

# Anderson County Government

## Request for Bids

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Courthouse  
Clinton, Tennessee 37716  
(865) 457-6218 Office  
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[purchasing@andersontn.org](mailto:purchasing@andersontn.org)  
<http://andersontn.org/purchasing>

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**Bid No.: 2014**

**Date Issued: December 6, 2019**

**Bids will be received until  
2:30 p.m. Eastern Time on January 7, 2020**

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Sealed bids are subject to the General Terms and Conditions of this bid, and any other data attached or incorporated by reference. Bids will be received in the Anderson County Purchasing Office until the date and time specified above, and at that time publicly opened and read aloud.

ANDERSON COUNTY RESERVES THE RIGHT TO WAIVE ANY INFORMALITIES  
IN OR TO REJECT ANY OR ALL BIDS AND TO ACCEPT THE BID DEEMED  
FAVORABLE AND IN THE BEST INTEREST OF ANDERSON COUNTY.

 12/6/19  
\_\_\_\_\_  
Robby Holbrook, Interim Director of Finance

BID DESCRIPTION
Bid for Ambulances. Questions are to be emailed to <a href="mailto:purchasing@andersontn.org">purchasing@andersontn.org</a> .

## **Bid #2014 Ambulances**

Anderson County (“the County”) is seeking bids for two types of brand-new ambulances:

- 1. TYPE III (4X2) DRW**
- 2. TRANSIT MID HIGH ROOF (4X2) TYPE II SRW**

Vendors may choose to bid on only one of the two types of ambulances. The County may purchase up to two of each type of ambulance. The number purchased will be determined by the bid prices. The purchase is intended to be placed before February 1, 2020.

Responsibility for accommodations to initially inspect the ambulances will belong to the County. If modifications are needed that requires additional travel costs to re-inspect then those travel costs will be the responsibility by the Vendor at no cost to the County. Upon a successful inspection the Vendor will be required to transport the ambulance(s) FOB destination to the County.

Vendors bidding on the **TYPE III (4X2) DRW** must review all the specifications listed in Sections 1 – 15 and indicate compliance with each specification. Exceptions to specifications must be detailed on an additional attachment.

Vendors bidding on the **TRANSIT MID HIGH ROOF (4X2) TYPE II SRW** must review all the specifications listed in Sections 17 – 31 and indicate compliance with each specification. Exceptions to specifications must be detailed on an additional attachment.

The listed specifications are intended to provide potential bidders the guidelines and parameters of the ambulances to be purchased. 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. Bids taking ‘total exception’ shall not be allowed and will be considered unresponsive as this disregards the County’s request of a comparable product. Exceptions with descriptions claiming they meet or exceed the specification with no backing documentation will be considered non-responsive and subject to disqualification.

Section 16 provides a list of additional options for the **TYPE III (4X2) DRW** ambulance that may or may not be included in the bid award. Vendors bidding the **TYPE III (4X2) DRW** ambulance are requested but not required to provide pricing for these items. Anderson County reserves the right to add or reject these items individually.

Section 32 provides a list of additional options for the **TRANSIT MID HIGH ROOF (4X2) TYPE II SRW** ambulance that may or may not be included in the bid award. Vendors bidding the **TRANSIT MID HIGH ROOF (4X2) TYPE II SRW** ambulance are requested but not required to provide pricing for these items. Anderson County reserves the right to add or reject these items individually.

12/6/2019

## Section 1 - TYPE III (4X2) DRW

### 1.1 Drawings

Bids shall include computer aided design (CAD) drawings. Two dimensions (2D) sales drawings 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. Upon acceptance of the proposal and finalization of the order, the bidder shall have three dimensions (3D) models to complete the ambulance. These 3D models shall be available to view at the County's 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 engineering method shall document this in the exceptions section of this document.

**Does the bid comply with the specification as written?**

Y\_\_\_ N\_\_\_

### 1.2 Manufacturing Capability

The ambulance manufacturer 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. A description of the manufacturer production system shall be included.

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 suppliers is being able to meet production demands during peak periods without the need to hire untrained personnel.

The ambulance manufacturer is to have documented consistent experience with building in accordance with these specifications and construction products. At least 80% or greater of all ambulances built in a year are to be of aluminum and/or fiberglass interior. This is to ensure that accuracy, consistency and experience with building an ambulance with both exterior and interior aluminum and/or fiberglass construction design is in place and routine.

The ambulance manufacturer is to have routinely built at least 400 or more ambulances of varying models, but of this type construction, each year for the last five (5) years consecutively. The manufacturer shall also provide a list of like models to the County upon request.

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

### 1.3 Schedule

The manufacturer shall be able to 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 include the proposed lead time for the completion unit and other important milestones in a Gantt chart.

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.

Manufacturer shall be responsible for delivery of ambulance upon completion to Anderson County, TN.

**VENDOR NAME:** \_\_\_\_\_

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

**1.4 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 maintained the manufacturer shall be audited by an independent agency. Documentation on this internal quality process system shall be provided.

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

**1.5 Ambulance Components**

All components shall be installed in accordance with the applicable manufacturer's installation instructions. The emergency medical care vehicles, including chassis, equipment, devices, medical accessories, and electronic equipment shall be standard commercial products, tested and certified to meet or exceed the requirements of this standard. 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 OEM best practices.

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

**1.6 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).

- Module Structure: \_\_\_\_\_
- Paint: \_\_\_\_\_
- Electrical: \_\_\_\_\_
- Materials and Workmanship: \_\_\_\_\_
- OEM Materials: \_\_\_\_\_

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

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

**1.7 Documentation**

All documentation delivered with the ambulance shall either be 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 County to review as necessary.

The ambulance manufacturer shall deliver with the ambulance at least one (1) copy of the following documents:

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

**VENDOR NAME:** \_\_\_\_\_

- 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 and torque
  - 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) (done after construction is completed, and 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 the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

### **1.8 Operations and Service Documentation**

The manufacturer shall deliver with the ambulance at least one (1) set of complete owner/operator manuals. These manuals shall also include service documentation covering the completed ambulance as delivered and accepted.

The owner/operator manual shall include the inspection, service, and operations of the ambulance of all major components thereof. 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

**VENDOR NAME:** \_\_\_\_\_

- 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. Material safety data sheet (MSDS) for any fluid that is specified for use on the ambulance

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

**1.9 Certification and Payload Signage**

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

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

**1.10 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.

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

**1.11 Component Protection**

All manufacturer or supplier supplied hose lines, air system tubing 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 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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**1.12 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.

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

**VENDOR NAME:** \_\_\_\_\_

**1.13 Liability**

The bidding manufacturer shall furnish a Certificate of Insurance showing an aggregate of liability insurance which shall not be less than ten million dollars (\$10,000,000.00). 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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**1.14 Service Parts and Warranty Capability**

Bidders authorizing local service centers to perform warranty work will be cause for a lower level of consideration by the County. It is preferred that the bidder provide this service direct.

**Does the vendor provide these services direct or indirect?** Y\_\_\_ N\_\_\_

Bidder must be recognized as the authorized provider of ambulances and service for the State of Tennessee.

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

Bidders must have an on-site mobile service vehicle fleet fully stocked with common service items available 24 hours a day 7 days a week 365 days a year. All module repairs must be performed via a factory trained technician.

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

**Bidders must list their service facility profile on the Vendor Information form. Photos of the facility and mobile service units must be included.**

**2 TEST AND CERTIFICATION - TYPE III (4X2) DRW**

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**2.01 Testing Capabilities**

The ambulance manufacturer shall be equipped to do a majority of the ambulance testing at their facility. All pull tests, load tests, lighting level tests and noise level tests shall be done at the manufacturer's facility. The manufacturer shall have a full range of testing equipment proven by an independent engineering agency.

In-house testing facilities are preferred by The County as this gives the manufacturer flexibility to perform tests on various designs and iterations on a continual basis. All testing shall be audited and documented by an engineer, which will all be accredited under the board of engineering and technology of their respective state or province.

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.

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

**VENDOR NAME:** \_\_\_\_\_

## 2.02 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 Ambulance Manufacturers Division of the National Truck Equipment Association (**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 County to be considered a plus.

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

## 2.03 Additional Testing Requirements

In addition to the above mentioned testing requirements in section 2.02, the following tests shall be conducted on the specific model, passed and documented.

### 2.03.1 Additional AMD Testing Requirements

- **AMD 004: Cot Retention Pull Test**  
Above and beyond the minimum required 2200 lbs., the bidding manufacturer must have completed a cot retention pull test to meet or exceed 10 times the weight of the cot plus the cot hardware and the weight of a male patient in the 90th percentile per the current NIHS / CCHS data. The minimum requirement may vary, depending on the specific cot (Ferno or Stryker) and cot hardware. Results for both brands must be provided.
- **AMD 006: Sound Level Test**  
Above and beyond the requirement of 80 decibels or less as tested in the patient compartment, the bidding manufacturer must also perform a sound level test in the front cab, with windows opened 6 inches and reach a requirement of 89 decibels or less. Another sound level test in the front cab must be done with windows closed while reaching a minimum of 84 decibels or less.
- **AMD 008: Patient compartment Grab Rail Test**  
Above and beyond the minimum requirement of a 300 lbs pull test on the overhead ceiling grab rail, the bidding manufacturer must perform pull tests **on each grab handle** inside the patient compartment. All grab handles and overhead grab rails will be pull tested to 500 lbs., however it is important to mention that deformation may occur at 500 lbs.

**VENDOR NAME:** \_\_\_\_\_



- **AMD 012: Interior Climate Control Test**

Heating

Minimum Requirement: From 32°F to 68°F in 30 minutes or less

Above and beyond the minimum requirement, the bidding manufacturer must show that the test began at 1°F and reach 68°F in 30 minutes or less.

Air Conditioning

Minimum Requirement: From 95°F to 78°F in 30 minutes or less

Above and beyond the minimum requirement, the bidding manufacturer must perform the exact same test and reach 78°F in 20 minutes or less.

- **AMD 013: Weight Distribution**

Above and beyond the minimum requirement of having 20% or more GVWR on the front axle, the bidding manufacturer will need to meet or exceed a minimum of 30% GVWR on the front axle. This added front axle weight distribution is a critical safety aspect in terms of added traction, braking capacity and increased handling capabilities.

*2.03.2 Additional Testing Requirements*

- **Safety Net and Safety Net Anchor Points Pull Tests**

The bidding manufacturer will need to meet or exceed a pull test on the safety net of 3000 lbs. The bidding manufacturer will also need to meet or exceed a pull test of the safety net anchor points of 6000 lbs., with each anchor point being subject to an equal amount of force.

**Test Scope – Anchor Points**

Attach a force application device to each fastener and applied the required load in a plane parallel to the fastener. Repeat the test procedure while applying the load perpendicular to the initial plane. Examine and record the results.

**Test Scope – Safety Net**

Apply a force in a forward direction at the center of the net using a suitable solid block to distribute the load. Examine and record the results.

- **Street side Cabinetry Pull Test**

The bidding manufacturer will need to meet or exceed a pull test on the street side medical cabinetry equivalent to 25 times the weight of the cabinet and action wall assembly or, in the case the cabinets are individual components of the wall assembly, the sum of every individual cabinet plus the cabinet shelves and action wall, in both lateral and longitudinal axis', with the force equally dispersed on the surface of the cabinet. The pull test shall be conducted on a final assembled cabinet installed in a similar module.

**Test Scope – Street Side Cabinetry Pull Test**

Apply the required force to the component using a force application device such that the force is spread equally over the fasteners. Apply the force in a lateral direction. Observe and record the results. Repeat the test procedure by applying the force in a longitudinal direction. Observe and record the results.

**VENDOR NAME:** \_\_\_\_\_

- **Equipment Restraint Devices Pull Tests**

The bidding manufacturer will need to meet or exceed a pull test on any and all equipment restraining device, such as fasteners, O2 brackets or belts. The pull test will be a minimum of 10 times the weight of the restraint device and the restrained equipment.

**Test Scope – Equipment Restraint Devices**

Document and calculate the weight of the equipment and the equipment restraint to be pull tested. Apply the calculated force on each different installation in a parallel and perpendicular plane to the initial plane of the fasteners.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**2.04 Certification Documents**

Certification letters submitted for the ambulance model, components, and equipment being certified shall contain the following information on contractor's letterhead stationery in electronic format (pdf files):

1. To whom certifying
2. Date
3. Units or items
4. Contractor and address
5. Date product tested
6. Model number and specification data
7. Applicable specification references and test requirement
8. Summary of the test report
9. A certifying statement with official signature by a recognized and certified engineer

The testing documentation for each certification shall include the following supportive verification data and information on letterhead stationery in electronic format (pdf files):

1. For whom tested
2. Report date
3. Name of sample product or device
4. Contractor's address
5. Serial and model number(s)
6. Specification referral and amendment number(s), and test requirement(s)
7. Test facilities used and location
8. Test equipment used
9. Test procedure
10. Test results
11. Verifying test data
12. Photographs
13. Test conclusion(s)
14. Witness(es)
15. Authorized signature

Certification documentation shall be delivered with the ambulance, including results of the certification tests. Each model the manufacturer offers shall be tested and certified. The County will not accept testing certification on the largest model size as a "blanket certification" for all models without detailed justification and/or calculation. A testing

**VENDOR NAME:** \_\_\_\_\_

equivalency can only be used if a signed & approved letter is provided, explaining the build philosophy and testing requirements proving the test equivalency.

Does the bid comply with the specification as written?

Y \_\_\_ N \_\_\_

**3. Chassis**

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**3.01 Model**

Ford E350 Gas

**3.02 Wheelbase**

158"

**3.03 GVWR**

12,500 lbs

**3.04 Cab to Axle**

100"

**3.05 Paint**

OEM Oxford White

**3.06 Interior Color**

Medium Flint

**3.07 Seating**

Dual cloth captain's chairs

**3.08 Equipment package**

Ambulance prep package

Interior upgrade package

Exterior upgrade package

**3.09 Mirrors**

Velvac electric with heat

**3.10 Radio**

OEM AM/FM/CD/Audio jack with clock and 2 speakers

**3.11 Engine**

6.8L EFI Triton V10

**3.12 Transmission**

Five speed automatic transmission with overdrive

**3.13 Alternator**

Single 225 amp alternator

**3.14 Battery**

Two (2) 12V 750CCA/78 Amp- Hr

**VENDOR NAME:** \_\_\_\_\_

- 3.15 Tires**  
LT225/75R16E BSW all season  
Full size spare tire/wheel  
Jack
- 3.16 Wheels**  
16" Steel wheels
- 3.17 Brakes**  
Four-wheel disc with anti-lock
- 3.18 Axle**  
4.56 ratio limited slip rear axle
- 3.19 GAWR**  
Front: 5,000 lbs  
Rear: 8,500 lbs
- 3.20 Stabilizer Bars**  
Front and rear standard
- 3.21 Carpet**  
OEM installed vinyl floor covering
- 3.22 Block Heater**  
OEM Engine block heater
- 3.23 Emissions**  
50 state emissions certified
- 3.24 Fuel Tank**  
55 Gallon
- 3.25 Additional Options/Features**  
Remote keyless  
Daytime running lights  
Bright chrome grille & front bumper  
Cruise control

Does the bid comply with these specifications as written? Y\_\_\_ N\_\_\_

**4. VEHICLE FEATURES**

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- 4.01 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 the bid comply with the specification as written? Y\_\_\_ N\_\_\_

VENDOR NAME: \_\_\_\_\_

No exception will be allowed.

**4.02 Running Boards**

Full length exterior running boards shall be installed on the chassis. They shall be constructed of a sure grip material no less than 7" wide with machine punched holes to facilitate water and debris runoff. Aluminum mud flaps shall be added to reinforce the running boards and prevent road debris intrusion. The rear section shall be bolted through the front plane of the module.

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

**4.03 Front Bumper**

The chassis manufacturers OEM front bumper shall be furnished at the front of the chassis.

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

**4.04 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. It shall be constructed of a sure grip material no less than 9" wide with machine punched holes to facilitate water and debris runoff. Corners are made of aluminum diamond plate. A 3" rubber bumper is bolted on each corner to protect the bumper. The structure is to be bolted to the chassis for easy replacement and adjustment.

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

**4.05 Fenderettes**

Formed fiberglass fenderettes shall be installed on the module body to prevent excess splash on the modular body. The bottom inside lip shall be screwed into L brackets while the side shall be fixed with dual face tape and/or clips. The fenderettes are to be sealed after installation. This method allows for universal replacement and ease of maintenance in this high impact area.

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

**4.06 Front and Rear Corner Guards**

Front and rear corner guards constructed of smooth stainless steel shall be bonded to the corner extrusions and shall extend 30" from the bottom of the module. This corner guards shall serve as additional protection against stones and small debris.

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

**4.07 Rear Kick Panel**

A full length rear aluminum diamond plate kick panel shall be installed below the rear doors and above the rear bumper. The kick panel shall serve as additional protection in this high wear area of the vehicle. It shall be replaceable thus, not part of the module.

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

**4.08 Cab Seal**

The chassis and the module shall be bolted together through reinforcement plates. A neoprene insertion will prevent cracking noise. The joint shall be sealed with black Sikaflex to prevent any water and air penetration.

VENDOR NAME: \_\_\_\_\_

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

**4.09 Ambulance Exterior DOT Lighting**

Sixteen (16) ICC LED lights shall be installed on the ambulance.

Five (5) amber ICC lights shall be installed on the front plane of the module, three (3) in the center and two (2) in the corners. Two (2) amber ICC lights shall be installed on the side planes of the ambulance, one (1) on each side towards the front.

Five (5) red ICC lights shall be installed on the rear plane of the module, three (3) in the center and two (2) in the corners. Two (2) red ICC light shall be installed on the side planes of the ambulance, one (1) on each side towards the rear. Two (2) red ICC lights shall also be installed on the side planes, on the corner extrusion, just above the corner stainless steel guards.

