secured in the electrical control panel to prevent accidental entry or storage in these areas.

The completed ambulance shall be free of sharp edges and protrusions that could injure during routine maintenance or while the vehicle is in motion. All Safety-related signs on the completed ambulance shall meet the requirements of ANSI Z535.4, *Product Safety Signs and Labels*.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### CONTROLS AND INSTRUCTIONS

All controls, switches, instruments, gauges and controls shall have adequate illumination for the ambulance equipment and accessories. The illumination of all controls shall be low voltage and not put unnecessary burden on the electrical system.

All required signs, instruction plates, and labels related to the electrical system shall be permanently attached and easy to read. All signage and labeling shall be resistant to fluids, extreme temperatures (–30°F and 176°F (–35°C and 80°C)), and ultra violet radiation. These labels shall meet the UL 969, *Standard for Marking and Labeling Systems*. All exterior labels relating to safety or critical operational instructions shall be reflective or illuminated per the guidelines set forth in the forthcoming NFPA 1917 Standard for Automotive Ambulance Guidelines.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### CONTROLS AND SWITCHES.

Controls and switches that are expected to be operated by the belted driver while the ambulance is in motion shall be visible and within reach. The control switches shall be easy to read, incorporate easy to read universal diagrams to allow the operator to rely on peripheral vision to assist in activating the switches while the ambulance is in motion. Switches shall be located in such a position where the driver does not have to move his or her head up or down to activate or read the control switches.

Controls and switches in the rear patient compartment shall be easy to activate from a belted position while the ambulance is in motion. All switches shall be visible, and clearly labeled. Switches, indicators, and control devices shall be perceptively and permanently identified with universal automotive graphics or at least 12 point letters for the noun or function, and 8 point

letters for the remainder of the legend. When lettering is used, the words shall be written in the primary language of the location of the ambulance.

For ease of Identification, the controls and switches shall be contrasting colors etched or engraved in plastic or metal, or printed and laminated in see through plastic, and logically grouped according to function. The switches shall have a different feel from the OEM switches and controls on the front dash console. All switches and controls detailed here shall be mounted in illuminated or backlit panel(s), or the console.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

OPTIONAL TOUCH SCREENS

Touch screens, touch pads or other heads up display consoles are permitted. Each control and function shall be clearly identified and shall meet the lighting and description of the Controls and Switches section listed above. Touch screen graphical displays shall also be contoured and designed to reduce glare from natural daylight and shall have a dimming feature to reduce eye fatigue during nighttime operation. Touch screen displays incorporating buttons shall meet the same requirements as the Controls and Switches section detailed above in regard to a different tactile feel of the button and the markings on the button.

The exact electrical system specified for the completed ambulance shall be identified in the electrical section of this bid proposal.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

COMPONENT PROTECTION

All manufacturer or supplier supplied hose lines, air system tubing, control cords, and electrical harnesses shall be mechanically attached to the frame or body structure of the ambulance. All exposed tubing, electrical wiring and hoses shall be contained in a loom or an insulated covering on both the exterior and interior of the ambulance. Where hoses and electrical wiring looms are passing through a metal edges; a protective grommet shall be installed in the hole to prevent premature wear on the loom or hose. Exposed wires and hoses shall not be permitted as this poses a potential hazard and could cause premature failure of critical components on the completed ambulance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

AMBULANCE PERFORMANCE

The ambulance shall meet the requirements of this standard at elevations of 2,000 ft. (600 m) above sea level. The ambulance shall meet all the requirements of this standard while stationary on a grade of 6 percent in any direction. Where temperature requirements are not otherwise specified, the ambulance shall be designed to function in ambient temperature conditions between -20°F (-29°C) and 110°F (43°C). The ambulance shall be capable of being driven for at least 250 mi (402 km) without refueling. The vehicle shall be capable of three fording's, without water entering patient and equipment compartments while being driven through a minimum of 8 in. (203 mm) of water, at speeds of 5 mph (8 km/hr.), for a distance of at least 100 ft. (30 m).

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

SERVICEABILITY

The ambulance shall be designed so that all the manufacturer's recommended routine maintenance checks of lubricant and fluid levels can be performed by the operator without the need for hand tools. Ambulance components that interfere with repair or removal of other major components shall be attached with fasteners, such as cap screws and nuts, so that the components can be removed and installed with ordinary hand tools. These components shall not be welded or otherwise permanently secured into place.

In the event of repair (warranty or non-warranty), the manufacturer shall have approved service centers to assist in maintaining and repairing the ambulance. A list of the approved service centers shall be provided upon request of the purchaser.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

SERVICE CAPABILITIES

It is important for the dealership to support the customer after delivery of the new ambulance. Therefore, as a part of their primary business operations, the successful bidder shall have a licensed, full time parts and service center with a valid New York State license number. The service center must have a dedicated telephone number for providing customer service, technical assistance and parts distribution. This number must be answered from 7:00 A.M. to 5:00 P.M. Eastern Time. Additionally, there must be an afterhour's contact number allowing the customer to reach a representative 24 hours a day seven days a week in the event of an emergency. This

number must be a direct number to the manufacturer's representative and not an answering service.

The dealer's service department must have an experienced road service technician(s) equipped with a full service vehicle available for warranty and service needs of this District within 48 hours of requested service support. The bidder shall provide, with this bid, photos of the dealership's dedicated service vehicle(s) and of their primary parts and service facility.

The parts department shall have an inventory of industry related parts that allows the dealership to provide parts "On Call" and/or provides distribution within 24 hours. The dealership shall maintain a full time parts representative who is knowledgeable and responsive to the industry and understands the urgency associated with the timely distribution of the parts and equipment required by his customers.

NY State Service Center ID #: \_\_\_\_\_

Parts and Service Contact: \_\_\_\_\_

Parts and Service Phone Number: \_\_\_\_\_

As a part of their primary service and support operations, the successful bidder shall currently possess "on site" loaner or rental units that are available for customer support. The bidder shall provide a policy for use statement along with a list of two (2) currently available units and two (2) reference services that have been provided loaner or rental support recently.

Unit #1: \_\_\_\_\_

Unit #2: \_\_\_\_\_

Reference #1: \_\_\_\_\_

Reference #2: \_\_\_\_\_

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

TESTS ON DELIVERY

If acceptance tests are required at the point of delivery, the purchaser shall specify the details of the tests to be performed, and shall not be performed in a manner that requires the ambulance or a component to operate outside its designed operating range. Certification from OEM and individual equipment manufacturers are acceptable providing they are not part of a system(s) or altered. These tests will include complete functional testing of a vehicle components.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

## WARRANTY

The manufacturer shall include documentation of all warranties pertaining to the new ambulance. Each warranty shall be specifically detailed and shall describe what exactly is covered under the specified warranty. Warranties must be described and detailed in exact times (e.g years, months, days). Warranties offering “Lifetime” or “Limited Lifetime” are often considered legally vague and subject to interpretation from the manufacturer as well as the state in which the ambulance is placed in service. For this reason, the warranty for this ambulance shall be as follows:

- Paint: 5 Years non pro-rated / 180,000 Miles
- Rust Protection: 5 Years non-prorated/180,000 Miles
- Electrical: 5 Years/ 180,000 Miles
- Materials and Workmanship: 5 Years/ 180,000 Miles
- OEM Materials: 2 Years / 75,000 Miles

A written statement of each of the manufacturer’s warranties shall be provided with this bid proposal.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_\_ N\_\_\_\_

## DOCUMENTATION

All documentation delivered with the ambulance shall be permitted to be in printed format, electronic format, audiovisual format, or any combination of these forms of media. The documentation shall be provided in a centralized manual, binder or CD. All documentation shall be clearly labeled and shall be easy for the purchaser to review as necessary.

The ambulance manufacturer shall deliver with the ambulance at least one copy of the following documents:

(as described in the forthcoming edition of NFPA 1917 Standard for Automotive Ambulances.)

(1) The manufacturer's record of ambulance construction details, including the following information:

- (a) Owner's name and address
- (b) Ambulance manufacturer, model, and serial number
- (c) Chassis make, model, and VIN
- (d) GAWR of front and rear axles and GVWR
- (e) Front tire size and total rated capacity in pounds (kilograms)
- (f) Rear tire size and total rated capacity in pounds (kilograms)
- (g) Engine make, model, serial number, rated horsepower.
- (h) Type of fuel and fuel tank capacity
- (i) Electrical system voltage and alternator output in amps

- (j) Battery make, model, and capacity in cold cranking amps (CCA)
- (k) Chassis transmission make, model, and serial number
- (l) Ratios of all driving axles
- (m) Maximum governed road speed
- (n) Paint manufacturer and paint number(s)
- (o) Company name and signature of responsible company representative
- (p) Documents from a certified scale showing curb weight on the front axle and rear axle(s) (without personnel and equipment)
- (2) Certification of compliance of the optical warning system
- (3) Siren manufacturer's certification of the siren
- (4) Written load analysis and results of the electrical system performance tests
- (5) Certification of slip resistance of all exterior stepping, standing, and walking surfaces

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### OPERATIONS AND SERVICE DOCUMENTATION

The manufacturer shall deliver with the ambulance at least one set of complete owner/operators manuals. These manuals shall also include after the sale service documentation covering the completed ambulance as delivered and accepted.

The owner/operators manual shall include the inspection, service, and operations of the ambulance and all major components thereof. The contractor shall also deliver with the ambulance the following documentation as set forth in the forthcoming edition of the NFPA 1917 Standard for Automotive Ambulances. The documentation listed here shall be for each ambulance delivered and shall contain the following information:

- (1) Manufacturer's name and address
- (2) Country of manufacture
- (3) Source for service and technical information
- (4) Parts replacement information
- (5) Descriptions, specifications, and ratings of the chassis
- (6) Wiring diagrams for low voltage and line voltage ambulance-specific systems to include the following information:
  - (a) Pictorial representations of circuit logic for all electrical components and wiring
  - (b) Circuit identification
  - (c) Connector pin identification
  - (d) Zone location of electrical components
  - (e) Safety interlocks
  - (f) Alternator–battery power distribution circuits

- (g) Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
- (7) Lubrication charts
- (8) Operating instructions for the chassis, any major components
- (9) Instructions regarding the frequency and procedure for recommended maintenance
- (10) Overall ambulance operating instructions
- (11) Safety considerations
- (12) Limitations of use
- (13) Inspection procedures
- (14) Recommended service procedures
- (15) Troubleshooting guide
- (16) Ambulance body, chassis, and other component manufacturer's warranties
- (17) Special data required by this standard
- (18) A material safety data sheet (MSDS) for any fluid that is specified for use on the ambulance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**CERTIFICATION AND PAYLOAD SIGNAGE**

The complete ambulance shall have a certification and payload label as shown . This label shall be mounted on the body (module) interior in a conspicuous location. The completed ambulance shall have a completed payload calculation form.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**CHASSIS**

The chassis shall be a 2014 or newer Mercedes Benz Sprinter chassis. This chassis shall have a 144” wheelbase with a GVWR of 8550 lbs. The chassis shall be equipped with the following standard features and options as listed below:

**PAINT**

White

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

## STANDARD ACCESSORIES

- Axle ratio 3.92
- Electronic stability program ESP
- Chassis for application ambulance
- Adjustable steering wheel
- Rear springs single
- Stabilizer bar rear
- Stabilizer bar reinforced front
- Shock absorbers reinforce
- Pre-installation electrical system
- OEM battery 100 AMP/12 V
- Bodybuilder connector under driver seat
- Radio speakers I front
- Battery positive contact
- Hill start assist
- Battery, main switch single pole
- Shelf above windshield
- Remote key FOB 315 MHz
- Tire pressure monitoring frequency
- Manually adjustable interior rearview mirror
- Transmission five (5) speed automatic
- Heater auxiliary electric hot air
- Air conditioning front
- Sprinter tracking code
- Check out water in miles
- Warning system driver seat belt
- Outside temperature gauge
- Fuel tank 26.4 gallon
- Auxiliary fuel sending unit
- Fuel filter with water separator
- Exhaust straight to rear
- Third LED brake lamp height mounted
- No parking lamps
- Engine 3.0 turbo diesel BlueTEC. 188HP @ 3800 RPM 325 lbs-ft of torque at 1400-2400 RPM.
- Emissions, Diesel
- Alternator, 14 V 220 amp
- Front and rear mud flaps
- Rear Tow Hook
- Continental tires
- Tires LT245/75R16

- Tires all season
- Steel Wheels 6.5 x 16
- Tire pressure monitoring lamp
- Spare wheel bracket below frame
- Spare wheel steel
- Driver and Passenger Airbag
- Driver and Passenger Armrests
- Sliding door, exterior track
- Sliding door, right side
- Ashtrays front
- Rear doors 270° opening
- VIN visible from outside
- GVWR 8550 pounds
- Hydraulic jack
- Vehicle dismantle/re-assembly
- Badging Freightliner brand

Does your bid comply with the specification as written?            Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

OPTIONAL ACCESSORIES

- High roof
- Deletion of cargo partition
- Pre-installation for radio
- Lockable Glovebox
- IP hinged lead center stack bin
- Keys, two (2) additional master keys
- Heat insulation
- Windshield with filter band
- Heater Booster 5 kilowatt
- Daytime running lamps
- Lamps installed in cargo compartment
- Illuminated exits
- Overhead control panel with two lamps
- Bracket for auxiliary air conditioning compressor
- Wheels, light alloy 6.5JX16
- Delete tire sealant and compressor
- Delete OEM Wood Floor
- Road hazard light

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

PREMIUM PACKAGE

- Exterior mirror power/heated
- Cruise control
- Comfort driver's seat
- Comfort passenger seat

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

ADDITIONAL BATTERY PACKAGE

- Battery 100 and auxiliary
- Relay battery disconnect
- High idle fixed package
- Parametric special module
- Idle control preset

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

WINDOW PACKAGE II

- Storage net in hinged rear doors
- Window right sliding door
- Windows and tailgate rear door

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

DIMENSION LABELING

The completed ambulance manufacturer shall provide a high-visibility label showing the dimensions of the ambulance and the GVWR of the competed vehicle. This label shall be located in a location easily found by the driver or attendant of the ambulance.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### HEADS UP CONSOLE

The completed ambulance shall include a Heads Up Console designed specifically for the chassis detailed above. This heads up console shall be integrated into the center dash panel area and shall include all controls and switches to operate all necessary emergency or mission critical functions. The heads up display shall incorporate LED backlit pictograms or similar with switching and controls to operate and display the following items:

- Primary/Secondary Emergency Lighting
- Side Scene and Rear Load Lights
- Siren Controls
- Alarm Cutoff for patient indicator and back up alarm
- Wig Wag headlights (where applicable)
- Individual lighting activation (lightbars, additional warning lights, etc.)
- Rear Heat and AC controls with interior temperature display
- Door Open Display
- Compartment Open Display
- Compartment Open Display
- Digital Ammeter/Volt Meter Display
- Auxiliary indicator Light
- Mounting for Motorola XTL-500 Radio head (radio and head to be provided by BVA)
- Floor mounting for two (2) Motorola XTS2500 Portable chargers (Chargers to be provided by BVA). Actual radio can be mounted in stock area as long as it is easily accessible and there are no cabling pinch points.
- Mounting for a Scanner (to be supplied by BVA) with separate cab speaker.

Exact switching and electrical features shall be detailed in the electrical section of this specification. The detail above describes the minimum features the front heads up display shall activate.

Switch panels or displays requiring the operator to move their line of sight up or down is not permitted as this movement is not a natural line of sight movement for the driver and will take his or her focus off of the road.

An OEM radio shall be AM/FM stereo with CD and digital clock. The radio shall be moved to below the dash in approved cowl housing and pre formed radio mounting bracket. The OEM

radio shall be placed in this out of line of sight location as it not a necessary function of an emergency vehicle.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### COLD START PERFORMANCE REQUIREMENTS

The chassis engine shall cold soak tested to ensure the vehicle will start in harsh conditions. The chassis shall start and run for 5 minutes without stalling at -40°F (40-°C)without the use of external power or starting fluids and without the aid of engine block preheating devices (except glow plugs or combustion air pre-heater). This test shall meet and exceed shall the testing criteria in accordance with AMD 022, Cold Engine Start Test on a similar ambulance model.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### HOURMETER

A digital or analog engine hour meter shall be installed. This hour meter shall be placed in a conspicuous location.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### HIGH IDLE DEVICE

A high idle or throttle to engine speed auxiliary control device (high idle switch or throttle) shall be installed to allow an increase in the engine speed when the ambulance is parked. The high idle shall be engaged when the ambulance when the parking brake is engaged or when the transmission is in park. The high idle shall deactivate when the vehicle is put into motion by means of a shift in the transmission.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### READING LAMP

A red LED reading lamp shall be installed above the passenger to assist in night time vision. This light shall be installed in the cab headliner and shall be switched from the light head.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### SPOTLIGHT

A handheld of 400 000 CP with a momentary switch.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### CAB RISER

An aerodynamically formed two-piece fiberglass cab riser engineered and designed specifically for the chassis shall be installed on the top of the chassis roof. A cab riser is preferred as it has been proven and documented to enhance fuel savings by reducing wind resistance on the front of the ambulance. The unique aerodynamic riser shall also act as a conspicuous accessory to the front of the ambulance to attract attention to oncoming motorists. Equivalences will be considered.

The fiberglass riser shall be attached using existing mounting holes in the OEM B-Pillar as well as a chemical bonding adhesion. The exterior fiberglass cab riser shall incorporate a return at the edges to provide additional strength to the cap. The interior formed fiberglass lighting module shall be adhered to the exterior cover piece to form one solid complete unit.

This piece shall incorporate six (6) LED warning lights in red/clear/red pattern and shall be manufacture specific. Exact lighting specifications shall be detailed in the lighting section of this specification. Lights shall be recessed in the fiberglass cab riser and enclosed by a Lexan protective lens that is contoured to specifically fit the cab riser. Automotive window seal and adhesion shall be applied to Lexan covers for easy replacement and maintenance.

The interior of the riser section shall be insulated with anti-vibration foam as well as a dual bubble reflective insulation. Access points for the lights shall be installed in the ceiling of the cab and shall be easy to remove for maintenance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

### **Dash Light**

LED Dash mounted alternating red light on the lower edge centered of the front windshield to attract the attention of motorists in their rear view mirrors.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

### **Anti-Theft System**

There shall be a fully integrated anti-theft system installed in the ambulance. This system, activated via the front console, allows the user to remove the keys from the ambulance. This allows the unit to stay running while reducing the risk of theft. While the system is engaged, if the brake pedal is depressed, the system will automatically shut the unit down, preventing the unit from being driven

**Does your bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**Does your proposal include an exception to this requirement?** Y\_\_\_ N\_\_\_

### **Back-up camera (108)**

The ambulance shall have a back-up camera with a display in the driver's compartment, in either the center rearview mirror or in the visor. Display will not interfere with the normal exterior vision of the front seat occupants. It shall have a night vision mode to allow for clear viewing at night. It shall automatically switch the display when the vehicle is put in reverse. A secondary camera will be placed in the driver side rear compartment looking ahead being able to see both the patient and the medic in the back. A switch will be provided for the driver to manual activate that feature.

**Does your bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**Does your proposal include an exception to this requirement?** Y\_\_\_ N\_\_\_

### FRONT BUMPER

The chassis manufacturers OEM front bumper shall be furnished in the front of the chassis. The front bumper shall be cut on each side to accept the front siren speakers. These speakers shall rest be mounted to a custom chassis specific aluminum bracket and bolted to the OEM bumper.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**REAR STEP BUMPER**

A full width rear step bumper with integrated flip up rear stepping surface shall be installed on the rear of the vehicle. This rear bumper shall be bolted to the chassis from in no less than four locations at the top and sides of the chassis frame. The corner bumper ends shall be constructed of aluminum diamond plate and shall have machine cut round holes to facilitate debris and water runoff. A 9” center step shall have a “Sure Grip” open grated surface with integrated holes to keep the rear flip up step free of debris. The flip down step shall rest of two L brackets with vibration dampeners installed.