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

**4.10 Stop, Tail, Turn and Reverse Lights**

The stop, tail, turn and reverse lights are to be at mid-height and shall be Whelen 600 series LED with chrome bezel. Two (2) shall be amber arrows; two (2) shall be red and two (2) shall be clear, horizontal.

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

**4.11 Side Direction Lights**

Two (2) Whelen 700 series amber lights with chrome bezel shall be installed above the wheel well fenderettes, one (1) on each side. These lights shall flash in conjunction with the turn signals.

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

**4.12 License plate holder**

The license plate shall be mounted in a chrome bezel on the rear plane of the module. It shall be lit by two (2) LED lights.

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

**4.13 Aluminum rub rails**

The ambulance shall have anodized extruded aluminum rub rails. Rubber end caps and spacers shall be used to protect the module and allow for easy replacement. Folded checker plate will not be tolerated as it doesn't offer as much protection on impact.

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

**5. DRIVERS' COMPARTMENT**

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**5.01 Reading Lamp**

Two (2) red/clear LED reading lamp shall be installed above the front seats to assist in night time vision. These lights shall be installed in the cab headliner and shall be switched from the light head.

**VENDOR NAME:** \_\_\_\_\_

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

**5.02 Back-up camera**

The ambulance shall have a back-up camera with a minimum 5" display in the driver's compartment. 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.

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

**5.03 Hand spotlight**

The ambulance shall have a 400,000 CP hand spotlight in the front cabin. It shall be secured to the floor or wall with a thermoformed bracket.

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

**6. MODULE**

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**6.01 Body Dimensions**

The overall dimensions of the completed ambulance module shall be 164" long by 95" wide. The interior headroom shall be 72" from the floor to the ceiling.

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

**6.02 Overall Construction**

The entire modular body shall be engineered to provide the highest possible structural integrity while maintaining the lowest possible overall weight. This method of engineered construction shall provide an efficient ambulance design with greater usable payload, improved ride characteristics and greater maintenance intervals on brakes and suspension components.

The completed ambulance shall have no water leakage into the cab, compartments, patient compartment, or through any door seal, light seal, or pass through seal.

All welding performed on the fabricated ambulance shall be completed by a welder certified in their particular welding discipline. Manufacturers providing only certification of department supervisors or final inspectors shall not be acceptable and shall be cause for rejection. Certified welders are desired by the County as this proves the welder has met the requirements to perform the task at a high level of quality and consistency. The manufacturer shall provide proof of the welder's certification upon the County's request.

Holes and cut outs for lights and other components attached to the side of the ambulance shall be CNC and punched at the time of the module fabrication. Pre-cut holes and cut outs shall be painted to allow for complete coverage. When installation hardware is of dissimilar metals, an anti-corrosive electrolysis inhibitor spray in addition to a plastic well nut insert shall be installed to ensure no contact is made between the module body and hardware fastener.

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

**VENDOR NAME:** \_\_\_\_\_

**6.03 Roof Construction**

The ambulance roof shall be of aluminum construction utilizing a customized formed roof extrusion, a roof structure and a single piece roof. The roof extrusion shall be constructed to integrate and accept the side wall tubes, side wall skin, roof skin and the roof structure. A drip rail shall also be integrated into this extrusion.

The roof tube structure shall be 1.5” x 2”, variable thickness tubes made of 6061-T6 aluminum. The extruded tube structure shall incorporate a .125 thickness on the longitudinal side and a .070 thickness on the lateral side with four (4) 1/4” radiuses to allow better welding. 5052-H32 1/8” formed C-channel shall be welded to the roof structure in each area where additional equipment will be installed. The safety net reinforcement structure utilize the c-channel and an additional 1/4” 6061 T6 mounting plate welded inside the C-channel to provide the necessary strength to withstand the forces needed to keep the safety net secured.

The single sheet .090 5052-H32 roof shall be installed on the lip of the roof extrusion to allow the roof sheet to sit flush with the roof extrusion. The roof skin shall be attached to the roof structure using a chemical bonding agent. The roof skin and tubing surfaces shall be properly prepped and cleaned to accept this adhesive. The edges of the roof skin shall be fully welded and grinded to the roof extrusion to provide a single smooth paintable surface.

The module corner extrusions and the roof extrusions shall be constructed in a manner to properly fit without needing corner caps. Unwelded corner pieces allow for more torsion in the modular body and could compromise the structural integrity of the roof and corner construction.

The County will not accept an untested prototypical build for the sole intent to comply with this requirement of the specification.

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

**6.04 Side Body Construction**

The side of the ambulance body structure shall be constructed of 1.5” x 2”, variable thickness tubes made of 6061-T6 aluminum. The extruded tube structure shall incorporate a .125 thickness on the longitudinal side and a .070 thickness on the lateral side with four (4) 1/4” radiuses to allow better welding. Side tubes shall be placed at a minimum of 16” on center. Corner extrusions are welded to the side structure.

A one (1) piece CNC machined cut side wall made of .090” 5052-H32 aluminum shall be chemically bonded to the side structure. The side wall and tubing surfaces shall be properly prepped and cleaned to accept this adhesive. This attachment method is preferred as it creates a side wall surface with no warpage as no heat transfer takes place as it would when the side wall is welded. The side wall shall be inserted into the roof extrusion lip and welded to this extrusion on the back side.

In areas where seating is going to be installed, the side wall shall have a 3/8” 6061-T6 mounting plate rail installed. It shall serve as a proper seat belt mounting point as well as an additional reinforcement in the event of a side impact.

Alternative side wall construction methods not complying with the above detailed specifications can be presented and shall be detailed in the exceptions section of this bid proposal. Photographs and a detailed documentation of the process shall be included in the

**VENDOR NAME:** \_\_\_\_\_



bid specification. The County will not accept prototype built models or untested construction methods used only to satisfy the detailed description of this specification.

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

**6.05 Floor Construction**

The floor structure shall be constructed of 2" x 2" tubes made of 6061-T6 aluminum. Different thicknesses, .125" and .250", shall be used to maximize strength/weight ratio to ensure maximum payload capacity while passing all required load testing. A thicker floor structure shall not be tolerated as an exception because it increases the loading height.

In areas where seating or cot anchoring is going to be installed, the floor structure shall have 1/2" 6061-T6 mounting plates installed.

A one (1) piece CNC machined cut skin made of .063" 5052-H32 aluminum shall be chemically bonded to the floor structure. The skin and tubing surfaces shall be properly prepped and cleaned to accept this adhesive.

A minimum .063 heat shield shall be installed under the floor and body structure to serve as additional protection against external heat generated by the exhaust system.

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

**6.06 Wheel Wells**

An aluminum wheel well shall be incorporated into the under body structure. This wheel well shall be sealed to prevent water or debris from entering the module. The interior of the wheel well shall be insulated with foam to prevent noise caused from vibration and exterior road noise.

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

**6.07 Compartment Construction**

The sides of the storage compartment shall be constructed of a minimum .063 machine formed aluminum diamond plate. The sides, top and bottom of interior compartment shall be formed and welded to ensure a secure, square fit. All outside edges of the compartment shall be sealed with weather proof sealer/inhibitor. The compartments shall be properly anchored and reinforced to the door jamb extrusions and the floor structure. The bottom of each compartment shall be constructed of smooth 6061 T6 .090" aluminum and shall have a punched drain hole to facilitate water drainage.

Ventilation shall be provided in the side and/or ceiling of the compartments to allow for adequate air movement when the door is closed. The upper portion of the compartment shall be machine louvered to ensure an even distribution of air escaping the compartment. This even distribution of air movement shall allow the door to close with minimal external force and shall allow it to seal properly against the door jamb extrusion. Air shall flow into the interior of the module via the space between the side wall and the cabinetry.

Exact exterior compartment sizes and dimensions shall conform to the drawings (Exhibit 1) provided with this bid proposal and shall conform to the layout detailed at the beginning of this section.

**VENDOR NAME:** \_\_\_\_\_

The County 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 the bid comply with the specification as written?** Y \_\_\_ N \_\_\_

**6.08 Door Frame Construction**

All exterior storage compartments shall be constructed of an extruded door frame structure and shall align flush with the side wall tubes and welded to the back of the door structure. The front of the extruded door shall not have any signs of welding as this causes distortion to the door and requires the use of bondo or body filler to create the illusion of a smooth surface. Holes for the door hinges shall be CNC machined into the jamb for exact fit when the door is installed. Extruded door jambs shall be sealed against the side wall skin. The extrusion shall be treated and adhered to the side skin to ensure debris and weather does not penetrate the extrusion area. This method is preferred as the extrusion attachments allow for an amount of necessary flex and torsion when the ambulance is in motion. This CNC machined method allows for the easy ordering and replacement of the door should it become damaged during the life of the ambulance.

**6.09 Door Construction**

*6.09.1 General Construction*

Each door shall be constructed from an extrusion that mates to the door jamb structure. Cut outs for the latches and hinges shall be machine cut and not manually hand cut or drilled out to ensure a consistent fit. The door extrusions shall be welded securely at the mitered edges and each corner shall have a reinforcement welded. The extrusion shall be designed such that the weather seal is placed ahead of the door latch to assist in keeping debris from getting into the latch. When closed, the door shall form a complete weather tight seal. A second formed rubber weather seal shall be installed on the door frame ensuring a durable weather seal for each compartment.

Adequate reinforcement shall be installed to ensure door rigidity and provide mounting locations for assist handles and/or other equipment.

The exterior door panel skin shall be constructed of one (1) piece .090 formed aluminum. The aluminum shall be engineered to wrap around the form door extrusion to create a complete aesthetically pleasing appearance without exposed seams. Exterior door panels shall be adhered to the extruded door structure with a chemical bonding adhesive. The completed exterior door shall be engineered to fit properly and square into the doorjamb extrusion.

Doors hinges shall be screwed through the pre-tapped door and door jamb extrusions. They shall be rust resistant piano hinges. Each door shall be equipped with an appropriate variable speed gas strut hold open to ensure a solid closure. Spring type hold opens are not desired due to their tendency to wear and break over time.

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

*6.09.2 Compartment door panels*

Exterior compartment interior door panels shall be constructed of .090" powder coated aluminum. Holes for the door panel mounting shall be CNC cut to ensure a proper fit. The

**VENDOR NAME:** \_\_\_\_\_

interior door panel shall reside in a small recess in the formed exterior door extrusion to give the door panel a flush fit. Access points shall be included on the door panel to allow for easy maintenance of the latching or door opening mechanisms. A low density open cell foam tape shall be installed on the door structure as a dampening insulator from any vibration that may occur.

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

*6.09.3 Access door panels*

Access door interior panels shall be divided in three (3) sections, top, middle and lower. The top section shall be made of fiberglass. The recessed window section shall be covered by this trim. The lower section shall be made of stainless steel. The center section shall be made of powder coated aluminum. It shall cover the top and lower section joints via swags. The center sections must be removable for door handle maintenance without the need to remove any other components such as assist handles.

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

**6.10 Emergency Release Latch**

The side and rear access doors shall incorporate an emergency release latch at the top and the bottom of the doors. This emergency device shall directly trigger the door latch to an open position in the event the paddle handle becomes inoperative.

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

**6.11 Street Side Configuration**

*S1 Compartment*

This compartment shall be located on the driver's side front of the module directly behind the cab. This compartment shall be used for the storage of the oxygen cylinder. Lighting is to be provided by a Whelen 4" LED light.

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

**6.12 Street Side Configuration**

*S2 Compartment*

This compartment shall be divided into two (2) sections. The upper portion of this compartment shall be closed and ventilated by a diamond plate protective panel. It shall contain all electrical components, including Electronic Controller Units for the multiplex system. The lower portion of this compartment shall be used for general storage. There shall be one (1) shelf inside this lower portion of the compartment. Lighting in the lower section is to be provided by an LED light and the floor protected by a dry carpet mounted flush to the door jamb

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

**6.13 Street Side Configuration**

*S3 Compartment*

This compartment shall be located at the rear of the driver side behind the fuel filler. It shall house a door mounted stair chair and two (2) half depth shelves for general storage. Lighting

**VENDOR NAME:** \_\_\_\_\_

is to be provided by an LED light and the floor protected by a dry carpet mounted flush to the door jamb.

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

#### **6.14 Curb Side Configuration**

*C1 Compartment access to interior ALS cabinet*

A side access door shall be located at curbside forward. This door shall allow exterior access to the ALS cabinet. A heavy duty slide-out drawer for conversion batteries shall be accessed through this door as well

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

*C2 Access Door*

A side access door shall be located at curbside. This full height door shall allow for entering and exiting the module patient compartment. This door shall have a fixed automotive style window as specified in the window section of this specification.

*C3 Compartment with deluxe shelf divider*

This compartment shall be located at the rear curbside of the vehicle. It shall contain three (3) sliding dividers with straps for backboard or spine board storage. Lighting is to be provided by an LED light and the floor protected by a dry carpet mounted flush to the door jamb.

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

#### **6.15 Rear configuration**

*A1 and A2 Access Doors*

This is the rear access doors for patient loading. Each door shall have fixed automotive style tinted window as specified in the windows section.

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

#### **6.16 Automotive Style Access Door Windows**

Automotive style tinted windows shall be installed in the access doors. It shall have no exposed extruded trim rings on the outside or the inside. The window shall be installed flush to the door and held in place with automotive adhesive in its recessed window housing. Window designs with an extruded or exposed trim ring are not desired due to the inconsistent sealing. The window glass shall be tempered automotive quality with a dark tint.

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

#### **6.17 Body Mounting**

The module body shall be installed using the OEM rubber puck mounts securely bolted from the bottom to allow for ease of removal should the vehicle be remounted. The module body shall be mounted in 10 locations, five (5) on each side of the chassis frame rails. OEM supplied automotive style rubber puck mounts shall be bolted through ½" 6061 T6 aluminum structure plates to serve as reinforcement points of the bottom of the module as well as provide a solid single surface piece to absorb the natural torsion as the vehicle is in motion ("body roll").

**VENDOR NAME:** \_\_\_\_\_

A frame extension shall be added and serve as a mounting point for the rear bumper.

The body shall be mounted in such a manner as to allow the lowest possible load height.

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

**6.18 Insulation**

The module 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 module including the sidewalls, doors 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. Other insulating methods may be documented and submitted. In accordance to the KKK-A-1822F Federal Ambulance Specifications and the forthcoming edition of NFPA 1917 Standard for Automotive Ambulance requirements, all insulations shall be non-settling type, vermin-proof, mildew-proof, fire retardant, non-toxic, and non-hygroscopic.

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

**7. PATIENT COMPARTMENT**

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**7.01 Construction General Guidelines**

The interior of the ambulance shall be constructed in such a way that is free of sharp edges. All interior surfaces shall be easy to clean, impervious to soap, water, body fluids, disinfectants and shall be mildew resistant. Wall surfaces shall be a CNC cut non-wood, fiberglass or aluminum matching the interior color of the module.

Trim pieces adjoining multiple wall surfaces are not preferred by the County 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 shall be mounted as flush as possible and shall not protrude any further than 1/2" from the ceiling, except for the grab rails. Surface mounted components on the wall shall comply with head protection requirements and shall incorporate a protective shield or covering.

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

**7.02 Floor**

The floor shall be constructed of 3/4" 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 to maintain a continuous lay of the floor and eliminate the possibility of gaps or cracking. It shall be bonded to the aluminum panel and screwed only where there are beams or plates. Screws only through the aluminum skin will not be tolerated as this presents a potential injury risk and add close to no value to the floor integrity. Holes in the floor for patient handling options shall be CNC pre-cut to ensure maximum precision.

**VENDOR NAME:** \_\_\_\_\_

Does the bid comply with the specification as written?

Y \_\_\_ N \_\_\_

**7.03 Floor Covering**

Lonseal Lonplate II Gunmetal flooring shall be installed in the completed ambulance. The non-slip floor covering shall be rolled at least 3” up both sides of the patient compartment. This floor shall be rolled on the covered floor extrusion and shall be adhered at every point of the floor cover giving a tight secure fit that will not bubble or prematurely tear. The floor shall be a one (1) seamless piece 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.

Does the bid comply with the specification as written?

Y \_\_\_ N \_\_\_

**7.04 Cabinets**

All cabinet structure, cabinet doors, shelves and openings described here shall be manufactured in fiberglass and/or aluminum. Over time, wood products tend to warp, distort and shrink creating potential for premature structural wear. The County prefers 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. Each interlocking extrusion joint shall be attached by two (2) hex machine bolt into the extrusion via a tap and die holes. These fasteners shall lock the cabinet frame structure into place and shall prevent the cabinet sections from twisting. Cabinet inserts shall be placed on the lip of the extrusion and shall be fixed with an adhesive as well as mechanically fastened into position. **This structure alone shall resist to the pull test, the structural integrity of the cabinetry is not reliant on the interior storage cavity.**

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 and shall be mildew resistant.

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 3/16” Lexan and shall incorporate a full length plastic handle.

Drawers shall be constructed of formed smooth powder coated .063” aluminum. These drawers shall be uniform in size for ease of replacement should the need arise. The drawer should be track mounted and have a self-locking stop to prevent opening past a safe designated point. All drawer faces shall be constructed in an overlapping style to ensure a consistent tight fit over the drawer opening. Handles for the drawer shall be positive catch stainless steel pull latch.

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The County 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 layout shall be provided.

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

**7.05 Street side Cabinetry**

There shall be a full medical cabinet wall consisting of three (3) upper street side cabinets and one (1) lower street side cabinets. All shall have extruded aluminum flip up restocking frames with led strip lighting included.