The rear step shall be able to withstand a load of 500 lb. with no more than 1” of deflection no more than ¼” in. of permanent deformation per the guidelines set forth in the AMD 018 Rear Step and Bumper Static Load Test Requirement as well as the forthcoming NFPA 1917 specification. Documentation of this test shall be provided with this proposal.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**PATIENT COMPARTMENT**

**DIMENSIONS AND BODY CONFIGURATION**

The overall dimensions of the completed ambulance shall be 234“ long by 78 ½” wide. The interior headroom shall be at least 72” from the floor to the ceiling.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

**PASS THRU**

The cab to patient compartment shall be separated by a pass through partition. The partition wall shall be constructed of one-piece powder coated aluminum.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

**PATIENT COMPARTMENT SIDE AND REAR ENTRY DOORS**

The patient compartment side and rear entry doors shall be provided by the OEM châssis manufacturer. The side entry door shall be a sliding type door and shall incorporate an

automotive style window with OEM tint. The rear doors shall be full size dual entry doors with one (1) OEM handle on the primary door. These doors shall be equipped with full sized OEM tinted windows. The exterior doors shall also incorporate a hold open to keep the doors ajar when load a patient.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### REAR DOOR LOAD HEIGHT

The rear entry doors shall allow for a maximum load height of 28” without the assistance of a rear air dump system.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_ N\_\_\_

#### ACCESS HANDRAILS

Rounded 1.25” chrome handrails shall be installed at the side and rear entry door to allow ease of entry into the patient compartment. The chrome hand rails shall be 90 degree (L – shaped) to provide more than one handling surface. These handles shall be designed to give the persons exiting and entering the patient compartment three points of contact to maintain safe entry and exit of the vehicle.. The access handrails shall be installed on the interior door panel into mounting plates in the door extrusions. Hand rails attached through the door panel only are not preferred as they have a tendency to pull loose after an extended period of pulling the attendant up into the vehicle.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### HANDRAIL TESTING

The handrail specified here shall withstand a force of 300 lb. (136 kg) applied in any direction without detaching, loosening, or permanently deforming. Compliance of the handrail shall be validated by testing a substantially similar ambulance or body structure in accordance with AMD 008, Patient Compartment Grab Rail Static Load Test.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

SIDE ENTRY DOOR STEP

An OEM non-skid stepping surface shall be built into in the side entry door. This stepping surface shall be constructed of the OEM ABS material and shall include a stepwell light.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

PATIENT COMPARTMENT INTERIOR

FLOOR

The floor shall be constructed of ¾” marine grade 7-Ply plywood and shall extend the length and width of the patient compartment. Where additional sections of plywood are needed, the sections shall utilize lap joint construction each other to maintain a continuous lay of the floor and eliminate the possibility of gaps or cracking in the wood. The sub floor shall be installed before the installation of any cabinetry, creating one solid floor. Floors cut to fit in the patient compartments aisle space will not be accepted. Holes in the floor for patient handling options and seating shall be precut in the sub assembly stage to allow the flooring to be placed over top of the holes and create virtually no means of liquids to permeate the sub floor when the patient compartment flooring components are installed (e.g. cot mounts, attendant seat). The floor assembly shall be able to accept a payload of no less than 800lbs. Results of this payload test shall be provided with the proposal. All sub floor assemblies shall meet or exceed the concentrated static load test procedure in ASTM E661. Results of this testing shall be provided upon request.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

WHEEL WELL

A self-adhesive foam dampening pad shall be installed on the interior wheel well in the patient compartment. This foam pad shall cover the entire wheel well surface and shall prevent excess vibration and road noise from entering the patient compartment area. A powder coated aluminum wheel well cover specifically designed and contoured for the Sprinter chassis shall be installed over the insulated wheel well to provide an aesthetically pleasing appearance as well as additional protection of the wheel well.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

FLOOR COVERING

Altro Safety flooring shall be installed in the completed ambulance. The non-slip floor covering shall be rolled at least 3” up the sides of the patient compartment. This floor shall be rolled on the coved floor extrusion and shall be adhered at every point of the floor cove giving a tight secure fit that will not bubble and prematurely tear. The floor shall be a one-piece (seamless) floor and shall be able to be cleaned without having to purchase special or potentially harmful cleaning agents. This roll up floor shall cover the entire length and width of the compartment’s working area. Areas in the floor where the sidewalls and floor meet shall be sealed to prevent any blood borne pathogens from entering. with corrosion resistant cove molding or the covering shall extend at least 3 in. (76 mm) up the sidewalls. Floors with screwed on cove molding above the floor is not desired by this department.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

INSULATION

The patient compartment shall be insulated with a vermin and mildew proof reflective faced insulation with a hard compressed fiberglass back. This insulation shall be used in all areas of the interior patient compartment including the sidewalls, floor and roof. Reflective faced compressed fiberglass insulation is recommended due to its nature not to settle over time and the ability to block outside noise. Natural air space between the cabinet assembly as and the side wall shall also act as a natural insulation barrier. This method of insulating preferred method of this agency. Other insulating methods may be documented and submitted. In accordance to the Federal Ambulance Specifications and the forthcoming edition of NPFA 1917 requirements, all insulations shall be non-settling type, vermin-proof, mildew-proof, fire retardant, non-toxic, and non-hygroscopic.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

INTERIOR STORAGE

The interior street side cabinetry shall provide a minimum volume of 30 cubic feet of enclosed cabinet, compartment, or shelf space. All cabinet structure, cabinet doors, shelves and openings described here shall be constructed of manufactured inert material. Over time, wood products tend to warp, distort and shrink creating potential for premature structural wear in the cabinetry. The purchaser prefers fiberglass and aluminum construction for its resiliency to harsh environments and cleaners as well as its lightweight size and overall strength.

The overall cabinet structure shall consist of interlocking extrusions. Extruded frame work shall provide the structural integrity of the cabinets as well as creating the individual cabinet sections. These extrusions shall be custom fit and CNC cut to form the particular cabinet configuration.

All Cabinet extrusions shall incorporate a rounded edge to give an aesthetically pleasing appearance as well as providing a smooth, safe surface for the crew member. Mitered box framed cabinetry will not be accepted as a mitered corner produces sharp edges and potential gaps at the corners. Each interlocking extrusion shall be attached by a hex machine bolt into the extrusion via a tap and die hole. Two (2) hex bolts shall interlock each cabinet extrusion. These fasteners shall lock the cabinet frame structure into place and shall prevent the cabinet from twisting or torqueing. Cabinet inserts shall be placed on the lip of the extrusion and shall be adhered with a Sikaflex adhesive as well as mechanically fastened into position. This structure allows for the structure to support the weight and pull of the cabinets. The structural integrity of the cabinetry is not reliant on the interior storage cavity.

The cabinets shall be attached at the top of the roll up floor extrusion and welded aluminum 3/8" L bracket attached to the side wall of the chassis. This structure shall create a longitudinal anchoring surface for the cabinets. When attached the cabinet structures shall be secured firm into position at the top and bottom yet still allows for some torsion while the vehicle is in motion. The top set of cabinets shall be attached to the structural member at the ceiling and at the "L" brackets at the side of the chassis. When securely fastened, these cabinets shall create one complete cabinet bank.

Unless specified for a particular purpose, all interior cabinets shall be constructed of preformed fiberglass inserts. Cabinets designed for a particular purpose may be constructed of formed aluminum depending on the application. All cabinets shall be equipped to accept removable adjustable shelves.

All cabinets shall be easy to clean, impervious to soap, water, body fluids, and disinfectants, shall be mildew resistant. The interior cabinet surface shall comply with the requirements in FMVSS 302 as well as the forth coming NFPA 1917 Ambulance standards and the KKK-A-1822 Federal Ambulance Specifications.

Cabinets with sliding windows shall have a transparent window and window track felt installed in the dedicated channels of the cabinet extrusion. The cabinet windows shall be made of 3/8" Lexan and shall incorporate a full length plastic handle. Aluminum pull handles are not desired due to the tendency to produce sharp edges on the top and bottom of the handle.

To ensure the cabinet structure will withstand considerable impact without collapsing, the cabinet structure shall be pull tested to 9000 lbs. from the side and 10,000 lbs. from front to rear. Other cabinet construction methods will be considered provided a document and photographic evidence is supplied that the cabinets were pull tested to the weight detailed above. This accurate and approved testing documentation shall be provided when proposing an alternate cabinet structure.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### STREETSIDE CABINERY

The cabinetry layout shall consist of the following cabinetry:

A full length upper cabinet shall be installed above the main bank of cabinets. These cabinets shall be full depth and shall be accessible via sliding windows with full length handles.

A full depth cabinet shall be located above action console area. This cabinet shall be accessible via sliding windows with full length handles.

A full depth cabinet shall be located below the action console area. This cabinet shall be accessible via sliding windows with full length handles.

Three (3) large full depth storage cabinets shall be located adjacent to the action console area. This cabinet shall extend the action console area to the rear interior backboard storage compartment. The cabinetry shall contain three (3) individual sections. The two main cabinets shall be the larger section being of equal size and the upper section shall be the same size as the cabinet above the action console area. All cabinets shall be accessible via sliding windows with full length pull handles.

A formed one piece CNC cut backboard compartment shall be installed at the streetside rear of the patient compartment. This compartment shall be attached in the same manner as the cabinets specified. The compartment shall have a powder coat finish to match the interior of the patient compartment. A backboard retention strap shall be added to keep backboards in the compartment secure.

The cabinetry layout shall match the drawings specified in this bid proposal.