- Upper rear: 41.75" x 16.25" x 11.00"
- Upper center: 41.75" x 16.25" x 11.00"
- Upper forward: 41.75" x 16.25" x 11.00"
- Lower rear: 42.50" x 20.25" x 16.00"

The exact cabinetry layout shall match the drawings (Exhibit 1) specified in this bid proposal.

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

**7.06 ALS Cabinet**

The ALS cabinet shall be made of an aluminum structure with smooth powder coated aluminum cavities and shelves.

The top compartment shall be accessed by one (1) extruded aluminum door with lexan insert. The door shall be operated by positive catch stainless steel pull latch.

- 26.00" X 8.00" X 13.75"

The upper section shall be accessed via two (2) extruded aluminum door with Lexan inserts. The doors shall be operated by positive catch stainless steel pull latches. This section of the ALS cabinet shall have one (1) fixed shelf. This cabinet shall have one (1) 120 V A/C outlet.

- 32.00" X 27.25" X 17.00"

The lower section shall be accessed via two (2) extruded aluminum doors with Lexan inserts. The doors shall be operated by positive catch stainless steel pull latches. This section of the ALS cabinet shall have one (1) fixed shelf. This cabinet shall have one (1) 120 V A/C outlet.

- 32.00" X 28.75" X 22.75"

The County 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.

ALS cabinet layout shall match the drawings (Exhibit 1) included in this bid proposal.

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

**VENDOR NAME:** \_\_\_\_\_

**7.07 Bulkhead with Pivoting Door**

The ambulance shall be equipped with an aluminium bulkhead wall partition. It shall be positioned between the driver and the patient's compartment, towards the front, allowing enough space to recline the front seats. A crawl through pivoting door shall be installed between the ALS compartment and the medical cabinet.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**7.08 Curbside Captain Seat**

In lieu of a squad bench, an EVS thermoformed sliding with 3 pts safety belt seat shall be installed. The seat shall be able to be slid towards the patient as well as from the knees towards the head. It shall also rotate. The backrest shall fold down for the possibility to add a backboard for second patient transport.

The main sliding mechanism shall be made of stainless steel. The rails shall be of "L" or "Z" type to allow for easy cleaning. The center locking plate shall be removable again to allow for cleaning. "C" type rail and blind holes will not be accepted because it would be impossible to do adequate cleaning of liquids.

A cabinet will be installed towards the front of the squad bench area. It shall include three (3) drawers and one (1) pull out metal countertop with lip around the edges. The top of that cabinet will be the location to mount the patient cardiac monitor.

An auxiliary control console will be installed above the cabinet with the necessary controls for all patient compartment equipment, to include:

1. Rear heat and AC controls with digital interior temperature display
2. Patient compartment lights, bank 1
3. Patient compartment lights, bank 2
4. Cabinet lights
5. Suction pump
6. Patient compartment exhaust
7. Patient status indicator (intercodes, red, yellow, green)

Stainless steel wall protectors are to be installed to cover both the lower and upper sections to the sliding seat.

The County 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 sliding seat configuration, installed in the same module, shall be provided.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**7.09 Attendant's Seat with Child Safety Device**

An automotive style thermoformed seamless attendant's seat shall be installed at the head of the cot. The attendant's seat shall have a three-point seatbelt. The attendant shall have front to back travel feature with incrementally locking stages. An integrated fold down 5-point child safety seat shall be incorporated into this seat. The child seat shall meet and exceed all testing requirements. This seat shall only have the ability to swivel 180 degrees due to the child restraint device.

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

**7.10 Safety Yellow Overhead Grab Rail**

Two (2) 90" overhead safety yellow powder coated steel grab rails shall be mounted in the patient compartment ceiling. The grab rails shall be securely fastened to the roof structure in the patient compartment ceiling at each mounting location. The grab rails shall be at least 1" in diameter.

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

**7.11 Door Mounted Safety Yellow Handrails**

Three safety yellow powder coated steel handrails shall be installed at the side and rear access doors to allow ease of entry into the patient compartment. The hand rails shall be 90 degree "L" shaped 16" x 16". These handles shall be designed to give the person(s) exiting and entering the patient compartment multiple points of contact to maintain safe entry and exit of the vehicle. The access handrails shall be installed on the top and lower interior door panels through mounting plates in the door extrusions. Hand rails attached through the door panel only are not accepted as they have a tendency to pull loose after an extended period of time. They should not need to be removed for handle and locking mechanism lubrication.

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

**7.12 Additional Handrails**

Two additional 12" safety yellow powder coated steel handrails shall be mounted in the patient compartment, one (1) right of rear access door and one (1) right of side access door. These additional grab handles shall be positioned in a location that is easy for the attendant to grip when entering the vehicle.

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

**7.13 IV Holder**

Four (4) 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.

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

**7.14 Digital Clock**

A digital clock shall be installed in the patient compartment rear door header. It shall display seconds and be flush mounted in the protector above the rear doors. There shall be led indicator for step and integrated driver intention lighting turn signals and flashers to be programmed to engage with chassis turns.

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

**7.15 Patient Cot Retention**

The floor of the patient compartment shall be designed to equip with Stryker fastener. The cot fastener shall be securely bolted through tapped 1/2" 6061-T6 aluminum reinforcement plates. Backer plates that are not integral to the floor structure shall not be permitted as of

VENDOR NAME: \_\_\_\_\_

these may have a tendency to vibrate loose over time. A stretcher safety hook shall be installed.

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

**7.16 Restocking Cabinets**

Flip up style restocking cabinets shall be installed on all of the street side cabinets. Restocking cabinet shall be constructed of interlocking extrusions, smaller than cabinet structure extrusion but of matching style, color and material. A piano style hinge shall be securely fastened to the top of the cabinet structure. Two (2) gas struts, one (1) on each side, shall be installed on the side of the cabinet to lift the cabinet's face when the latch is released. The bottom lip of the cavity shall be cover with a door stopper on which a neoprene strip is applied to eliminate vibrations of the flip up.

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

**7.17 Cabinet Lighting**

Each interior cavity shall contain dual LED rope light located on each side, where it shall not interfere with the overall use of the cabinet. The LED cabinet lights shall be activated via a switch in the rear switch panel.

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

**7.18 Fire Extinguisher**

The ambulance shall have two (2) 5 lbs ABC fire extinguishers with mounting brackets. Exact location TBD.

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

**7.19 Cabinet over Curbside Captain Seat**

There shall be a cabinet over the squad bench. It shall be divided into two (2) sections and accessible via sliding polycarbonate windows. A vinyl pad shall wrap the cabinet for head protection.

**8. HVAC**

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**8.01 General**

The patient compartment HVAC system shall be controlled by the driver or the patient compartment attendant via the multiplex touch pad or touch screen located in the front console or the rear switch panel.

The patient compartment temperature shall be monitored by a thermostat incorporated in the multiplexing electrical system. Additional to the three (3) preprogrammed speeds, an automatic mode shall be able to decide between heating, cooling and fan speed in function of the set temperature versus the patient compartment temperature.

In order to achieve maximum efficiency and optimization of this system, the fans' speed shall be optimized via Pulse Width Modulation (PWM) to allow the heating and cooling system to run at its most effective speed.

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Adequate room for hose connections and hose lines shall be provided when installing HVAC components. The hoses shall be protected and insulated to optimize performance and longevity. They shall also be clamped every 18” and routed without sharp bends and kinks.

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

**8.02 Heating**

The heating unit shall be installed in the patient compartment in a location behind the street side cabinet. The heated air shall blow from below the side wall and just above the roll up floor in a cabinet full length vent. This ventilation system shall blow heat below the patient immediately and circulate upward, also creating a radiator effect as the heated air warms the side wall. The interior ducting shall be designed such that debris or liquids cannot enter vent.

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

**8.03 Air Conditioning**

The air conditioning unit shall be installed in the patient compartment above the oxygen compartment. It shall be accessible by removing the partition ceiling protector.

Five (5) universally adjustable vents with manual closures shall be installed above the street side cabinet in a padded diffuser and shall project at a downward angle toward the patient and crew. The air shall be divided through one single duct.

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

**8.04 Ventilation**

One (1) exhaust fan shall be installed. This fan 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 three (3) speeds (Low, Medium and High). The exhaust vent shall exit from the curb side of the vehicle.

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

**9. BATTERY SYSTEM MULTIPLEX AND WIRING**

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**9.01 Overview**

A 12VDC electrical system shall be added in junction with the OEM system. They shall be ISOLATED from each other, yet they still exchange data. This is achieved by using a multiplex system in combination with a CAN BUS connectivity between the two (2) systems. It reduces the number of wires in the harness, thus reduces the number of welds and connections. Using programmable solid state devices allows for easy updating and customizing of the vehicle without needing to add relays or modify the wiring system, even at a later stage while the vehicle is in the field. 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 County 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 1000 units. Documentation of electrical systems installed and in-service shall be provided at the County’s request.

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

**VENDOR NAME:** \_\_\_\_\_

**9.02 Electronic Controller Units (ECU)**

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 ambulance manufacturer in the cab and in the patient compartment. Each electronic controller unit shall be self-diagnostic with easy-to-read LED. A CD of the programing 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 ECUs main control panel shall be coated in weather resistant from the factory. 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 via the CAN BUS connection. This type of system is preferred to allow for future expansion and. No auxiliary printed circuit boards, circuit breakers or relays shall be needed in future expansion or to assist in the functionality of standard electrical components.

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

**9.03 Serviceability**

The ambulance multiplexing electrical system shall be designed to be maintained and serviced 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 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 County upon request.

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

**9.04 Wiring**

All wiring for the electrical systems shall be stranded copper or copper alloy conductors of a gauge rated to carry 125% 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%. All circuits shall 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 flow control solenoid, compartment light, and switch plunger or trigger device.

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

**9.05 Wiring Harness**

The ambulance wiring harnesses shall be a continuous run to each electrical component. The ambulance wiring shall contain no splices in the main wiring harness. The terminals on connectors of each end shall be machine crimped. Hand crimped electrical connectors are

**VENDOR NAME:** \_\_\_\_\_

not permitted by the County as they have been proven to be prone to premature failure and/or irregularities.

All ambulance wiring harnesses shall be enclosed in a plastic loom. This loom shall run from the electronic controller units to each 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 plastic loom and/or wiring. All wiring harnesses shall be secured to the roof and walls tube structures with insulated clamping fasteners.

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 standard 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 connections to the electrical components shall include a minimum 6" service loop. All wiring connections shall utilize easy plug in style connectors.

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

**9.06 Wiring Identification**

All wiring shall be identified every 6" at a minimum. The wiring identification code shall be the position on the electronic controller unit for easy maintenance and diagnosis. Wiring identification shall be clearly visible and shall be printed on the insulated wire. No stickers will be allowed.

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

**9.07 Circuit Protection**

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.

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

**9.08 Wiring Schematics**

The complete set of wiring schematics shall clearly identify all wiring locations, routing, and component connection. A sample document shall be available to the County 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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**9.09 Electric Panel**

The electrical panel shall be located underneath the front passenger seat. It shall include in addition to the ECUs all block fuses and other electronic devices. All components shall be centralized in that location for ease of maintenance and diagnosis.

**VENDOR NAME:** \_\_\_\_\_

For future upgradability, one (1) extra 15 amp 12VDC circuit breaker shall be provided. It shall be wired and shall be ready for a future programmable function with the multiplexing electrical system.

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

**9.10 Grounding**

Dedicated grounding locations for all appliances, circuits, etc. shall be supplied. Appliance mounting screws/hardware shall not be used for grounding purposes, nor shall the body of the ambulance be used as a ground location. Star washers or unapproved, untested grounding methods shall not be used.

OEM grounds shall not be used as grounding location for the conversion circuits.

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

**9.11 Switching Requirements**

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

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

**9.12 Voltage Alarm**

The multiplex system shall incorporate an audible voltage warning should the system voltage at the battery or at the master load disconnect switch drops below 11.8VDC for a duration of 120 seconds for 12VDC nominal systems.

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

**9.13 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. External load management systems or load management systems not programmable shall not be considered as the County requires this electrical system to be flexible and customizable.

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

**9.14 Batteries**

There shall be two (2) OEM batteries. These batteries shall be linked together via an OEM controlled relay.

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

**10. 120 VAC & 12 VDC electrical system and inverter**

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**10.01 Overview**

The completed ambulance shall be equipped with two (2) forms of internal power sources: 120VAC & 12VDC. These internal power sources shall allow attendants in the ambulance to plug in additional accessories or to charge battery powered devices when needed.

All wiring shall be rated to handle the load of the electrical component specified. The 120VAC and 12VDC wiring and associated equipment shall be tested by the ambulance

**VENDOR NAME:** \_\_\_\_\_

manufacturer prior to delivery. The testing criteria shall include polarity and load demand of all receptacles to verify that all wiring connections have been properly made.

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

**10.02 12VDC Outlets**

All 12VDC power point outlets specified here shall be properly tested and shall be protected with a Schottky-style diode to isolate the medical equipment batteries from other loads. The diode shall be located in the electrical panel and shall be wired to the conversion batteries. It shall be designed to handle voltage of at least 48VDC. All wiring to the 12VDC outlets shall be clearly labeled and shall be one (1) continuous run from the diode to the outlet.

The ambulance shall be equipped with at least two (2) 12VDC "power point" style outlets. These outlets shall be breaker protected. They shall be energized when the module master switch is activated.

One (1) shall be installed on the street side of the vehicle towards the patient's head.  
One (1) shall be installed on the street side of the vehicle in the cardiac monitor location.

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

**10.03 120VAC Outlets**

120VAC outlets shall be energized from the shoreline and/or from the inverter if equipped. All 120VAC outlets shall be UL certified, Nema 5-15, clearly identified on the unit, rated to 60Hz and have a pilot light when powered. A 120VAC GFCI shall be installed beyond the shoreline and shall disable all 120VAC outlets when tripped. The GFCI shall be located in the rear attendant console for ease of consulting and/or resetting if needed.

The ambulance shall be equipped with at least five (5) 120VAC 60Hz outlets. They shall be energized when the module master switch is activated or the shoreline plugged.

One (1) shall be installed on the street side of the vehicle towards the patient's head.  
One (1) shall be installed on the street side of the vehicle in the cardiac monitor location.  
One (1) shall be installed on the curb side of the vehicle in the rear kit tree.  
One (1) shall be installed on the curb side ALS upper cabinet.  
One (1) shall be installed on the curb side ALS lower cabinet.

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

**10.04 Super Auto-Eject 20 Amp Shoreline**

A 20 amp shoreline shall be installed on the driver's side of the vehicle. The shoreline shall be a Kussmaul Super Auto Eject with sealed casing. When the shoreline is plugged into an exterior source, all 120VAC 60Hz outlets shall be energized. The shoreline shall be recessed into the module and shall include a weather proof low profile cover.

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

**10.05 1000W Xantrex Inverter**

A Xantrex power inverter rated for 1000 watts shall be installed in the patient compartment, behind the street side cabinetry, in a ventilated storage area. The inverter shall be powered via a control panel in the rear attendant console. When this inverter is activated, all 120VAC outlets shall be energized.

**VENDOR NAME:** \_\_\_\_\_

An inverter integrated battery charger shall be provided for maintaining, in conjunction with the multiplex isolator and the shoreline, OEM and conversion batteries in a fully charged condition when the shoreline is plugged.

**Does the bid comply with the specification as written?**

Y\_\_\_ N\_\_\_

## **11. CONSOLES**

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### **11.01 General**

Controls and switches that are expected to be operated by the belted attendant while the ambulance is in motion shall be visible and within reach. Switches shall be located in such a position that the driver does not have to unbuckle to activate or read the control switches while the ambulance is in motion.

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.

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. All switches and controls detailed here shall be properly LED illuminated for night driving.

Every switch shall incorporate a confirmation LED connected to the device or circuit that is activated. Confirmation lights wired directly to the switch shall not be tolerated as it doesn't confirm that the output activated, only that the switch is activated.

**Does the bid comply with the specification as written?**

Y\_\_\_ N\_\_\_

### **11.02 Front Console**

The completed ambulance shall have a front console. It shall include all controls and switches to operate all necessary emergency or mission critical functions such as:

1. Master switch (lockable)
2. Primary/Secondary emergency lighting
3. Side scene and rear load lights
4. Alarm cutoff for patient indicator and back up alarm
5. Wig Wag headlights (where applicable)
6. Optional lighting activation (lightbars, additional warning lights, etc.)
7. Rear heat and AC controls with digital interior temperature display
8. Patient compartment lighting
9. Patient compartment exhaust
10. Door open indicator
11. Digital Ammeter/Volt Meter Display

The detail above describes the minimum features the front console display shall activate. All switches shall be wired to a multiplex node located in the front console. Wiring directly to the electrical panel will not be tolerated as it adds unnecessary wires and connections. The master switch shall be lockable in the "ON" position to ensure that the power shall not be inadvertently cut.

**VENDOR NAME:** \_\_\_\_\_



Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 11.03 Rear Console

The completed ambulance shall have a rear action area console. It shall include all controls and switches to operate all necessary emergency or mission critical functions such as:

1. Rear heat and AC controls with digital interior temperature display
2. Patient compartment lights, bank 1
3. Patient compartment lights, bank 2
4. Action area reading light
5. Cabinet lights
6. Suction pump
7. Patient compartment exhaust
8. Patient status indicator (intercodes, red, yellow, green)

Switches shall be easily cleaned and sanitized.

The detail above describes the minimum features the rear console shall activate. All switches shall be wired to a multiplex node located in the rear console. Wiring directly to the electrical panel will not be tolerated as it adds unnecessary wires.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 11.04 Front Console Indicator Lights

The front console shall integrate the following indicators:

1. **Patient Status Indicator Lights (intercodes):** The Red/Amber/Green patient indicator lights shall be integrated on the front console. An audible alarm shall sound when any state is activated from the patient compartment. The alarm shall be cancelled by the Alarm Cancel / Mute switch.
2. **Door Ajar Indicator:** This shall illuminate when an entry door is opened. An audible alarm shall sound when this indicator light is flashing.
3. **Compartment Ajar Indicator Light:** This shall illuminate with any compartment door is opened. An audible alarm shall sound when this indicator light is flashing.
4. **AUX Indicator:** This light is available for future option integration.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 11.05 Heat/AC Controls

The rear HVAC system shall be able to be controlled from the action area and the cab via a touch pad or touch screen. It shall integrate functions to raise and lower the patient compartment temperature and to control the fan speed. Speed available shall be off, 1, 2, 3 and automatic mode. There shall be a digital display for the patient compartment temperature, the set temperature, the fan speed, as well as the ambient temperature information. If equipped with the touch pad, two (2) auxiliary or more buttons shall be available for future expansion if needed. These touch pads or touch screens, at least one (1) in the front console and one (1) in the rear console, shall be part of the multiplex system and also act as nodes.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

VENDOR NAME: \_\_\_\_\_

**11.06 Hour meter**

A digital engine hour meter shall be integrated in the front console.

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

**12. EMERGENCY AND TASK LIGHTING**

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**12.01 General**

Each ambulance shall have a system of optical warning devices as specified in this section. The visual warning system on the ambulance shall have two (2) 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 that the ambulance is stopped and is blocking the right-of-way.

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

**12.02 Flash Rate**

Flash patterns shall be easily programmable through the multiplexing electrical system for all emergency lighting. External flasher units are not preferred, nor lights programmed with a specific flash pattern.

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

**12.03 Front Plane Lights – Five (5) 900 Series LED**

Five (5) Whelen 900 series LED lights with chrome bezels shall be installed on the front plane. The lighting shall include a mix of four (4) red and one (1) clear lights. These lights shall flash in an alternating pattern where all red lights flashes together first followed by the clear light.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**12.04 Wig Wags**

The OEM high beams lights shall act as Wig Wag emergency lights.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**12.05 Grille Lights**

Two (2) red Whelen 700 Series LED lights shall be installed in the front grille.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**VENDOR NAME:** \_\_\_\_\_

**12.06 Front Intersection Lights**

Two (2) Whelen 700 Series LED clear/red lights with chrome bezels shall be installed on the fenders of the chassis. These lights shall be located in a forward position to provide adequate visibility at an intersection. The clear portion shall be continuously light when the turn signal is activated.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**12.07 Side Warning Lights**

Four (4) Whelen 900 Series LED red warning lights shall be installed on the side plane of the ambulance, two (2) each side.

Two (2) Whelen 700 series LED red warning lights with chrome Bezels shall be installed on the side plane of the ambulance, one (1) on each side towards the center, above the fenderettes.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**12.08 Rear Warning Lights**

Four (4) Whelen 900 Series LED red warning lights with chrome bezels shall be installed on the rear plane of the ambulance, two (2) on each side of the doors, one (1) towards the top corner and the other one visible through the window when the door is opened. Two (2) Whelen 600 Series LED amber warning lights with chrome bezels shall be installed above the rear doors.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**12.09 Scene Lighting**

Four (4) Whelen 900 Series LED scene lights shall be installed on the side planes of the ambulance. The scene lights shall project at a downward angle to allow for adequate lighting of the area surrounding the sides of the ambulance.

They shall be controlled independently for each side by a switch in the front console. The curbside scene lights shall also be activated when the side entry door is opened. This feature can be cancelled by pressing one (1) second on the door switch. Three (3) position switch is not tolerated as the signal for the open door is cancelled when the switch is pulled in the third position, which could lead to a safety issue. Adding a second switch is also not tolerated as it adds unnecessary wiring and components.

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

**12.10 Load Lights**

Two (2) Whelen 600 Series LED load lights with chrome bezels shall be installed on the rear plane of the ambulance, above the rear doors. The load lights shall project at a downward angle to allow for adequate lighting of the area surrounding the rear of the ambulance.

**VENDOR NAME:** \_\_\_\_\_

They shall be controlled by a switch in the front console. The lights shall also be activated when the rear entry door is opened. This feature can be cancelled by pressing one (1) second on the door switch. Three (3) position switch is not tolerated as the signal for the open door is cancelled when the switch is pulled in the third position, which could lead to a safety issue. Adding a second switch is also not tolerated as it adds unnecessary wiring and components.

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

**12.11 Patient Compartment Illumination**

Eight (8) Whelen round LED dome lights shall be installed in the ceiling of the patient compartment. The LED lights shall be controlled via switches on the rear control panel. Four (4) LED lights of the patient compartment curbside shall be illuminated when the patient compartment entry doors are opened. See section 15.13 for color requirements.

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

**12.12 Patient Compartment Timer**

An automatic digital timer shall be integrated into the rear consol. Four (4) LED lights of the patient compartment curbside shall be illuminated when the timer is activated. This timer shall be triggered with five (5) minutes increment and display the time remaining.

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

**13. AUDIBLE WARNING DEVEICES**

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**13.01 Siren/PA System**

Siren-PA System to be Whelen 295HFS or equivalent with: radio, PA, Manual, Wail, Yelp, Air Horn and Piercer tone.

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

**13.02 Speakers**

Whelen low profile siren speakers shall be mounted on the front grill of the chassis. They shall be securely mounted in an engineered support to fit without modifying the chassis. This housing shall be designed not to restrict airflow or to reduce the effective of the siren speaker.

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

**13.03 Backup Alarm**

A 97 db. backup alarm shall be provided. It shall be activated when the vehicle is put in reverse. The cancel switch in the cab-mounted emergency control console shall mute the alarm when pressed after the alarm is activated. However, an automatic function shall reactivate the alarm after 15 seconds of down time. The backup alarm shall be located under the rear of the ambulance.

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

**14. OXYGEN AND SUCTION**

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**14.01 General**

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 that the County will provide and install at the time the

**VENDOR NAME:** \_\_\_\_\_

vehicle is placed in service. Low pressure, electrically conductive hose and fittings approved for medical oxygen only shall be used. 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 self-sealing oxygen outlets. The system shall be tested prior to delivery and the results of the test shall be provided with the end user documentation.

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

**14.02 Oxygen Outlets, quick Connect, Three (3)**

Three (3) Quick Connect surface mounted oxygen outlets shall be installed in the completed ambulance. They shall be installed on the medical center wall in the main action area. These outlets shall be tested prior to delivery of the ambulance.

Exact location of the oxygen outlets shall be agreed upon prior to construction.

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

**14.03 Oxygen Tank Storage**

The oxygen tank shall be stored in an outside compartment. 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 of the patient compartment. A chrome vent with an interior rubber debris barrier shall be installed on the oxygen compartment door to properly ventilate this compartment of any leaking oxygen.

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

**14.04 Oxygen Tank Bracket**

A Ziamatic QR-MV oxygen cylinder bracket shall be installed in the oxygen compartment to accommodate different sizes of oxygen cylinders. This bracket shall be securely fastened to reinforcement mounting plates.

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

**14.05 Suction**

Two (2) RICO RS4 electrically controlled suction system shall be installed in the patient compartment. One (1) outlet shall be on the action area wall with the control in the rear switch panel with the first suction pump located behind the street side cabinetry. One (1) outlet shall be located close to the secondary action area, on the curb side wall, with the second suction pump located behind the second action area lower cabinet. The two (2) suction pumps shall be securely mounted with rubber pads to eliminate any unnecessary noise. Two (2) vacuum indicator gauges ranging from 0 to 760 mm Hg shall be provided.

Each suction pump shall be triggered only by the switch on the same side of the ambulance.

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

**14.06 Quick Connect Wall and Ceiling - Flow Meter**

The ambulance shall be equipped with a Quick Connect 0.5-15 LPM wall flow meter and a ceiling flow meter.

**VENDOR NAME:** \_\_\_\_\_

Does the bid comply with the specification as written?

Y \_\_\_ N \_\_\_

15. VARIOUS

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15.01 Paint

All exposed 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 manufacturer's recommendation. The paint used shall be from Tristar, a high built polyurethane surface over epoxy primer application utilizing two (2) acid stabilizing treatments. This paint is preferred by the County 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 paint process will consist of two (2) coats of primer and one topcoat. The primer will be an epoxy/polyamide strontium chromate primer boasting excellent impact and chemical resistance designed specifically for the aerospace industry's high performance requirements. It will be approved for the following specifications:

- de Havilland DHMS C4.01 Type 2
- Bombardier Canadair BAMS 565-01, BAMS 565-08 Ty2 C1 A Gr A
- National Defense Mil-P-23377F, Type 1, Class 1

The base primer coat will need to pass the following tests, with testing documentation:

<i>Impact Resistance</i>	No flaking or cracking when subjected to 40 inch pounds direct impact or a 40 inch pounds reverse impact.
<i>Hardness</i>	Pencil Hardness 2H minimum.
<i>Fuel Resistance</i>	Withstands immersion of Jet A1 Fuel for 14 days at ambient temperatures without showing any defects. After a 24 hour recovery period, the primer regains its pretest hardness.
<i>Lubricating Oil Resistance</i>	Withstands immersion in lubricating oil at 25° C for 14 days without showing any softening, blistering, or loss of adhesion.
<i>Hydraulic Fluid Resistance</i>	Withstands immersion in Skydrol hydraulic fluid without showing any defects for 30 days.
<i>Salt Spray Resistance</i>	With a scribed film at an angle of 6°, it exhibits no blistering, lifting of the primer, or substrate corrosion after exposure to 5% salt spray following ASTM B117 on treated aluminum substrate 3000 hours.
<i>Water Resistance</i>	No blistering or loss of adhesion after 14 hours immersion in distilled water at ambient temperature. Will regain its pretest hardness after a recovery period of 24 hours.

The manufacturer's paint facility shall be free of 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 aluminum structure shall be prepared by thoroughly washing the aluminum body with wax and grease remover, preferred product is PPG DX440.

Following the acid wash, the surfaces shall be sanded smooth. All sand and dust shall be removed with air when sanding is complete.

VENDOR NAME: \_\_\_\_\_

A two (2) stage epoxy primer layering process shall be applied to the module 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 (2) layers thick and shall be sanded smooth to a surface grade of 9 or 10. This application allows for superior adhesion to the module body.

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

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

**15.02 Signs and Instructions**

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 (-25°C) and 176°F (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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**15.03 Custom graphics, striping, lettering**

Bidder to provide graphics package per state of Tennessee requirements. Bidders are encouraged to contact purchasing with specific questions regarding layout to match existing fleet.

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

**15.04 Two (2) Additional Whelen 900 led (red) warning lights at window height**

Red 900 series LED version warning lights to be installed at module rear and programmed to flash with primary and secondary mode.

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

**15.05 Wheel Simulators**

Chrome style wheel simulators to be installed on chassis wheels. Phoenix brand or equal.

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

**15.06 Ford FIN GPC discount per State of TN**

Discount shall be applied by bidder.

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

**VENDOR NAME:** \_\_\_\_\_

**15.07 All warning light lenses shall be clear**

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

**15.08 Flash pattern shall meet KKK-A-1822-F per State of TN requirements**

Program flash pattern shall be triple burst comet flash

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

**15.09 Tire chains to be installed on Ford chassis**

On Spot or equal tire chains to be installed.

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

**15.10 Patient Compartment windows.**

All patient compartment windows to be tinted.

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

**15.11 Stryker Equipment to be provided.**

- Stryker: Floor plate and pre-wire
- Stryker: Performance Load system installed with inductive charger option

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

**15.12 USB charging outlets in cab and module – Two (2) each**

Exact location to be determined at pre-construction

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

**15.13 Delivery**

Bidders shall be responsible for delivery to Anderson County, TN

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

**15.14 Fog Lights**

Bidders shall install LED lightbar version fog lights on chassis front bumper area.

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

**15.15 Rear Tow Hooks**

Dual recessed rear tow hooks to be installed.

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

**VENDOR NAME:** \_\_\_\_\_



**15.15 References for this specific design ambulance – no exceptions permitted**

CUSTOMER	CONTACT	STATE	MANF	TITLE	#

**16 OPTIONS for the TYPE III (4X2) DRW Ambulance**

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**16.01 Lifepak 15 Cardiac Monitor Mount**

Technimount system Bracket Pro Serie 35 complete assembly support includes standard anodized surface base, support device section, hardware and instruction (part number 210-00-PC15).

Price: \_\_\_\_\_

**16.02 Stryker Powerload**

Purchase and installation of a Stryker Power Load cot fastening system.

Price: \_\_\_\_\_

**16.03 Stryker Stair Chair**

Stryker Stair Chair Pro Model #6252 with IV pole clip, foot support and vinyl head support.

Price: \_\_\_\_\_

**16.04 Ferno PowerTraxx EZ Glide**

Ferno PowerTraxx EZ Glide with one additional battery, battery charger, rear lifting handles, headrest and IV pole.

Price: \_\_\_\_\_

**VENDOR NAME:** \_\_\_\_\_

**16.05 Stryker Power Cot**

Stryker Power Pro XT Model # 6506 with XPS, including Backrest Storage Pouch, Head End Storage Flat, Dual Wheel Locks, 3 stage IV Pole, Equipment Hook, Head End O2 Holder, G Rated Bolster Mattress, knee gatch and the Stryker Smart Power System.

Price: \_\_\_\_\_

**16.06 Bariatric Cot**

MX-PRO Bariatric Transport Ambulance Cot (model #6083) with IV pole, dual wheel lock, rigid head and foot end push/pull handles, X-frame guards, side lift handles and non-pocketed head end storage.

Price: \_\_\_\_\_

**16.07 Bariatric Ambulance Lift**

Not a ramp style, powered lift system that stows under rear of ambulance.

Price: \_\_\_\_\_

**16.08 360-degree Birds Eye Cameras**

Provide and install 360-degree surround view camera system to replace backup camera system. Must have video monitor installed in cab, in easy view area of driver.

Price: \_\_\_\_\_

**16.09 Cradlepoint**

COR IBR900 router with WiFi, and all antennas, and cables. Antenna is to be an externally mounted low-rise antenna for maximum connectivity. Unit to be installed by bidder. Sim card to be provided by The County.

Price: \_\_\_\_\_

**16.10 Rear Window Privacy Covering**

Install of privacy window covering on rear windows of patient compartment. Covering is to be permanent, and is to allow limited to no viewing into patient compartment, but ability of interior viewing outside of patient compartment.

Price: \_\_\_\_\_

**16.11 Patient Compartment Shelf Dividers**

Install of shelf dividers on interior patient compartment storage cabinets.

Price: \_\_\_\_\_

**16.12 Alternate Street Side layout**

To adapt to greater safety measures for our attending medics we are proposing the alternate street side area as an option, and therefore would be deleting previous specifications pertaining this area.

“The street side cabinetry layout shall consist of the following cabinetry:

**VENDOR NAME:** \_\_\_\_\_

An EVS thermoformed seat with 3 pts safety belt shall be installed on the street side wall. This CPR seat shall be positioned at the patient's torso position. It shall pivot to face forward, and to face perpendicular to the patient.

A large storage cabinet shall be located above the action area and shall continue from the bulkhead cabinetry to the CPR seat. This cabinetry shall be accessible via sliding windows.

A large storage cabinet shall be in the upper section towards the rear. This cabinet shall extend from the CPR seat to rear door area. It shall be accessible via sliding windows.

A large storage cabinet shall be in the lower section towards the rear. This cabinet shall extend from the CPR seat to rear door area. It shall be accessible via sliding windows from the G4 exterior compartment and the patient compartment.

There shall be one (1) pull out drawer on either side of the CPR seating area. These drawers shall pull out toward the isle way."

Price: \_\_\_\_\_

**16.13 Tire chains to be installed on Ford chassis**

On Spot or equal tire chains to be installed.

Price: \_\_\_\_\_

**16.14 MedixSafe**

MS1 model PIN pad and proximity card reader narcotic safe. To be installed by manufacturer in location approved by The County.

Price: \_\_\_\_\_

**16.15 Narc Box**

10" X 8" X 4" Narc Box with 110-volt power supply, with 5 FRID cards. To be installed by manufacturer in location approved by The County.

Price: \_\_\_\_\_

**16.16 Pepwave MK2**

Pepwave Max BR1 MK2 router with WiFi, all antennas, and cables. Antenna is to be externally mounted with low rise antenna for maximum connectivity. Unit to be installed by bidder. Sim card to be provided by The County.

Price: \_\_\_\_\_

**16.17 Alternate chassis model**

Replace Ford E350 gas chassis with Ford E450 V10 gas chassis.

Price: \_\_\_\_\_

**VENDOR NAME:** \_\_\_\_\_

## Section 17- TRANSIT MID HIGH ROOF (4X2) TYPE II SRW

### 17.01 Drawings

The ambulance proposal shall include computer aided design (CAD) drawings for the model specified here. Two dimensions (2D) sales drawings 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 County.

Upon acceptance of the proposal and finalization of the order, the bidder shall have three dimensions (3D) models to complete the ambulance. These 3D models shall be available to view at the County's 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 engineering method shall document this in the exceptions section of this document.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 17.02 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. A description of the manufacturer production system shall be included.

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 suppliers is being able to meet production demands during peak periods without the need to hire untrained personnel.

The ambulance manufacturer is to have documented consistent experience with building in accordance with these specifications and construction products. At least 80% or greater of all ambulances built in a year are to be of aluminum and/or fiberglass interior. This is to ensure that accuracy, consistency and experience with building an ambulance with both exterior and interior aluminum and/or fiberglass construction design is in place and routine.

The ambulance manufacturer is to have routinely built at least 400 or more ambulances of varying models, but of this type construction, each year for the last five (5) years consecutively. The manufacturer shall also provide a list of like models to the County upon request.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 17.03 Schedule

The manufacturer shall be able to 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 include the proposed lead time for the completion unit and other important milestones in a Gantt chart.