The purchaser will not accept prototype built models or untested construction methods used only to satisfy the detailed description of this specification. Alternative construction methods shall be detailed in the exceptions section of this bid proposal. Photographs of this construction method shall be provided to allow for adequate comparison.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

ALS/BLS CABINET

The ALS/BLS cabinet shall be designed for a specific need for the purchaser. The ALS cabinet specified here shall be the desired and recommended configuration due to its efficient use of space and accessibility. Due to the nature of these specific requirements, the purchaser shall accept no exceptions or clarifications to the layout of this ALS cabinet.

The ALS/BLS cabinet shall constructed from CNC cut and formed power coated aluminum and shall be divided into two sections. These sections shall have a specific purpose and the sizes shall accommodate the equipment described here. Cabinet will be fully enclosed.

The upper section shall be accessed via two CNC routed aluminum access doors. The doors shall be operated by two thumb style trigger on the top and the bottom primary access door. The secondary door shall have a lap section included on the door to keep the secondary door from opening.

The interior cabinet shall contain two (2) low profile adjustable shelves. Adjustable shelves shall be of one piece formed aluminum design with formed gussets on each side for extra strength. All universally adjustable shelves shall be attached to unistrut shelf track securely fastened to the bulkhead wall. A ½” lip shall be formed into the front of the shelf to assist in securing items. These shelves shall allow for multiple mounting positions.

The lower section of the ALS/BLS cabinet shall have a large opening suitable for an ALS Soft Pack Bag (26” by 20” by 16”) to easily fit into the cavity. The bottom of this cabinet section shall include removable yellow floor tile to provide a secure grip. This cavity will be above the stairchair well (mentioned below) and will be lockable with access from both the interior and curbside of the vehicle.

The bottom section of the ALS cabinet shall be storage for a stair chair. This storage area shall recess into the patient compartment to ensure the stair chair is securely set into place. Full access to this section shall be limited to the outside of the vehicle. A seat belt style retention strap shall be located at the exterior access point to keep the stair chair in position.

The purchaser will not accept prototype built models or untested construction methods used only to satisfy the detailed description of this specification. Alternative construction methods shall be detailed in the exceptions section of this bid proposal. Photographs of this construction method and layout shall be provided to allow for adequate comparison.

A U shaped hook will be provided on the exterior (curbside) portion of the cabinet with seatbelt straps for a Furno late model folding stair chair. This will be done in compliance with the example set on the existing Brighton Ambulance 3089.

ALS cabinet layout and dimensions shall match the drawings included in this bid proposal.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### INTERIOR SURFACES

The interior of the ambulance shall be constructed in such a way that is free of sharp edges and can be easily cleaned and maintained. Wall surfaces shall be a CNC cut non-wood, resin-based material designed to specifically matchup the interior design of the module. A CNC cut surface is preferred due to the ease of maintaining sealing and long term cleaning as excess trim pieces and “filled in” rough cut installation holes are not present. All interior surfaces shall be easy to clean, impervious to soap, water, body fluids, and disinfectants, shall be mildew resistant. Interior surfaces shall comply with the requirements in FMVSS 302 as well as the forthcoming NFPA 1917 Ambulance standards and the KKK Federal Ambulance Specifications. The interior color shall be light neutral color to reflect as much light as possible.

Trim pieces adjoining multiple wall surfaces are not preferred by the purchaser as this adds another crevice to keep clean and could become an unnecessary source of penetration for debris or liquids to enter. Trim molding can also contain sharp edges on the corners and could be a potential hazard.

All components installed in the ceiling or shall be mounted as flush as possible and shall not protrude any further than 1” from the ceiling. Components surface mounted on the wall shall comply with the head protection requirement and shall incorporate a protective shield or covering.

The action area countertop shall be made of aircraft grade fiberglass and extend up the back wall of the action area to form one solid surface. The countertop shall be one piece and incorporate a ½” lip to contain any liquid spillage.

All upholstered seating surfaces shall be thermoformed and shall have no exposed stitching. Head pads and vinyl trim areas which are not seating areas shall be customized with vinyl wrapped polyurethane foam with a hard surface backing material.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### SEATED HEAD CLEARANCE

The top surface of the bottom seat cushion to the nearest overhead obstruction for each designated seating position shall be a minimum of 43 in. This requirement is in accordance with AMD 025, Measurement Guidelines: Occupant Head Clearance Zones. No exceptions shall be taken to this requirement.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### ATTENDANT'S SEAT

An automotive style thermoformed seamless attendant's seat shall be installed at the head of the cot in the patient compartment. The attendant's seat shall have a three-point seat belt integrated into the seat. A seat it shall be able to swivel and shall have front to back travel. This seat shall conform and comply with the FMVSS Motor Vehicle Safety Standards, the forthcoming edition of the NFPA 1917 Standard for Automotive Ambulances as well as the current revision of the KKK-A-1822 Federal Ambulance Specification. A convex Mirror will be provided in the back curbside rear in the patient compartment for visibility or the patient from the attendant's seat.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### SQUAD BENCH

A squad bench capable of seating two (2) attendants and a monitor cardiac shall be located on the curbside of the vehicle. To maintain structural integrity and maximize weight and storage, the squad bench shall be made of .090 aluminum pieces welded together. The belts will be located on a main frame with reinforcement plates strong enough to resist to required pull tests. The squad bench shall be attached to the side wall structure as well as to the roll up floor extrusion and to the floor.

Access to the storage area under the squad bench shall be via a positive closing latching system on the squad bench lid and face. When the latch is released, the bench shall automatically raise open via the compressed gas struts attached to the squad bench lid and to the bottom of the squad bench storage area. The bottom of the storage area shall be cover with a single piece of covering matching the patient compartment.

Two (2) sets of seatbelts shall be located on the back of the squad bench permanently bolted through ½" plates. Holes shall be tapped to allow for seat belt removable after the squad bench is installed in the vehicle.

Individual seamless thermoformed seat cushions with high bucket seamless thermoformed backrest cushions shall be fixed on the wall for each seating position. The backrests shall be contoured and include lumbar support for comfort and fatigue resistance. The color of these cushions and backrests shall match the interior vinyl cushions.

The purchaser will not accept prototype built models or untested construction methods used only to satisfy the detailed description of this specification. Alternative construction methods shall be detailed in the exceptions section of this bid proposal. Photographs of this construction method shall be provided to allow for adequate comparison. Testing documents of the exact squad bench shall be provided.

**Does your bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**Does your proposal include an exception to this requirement?** Y\_\_\_ N\_\_\_

HVAC

The patient compartment HVAC unit shall be controlled by the driver or the patient compartment crew member via the multiplex switch panels located on the front dash or the rear switch panel. The HVAC system shall be controlled by a thermostat incorporated in the multiplexing electrical system. In order to achieve maximum efficiency and optimization in this system, the HVAC systems shall be controlled via Pulse Width Modulation (PWM) to allow the heating and cooling system to run at its most effective level and to allow the customer to adjust the level of blower settings if desired. The PWM system shall also allow for the HVAC system to engage more efficiently, producing minimal to no initial electrical spike to the electrical system.

Adequate room for hose connections and hoselines shall be made when installing this HVAC unit. The hoses shall run along behind the cabinetry to their specified locations based heating and cooling requirements.

All of the hoses connecting the heating and cooling devices shall be clamped with metal clamps at least every 18” and shall not have bends in the hoses greater than 45 degrees to maximize airflow.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

HEATING

The heating system shall meet the requirements of AMD 012, Interior Climate Control Test.

AIR CONDITIONING

The air conditioning unit shall be installed in the patient compartment in a location on the curbside bulkhead of the patient compartment in a dedicated accessible cabinet. This cabinet shall be constructed of the same aluminum structure as the other cabinets and shall allow for proper air flow and circulation for the system. No wood products shall be used to line or construct this compartment as this is an area where moisture can be prevalent. This air conditioning unit shall be capable of cooling at a rate of 35,000 BTUs.

Five (5) universally adjustable vents with manual closures shall be installed above the ALS cabinet in a contained, insulated cabinet designed specifically for the air conditioning system.

This air conditioning system shall comply with the forthcoming NFPA 1917 Standard for Automotive Ambulances air conditioning standard of lowering the interior temperature from 95°F to 78°F (35°C to 25°C) at a minimum of 40 percent relative humidity within 30 minutes.

This air conditioning system shall also comply with the testing criteria defined in AMD 012, Interior Climate Control Test. Independent testing shall be completed and the results shall be provided with this bid proposal.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

FRESH AIR VENTILATION

Fresh air intakes and exhaust fans shall be installed. These fans shall allow adequate air exchange within cab and patient compartment while parked or in motion. The exhaust fan shall be controlled by the multiplexing electrical system and shall operate on 3 speeds (Low, Medium and High). The exhaust ventilation system shall be run to exit from the streetside of the vehicle. A large clamshell style vent shall be installed to shield the outtake from debris and adequately remove the exhausted air. The fresh air exhaust fan shall provide a minimum of 400 cfm.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

INTERIOR NOISE

The sound level patient compartment shall not exceed 80 decibels while under normal driving conditions. The manufacturer shall provide the independent testing documents in accordance to AMD 006, Patient Compartment Sound Level to ensure this requirement is satisfied. Due to the importance of patient pacification and crew safety, no exceptions or deviations will be considered for this requirement.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**CARBON MONOXIDE DETECTOR**

The patient compartment shall be sealed and vented so that the interior carbon monoxide level does not exceed the maximum ppm of CO above ambient conditions. A carbon monoxide detector shall be installed in a conspicuous location yet not interfere with patient care

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**PATIENT COMPARTMENT COMPONENTS**

**OVERHEAD ACTION AREA LIGHT**

A fluorescent light mounted in the action area shall be installed to provide additional lighting to the action area counter. This light shall be controlled by a switch on the front switch panel and from the light head.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**REAR RADIO SPEAKERS**

A pair of rear radio speakers shall be installed in an upper portion of the patient compartment in an area not interfering with patient care. The speakers shall be controlled by a rheostat volume control on the action area wall.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_\_ N\_\_\_\_