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.

VENDOR NAME: \_\_\_\_\_

Manufacturer shall be responsible for delivery of ambulance upon completion to Anderson County, TN.

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

**17.04 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 maintained the manufacturer shall be audited by an independent agency. Documentation on this internal quality process system shall be provided.

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

**17.05 Ambulance Components**

All components shall be installed in accordance with the applicable manufacturer's installation instructions. The emergency medical care vehicles, including chassis, equipment, devices, medical accessories, and electronic equipment shall be standard commercial products, tested and certified to meet or exceed the requirements of this standard. 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 OEM best practices.

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

**17.06 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).

- Module Structure: \_\_\_\_\_
- Paint: \_\_\_\_\_
- Electrical: \_\_\_\_\_
- Materials and Workmanship: \_\_\_\_\_
- OEM Materials: \_\_\_\_\_

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

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

**17.07 Documentation**

All documentation delivered with the ambulance shall either be 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 County to review as necessary.

The ambulance manufacturer shall deliver with the ambulance at least one (1) copy of the following documents:

**VENDOR NAME:** \_\_\_\_\_

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 and torque
  - 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) (done after construction is completed, and 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 the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

#### **17.08 Operations and Service Documentation**

The manufacturer shall deliver with the ambulance at least one (1) set of complete owner/operator manuals. These manuals shall also include service documentation covering the completed ambulance as delivered and accepted.

The owner/operator manual shall include the inspection, service, and operations of the ambulance of all major components thereof. 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

**VENDOR NAME:** \_\_\_\_\_

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. Material safety data sheet (MSDS) for any fluid that is specified for use on the ambulance

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

**17.09 Certification and Payload Signage**

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

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

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

**17.10 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.

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

**17.11 Component Protection**

All manufacturer or supplier supplied hose lines, air system tubing 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 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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**17.12 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.

**VENDOR NAME:** \_\_\_\_\_

The completed ambulance shall be free of sharp edges and protrusions that could injure during routine maintenance or while the vehicle is in motion.

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

**17.13 Liability**

The bidding manufacturer shall furnish a Certificate of Insurance showing an aggregate of liability insurance which shall not be less than ten million dollars (\$10,000,000.00). 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 the bid comply with the specification as written?** Y\_\_\_ N\_\_\_

**17.14 Service Parts and Warranty Capability**

Bidders authorizing local service centers to perform warranty work will be cause for a lower level of consideration by the County. It is preferred that the bidder provide this service direct.

**Does the vendor provide these services direct or indirect?** Y\_\_\_ N\_\_\_

Bidder must be recognized as the authorized provider of ambulances and service for the State of Tennessee.

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

Bidders must have an on-site mobile service vehicle fleet fully stocked with common service items available 24 hours a day 7 days a week 365 days a year. All module repairs must be performed via a factory trained technician.

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

**Bidders must list their service facility profile on the Vendor Information form. Photos of the facility and mobile service units must be included.**

**18. TEST AND CERTIFICATION**

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**18.01 Testing Capabilities**

The ambulance manufacturer shall be equipped to do a majority of the ambulance testing at their facility. All pull tests, load tests, lighting level tests and noise level tests shall be done at the manufacturer's 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 County as this gives the manufacturer flexibility to perform tests on various designs and iterations on a continual basis. All testing shall be audited and documented by an engineer, which will all be accredited under the board of engineering and technology of their respective state or province.

**VENDOR NAME:** \_\_\_\_\_



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.

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

### 18.02 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 Ambulance Manufacturers Division of the National Truck Equipment Association (**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 County to be considered a plus.

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

### 18.03 Additional Testing Requirements

In addition to the above mentioned testing requirements in section 2.02, the following tests shall be conducted on the specific model, passed and documented.

#### 18.03.1 Additional AMD Testing Requirements

- **AMD 004: Cot Retention Pull Test**  
Above and beyond the minimum required 2200 lbs., the bidding manufacturer must have completed a cot retention pull test to meet or exceed 10 times the weight of the cot plus the cot hardware and the weight of a male patient in the 90th percentile per the current NIHS / CCHS data. The minimum requirement may vary, depending on the specific cot (Ferno or Stryker) and cot hardware. Results for both brands must be provided.
- **AMD 006: Sound Level Test**  
Above and beyond the minimum requirement of 80 decibels or less as tested in the patient compartment, the bidding manufacturer must also perform a sound level test in the front cab, with windows opened 6 inches and reach a minimum requirement of 89 decibels or less. Another sound level test in the front cab must be done with windows closed while reaching a minimum of 84 decibels or less.
- **AMD 008: Patient compartment Grab Rail Test**  
Above and beyond the minimum requirement of a 300 lbs pull test on the overhead ceiling grab rail, the bidding manufacturer must perform pull tests **on each grab**

VENDOR NAME: \_\_\_\_\_

handle inside the patient compartment. All grab handles and overhead grab rails will be pull tested to 500 lbs., however it is important to mention that deformation may occur at 500 lbs.

- **AMD 012: Interior Climate Control Test**

Heating

Minimum Requirement: From 32°F to 68°F in 30 minutes or less

Above and beyond the minimum requirement, the bidding manufacturer must show that the test began at 1°F and reach 68°F in 30 minutes or less.

Air Conditioning

Minimum Requirement: From 95°F to 78°F in 30 minutes or less

Above and beyond the minimum requirement, the bidding manufacturer must perform the exact same test and reach 78°F in 20 minutes or less.

- **AMD 013: Weight Distribution**

Above and beyond the minimum requirement of having 20% or more GVWR on the front axle, the bidding manufacturer will need to meet or exceed a minimum of 30% GVWR on the front axle. This added front axle weight distribution is a critical safety aspect in terms of added traction, braking capacity and increased handling capabilities.

*18.03.2 Additional Testing Requirements*

- **Safety Net and Safety Net Anchor Points Pull Tests**

The bidding manufacturer will need to meet or exceed a pull test on the safety net of 3000 lbs. The bidding manufacturer will also need to meet or exceed a pull test of the safety net anchor points of 6000 lbs., with each anchor point being subject to an equal amount of force.

**Test Scope – Anchor Points**

Attach a force application device to each fastener and applied the required load in a plane parallel to the fastener. Repeat the test procedure while applying the load perpendicular to the initial plane. Examine and record the results.

**Test Scope – Safety Net**

Apply a force in a forward direction at the center of the net using a suitable solid block to distribute the load. Examine and record the results.

- **Street side Cabinetry Pull Test**

The bidding manufacturer will need to meet or exceed a pull test on the street side medical cabinetry equivalent to 25 times the weight of the cabinet and action wall assembly or, in the case the cabinets are individual components of the wall assembly, the sum of every individual cabinet plus the cabinet shelves and action wall, in both lateral and longitudinal axis', with the force equally dispersed on the surface of the cabinet. The pull test shall be conducted on a final assembled cabinet installed in a similar module.

**Test Scope – Street Side Cabinetry Pull Test**

Apply the required force to the component using a force application device such that the force is spread equally over the fasteners. Apply the force in a lateral direction.

**VENDOR NAME:** \_\_\_\_\_

Observe and record the results. Repeat the test procedure by applying the force in a longitudinal direction. Observe and record the results.

• **Equipment Restraint Devices Pull Tests**

The bidding manufacturer will need to meet or exceed a pull test on any and all equipment restraining device, such as fasteners, O2 brackets or belts. The pull test will be a minimum of 10 times the weight of the restraint device and the restrained equipment.

**Test Scope – Equipment Restraint Devices**

Document and calculate the weight of the equipment and the equipment restraint to be pull tested. Apply the calculated force on each different installation in a parallel and perpendicular plane to the initial plane of the fasteners.

**Does the bid comply with the specifications as written?**

Y \_\_\_ N \_\_\_

**18.04 Certification Documents**

Certification letters submitted for the ambulance model, components, and equipment being certified shall contain the following information on contractor's letterhead stationery in electronic format (pdf files):

1. To whom certifying
2. Date
3. Units or items
4. Contractor and address
5. Date product tested
6. Model number and specification data
7. Applicable specification references and test requirement
8. Summary of the test report
9. A certifying statement with official signature by a recognized and certified engineer

The testing documentation for each certification shall include the following supportive verification data and information on letterhead stationery in electronic format (pdf files):

1. For whom tested
2. Report date
3. Name of sample product or device
4. Contractor's address
5. Serial and model number(s)
6. Specification referral and amendment number(s), and test requirement(s)
7. Test facilities used and location
8. Test equipment used
9. Test procedure
10. Test results
11. Verifying test data
12. Photographs
13. Test conclusion(s)
14. Witness(es)
15. Authorized signature

**VENDOR NAME:** \_\_\_\_\_

Certification documentation shall be delivered with the ambulance, including results of the certification tests. Each model the manufacturer offers shall be tested and certified. The County will not accept testing certification on the largest model size as a "blanket certification" for all models without detailed justification and/or calculation. A testing equivalency can only be used if a signed & approved letter is provided, explaining the build philosophy and testing requirements proving the test equivalency.

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

**19. CHASSIS**

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**19.01 Model**

Ford Transit Van T250 with Mid-Height Roof, 148" Wheelbase (Code R2C)

**19.02 GVWR**

9000 lbs (Code 20B)

**19.03 Paint**

OEM Oxford White (Code YZ)

**19.04 Interior Color**

Pewter Cloth (Code CK)

**19.05 Seating**

Pewter 2-way manual driver and passenger, with side airbags (Code 21L)

**19.06 Equipment packages**

Preferred Equipment Package (Code 101A)

XL Trim (INCL)

Exterior Upgrade Package (Code 18D)

Ambulance Cargo Van Prep Package (Code 47B)

Auxiliary Heater A/C Prep Package without Rear Controls (Code 62C)

Modified Vehicle Wiring System Package (Code 53K)

**19.07 Mirrors**

OEM Power Short Arm Mirrors (Code 541)

**19.08 Radio**

AM/FM Stereo with audio input jack in OEM dash location (Code 58U)

**19.09 Engine**

3.7L Ti-VCT V6 Gasoline Engine (Code 99M)

**19.10 Transmission**

6-Speed Automatic Overdrive with SelectShift (320 H.P., 400 FT LB Torque) (Code 446)

**19.11 Alternator**

Single Heavy Duty 220-amp (Code 63C)

**19.12 Batteries**

Dual Heavy Duty Batteries (Code 63E)

**VENDOR NAME:** \_\_\_\_\_

**19.13 Tires**

235/65R16 BSW all season SRW (Code TC8)  
Full size spare tire/wheel mounted underneath the vehicle

**19.14 Wheels**

16" Steel wheels with full silver wheel covers (Code 64H)

**19.15 Brakes**

Four-wheel disc with anti-lock (STD)

**19.16 Axle**

Axle Limited-Slip Ratio 3:73 (Code X7L)

**19.17 Suspension**

Front- Independent McPherson Strut w/Stabilizer Bar (STD)  
Rear- Leaf Springs w/heavy-duty gas shock absorbers (STD)

**19.18 Steering**

Power Rack and Pinion with tilt and telescopic column (STD)

**19.19 Cab Flooring**

OEM black vinyl mat (STD)

**19.20 Emissions**

50 state emissions (Code 425)

**19.21 Fuel Tank**

26 US Gallons, midship, capless fuel fill (STD)

**19.22 Additional Options/Features**

Air Conditioning-Front only (Code 57B)  
Cruise Control (Code 60C)  
Rear Vinyl Floor Covering Delete (Code 16C)  
(2) Additional, (4) Total Keys (Code 86F)  
Front License Plate Bracket (Code 153)  
Engine Block Heater (Code 41H)  
Daytime Running Lamps (Code 942)  
Power Equipment Group, Door Locks and Windows, w/Remote Keyless Entry (STD)

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**20. VEHICLE FEATURES**

---

**20.01 Aerodynamic light integration**

Aerodynamic light fixtures shall be added to the ambulance. There shall be a front cab riser and a low profile rear spoiler. They need to be designed according to the chassis' lines to maximize drag reduction and enhance appearance. They shall reduce the drag caused by disrupting the air flow around the vehicle created by the addition of front and/or rear light bars.

**VENDOR NAME:** \_\_\_\_\_

They shall be made of fiberglass thick enough to prevent buffeting. A layer of gel cot is applied to give the smooth finish. Foam insulation, where applicable, prevents wind noise and reduces heat transfer with the exterior.

The cab riser shall also incorporate emergency lighting integrated behind Lexan lenses to maximize the aerodynamic efficiency. These lenses need to be replaceable and fixed using tools and adhesive required to install and remove automotive windshield. The lights shall be interchangeable from the inside, without the need to remove any lens. The headliner shall be modified to provide access for changing lights. Isolated color matching hatches have to be installed in three (3) locations to access the left, center and right lights.

The rear spoiler shall also incorporate rear lights which can be interchanged from the outside of the ambulance.

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

**20.02 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 automatically engaged when the ambulance parking brake is engaged with the transmission in park. The high idle shall deactivate when the vehicle's parking brake is removed or the brake is applied.

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

**20.03 Running Boards**

Running boards shall be installed on both sides of the vehicle. The driver's side shall be just below the driver's entry door and the passenger side shall be full length from the cab entry door to below the curbside sliding entry door. They shall be constructed of a sure grip material no less than 7" wide with machine punched holes to facilitate water and debris runoff. Aluminum mud flaps and brackets shall be added for reinforcement and prevent road debris intrusion.

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

**20.04 Front Bumper**

The chassis manufacturers OEM front bumper shall be furnished at the front of the chassis.

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

**20.05 Rear Step Bumper**

An OEM rear step bumper with fixed stepping surface shall be installed on the rear of the vehicle. The structure is to be bolted to the chassis for easy replacement and adjustment.

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

**21. DRIVERS' COMPARTMENT**

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**21.01 Reading Lamp**

There shall be a gooseneck reading lamp installed in the front console.

**VENDOR NAME:** \_\_\_\_\_

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

**21.02 Hand spotlight**

The ambulance shall have a 400,000 CP hand spotlight in the front cabin. It shall be secured to the floor or wall with a thermoformed bracket.

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

**21.03 Back-up camera**

The ambulance shall have a back-up camera with a minimum 5" display in the driver's compartment. 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.

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

**22. BODY FEATURES**

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**22.01 Curb Side Configuration**

There shall be a sliding door on the curb side of the ambulance. This door shall allow for entering and exiting the patient compartment. It shall also provide access to the ALS compartment and the stair chair, stored flat just above floor level, under the ALS compartment.

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

**22.02 Rear Configuration**

There shall be two (2) pivoting doors on the rear side of the ambulance. These doors shall allow for entering and exiting the patient compartment. The left door shall provide access to the backboard storage compartment, located horizontally behind the medical cabinet. The right door shall provide access to the oxygen cylinder compartment, upright.

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

**22.03 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, including the sidewalls, doors 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. Other insulating methods may be documented and submitted. In accordance to the KKK-A-1822 Federal Ambulance Specifications and the forthcoming edition of NPFA 1917 Standard for Automotive Ambulance requirements, all insulations shall be non-settling type, vermin-proof, mildew-proof, fire retardant, non-toxic, and non-hygroscopic.

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

**22.04 Body Structural Enhancements**

Due to the lightweight construction of the OEM Transit body, the ambulance manufacturer shall enhance the structure of the body. A rigid, steel substructure shall be welded to the OEM body on the streetside wall, curbside wall, and roof to strengthen the structure, enhance the safety of occupants, and provide mounting points for the pull-tested aluminum cabinet structure. The ambulance manufacturer must include documentation with the bid response

VENDOR NAME: \_\_\_\_\_

detailing the materials and methods used to enhance the structure of the OEM body. All modifications shall be permitted by Ford QVM Guidelines.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

## **23. PATIENT COMPARTMENT**

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### **23.01 Construction General Guidelines**

The interior of the ambulance shall be constructed in such a way that is free of sharp edges. All interior surfaces shall be easy to clean, impervious to soap, water, body fluids, disinfectants and shall be mildew resistant. Wall surfaces shall be a CNC cut fiberglass or aluminum matching the interior color of the module. Wood, or other laminated materials do not meet these specifications and shall not be utilized.

Trim pieces adjoining multiple wall surfaces are not preferred by the County 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 shall be mounted as flush as possible and shall not protrude any further than 1/2" from the ceiling, except for the grab rails. Surface mounted components on the wall shall comply with head protection requirements and shall incorporate a protective shield or covering.

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 the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

### **23.02 Floor**

The floor shall be constructed of 5/8" 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 to maintain a continuous lay of the floor and eliminate the possibility of gaps or cracking. It shall be bonded to the aluminum panel and screwed only where there are beams or plates. Screws only through the aluminum skin will not be tolerated as the present a potential injury risk and add close to no value to the floor integrity. Holes in the floor for patient handling options shall be CNC pre-cut to ensure maximum precision.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

### **23.03 Floor Covering**

Lonseal Lonplate II Gunmetal flooring shall be installed in the completed ambulance. The non-slip floor covering shall be rolled at least 3" up both 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 or prematurely tear. The floor shall be a one (1) seamless piece 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

**VENDOR NAME:** \_\_\_\_\_



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.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

#### **23.04 Cabinet Construction**

All cabinet structure, cabinet doors, shelves and openings described here shall be manufactured in fiberglass or aluminum. Over time, wood products tend to warp, distort and shrink, creating potential for premature structural wear. The County 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 framework 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. Each interlocking extrusion joint shall be attached by two (2) hex machine bolt into the extrusion via a tap and die holes. These fasteners shall lock the cabinet frame structure into place and shall prevent the cabinet sections from twisting. Cabinet inserts shall be placed on the lip of the extrusion and shall be fixed with an adhesive as well as mechanically fastened into position. **This structure alone shall resist to the pull test, the structural integrity of the cabinetry is not reliant on the interior storage cavity.**

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 easy to clean, impervious to soap, water, body fluids, and disinfectants and shall be mildew resistant.