**ENTRY DOOR GRAB HANDLES**

Two (2) chrome finish entry door grab bars shall be in easy to reach location when the attendant is entering and exiting the patient compartment. These grab handles shall be securely fastened to the cabinet structure to prevent the handle from coming loose during typical use.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**OVERHEAD GRAB RAIL**

One (1) 63” chrome finished overhead grab rail shall be mounted in the patient compartment ceiling. The grab rail shall be at least 1.25” in diameter and shall have minimal protrusion in the patient compartment ceiling area. The grab rail shall be securely fastened to the OEM roof structure tubes in the patient compartment ceiling at each mounting location. Grab rails attached to roof structures only at the ends, or those utilizing aluminum backer plates shall not be accepted.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**OXYGEN AND SUCTION**

**OXYGEN, MAIN SUPPLY AND INSTALLATION**

The completed ambulance shall have a piped medical oxygen system capable of storing and supplying a minimum of 3,000 liters of medical oxygen. The main oxygen supply shall be from a compressed gas cylinder(s) that the purchaser will provide and install at the time the vehicle is placed in service. All oxygen piping shall be concealed, loomed and not exposed. Where oxygen lines may travel through a hole, a grommet shall be used to prevent premature wear of the oxygen line. All oxygen tubing shall be secured yet shall be still accessible for maintenance. Oxygen shall be piped to a self-sealing oxygen outlet with a minimum flow rate of 100 LPM at the outlet. The oxygen system shall be tested prior to delivery and the results of the test shall be provided with the end user documentation. A label shall be provided near the oxygen tank stating: “This oxygen system was tested in accordance with NFPA 1917 and meets the requirements thereof”. The label shall be signed and dated by an authorized representative of the ambulance manufacturer or test agency.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

**CYLINDER CONTROLS**

The oxygen cylinder controls shall be accessible from the inside the vehicle. The cylinder shall be manually controlled from the tank via a regulator. Access to this regulator shall be through an easy to open clear acrylic access window.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

OXYGEN CYLINDER PRESSURE INDICATOR

Oxygen cylinder pressure shall be able to be viewed from a gauge located in primary medical center area.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

OXYGEN OUTLETS

Two (2) surface mounted oxygen outlets shall be installed in the completed ambulance. Both shall be installed on the medical center wall. These outlets shall be tested prior to delivery of the ambulance.

Exact location of the oxygen outlets shall be located on the provided drawings.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

CYLINDER WRENCH

An oxygen cylinder changing wrench shall be installed in an easy to access location. This cylinder shall be attached to the compartment with enough tethering material to efficiently use this tool whether right or left handed.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

OXYGEN TANK STORAGE

The oxygen tank shall be stored in an outside compartment in a storage compartment designed for the cylinder. The cylinder shall be able to be accessed and removed from the outside, and shall be able to be controlled at the regulator from the inside. A chrome vent with an interior rubber debris barrier shall be installed on the exterior on the oxygen compartment door to properly ventilate this compartment of any leaking oxygen. The oxygen tank storage compartment shall be clearly identified to indicate the compartment is for oxygen storage only.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

#### OXYGEN TANK BRACKET

A Zico QR-Strapless Oxygen cylinder bracket shall be installed on the back of the interior oxygen compartment to accommodate one oxygen cylinder. This bracket shall be designed to accept many different sizes of oxygen cylinders. The Zico bracket shall be securely fastened to reinforcement mounting plates to be able to withstand. Any mounted oxygen cylinders shall be a force equal to 25 times the weight of a full tank for which the cylinder bracket was designed. The oxygen cylinder bracket and testing results shall conform to forthcoming edition of NFPA 1917 Standard for Automotive Ambulances and AMD 003, Oxygen Tank Retention System Static Test, specific mounting locations will be confirmed at pre-build.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### SUCTION

A RICO RS4 electrically control suction system shall be installed in the patient compartment on the action area wall. The vacuum control shall be located in a position that can be easily operated by the attendant. The suction pump shall be located behind the streetside cabinetry an area that is easily accessible. The suction pump shall be securely mounted to the floor to eliminate any unnecessary vibration. The suction system shall be control from the rear control panel. A vacuum indicator gauge shall be provided this gauge shall display increments at least every 100 mm Hg and minimum total range of 0 to 760 mm Hg.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### PATIENT CARE ACCESSORIES

##### IV HOLDER

Three (3) recessed mounted IV hangers specifically designed for holding IV containers shall be installed, including hook and loop straps to adequately secure an IV bag/bottle. The IV holder shall recess into the ceiling creating minimal protrusion into the patient compartment when not in use. Two (2) IV holders shall be installed over the patient cot area and one (1) shall be installed in the squad bench area of the ceiling.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### WASTE AND SHARPS DISPOSAL

A kick out style for sharps and waste shall be installed under the cardiac monitor tray. An easy to locate ball style kick switch shall be installed to the side of the drawer. This type of system shall allow the attendant to quickly access a tip out door with his or her foot to avoid unnecessary contamination of the drawer face from their hands.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### PATIENT COT RETENTION

The floor of the patient compartment shall be equipped with Stryker model 6370 cot mounts to except a Stryker cot. These cot mounts shall be securely bolted to the floor through the sub floor and into ½” 6061 –T6 aluminum reinforcement plates. Backer plates that are not integral to the floor structure shall not be permitted as of these may have a tendency to vibrate loose over time. This patient cot retention system shall be tested at a minimum force of 2200 pounds applied in a vertical longitudinal and lateral. The patient cot retention requirements shall conform to the requirements set forth in AMD 004 Litter Retention System Static Test.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### ELECTRICAL SYSTEMS AND WARNING DEVICES

##### OVERVIEW

An electrical system separate of the chassis electrical system shall be installed. This electrical system shall be a regularly used system by the manufacturer and shall incorporate efficient, solid state technology. The completed ambulance shall be equipped with a fully operational solid state multiplexing electrical system. Multiplexing electrical systems use fewer electrical components yet allows for multiple configurations of electronic functions with little to no excess wiring. A multiplexing electrical system is the preferred electrical system by the purchaser due to the flexibility in programming and the ability to customize the electrical system to the needs of the purchaser. Specific details on this multiplexing electrical system shall be described below. Printed circuit board or, so called “hardwired” electrical systems shall not be acceptable.

The ambulance manufacturer shall have significant experience in installing multiplex and electrical systems. The purchaser is not interested in prototypical or logical systems that are untested or unproven by the ambulance manufacturer. The multiplex system specified here shall be fully developed, tested, in service for at least 10 years and shall be installed on at least 2000 units. Documentation of electrical systems installed and in-service shall be provided at the purchaser's request.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### SERVICEABILITY

The ambulance multiplexing electrical system shall be designed to be maintained and service easily. In the unlikely event of an electrical problem, the ambulance's electrical system shall be able to be connected remotely to the Internet and shall be able to be diagnosed, programmed or reprogrammed by a service technician at the ambulance manufacturer's main facility. This multiplex electrical system shall be proven to be virtually maintenance free. A failure (warranty) rate of less than 1% is required because this agency wishes to purchase an ambulance with the utmost reliability in service. Documentation of warranty claims relating to the electrical system shall be provided to the purchaser upon request.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### GENERAL

Any low voltage electrical systems or warning devices installed on the ambulance shall be appropriate for the mounting location, intended electrical load and shall meet the specific requirements of the electrical section.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### ELECTRONIC CONTROLLER UNITS

Multiplexing electrical system shall consist of solid state electronic controller units mounted in the electrical control panel. Electronic controller units shall act as the central communications system for the entire electrical system. These electrical controller units shall command all electrical components installed by the manufacturer in the cab and in the patient compartment. Each electronic controller unit shall be self-diagnostic with easy-to-read LED displays on the front for the sides of electronic controller units. Clearly labeled wiring for each electrical

component shall be installed with high quality connections which plug into the electronic controller unit. A CD of the programming and the electrical schematics as well as detailed printed schematics of all components and wiring shall be provided with the completed ambulance.

All Electronic controller units shall be sealed in a weatherproof exterior casing. The electronic controller units main interior control panel shall be coated in weather resistant epoxy prior to delivery to the ambulance manufacturer. All electronic controller units shall be installed in electrical control panel compartment for centralized location.

Electronic controller units shall be programmed using already established automotive communication language. Electronic controller units shall be programmed to communicate and receive signals in the SAE J1939 protocol. This type of system is preferred to allow for future expansion and flexibility to the multiplex an electrical system. No auxiliary printed circuit boards, circuit breakers or relays shall be used in future expansion or to assist in the functionality of standard electrical components. All electrical components shall be run through the electronic controller units.

Electronic control units shall be fully programmable by the manufacturer using the SAE J1939 protocol. The completed program shall be kept on file by the ambulance manufacturer for each individual customer.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### PERFORMANCE TESTS

All electrical system testing shall be completed on the ambulance prior to delivery. Continual testing shall be provided by the manufacturer on an ongoing basis. The low voltage electrical system performance test shall comply with the most current revisions of all state and federal requirements.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### WIRING

All wiring for the electrical systems shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the component shall not exceed 10 percent. Proper grounding techniques shall be used for all wiring in this vehicle. All circuits shall otherwise be wired in conformance with SAE J1292, *Automobile, Truck, Truck-Tractor, Trailer,*

*and Motor Coach Wiring.* None of the ambulances electrical wiring and components shall terminate or originate in the oxygen storage compartment except for the oxygen controlled solenoid, compartment light, and switch plunger or trigger device.

#### Wiring and Wire Harness Construction

All wiring and harness construction shall conform and comply with the forthcoming edition of NFPA 1917 Standard for Automotive Ambulances.

The ambulance wiring harnesses shall be a continuous run to each electrical component without Scotch-lock type connectors or crimp type connectors to connect to a component. The ambulance wiring shall contain no splices in the main wiring harness. The connectors on each end of the electrical component shall be aircraft standard and shall be machined crimped. Hand crimped electrical connectors are not permitted by the purchaser as they have been proven to be prone to premature failure.