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 3/16" Lexan and include integrated Inventory Control devices.

Laminated, or Formica-covered cabinetry is not desired due to the material's propensity to delaminate, crack, or chip. All aluminum cabinetry parts shall be powder-coated to provide a durable, smooth, easy to decontaminate surface.

The County 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 layout shall be provided.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

#### **23.05 Street Side Cabinetry**

The street side interior layout shall consist of the following cabinetry:

**VENDOR NAME:** \_\_\_\_\_

There shall be two (2) equal sized cabinets located at the ceiling level of the streetside wall, one (1) forward above the action area, and one (1) rearward just inside the rear doors. Cabinet dimensions shall be 42”L x 10”H x 7.50”D.

There shall be two (2) equal sized cabinets located just inside the rear doors at the mid and lower-levels of the streetside wall. The cabinet dimensions shall be 42”L x 16.25”H x 9.50”D, one above the other, towards the aft section of the medical cabinet. Each cabinet shall include one (1) adjustable shelf.

There shall be one (1) storage cabinet at the center of the streetside wall at mid-height with dimensions of 25”L x 16.5”H x 11.25”D. This cabinet shall include the 120VAC and 12VDC outlets specified in sections 10.02 and 10.03 of these specifications. This cabinet shall be able to be modified to include a cardiac monitor tray if desired.

There shall be one (1) storage cabinet at the center of the streetside wall at lower-height with dimensions of 25”L x 17”H x 9.25”D. This cabinet shall be directly below the previously specified cabinet and include one (1) adjustable shelf.

There shall be one (1) storage cabinet at the forward end of the streetside wall directly below the action area counter top. The cabinet shall have dimensions of 42”L x 10”H x 7.50”D.

There shall be a removable maintenance panel located below the previously specified cabinet to access the area behind the streetside cabinetry wall. This area will house the main electrical system of the unit, as well as the suction pump, 120VAC breakers, and communication radio installation area. A separate, small sliding access door shall be integrated into the removable panel to provide quick access to the 120VAC breakers in the event service is required.

There shall be a horizontal compartment for storage of backboards integrated into the streetside cabinet wall. The compartment shall be accessed from the rear doors and have dimensions of 4.25”W x 18.8”H x 69”D.

The main action area shall include the rear console, the oxygen outlets, the suction outlets, the inverter control panel if equipped, the clock if equipped, the reading light, electrical outlets and other optional items.

The exact cabinetry layout shall match the drawings (Exhibit 2) specified in this bid proposal.

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

### **23.06 ALS Cabinet**

The ALS cabinet, located on the right side of the front bulkhead wall shall be accessible from either the curbside entry door or the patient compartment. The cabinet shall have overall storage dimensions of 24.5”W x 46”H x 12.75”D and be divided with a fixed aluminum shelf in equal upper and lower storage sections. Each storage section shall have an adjustable aluminum shelf installed and removable retaining straps.

The ALS cabinet shall be made of smooth powder coated aluminum for strength and durability to match the other cabinetry in the patient compartment.

ALS cabinet layout shall match the drawings (Exhibit 2) included in this bid proposal.

**VENDOR NAME:** \_\_\_\_\_

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

**23.07 Stair Chair Storage Cabinet**

The stair chair storage cabinet shall be accessible from the curbside entry door location and be positioned at floor level just below the ALS cabinet. The cabinet shall accommodate all currently-available makes and models of stair chairs and have dimensions of 22"W x 10.75"H x 35"D.

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

**23.08 Bulkhead with Sliding Window**

The ambulance shall be equipped with an aluminium bulkhead wall partition. It shall be positioned between the driver and the patient's compartment, towards the front, allowing enough space to recline the front seats. A sliding window shall be installed above the rear attendant seat, between the ALS compartment and the medical cabinet.

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

**23.09 Squad Bench**

A squad bench capable of seating two (2) attendants and a cardiac monitor 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 covered with a single piece of covering matching the patient compartment.

Two (2) sets of 6-point safety restraints shall be located on the back of the squad bench permanently bolted through ½" plates that were welded into the added wall support structure. Holes shall be tapped to allow for seat belt removable after the squad bench is installed in the vehicle.

A full-length seamless thermoformed seat cushion with matching full-length seamless thermoformed backrest and full-length seamless thermoformed headrest cushions shall be fixed on the wall for the dual-seating positions. The color of these cushions and backrests shall match the interior vinyl cushions.

The County 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 the bid comply with the specification as written? Y\_\_\_ N\_\_\_

VENDOR NAME: \_\_\_\_\_

**23.10 Waste Disposal**

A hands-free kick out style waste disposal shall be installed in the squad bench area. This type of system shall allow the attendant to quickly discard any biologic waste via a tip out door with his or her foot to avoid unnecessary contamination from their hands.

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

**23.11 Attendant's Head Seat**

An EVS brand automotive-style thermoformed seamless attendant's seat shall be installed at the head of the cot. The attendant's seat shall have a three-point seatbelt. The seat base shall be able to flip up. The seat shall meet and exceed all testing requirements.

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

**23.12 Overhead Grab Rail**

One (1) 60" overhead Yellow grab rail shall be mounted in the patient compartment ceiling. The grab rail shall be securely fastened to the roof structure in the patient compartment ceiling at each mounting location. The grab rail shall be at least 1" in diameter.

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

**23.13 Additional Handrails**

Two (2) additional 12" Yellow handrails shall be mounted in the patient compartment, one (1) right of rear access door and one (1) right of side access door. These additional grab handles shall be positioned in a location that is easy for the attendant to grip when entering the vehicle.

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

**23.14 IV Holder**

Two (2) 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.

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

**23.15 Patient Cot Retention**

The patient compartment shall be equipped with a side-mounted Stryker Performance Load #6392 cot fastener with inductive charging. The cot mount shall be securely bolted through tapped 1/2" 6061-T6 aluminum reinforcement plates meeting Stryker installation specifications. The mount shall be positioned toward the streetside cabinetry to maximize the floor space available between the cot and the face of the squad bench.

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

**23.16 Safety Net**

A woven nylon seatbelt style safety net shall be installed towards the front of the squad bench area to serve as an additional safety barrier. The net shall be secured to the ceiling, the floor and the curbside wall of the module. Each attachment point shall be bolted to a reinforcement structure strong enough to meet required testing. The net shall be interwoven and designed to decrease the force of an object when the vehicle comes to an abrupt halt.

**VENDOR NAME:** \_\_\_\_\_

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

## 24. HVAC

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### 24.01 General

The patient compartment HVAC system shall be controlled by the driver or the patient compartment attendant via the multiplex touch pad located in the front console or the rear switch panel.

The patient compartment temperature shall be monitored by a thermostat incorporated in the multiplexing electrical system. Additional to the three (3) preprogrammed speeds, an automatic mode shall be able to decide between heating, cooling and fan speed in function of the set temperature versus the patient compartment temperature.

In order to achieve maximum efficiency and optimization of this system, the fans' speed shall be optimized via Pulse Width Modulation (PWM) to allow the heating and cooling system to run at its most effective speed.

Adequate room for hose connections and hose lines shall be provided when installing HVAC components. The hoses shall be protected and insulated to optimize performance and longevity. They shall also be clamped every 18" and routed without sharp bends and kinks.

The combination Heating/Air Conditioning unit shall be installed above the ALS cabinet area at ceiling level. The output shall be directed above the headliner through an air diffusion duct to five (5) directional air vents equally spaced above the squad bench area to maximize heating and cooling air output in the patient compartment.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

### 24.02 Ventilation

ONE (1) exhaust fan shall be installed. The fan 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 vents shall exit from the street side of the vehicle.

Does the bid comply with the specification as written?

Y\_\_\_ N\_\_\_

## 25. BATTERY SYSTEM, MULTIPLEX AND WIRING

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### 25.01 Overview

A 12VDC electrical system shall be added in junction with the OEM system. They shall be isolated from each other, yet they still exchange data. This is achieved by using a multiplex system in combination with a CAN BUS connectivity between the two (2) systems. It reduces the number of wires in the harness, thus reduces the number of components and connections. Using programmable solid-state devices allows for easy diagnostics, troubleshooting and customizing of the vehicle without needing to add relays or modify the wiring system, even at a later stage while the vehicle is in the field. Printed circuit board or, so called "hardwired" electrical systems shall not be acceptable.

VENDOR NAME: \_\_\_\_\_

The ambulance manufacturer shall have significant experience in installing multiplex and electrical systems. The County 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 1000 units. Documentation of electrical systems installed and in-service shall be provided at the County's request.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.02 Electronic Controller Units (ECU)**

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 ambulance manufacturer in the cab and in the patient compartment. Each electronic controller unit shall be self-diagnostic with easy-to-read LED. 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 ECUs main control panel shall be coated in weather resistant from the factory. 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 via the CAN BUS connection. This type of system is preferred to allow for future expansion and. No auxiliary printed circuit boards, circuit breakers or relays shall be needed in future expansion or to assist in the functionality of standard electrical components.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.03 Serviceability**

The ambulance multiplexing electrical system shall be designed to be maintained and serviced 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 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 County upon request.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.04 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. All circuits shall 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 flow control solenoid, compartment light, and switch plunger or trigger device.

**VENDOR NAME:** \_\_\_\_\_

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.05 Wiring Harness**

The ambulance wiring harnesses shall be a continuous run to each electrical component. The ambulance wiring shall contain no splices in the main wiring harness. The terminals on connectors of each end shall be machined crimped. Hand crimped electrical connectors are not permitted by the County as they have been proven to be prone to premature failure and/or irregularities.

All ambulance wiring harnesses shall be enclosed in a plastic loom. This loom shall run from the electronic controller units to each 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 plastic loom and/or wiring. All wiring harnesses shall be secured to the roof and walls tube structures with insulated clamping fasteners.

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 standard 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 connections to the electrical components shall include a minimum 6 in. service loop of. All wiring connections shall utilize easy plug in style connectors.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.06 Wiring Identification**

All wiring shall be identified every 6" at a minimum. The wiring identification code shall indicate the position on the electronic controller unit for easy maintenance and diagnosis. Wiring identification shall be clearly visible and shall be printed on the insulated wire. No stickers will be allowed.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.07 Circuit Protection**

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.

**Does the bid comply with the specification as written?**

Y \_\_\_ N \_\_\_

**25.08 Wiring Schematics**

The complete set of wiring schematics shall clearly identify all wiring locations, routing, and component connection. A sample document shall be available to the County 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.

**VENDOR NAME:** \_\_\_\_\_

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

**25.09 Electric Panel**

The electrical panel shall be located underneath the front passenger seat. It shall include in addition to the ECUs all block fuses and other electronic devices. All components shall be centralized in that location for ease of maintenance and diagnosis.

For future upgradability, one (1) extra 15 amp 12VDC circuit breaker shall be provided. It shall be wired and shall be ready for a future programmable function with the multiplexing electrical system.

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

**25.10 Grounding**

Dedicated grounding locations for all appliances, circuits, etc. shall be supplied. Appliance mounting screws/hardware shall not be used for grounding purposes, nor shall the body of the ambulance be used as a ground location. Star washers or unapproved, untested grounding methods shall not be used.

OEM grounds shall not be used as grounding location for the conversion circuits.

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

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

**25.12 Voltage Alarm**

The multiplex system shall incorporate an audible voltage warning when the system voltage of any battery bank drops below 11.5VDC.

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

**25.13 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. External load management systems or load management systems not programmable shall not be considered as the County requires this electrical system to be flexible and customizable.

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

**25.14 Batteries**

There shall be two (2) OEM batteries. These batteries shall be linked together via an OEM controlled relay.

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

VENDOR NAME: \_\_\_\_\_



**26. 120VAC & 12VDC ELECTRICAL SYSTEMS AND INVERTER**

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**26.01 Overview**

The completed ambulance shall be equipped with two (2) forms of internal power sources: 120VAC and 12VDC. These internal power sources shall allow attendants in the ambulance to plug in additional accessories or to charge battery powered devices when needed.

All wiring shall be rated to handle the load of the electrical component specified. The 120VAC and 12VDC 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 to verify that all wiring connections have been properly made.

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

**26.02 12VDC Outlets**

All 12VDC power point outlets specified here shall be properly tested and shall be protected with a Schottky-style diode to isolate the medical equipment batteries from other loads. The diode shall be located in the electrical panel and shall be wired to the conversion batteries. It shall be designed to handle voltage of at least 48VDC. All wiring to the 12VDC outlets shall be clearly labeled and shall be one (1) continuous run from the diode to the outlet.

The ambulance shall be equipped with at least four (4) 12VDC “power point” style outlets. These outlets shall be breaker protected. They shall be energized when the module master switch is activated.

- One (1) shall be installed on the street side of the vehicle in the cardiac monitor cabinet.
- One (1) shall be installed on the curb side wall of the vehicle.
- One (1) shall be installed in the ALS cabinet.
- One (1) shall be installed on the cab emergency control console.

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

**26.03 120VAC Outlets**

120VAC outlets shall be energized from the shoreline and/or from the inverter if equipped. All 120VAC outlets shall be UL certified, Nema 5-15, clearly identified on the unit, rated to 60Hz and have a pilot light when powered. A 120VAC GFCI shall be installed beyond the shoreline and shall disable all 120VAC outlets when tripped. The GFCI shall be located in the streetside lower cabinet below the action area with a dedicated access door for ease of consulting and/or resetting if needed.

The ambulance shall be equipped with at least four (4) 120VAC 60Hz outlets. They shall be energized when the module master switch is activated or the shoreline plugged.

- One (1) shall be installed on the street side of the vehicle in the first action area wall.
- One (1) shall be installed on the street side of the vehicle in the cardiac monitor cabinet.
- One (1) shall be installed on the curb side wall of the vehicle.
- One (1) shall be installed in the ALS cabinet.

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

**VENDOR NAME:** \_\_\_\_\_

**26.04 Auto Eject Shoreline**

A 20amp shoreline shall be installed on the driver's side of the vehicle. The shoreline shall be a Kussmaul Auto Eject with sealed casing and LED indicator light. When the shoreline is plugged into an exterior source, all 120VAC 60Hz outlets shall be energized. The shoreline shall be recessed into the vehicle and shall include a weather proof low profile cover.

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

**26.05 1000W Xantrex Inverter**

A Xantrex Freedom HW power inverter rated for 1000 watts shall be installed in the patient compartment, behind the driver seat. The inverter shall be powered via a control panel in the rear attendant console. When this inverter is activated, all 120VAC outlets shall be energized.

An inverter integrated battery charger shall be provided for maintaining batteries in a fully charged condition when the shoreline is plugged.

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

**27. CONSOLES**

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**27.01 General**

Controls and switches that are expected to be operated by the belted attendant while the ambulance is in motion shall be visible and within reach. Switches shall be located in such a position that the driver does not have to unbuckle to activate or read the control switches while the ambulance is in motion.

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.

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. All switches and controls detailed here shall be properly LED illuminated for night driving.

Every switch shall incorporate a confirmation LED connected to the device or circuit that is activated. Confirmation lights wired directly to the switch shall not be tolerated as it doesn't confirm that the output activated, only that the switch is activated.

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

**27.02 Front Console**

The completed ambulance shall have a front console. It shall include all controls and switches to operate all necessary emergency or mission critical functions such as:

1. Master switch (lockable)
2. Primary/Secondary emergency lighting
3. Side scene and rear load lights
4. Alarm cutoff for patient indicator and back up alarm
5. Wig Wag headlights (where applicable)

**VENDOR NAME:** \_\_\_\_\_

6. Optional lighting activation (lightbars, additional warning lights, etc.)
7. Rear heat and AC controls with digital interior temperature display
8. Patient compartment lighting
9. Patient compartment exhaust
10. Door open indicator
11. Digital Ammeter/Volt Meter Display

The detail above describes the minimum features the front console display shall activate. All switches shall be wired to a multiplex node located in the front console. Wiring directly to the electrical panel will not be tolerated as it adds unnecessary wires and connections. The master switch shall be lockable in the "ON" position to ensure that the power shall not be inadvertently cut.

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

**27.03 Front Console Indicator Lights**

The front console shall integrate the following indicators:

1. **Patient Status Indicator Lights (intercodes):** the Red/Amber/Green patient indicator lights shall be integrated on the front Heads Up Console. An audible alarm shall sound when any state is activated from the patient compartment. The alarm shall be cancelled by the Alarm Cancel / Mute switch.
2. **Door Ajar Indicator:** This shall illuminate when an entry door is opened. An audible alarm shall sound when this indicator light is flashing.
3. **Battery Indicator Light:** This light shall illuminate when the conversion battery bank is operational.

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

**27.04 Rear Console**

The completed ambulance shall have a rear action area console. It shall include all controls and switches to operate all necessary emergency or mission critical functions such as:

1. Rear heat and AC controls with digital interior temperature display
2. Patient compartment lights, streetside
3. Patient compartment lights, curbside
4. Action area reading light
5. Suction pump
6. Patient compartment exhaust
7. Patient status indicator (red, yellow, green)

Switches shall be easily cleaned and sanitized.

The detail above describes the minimum features the rear console shall activate. All switches shall be wired to a multiplex node located in the rear console. Wiring directly to the electrical panel will not be tolerated as it adds unnecessary wires.

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

**27.05 Heat/AC Controls**

The rear HVAC system shall be able to be controlled from the action area and the cab via a touch pad. It shall integrate functions to raise and lower the patient compartment temperature

**VENDOR NAME:** \_\_\_\_\_

and to control the fan speed. Speed available shall be off, 1, 2, 3 and automatic mode. There shall be a digital display for the patient compartment temperature, the set temperature, the fan speed, as well as the ambient temperature information. Two (2) or more auxiliary buttons shall be available for future expansion if needed. These touch pads, at least one (1) in the front console and one (1) in the rear console, shall be part of the multiplex system and also act as nodes.