All ambulance wiring harnesses shall be enclosed in a metal or a plastic loom. This loom shall run from the electronic controller units to specified electrical component. Instances where conduit must travel through a tube structure, a rubber grommet shall be placed in the hole to prevent premature wear of the conduit and wiring. All wiring harnesses shall be secured to the roof tube structures with insulated clamping fasteners.

All insulated wire and cable shall conform to SAE J1127, *Low Voltage Battery Cable*, or SAE J1128, *Low Voltage Primary Cable*, type SXL, GXL, or TXL. When conductors are used, they shall be constructed in accordance with SAE J1127 or SAE J1128, except where instances require special strand construction. Conductor materials and stranding, other than copper, shall be permitted if all applicable requirements for physical, electrical, and environmental conditions are met as dictated by the component. Physical and dimensional values of conductor insulation shall be conforming to the requirements of SAE J1127 or SAE J1128, except in instances where special conductor insulation is needed. The overall covering of conductors shall be moisture-resistant loom that has a minimum continuous rating of 194°F (90°C) except in areas where the loom may be exposed to higher temperatures.

The overall covering of jacketed cables shall be moisture resistant and have a minimum continuous temperature rating of 194°F (90°C), except for cable installations where the wiring may be exposed to higher temperatures. All wiring connections and terminations shall use a method that provides a positive aircraft standard connection. This connection shall be a machine made consistent quality connection. Wiring connections and terminations shall be installed in accordance with the device manufacturer's instructions. Wire nut, insulation displacement, and insulation piercing connections shall not be used. All ungrounded electrical terminals and electrical panels shall have protective covers or shall be in enclosures.

All connections to the electrical components shall include a minimum 6 in. service loop of wire or harness and shall be provided at all electrical components, terminals, and connection points. All wiring connecting to all fixtures shall utilize easy plug in style connectors.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

### WIRING IDENTIFICATION

All wiring shall be identified for its designated purpose every 2 feet. The wiring identification shall include the exact location to the electronic controller unit. The electrical schematic provided with the completed ambulance shall identify the exact location of the wire to its component and its pin location on the electronic controller unit. Wiring identification shall be clearly visible and shall be machine printed on the insulated wire.

Circuits shall be provided with properly rated low voltage overcurrent protective devices. Such devices shall be readily accessible and protected against heat in excess of the overcurrent device's design range, mechanical damage, and water spray. Circuit protection shall be accomplished by utilizing fuses, circuit breakers, fusible links, or solid state equivalent devices.

If a mechanical-type device is used, it shall conform to one of the following SAE standards:

- (1) SAE J156, *Fusible Links*
- (2) SAE J553, *Circuit Breakers*
- (3) SAE J554, *Electric Fuses (Cartridge Type)*
- (4) SAE J1888, *High Current Time Lag Electric Fuses*
- (5) SAE J2077, *Miniature Blade Type Electrical Fuses*

The complete set of wiring schematics shall clearly identify all wiring locations, routing, and component connection. A sample document shall be available to the purchaser on request to examine the quality of the electrical schematic.

All instances of wiring not conforming to the standards established in this document shall be documented at the time of the proposal. Failure to comply with this requirement shall be cause for rejection of the proposal.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

## GROUNDING

Dedicated grounding locations for all appliances, circuits, etc. shall be furnished. The use of appliance mounting screws/hardware shall not be used for grounding purposes. Star washers or unapproved, untested, grounding methods shall not be used.

The ambulance body and accessory electrical equipment shall be served by circuit(s) separate and distinct from vehicle chassis circuits.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

## SWITCHING REQUIREMENTS

Switches, relays, terminals, and connectors shall have a direct current (dc) rating of 125 percent of maximum current for which the circuit is protected.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

## MINIMUM CONTINUOUS ELECTRICAL LOAD

In accordance to the forthcoming edition of the NFPA 1917 Standard for Automotive Ambulances, the minimum continuous electrical load shall be required to operate the ambulance during emergency operation. The following in a stationary mode during emergency operations:

(as proposed in the NFPA 1917 Standard for Automotive Ambulances)

- (1) The propulsion engine and transmission
- (2) All legally required clearance and marker lights, headlights, and other electrical devices except windshield wipers and four-way hazard flashers
- (3) The radio(s) at a duty cycle of 10 percent transmit and 90 percent receive (for calculation and testing purposes, a default value of 5A continuous)
- (4) The lighting necessary to illuminate walking surfaces at entry points and 50 percent of the total compartment light load as required by this standard.
- (5) The minimum optical warning system required in Section 7.8, where the ambulance is blocking the right-of-way.
- (6) The continuous electrical current required to simultaneously operate an additional 20 amp load.
- (7) Cab air conditioning (at coldest setting with highest blower speed).
- (8) Patient compartment air conditioning (at coldest setting with highest blower speed).
- (9) Patient compartment dome lighting (in the high intensity setting).

(10)\* Other warning devices and electrical loads defined by the purchaser as critical to the mission of the ambulance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### VOLTAGE ALARM

A voltmeter shall incorporate an audible voltage warning should the system voltage at the battery or at the master load disconnect switch drops below 11.8 V for 12 V nominal systems 120 seconds. This voltage alarm shall be programmed into the multiplexing electrical system.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### LOAD MANAGEMENT

The multiplexing electrical system shall be programmed to automatically shed electrical load should the electrical output rating of the installed alternator drop below a programmed voltage level. Electrical components shall shed in order of priority and shall be programed into the multiplexing electrical system. External load management systems or load management systems not programmable shall not be considered as the purchaser requires this electrical system flexibility.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### BATTERIES

Two (2) batteries shall be installed in addition to the (2) OEM battery. The two batteries for the chassis shall be located in a compartment under the ALS compartment its own ventilated compartment. Two (2) batteries for the patient compartment components shall be of like grouping. The batteries for the patient compartment and ambulance component power shall be installed in a compartment under the patient compartment floor and accessible through an aluminum diamond plate door in the wheel well. All batteries regardless of location shall be accessible via a heavy duty battery slide out tray. The battery system cold cranking amps (CCA) rating shall meet or exceed the minimum CCA recommendations of the engine manufacturer.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### CONTINUOUS ELECTRICAL LOAD

With the engine off, the battery system shall be able to provide a minimum continuous electrical load for 10 minutes without discharging more than 50 percent of the reserve capacity and then restart the engine. Compliance of the battery system shall be verified on the ambulance prior to delivery.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### SHORELINE

A 15amp shoreline shall be installed on the driver's side of this vehicle. The shoreline shall be installed in an aluminum box manufactured to fit this shoreline. The box shall be attached to so the shoreline has a positive attachment point as well as additional protection for the unit. This shoreline receptacle shall be UL tested and listed for external use. When the shoreline is plugged into an exterior source, all 125VAC 60Hz outlets shall be energized. A label shall be included near the shoreline indicating its function and amperage. The shoreline shall be recessed and shall include a weather-proof, low profile cover.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an Exception to this Requirement? Y\_\_\_\_ N\_\_\_\_

#### TEMPERATURE EXPOSURE

Any alternator, electrical starting device, ignition wiring, distributor, or ignition coil shall be moisture resistant and protected such that it is not exposed to a temperature that exceeds the component manufacturer's recommendations.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

#### ELECTROMAGNETIC INTERFERENCE

Electromagnetic interference suppression shall be provided as a standard part of the electrical system. This suppression shall conform to the radiation limits specified in SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats(up to 15 m), and Machines (16.6 Hz to 18 GHz)*.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

## INTERIOR POWER SOURCES

### OVERVIEW

The completed ambulance shall be equipped with two forms of internal power sources. These internal power sources shall allow attendants in the ambulance to plug in additional accessories or to charge battery powered devices when needed.

All power point outlets specified here shall be properly tested and shall be isolated with a Schottky style diode to isolate the medical equipment batteries from other loads. The diode shall be located in an accessible location and be electrically connected between the distribution panel and the power point connectors. The diode shall be heat sunked and shall have an inverse voltage rate of at least 45 volts. All wiring to the 12V outlets shall be clearly labeled and shall be one continuous run from the diode to the outlet.

125VAC outlets shall be energized from the shoreline and/or from the inverter if equipped. All 125VAC outlets shall be UL certified, shall be clearly identified on the unit and shall be rated to 60Hz. A 125VAC GFCI shall be installed beyond the shoreline and shall disable all 125VAC outlets when tripped. The GFCI shall be located in an easy to access yet inconspicuous location on the vehicle for ease of resetting if needed. The 125VAC wiring from the GFCI shall run to the individual outlets. All patient compartment outlets shall be three (3) line voltage duplex receptacles conforming to NEMA 5-15.

All wiring shall be rated to handle the load of the electrical component specified. The 125V and 12V wiring and associated equipment shall be tested by the ambulance manufacturer prior to delivery. The testing criteria shall include polarity and load demand of all receptacles shall be tested to verify that wiring connections have been properly made.

Electrical continuity shall be verified from the chassis or body to all line voltage electrical enclosures, light housings, motor housings, light poles, switch boxes, and receptacle ground connections that are accessible to personnel in normal operations.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

12V OUTLETS

The ambulance shall be equipped with three (3) 12V “power point” style outlets. These 12V outlets shall be protected. These outlets shall be wired to the conversion batteries and shall be energized when the master switch is activated. Two (2) 12V outlets shall be installed on the streetside of the vehicle below the monitor area and one (1) shall be installed in the ALS cabinet.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

125VAC OUTLETS

The ambulance shall be equipped with two (2) 125VAC 60 Hz grounded outlets. These outlets shall be wired to the conversion batteries and shall be energized when the master switch is activated. One (1) 125VAC outlet shall be installed on the streetside of the vehicle below the monitor area and one (1) shall be installed in the upper ALS/BLS cabinet.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

CONTROL PANELS

HEADS UP CONSOLE

The front control panel shall be integrated into the front dash console. This heads up console shall fit in the OEM holes of the dash. In this configuration, the OEM radio shall be moved to an engineered bracket on the engine cowl. This shall allow more room for the mission critical ambulance components.

The front control panel shall incorporate tactile switches with a different feel than the OEM chassis controls. Rocker switches and touch switches shall be used to control the ambulance functions. All switches and control buttons shall carry no load. Each switch and button on the control panel shall be connected to a printed circuit board that shall transmit the signal to the multiplexing systems Electronic Controller Units. Each switch shall be illuminated and shall incorporate a confirmation light on the switch. The front console layout shall incorporate the following controls:

HEAT/AC TOUCH CONTROLS

The rear HVAC system shall be able to be controlled for the cab. Push buttons to raise and lower the patient compartment temperature shall be clearly identified. Push buttons for fan speed

control shall also be located next to the temperature controls. Temperature and fan speed shall be raised and lowered by pressing the appropriate buttons. A digital display above the temperature control buttons shall display the patient compartment temperature, the fan speed, as well as ambient temperature info. This Heat/AC Touch controls shall also be set to automatic to allow the patient compartment to automatically regulate its temperature. Two (2) auxiliary buttons shall be installed on this control panel for future expansion if needed. These buttons shall be controlled by the multiplexing system's Electronic Controller Unit.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### MODULE DISCONNECT SWITCH

A separate on/off switch away from the master control switches shall be clearly identified as the Module Disconnect switch. This switch shall serve as the primary activation power source for the patient compartment and emergency lighting components. This switch shall be programmed via the multiplexing Electronic Controller Unit.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### MASTER CONTROL SWITCHES

Eight (8) tactile rocker switches shall be installed in the center of the Heads Up Console. These switches shall control the emergency functions of the ambulance. Each switch shall be distinguishable at a glance as an emergency control function switch. All switches shall be backlit and shall include a confirmation light at the bottom of the switch to indicate a signal has been sent to the Electronic Controller Unit. The top row of switches shall activate the following controls:

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### TOP ROW

3 position Primary/Secondary Switch: This switch shall activate the primary and secondary lighting configurations programmed into the Electronic Controller Unit.

Wig Wag Switch: This switch shall activate the wig wag headlights if equipped

Amber Switch: This switch shall activate the rear amber lights

Right Scene light Switch: The switch shall activate the right scene lights when the side entry door is not open.

Rear Load Light Switch: This switch shall activate the rear load lights when the rear doors are not open.

Left Scene Light Switch: This switch shall activate the left scene lights.

Alarm Cancel Switch: This switched shall be programmed by the multiplexing electrical system to cancel multiple alarms. This momentary switch shall cancel the patient indicator light alarms, the backup alarm and the low voltage alarm.

An additional switch shall be included on the Heads Up Console for purchaser specific options and or future upgrades. These switches shall also be attached to printed circuit board behind the switch and shall be programmable by the multiplexing system and controlled by the Electronic Controller Unit.

Patient Indicator Lights: the red/amber/green patient indicator lights shall be installed on the front Heads Up Console. An audible alarm shall sound when activated from the patient compartment rear control console. The alarm shall be cancelled by the Alarm Cancel Rocker Switch.

Door Ajar Indicator: This shall illuminate when an entry door is ajar. And audible alarm shall sound when this indicator light is flashing.

Compartment Ajar Indicator Light: This shall illuminate with any compartment door is ajar. An audible alarm shall sound when this indicator light is flashing.

Battery 1 Indicator Light: This light shall illuminate when the battery is operational.

Battery 2 Indicator Light: this light shall illuminate when the second battery is operational.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### REAR CONTROL PANEL

The rear control panel shall incorporate tactile rocker switches on the action area wall. The rocker switches shall be easily accessible from the head attendants seating position. The rear rocker switches shall be a completely sealed system and impervious to fluids, dust or other contaminants. Switches shall be easily cleaned and sanitized. All touchpad controls switches on the rear console shall be sealed to prevent and debris or fluids from entering the panel. Rocker switches shall be wired to a printed circuit board and shall carry a signal to the Electronic

Controller Unit. All rocker switches shall be clearly labeled for the intended function. Rocker switches in the rear patient compartment shall be programmed to operate all of emergency functions and patient care functions. The following components shall be controlled from this rear switch panel:

Electric Oxygen Solenoid: This switch shall be programmed to shall engage the onboard electric oxygen solenoid to allow oxygen to be distributed to the outlets

Patient Compartment Lighting: This switch shall be programmed to allow control of the lighting within the patient compartment.

Suction System: This switch shall be programmed to activate the onboard suction

Fan Speed: This switch shall be programmed shall allow for manual control of the HVAC fan speeds

Exhaust Fan: This switch shall be programmed shall allow for the manual control of the patient compartment exhaust fan.

Cabinet Lighting (when Equipped): This switch shall be programmed shall activate all of the cabinetry lighting.

Power Door Locks: This switch shall be programmed shall be programmed to control the power locks.

Overhead Reading Light: This switch shall be programmed shall be programmed to control and overhead reading light.

All rocker switch shall be programmed in the rear patient compartment shall be able to be reprogrammed and maintained through the vehicles multiplexing electrical system.

#### Rear Speaker Volume Control

A rheostat volume control shall be installed to control the speakers in the rear patient compartment.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

AUXILIARY TOUCH CONTROLS

The rear control console shall include a rear touch control panel to adjacent to the rocker switch controls. This touch control shall be multi-purpose and shall display a digital readout for those functions requiring data to be displayed.

The rear HVAC system shall be able to be controlled from the rear control console. Push buttons to raise and lower the patient compartment temperature shall be clearly identified. Push buttons for fan speed control shall also be located next to the temperature controls. Temperature and fan speed shall be raised and lowered by pressing the appropriate buttons. A digital display above the temperature control buttons shall display the patient compartment temperature, the fan speed, as well as ambient temperature info. This Heat/AC Touch controls shall also be set to “automatic” to allow the patient compartment to automatically regulate its temperature.

Patient indicator lights shall be programmed in the control panel to alert the driver of changes to the patient status. There shall be an individual button programmed for the red, amber and green Patient Indicators.

The light over the action console area shall be controlled by a light on this touch pad. The button shall be programmed to activate and deactivate the light.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

VISUAL WARNING DEVICES

Each ambulance shall have a system of optical warning devices as specified in this section. All warning lights shall comply with the standards set forth in the AMD 024, Perimeter Illumination Test as well as the requirements established in the forthcoming edition of the Section 7.9 of NFPA 1917 Standard for Automotive Ambulances.

The visual warning system on the ambulance shall have two distinct programmed sequences during emergency operation. These shall be defined in this specification as Primary and Secondary. The primary mode shall signal to drivers and pedestrians that the ambulance is responding to an emergency and is calling for the right-of-way. The secondary mode shall indicate to the motorists that the ambulance is stopped and is blocking the right-of-way.

The bidder shall comply with the lighting manufacturer as well as the layout of the lighting package specified. The bidder shall comply where specific vendor and model numbers are described as these lights are purchased from a common vendor and can be purchased by all manufacturers.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

FLASH RATE

The minimum flash rate of any optical source shall be 75 flashes per minute, and the minimum number of flashes at any measurement point shall be 150 flashes per minute. Flash patterns shall be easily programmable through the multiplexing electrical system. External flasher units designed to operate the flash pattern of the vehicle are not preferred.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

FRONT BODY LIGHTS

UPPER FRONT BODY LIGHTS

(2) LED warning lights shall be installed on the upper portion of the front of the ambulance body. These lights shall flash in accordance to the flash pattern specified. Each warning light shall have an integral chrome flange attached.

Lights shall be installed in accordance to the component mounting specifications described in the previous section of this bid proposal. These lights shall comply with the lighting requirements established in KKK-A-1822 F revision and the AMD 024, Perimeter Illumination testing requirement.

Does your bid comply with the specification as written? Y\_\_\_\_ N\_\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_N\_\_\_\_

CAB RISER LIGHTS

Six (6) LED lights shall be installed in the aerodynamic cab riser specified. Two (2) red LED lights shall be installed on each side of the cab riser and shall be visible through the contoured red Lexan lens housing. Two (2) clear LED lights shall be installed in the center of the cab riser in the clear contoured Lexan housing. These lights shall flash in an alternating pattern where each red side flashes first followed by the clear lights. These lights shall flash in a pattern programmed by the multiplexing electrical system.

One (1) LED Dash light facing outward centered in the lower edge of the vehicle's windshield with alternating red flashes so that passenger vehicles ahead of the responding ambulance can easily see the light in their rear view mirror.

Two (2) round LED warning lights shall also be installed on the sides of the riser. These lights shall be installed behind the contoured red Lexan covers on each side of the vehicle and shall project light to the sides of the ambulance.

Lights shall be installed in accordance to the component mounting specifications described in the previous section of this bid proposal. These lights shall comply with the lighting requirements established in KKK-A-1822 F revision and the AMD 024, Perimeter Illumination testing requirement.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

GRILLE LIGHTS

(2) Mini LED grille lights shall be installed in the center grille section of the chassis. These grille lights shall be installed in the lateral section of the grille, yet shall not interfere with air flow into the chassis.

Lights shall be installed in accordance to the component mounting specifications described in the previous section of this bid proposal. These lights shall comply with the lighting requirements established in KKK-A-1822 F revision and the AMD 024, Perimeter Illumination testing requirement.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

SIDE BODY WARNING LIGHTS

INTERSECTION LIGHTS

Two (2) LED intersection lights shall be installed on the forward fender of the chassis. These lights shall be located in a position forward far enough to provide adequate clearance of an intersection. The intersection lights shall be programmed in the specified multiplexing electrical system to flash its designated pattern when the vehicle is in Primary and Secondary Mode.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

UPPER WARNING LIGHTS

Two (2) LED side body warning lights shall be installed on each side of the upper body. These lights shall be at a minimum of 75” from the bottom of the chassis. The lights shall be evenly spaced at the upper front corner, upper center and upper rear corner of the each side of the body. Each warning lights shall have a chrome flange installed around the light.

Lights shall be installed in accordance to the component mounting specifications described in the previous section of this bid proposal. These lights shall comply with the lighting requirements established in KKK-A-1822 F revision and the AMD 024, Perimeter Illumination testing requirement.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

REAR WARNING LIGHTS

A rolled formed fiberglass aerodynamic rear spoiler shall be installed on the rear ambulance roof. This spoiler shall create wind deflection while creating a recessed housing for the rear facing warning lights. Secure threaded fasteners in conjunction with a chemical adhesive bonding agent shall attach the rear spoiler to the roof of the chassis. Were applicable, the rear spoiler shall be attached to OEM chassis mounting holes in the roof.

Two (2) 1 red and 1 blue LED lights shall be installed in the upper corners of the rear body. The blue will be on the left, the red on the right. Two (2) red warning lights shall be installed next to each rear 900 Series warning light and shall act as upper brake lights. All rear facing lights specified shall include chrome flanges. One (1) 700 Series amber LED light shall be installed in the center of the rear of the chassis.

Lights shall be installed in accordance to the component mounting specifications described in the previous section of this bid proposal. These lights shall comply with the lighting requirements established in KKK-A-1822 F revision Federal Ambulance Specifcaiton and the AMD 024, Perimeter Illumination testing requirement.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

REAR FACING DOOR LIGHTS

Two (2) red and driver side blue LED lights shall be installed on the inside of all exterior compartments as well as the side and rear entry doors. These lights shall flash when the rear

doors are open to serve as an additional warning to motorists the compartment and patient entry door are open.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### SCENE AND LOAD LIGHTS

#### SCENE LIGHTING

Four (4) Halogen scene lights shall be installed on the streetside and curbside of the chassis at least 75" from the bottom edge of the chassis. Two (2) lights shall be installed just below the red warning lights on the corners of the chassis in a housing designed for these lights.. The side scene lights shall project at a downward 32 degree angle to allow for adequate lighting of the area surrounding the sides of the ambulance. The side scene lights shall be controlled independently for each side by a switch on the Heads Up console in the front dash. The scene lights shall comply with the testing requirements detailed in AMD 024, Perimeter Illumination Test.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### LOAD LIGHTS

Two (2) Halogen load lights shall be installed on the upper portion of the rear chassis above the rear doors. These lights shall project at downward angle to adequately light the area around the rear of the ambulance. These lights shall automatically illuminate when the rear patient compartment doors are opened. The rear load lights shall also be controlled by a switch on the Heads UP console on the front dash when the doors are not opened. The load lights shall comply with the testing requirements detailed in AMD 024, Perimeter Illumination Test.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

### AMBULANCE EXTERIOR DOT LIGHTING

ICC and DOT LED lights shall be installed by the chassis manufacturer. Amber ICC lights shall be installed on the front. Red LED ICC lights shall be installed on the rear the module.

A lower set marker lights shall flash in conjunction with the turn signals.

All Exterior ambulance ICC lighting shall conform to the requirements of FMVSS and the US Department of Transportation.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### STOP, TAIL, AND DIRECTIONAL LIGHTS

The rear of the ambulance shall be equipped with the OEM Stop, Tail, Turn and Backup lights. The manufacturer shall not replace or interfere with the placement of these lights.

All directional, stop turn and tail lights shall be clearly visible and shall meet the requirements according to FMVSS 108. There shall be no equipment installed that shall interfere with the visibility of these lights.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### PATIENT COMPARTMENT ILLUMINATION

Seven (7) clear round LED dome lights shall be installed in the ceiling of the patient compartment. These LED lights shall be low profile and shall not protrude into the patient compartment more than 1.5". All patient compartment LED lights shall be controlled via switches on the rear control panel. (3)Three fluorescent lights of the patient compartment curbside shall be illuminated when the patient compartment entry doors are opened. LED lights are preferred by the purchaser as this minimizes electrical load and require less maintenance over the life of the vehicle.

The patient compartment lights specified here shall be validated by testing in accordance with AMD 016, Patient Compartment Lighting Test.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

#### CABINET LIGHTING

Each interior cabinet shall contain an LED light located in an area in the cabinet where it shall not interfere with the overall use of the cabinet. The LED cabinet lights shall be programmed into the multiplexing electrical system to be activated via a switch in the rear control console.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

STEPWELL LIGHTING

An LED light shall be installed in the step well of the side entry door. This light shall be installed in a location where the light can provide maximum illumination while not serving as a trip hazard. This light shall be programmed by the multiplex and system to automatically illuminate when the side entry door is opened.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

LIGHT TESTING

All patient compartment interior and exterior compartment lights mounted in wet locations shall be tested in conformance with SAE J575, *Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width*, and shall comply with the following performance requirements of that standard.

All light level measurements shall be made with a light meter with a hemispherical light sensor held against the surface, facing perpendicular to the surface, and not deliberately pointed toward the light source.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

AUDIBLE WARNING DEVICES

The ambulances primary audible warning equipment shall be in the form of at least one automotive traffic horn and one electric or electronic siren shall be provided. A Whelen 295HFS2 multiple tone siren shall be installed as the primary siren with two separate drivers. This siren shall easy for the driver to access as it shall be mounted in the Heads Up Console as described in Section 5 of this bid proposal. The siren specified here shall conform the to the requirements described in the forthcoming edition of NFPA 1917 Standard for Automotive Ambulances as well as the SAE J1849, *Emergency Vehicle Sirens and California Administrative Code, Title 13, Article 8*:

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**SPEAKERS**

Whelen low profile Siren speakers shall be located behind the front bumper. The speakers shall be mounted to an engineered one-piece bracket designed specifically for the siren speakers. The bracket shall mount into fabricated holes in the OEM bumper. A powder coated aluminum grille cover plate shall be installed over the opening to keep large debris out as well as give the front speakers a complete finished appearance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**BACKUP ALARM**

An electric or electronic backup alarm shall be provided that meets the Type D (87 dB) requirements of SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*. Multiplexing electrical system shall include an automatic cancel switch to deactivate the backup alarm. The backup alarm shall be under the rear of the ambulance.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_N\_\_\_

**COMMUNICATIONS EQUIPMENT**

The completed ambulance shall come equipped with power and ground wires as well as radio antenna prewires. These prewires shall have termination points in the cab ceiling accessible through the ceiling headliner. A “heads up” mounting point must be provided for the end user supplied radio system. Ideally this should be above the master control module described above.

Does your bid comply with the specification as written? Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_ N\_\_\_

**PAINT AND STRIPING**

**PAINT**

When painting the Sprinter chassis, all exposed ferrous metal surfaces that are not plated or stainless steel shall be cleaned and prepared and shall be painted or coated. The paint or coating, including any primer, shall be applied in accordance with the paint or coating manufacturer’s recommendation. The paint used shall be an aircraft quality Tristar paint utilizing a thorough 22 step process. This paint shall be a high built polyurethane surface over epoxy primer application

utilizing two (2) acid stabilizing treatments. This paint is preferred by the purchaser as it has a durable lifespan, is resilient to harsh climates and remains pliable even in its hardened state to prevent cracking and chipping from normal ambulance body torsion.

The manufacturer's paint facility shall be free and dust and contaminants that could have an adverse effect on the paint finish. The manufacturer's paint facility shall also be certified to apply the paint specified.

The chassis shall be prepared by thoroughly washing the body with DX440 final washing product. Following the acid wash, the surfaces shall be sanded smooth to allow for proper primer and paint adhesion. All sand and dust shall be removed with air when sanding is complete.

An aluminum chemical treatment shall be used in preparing the surface. This high temperature treatment shall be vaporized on all surfaces and shall allow for complete coverage.

A two stage epoxy primer layering process shall be added to the chassis and all painted components. This primer stage is critical to the adhesion of the paint and shall be necessary to the paint process. A 1.2 mil Starproxy primer application shall be used. After adequate drying time, a second layer of the Starproxy primer shall be applied. When completed, the finished primer layer shall be two layers thick and shall be sanded smooth to a surface grade of 9 or 10. This application allows for superior adhesion to the body.

The finish coat shall be applied and shall be allowed to dry for the paint manufacturers recommended amount of time. A second finish coat shall be applied. All imperfections shall be sanded and reapplied as necessary.

The completed finish shall be free of any runs, fisheyes and other paint blemishes.

Bidders may propose alternative paint process methods. A detailed description of the process and certifications by the paint manufacturer shall be provided in this bid proposal. Paint should match Departments fleet of Ambulances.

Does your bid comply with the specification as written?            Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement?    Y\_\_\_ N\_\_\_

**STRIPING-**

The stripping will match the existant fleet of ambulances with the acception that the back stripping will be blue and yellow full height, accept for the windows.

Does your bid comply with the specification as written?            Y\_\_\_ N\_\_\_

Does your proposal include an exception to this requirement? Y\_\_\_\_ N\_\_\_\_

ADDITIONAL OPTIONS (Check all that apply)

- Dual lock compartment in front partition
- Lateral access with retaining straps
- Inside access with retaining straps
- Captain Seat Safety Configuration: Forward and side facing attendant seats on a swivel base with integrated 3 point safety belt. Right wall captain seat, swivel, forward and side facing
  - Cardiac monitor tray, sliding and turning on curb side for Captain Seat configuration
- Low profile LED emergency lighting inside the rear of the vehicle with adequate headroom clearance for exiting patient compartment. Lighting visible when rear doors are open, and deactivated when doors close.
- Upper glove compartment (4) (680)
- Safety yellow grab bar package
- Stretcher floor safety hook
- Power Inverter with battery charger "FREEDOM" (12 V.DC to 115 V.AC,1000 Watt)
- Tinted privacy glass; side and rear
- Anti-skid lateral steps and mud-guards
- 7 X 9 lateral lights includes
- Replace the rear left amber light with a blue light instead
- Portable oxygen cylinder storage for two (2) "D" cylinders located on rear right door & right wall
- Lock out switch hidden in the grill
- Replace O2 compartment standard strap with Cam Buckle Strap
- Street side of conversion wall to include area for a monitor
  - Mount for monitor to be included
- IV slide-out drawer to be incorporated into the med wall.