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

**27.06 Hour Meter**

A digital engine hour meter shall be integrated in the front console.

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

**28. EMERGENCY AND TASK LIGHTING**

---

**28.01 General**

Each ambulance shall have a system of optical warning devices as specified in this section. The visual warning system on the ambulance shall have two (2) 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 that the ambulance is stopped and is blocking the right-of-way.

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

**28.02 Flash Rate**

Flash patterns shall be easily programmable through the multiplexing electrical system for all emergency lighting. External flasher units are not preferred, nor lights programmed with a specific flash pattern.

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

**28.03 Front Plane Lights - Cab Riser**

Minimum nine (9) LED lights, including two (2) Whelen 400 series LED lights and seven (7) Whelen 500 series LED lights, shall be installed in the aerodynamic cab riser. The lighting shall include a mix of seven (7) red and two (2) clear LED lights. These lights shall flash in an alternating pattern where each red side flashes together first followed by the clear light.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**28.04 Wig Wags**

There shall be two (2) clear Whelen LINZ6 series LED lights installed in the lower portion of the chassis grille to act as Wig Wag emergency lights. These lights shall flash in a pattern programmed by the multiplexing electrical system.

**VENDOR NAME:** \_\_\_\_\_

Under no circumstances shall the OEM high beam lights be modified or utilized as Wig Wag emergency lights.

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

**28.05 Grille Lights**

Two (2) red Whelen LINZ6 Series LED lights with clear lenses shall be installed in the front grille. These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**28.06 Front Intersection Lights**

Two (2) Whelen 700 Series LED red lights with clear lenses shall be installed on the fenders of the chassis. These lights shall be located in a forward position to provide adequate visibility at an intersection.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**28.07 Side Plane Warning Lights**

Four (4) Whelen 600 Series LED red warning lights with clear lenses shall be installed on the side plane of the ambulance, two (2) on each side towards the corners.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**28.08 Rear Plane Warning Lights**

Two (2) Whelen 500 Series LED red warning lights with clear lenses shall be installed on the low-profile aerodynamic rear spoiler, towards each corner. One (1) Whelen 500 Series LED amber warning light with clear lens shall be installed centered between the two (2) red lights.

These lights shall flash in a pattern programmed by the multiplexing electrical system.

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

**28.09 Scene Lighting**

Four Whelen 600 Series LED scene lights shall be installed on the side planes of the ambulance, inboard of the red emergency lights. The scene lights shall project at a downward angle to allow for adequate lighting of the area surrounding the sides of the ambulance.

They shall be controlled independently for each side by a switch in the front console. The curbside scene lights shall also be activated when the side entry door is opened.

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

**28.10 Load Lights**

Two (2) Whelen Perimeter Enhancement Series LED load lights shall be installed on the aerodynamic rear spoiler, between the red and amber warning lights. The load lights shall

**VENDOR NAME:** \_\_\_\_\_

project at a downward angle to allow for adequate lighting of the area surrounding the rear of the ambulance.

They shall be controlled by a switch in the front console. The lights shall also be activated when the rear entry door is opened.

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

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

**28.11 Center High-Mounted Stop Lamp**

A Whelen #PSR00XRR Red LED Strip-Lite shall be installed on the low-profile aerodynamic rear spoiler to serve as a 3<sup>rd</sup> brake lamp. The light shall be wired to the OEM rear brake lights in accordance with Ford QVM Guidelines.

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

**28.12 Patient Compartment Illumination**

Seven (7) Whelen #80C0EHCR round LED dome lights shall be installed in the ceiling of the patient compartment. The LED lights shall be controlled via switches on the rear control panel. Four (4) LED lights of the patient compartment shall be illuminated when the patient compartment entry doors are opened.

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

**28.13 Patient Compartment Timer**

An automatic digital timer shall be integrated into the rear console. Four (4) LED lights of the patient compartment shall be illuminated when the timer is activated. This timer shall be triggered with five (5) minutes increment and display the time remaining.

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

**29. AUDIBLE WARNING DEVICES**

---

**29.01 Siren/PA System**

Siren-PA System to be Whelen 295HFS or equivalent with: radio, PA, Manual, Wail, Yelp, Air Horn and Piercer tone.

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

**29.02 Speakers**

Two (2) Whelen 100-watt siren speakers shall be integrated into the front bumper of the chassis. They shall be securely mounted in an engineered support to fit without modifying the chassis. This housing shall be designed not to restrict airflow or to reduce the effectiveness of the siren speaker.

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

**29.03 Backup Alarm**

A 97 db. backup alarm shall be provided. It shall be activated when the vehicle is put in reverse. The cancel switch in the cab-mounted emergency control console shall mute the

**VENDOR NAME:** \_\_\_\_\_

alarm when pressed after the alarm is activated. However, an automatic function shall reactivate the alarm after 15 seconds of down time. The backup alarm shall be located under the rear of the ambulance.

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

### **30. OXYGEN AND SUCTION**

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#### **30.01 General**

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 that the County will provide and install at the time the vehicle is placed in service. Low pressure, electrically conductive hose and fittings approved for medical oxygen only shall be used. 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 self-sealing oxygen outlets. The system shall be tested prior to delivery and the results of the test shall be provided with the end user documentation.

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

#### **30.02 Oxygen Outlets, Quick Connect, Three (3)**

Three (3) Quick Connect surface mounted oxygen outlets shall be installed in the completed ambulance. Two (2) shall be installed on the medical center wall in the main action area and one (1) shall be located on the curbside wall towards the forward end of the squad bench. These outlets shall be tested prior to delivery of the ambulance.

Exact location of the oxygen outlets shall be agreed upon prior to construction.

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

#### **30.03 Oxygen Tank Storage**

The oxygen tank shall be stored in an inside an aluminum cabinet next to the right rear entry door. The cylinder shall be able to be accessed and removed from the outside of the patient compartment. The regulator shall be accessible by a Lexan window form the curb side seating position without opening the main cabinet door.

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

#### **30.04 Oxygen Tank Bracket**

A universal oxygen cylinder bracket shall be installed in the oxygen compartment to accommodate either an "M" or "K" size of oxygen cylinder. This bracket shall be securely fastened to reinforcement mounting plates.

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

#### **30.05 Suction**

One (1) RICO RS4 electrically-controlled suction system shall be installed in the patient compartment. The outlet shall be on the action area wall with the control in the rear switch panel. The Thomas brand suction pump shall be located behind the street side cabinetry and

**VENDOR NAME:** \_\_\_\_\_

be easily accessible for maintenance. It shall be securely mounted with rubber pads to eliminate any unnecessary noise. A vacuum indicator gauge ranging from 0 to 760 mm Hg shall be provided.

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

**31. VARIOUS**

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**31.01 Signs and Instructions**

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 (-25°C) and 176°F (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.

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

**31.02 Delivery**

Bidders shall be responsible for delivery to Anderson County, TN

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

**31.03 Fog Lights**

Bidders shall install LED lightbar version fog lights on chassis front bumper area.

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

**31.04 Ford FIN GPC discount per State of TN**

Discount shall be applied by bidder.

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

**31.05 Custom graphics, striping, lettering**

Bidder to provide graphics package per state of Tennessee requirements. Bidders are encouraged to contact purchasing with specific questions regarding layout to match existing fleet.

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

**VENDOR NAME:** \_\_\_\_\_



**31.06 References for this specific design ambulance – no exceptions permitted**

CUSTOMER	CONTACT	STATE	MANF	TITLE	#

**32. OPTIONS for the TRANSIT MID HIGH ROOF (4X2) TYPE II SRW Ambulance**

**32.01 Lifepak 15 Cardiac Monitor Mount**

Technimount system Bracket Pro Serie 35 complete assembly support includes standard anodized surface base, support device section, hardware and instruction (part number 210-00-PC15).

Price: \_\_\_\_\_

**32.02 Stryker Powerload**

Purchase and installation of the Stryker Power Load cot fastening system.

Price: \_\_\_\_\_

**32.03 Stryker Stair Chair**

Stryker Stair Chair Pro Model #6252 with IV pole clip, foot support and vinyl head support.

Price: \_\_\_\_\_

**32.04 Stryker Power Cot**

Stryker Power Pro XT Model # 6506 with XPS, including Backrest Storage Pouch, Head End Storage Flat, Dual Wheel Locks, 3 stage IV Pole, Equipment Hook, Head End O2 Holder, G Rated Bolster Mattress, knee-gatch and the Stryker Smart Power System.

Price: \_\_\_\_\_

**32.05 Bariatric Cot**

MX-PRO Bariatric Transport Ambulance Cot (model #6083) with IV pole, dual wheel lock, rigid head and foot end push/pull handles, X-frame guards, side lift handles and non-pocketed head end storage.

Price: \_\_\_\_\_

**32.06 USB charging outlets in cab and module – Two (2) each**

Exact location to be determined at pre-construction

**VENDOR NAME:** \_\_\_\_\_

Price: \_\_\_\_\_

**32.07 360-degree Birds Eye Cameras**

Provide and install 360-degree surround view camera system to replace backup camera system. Must have video monitor installed in cab, in easy view area of driver.

Price: \_\_\_\_\_

**32.08 Cradlepoint**

COR IBR900 router with WiFi, and all antennas, and cables. Antenna is to be an externally mounted low-rise antenna for maximum connectivity. Unit to be installed by bidder. Sim card to be provided by purchaser.

Price: \_\_\_\_\_

**32.09 Tire chains to be installed on Ford chassis**

On Spot or equal tire chains to be installed.

Price: \_\_\_\_\_

**32.10 Alternate chassis model**

Replace Ford Transit T250 gas chassis as previously specified, with that of the Ford Transit T250 AWD gas chassis.

Price: \_\_\_\_\_

**32.11 MedixSafe**

MS1 model PIN pad and proximity card reader narcotic safe. To be installed by manufacturer in location approved by purchaser.

Price: \_\_\_\_\_

**32.12 Narc Box**

10" X 8" X 4" Narc Box with 110-volt power supply, with 5 FRID cards. To be installed by manufacturer in location approved by purchaser.

Price: \_\_\_\_\_

**32.13 Pepwave MK2**

Pepwave Max BR1 MK2 router with WiFi, all antennas, and cables. Antenna is to be externally mounted with low rise antenna for maximum connectivity. Unit to be installed by bidder. Sim card to be provided by purchaser.

Price: \_\_\_\_\_

**32.14 Rear Window Privacy Covering**

Install of privacy window covering on rear windows of patient compartment. Covering is to be permanent, and is to allow limited to no viewing into patient compartment, but ability of interior viewing outside of patient compartment.

Price: \_\_\_\_\_

**VENDOR NAME:** \_\_\_\_\_

# Vendor Information Sheet

Project completion date shall be \_\_\_\_\_ working days from receipt of purchase order.

Has the bidder taken any exceptions to the specifications? YES \_\_\_\_\_ NO \_\_\_\_\_

Are all deviations from specifications explained on additional sheet as required? YES \_\_\_\_\_ NO \_\_\_\_\_

Vendor Name: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Facility Name: \_\_\_\_\_

Address: \_\_\_\_\_

Size of Facility: \_\_\_\_\_  
(Photos of facility must be included with the bid.)

24/7/365 Emergency Service Hotline: \_\_\_\_\_  
(Photos of mobile service units must be included with the bid).

24 hr Monitored Email Link: \_\_\_\_\_

# Factory Authorized Mobile Service Techs: \_\_\_\_\_

Signature Authorized Representative: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email address: \_\_\_\_\_

**VENDOR NAME:** \_\_\_\_\_

## Price Sheet

1. Price for One (1) TYPE III (4X2) DRW Ambulance:

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2. Price for Two (2) TYPE III (4X2) DRW Ambulances:

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3. Price for One (1) TRANSIT MID HIGH ROOF (4X2) TYPE II SRW Ambulances:

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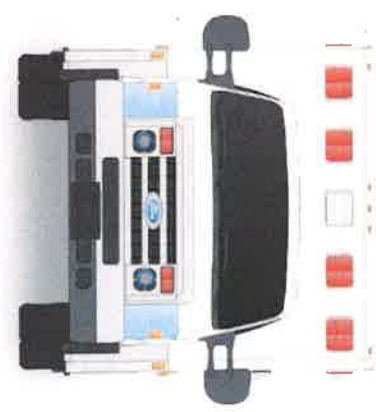
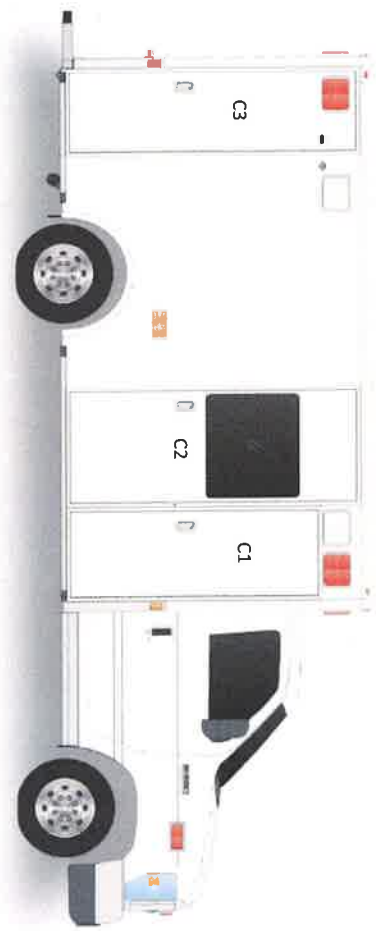
4. Price for Two (2) TRANSIT MID HIGH ROOF (4X2) TYPE II SRW Ambulances:

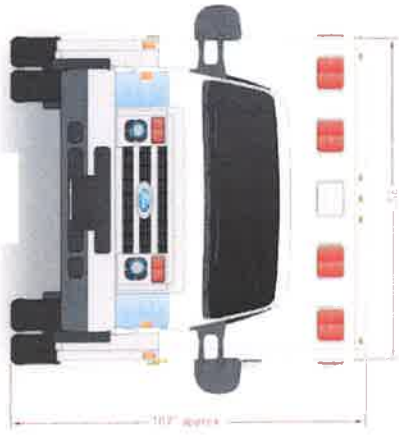
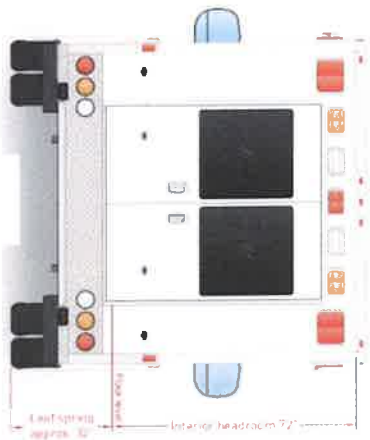
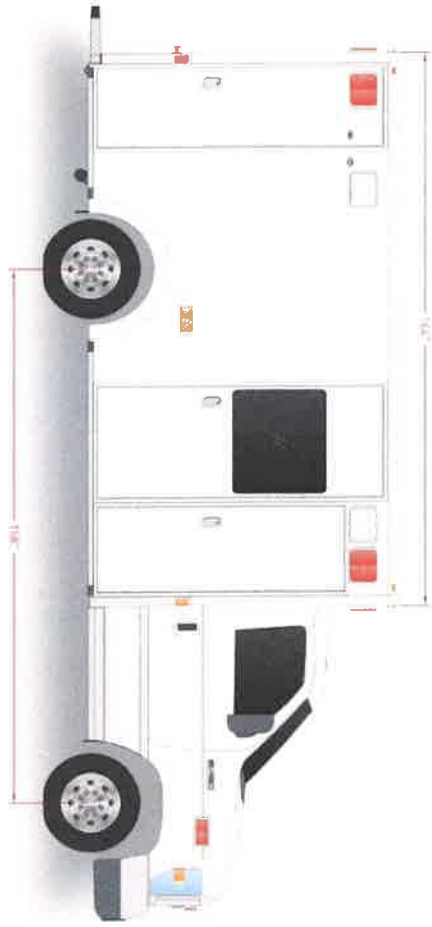
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5. Price for Four (4) ambulances, Two (2) Type III (4X2) DRW Ambulances, and Two (2) TRANSIT MID HIGH ROOF (4X2) TYPE II SRW Ambulances:

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VENDOR NAME: \_\_\_\_\_



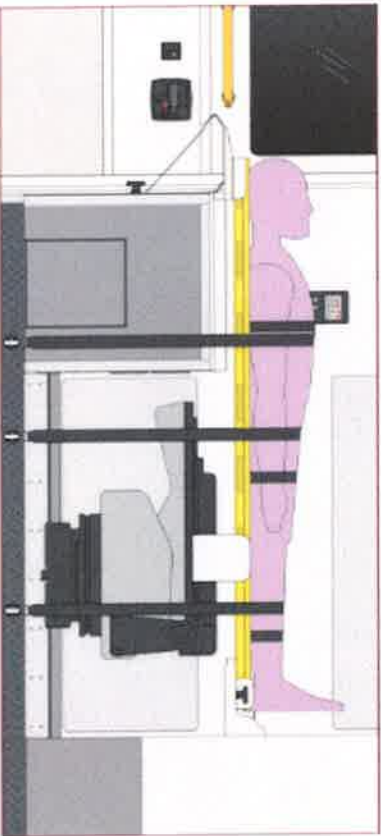






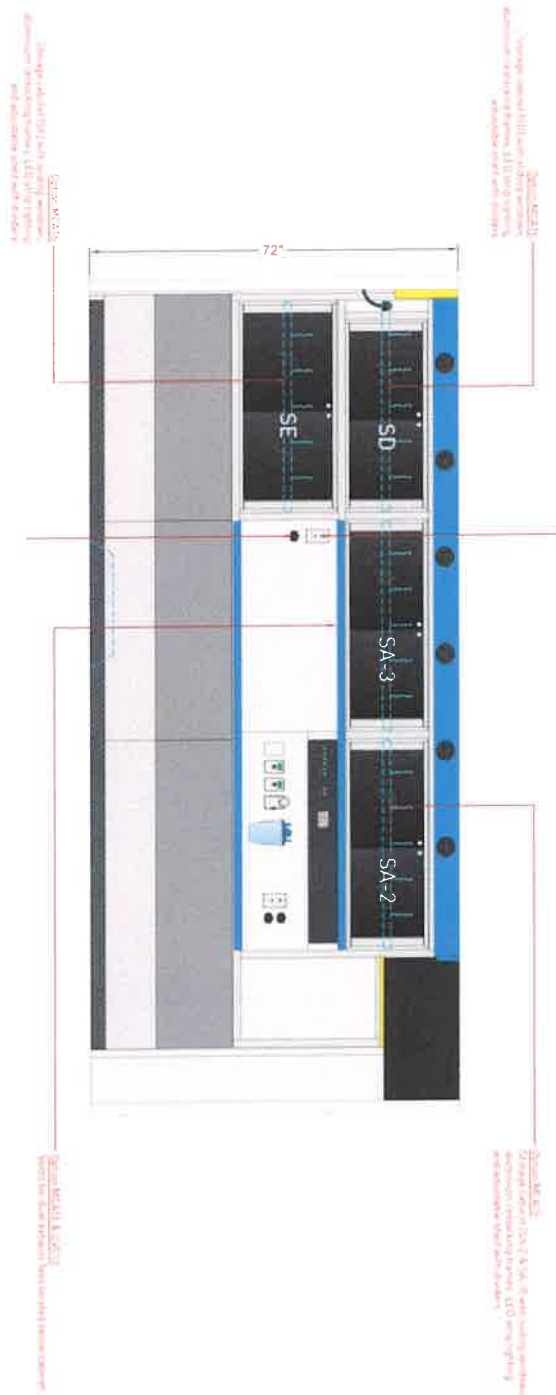


Backboard for possible second patient



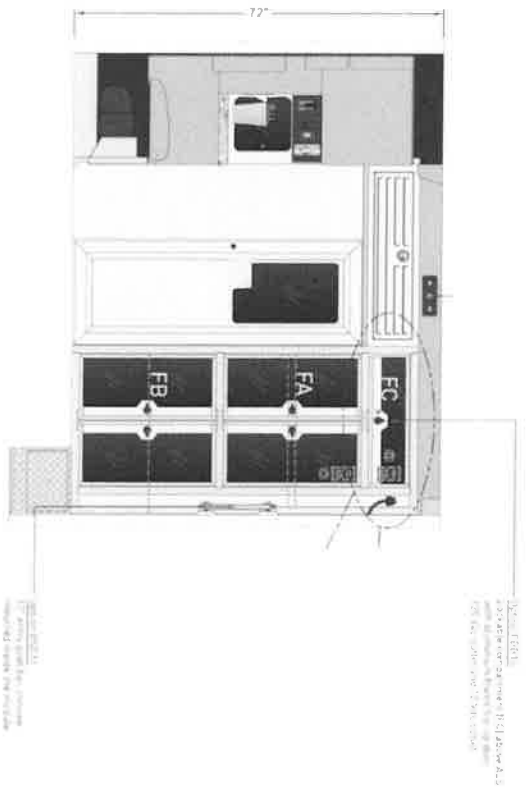
Option C0815  
The 2nd patient mounted on backboard is installed and secured with  
tubular support on tubular removable support on rear wall and straps

### Street side cabinetry

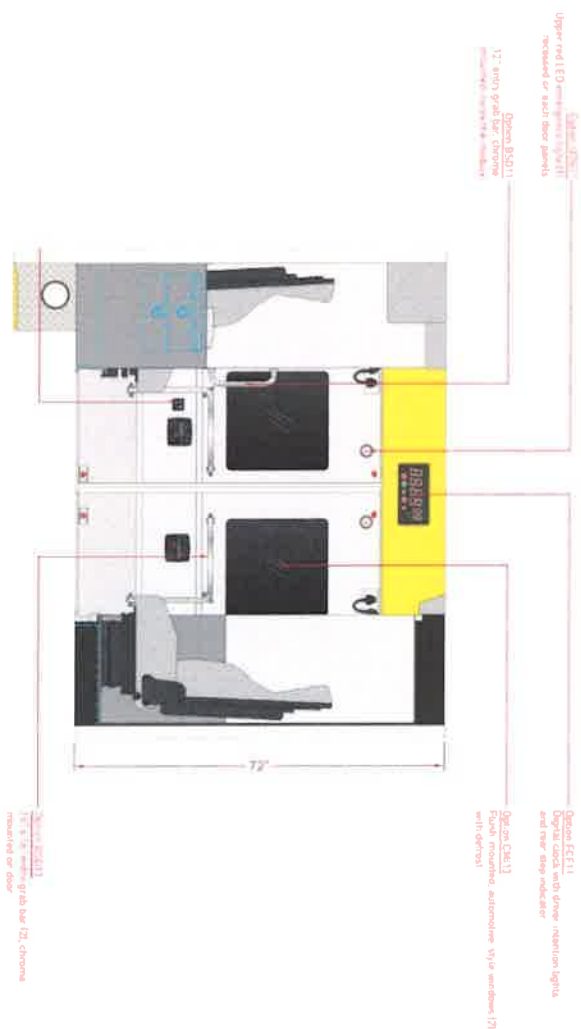




ALS cabinet and pass through door

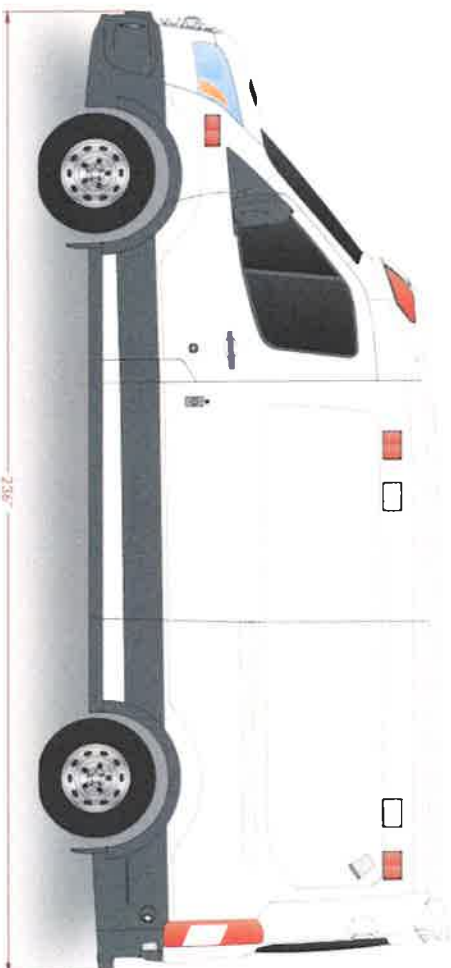
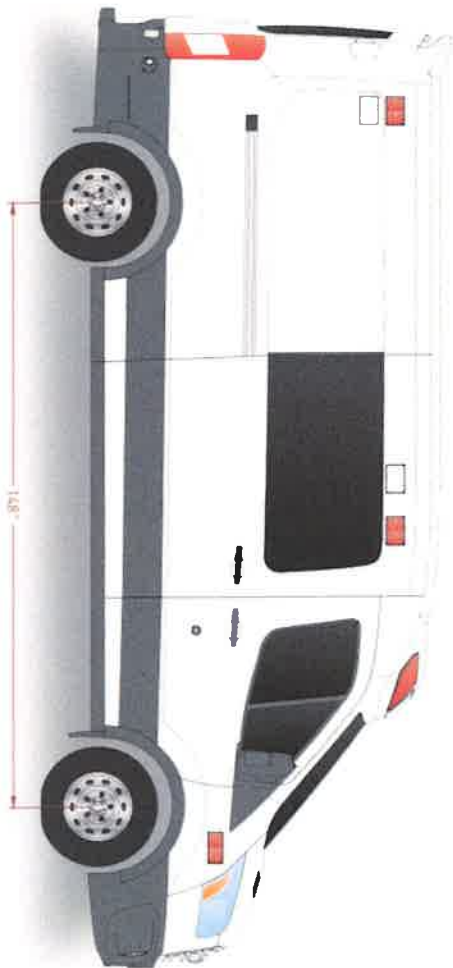


### Rear patient compartment entry with alternate seating





Chassis measurements



**NOTE**  
THE TOTAL HEIGHT OF THE CHASSIS AND THE LOADS THEREON CAN BE DIFFERENT ACCORDING TO CARGO SIZE AND DISTRIBUTION.

















**Non-Collusion Affidavit**

- This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid.
- This Non-Collusion Affidavit must be executed by the member, officer, or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.
- Bid rigging and other efforts to restrain competition and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the affidavit should examine it carefully before signing and assure himself or herself that such statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval, or submission of the bid.
- In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an affidavit must be submitted separately on behalf of each party.
- The term "complementary bid" as used in the affidavit has the meaning commonly associated with that term in the bidding process and includes the knowing submission of bids higher than the bid of another firm, an intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
- Failure to file an affidavit in compliance with these instructions may result in disqualification of the bid.

**Non-Collusion Affidavit**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

I state that I am (Title) \_\_\_\_\_ of (Name of My Firm) \_\_\_\_\_ and that I am authorized to make this affidavit on behalf of my firm and its owners, directors, and officers. I am the person responsible in my firm to the price(s) and the amount of this bid.

**I STATE THAT:**

- The price(s) and amount of this bid have been arrived at independently and without consultation, communication, or agreement with any other contractor, bidder, or potential bidder.
- Neither the price(s) nor the amount of this bid and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.
- No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.
- The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.
- (Name of My Firm) \_\_\_\_\_, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

\_\_\_\_\_  
\_\_\_\_\_

I state that (Name of My Firm) \_\_\_\_\_ understands and acknowledges that the above representation are material and important and will be relied on by Anderson County in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from Anderson County of the true facts relating to submission of bids for this contract.

\_\_\_\_\_  
Representative's Signature

\_\_\_\_\_  
Title

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_



## DIVERSITY BUSINESS INFORMATION

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### Definitions for Determining Minority, Women And Small-Owned Firms

The guidelines for determining minority, women and small-owned firms are defined as follows:

**"MINORITY"** means a person who is a citizen or lawful permanent resident of the United States and who is:

- o Black (a person having origins in any of the black racial groups of Africa);
- o Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- o Asian American (a person having origins in any of the original peoples of the Far East, Southeast
- o Asia, the Indian subcontinent, or the Pacific Islands); or
- o American Indian and Alaskan Native (a person having origins in any of the original peoples of North America).

**"MINORITY BUSINESS ENTERPRISE"** shall mean a minority business:

A continuing, independent, for profit business which performs a commercially useful function, and is at least 51 percent owned and controlled by one or more minority individuals; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned and controlled by one or more minorities. Whose management and daily business operations are controlled by one or more of minority individuals. "Control" as used in the above clause, means exercising the power to make policy decision. "Operate," as used in the above clause, means being actively involved in the day-to-day management of the business.

**"WOMEN BUSINESS ENTERPRISE"** shall mean women business:

A continuing, independent, for profit business which performs a commercially useful function, and which is at least 51 percent owned and controlled by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned and controlled by one or more women. Whose management and daily business operations are controlled by one or more of such individuals. "Control" as used in the above clause, means exercising the power to make policy decision. "Operate," as used in the above clause, means being actively involved in the day-to-day management of the business.



**DIVERSITY BUSINESS INFORMATION  
ANDERSON COUNTY GOVERNMENT**

**NOTE:** This form is to be submitted only by those who qualify. Bidders do not have to be a minority business to be considered.

**IMPORTANT! NOTARY AND COPY OF CERTIFICATION REQUIRED**

**SECTION 6 – DIVERSITY INFORMATION**

**VENDOR/CONTRACTOR NAME:** \_\_\_\_\_

**Type of Company:** (Check One)

Corporation     Partnership     Limited Liability     Sole Proprietor

Is your company 51% Owned or Operated by a Minority Group? Yes \_\_\_ No \_\_\_

If yes, check the ethnic category and indicate % of ownership:

- American Indian/Alaskan Native \_\_\_\_%
- African American \_\_\_\_%
- Hispanic \_\_\_\_%
- Asian/Pacific Islander \_\_\_\_%
- Other \_\_\_\_% \_\_\_\_\_ (please indicate)

Please name the entity of certification: \_\_\_\_\_

Please provide copy of certification letter or certificate

**I, HEREBY CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.**

**Signature:** \_\_\_\_\_ **OFFICER OF THE COMPANY**

**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**NOTARY ACKNOWLEDGEMENT:**

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

ON \_\_\_\_\_, 20\_\_\_\_, BEFORE ME, \_\_\_\_\_,

PERSONALLY APPEARED \_\_\_\_\_, PERSONALLY KNOWN TO ME (OR PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE) TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/ THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON (S) ACTED, EXECUTED THE INSTRUMENT.

WITNESS MY HAND AND OFFICIAL SEAL.

SIGNATURE OF NOTARY: \_\_\_\_\_

PRINTED FULL NAME OF NOTARY: \_\_\_\_\_

MY COMMISION EXPIRES: \_\_\_\_\_

**Attachment 3 – Sample Contract for Goods**

This Agreement is made on this the DD of MM YYYY, between Anderson County, Tennessee, a governmental entity and political subdivision of the State of Tennessee (hereinafter, "County") and XXXXXX (hereinafter, "Contractor") and for good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

**Contractor Services.** Contractor agrees to provide XXXXX for the County Per XXXXXXX.

**Standard of Performance.** Contractor agrees to perform the contract requirements in a manner consistent with the standard in the industry and to the satisfaction of the County.

**Purchase Order.** A Purchase Order must in place before commodities are delivered.

**Contractor Compensation.** Contractor shall be paid by the County within thirty (30) days of invoicing and delivery. The compensation to Contractor shall be calculated by: XXXXXX. Contractor **shall not** receive additional compensation for expenses including travel, hotel, food, etc.

**Term.** The term of this agreement shall begin on MM/DD/YYYY and shall end on MM/DD/YYYY **with renewal option of XXXXXXX**.

**Release.** Contractor hereby agrees to release, indemnify, and hold County harmless from and against any and all claims, lawsuits, or the like associated with County's performance of this agreement, or as it relates to the past, present, or future financial condition of the County or the performance of Contractor's services under this Agreement.

**Default.** In the event of default by the Contractor hereto, the County may bring suit against the Contractor to enforce the terms of this Agreement. In such event, the prevailing party shall be entitled to recover any remedies available at law and/or equity including reasonable attorney's fees and costs associated with the default.

**No Oral Modification.** No modification, amendment, supplement to or waiver of this Agreement or any of its provisions shall be binding upon the parties hereto unless made in writing and duly signed by all the parties.

**Waiver.** A failure of any party to exercise any right provided for herein, shall not be deemed to be a waiver of any right hereunder.

**Entire Agreement.** This Agreement sets forth the entire understanding of the parties as to the subject matter and may not be modified except in a writing executed by all parties.

**Severability.** In the event any one or more of the provisions of this Agreement is invalid or otherwise unenforceable, the enforceability of the remaining provisions shall be unimpaired.

**Cancellation.** In the event any party materially breaches, defaults or fails to perform hereunder, this Agreement may be cancelled by the other party with cause on thirty (30) days written notice to the other, if the event constituting the breach, default, or failure is not cured during that time.

**Termination.** The County reserves the right to terminate this contract in whole or in part with thirty (30) days written notification to the contractor. In the event of termination, the County shall not be liable for any costs other than the cost of services performed and materials delivered and accepted prior to termination date.

**Exhibits.** Any Exhibits attached hereto or incorporated herein are made a part of this Agreement for all purposes. The expression "this Agreement" means the body of this Agreement and the Exhibits.

### Attachment 3 – Sample Contract for Goods

**Multiple Counterparts: Effectiveness.** This Agreement may be executed in multiple counterparts, each of which shall be deemed an original for all purposes and all of which shall be deemed, collectively, one Agreement. This Agreement shall become effective when executed by all the parties.

**Jurisdiction.** Each party hereby irrevocably consents to the jurisdiction of all state courts sitting in Tennessee or all federal courts sitting in Knoxville, Tennessee and agrees that venue for any legal action brought in connection with this Agreement shall lie exclusively in such courts.

**Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the parties and upon their respective successors, heirs, or assigns.

**Choice of Law.** This Agreement shall be governed and construed in accordance with the laws of the State of Tennessee. The Contractor certifies that in performing this contract they will comply with all applicable provisions of the federal, state, and local laws, regulations, rules, and orders.

**Appropriated Funds.** The County's obligation to pay under this Contract is contingent upon funds appropriated in the current fiscal year's budget as approved by the County Board of Commissioners. Any contract requiring appropriated funds beyond the current fiscal year may be cancelled without notice in the event that funding to support the contract are unavailable in the subsequent fiscal year.

**Payment Terms.** The County's payment terms are net 30. All invoices shall be addressed to Anderson County Director of Finance, Room 210, 100 North Main Street, Clinton, TN 37716, and must include Contractor's name, address and phone number, and clearly list quantities, item description and units of measure.

**Delivery.** The County requires delivery of all products to be FOB ("free on board") unless indicated otherwise. If completed deliveries are not made at the time agreed, the County reserves the right to cancel or purchase elsewhere and hold Contractor accountable. If delivery dates cannot be met, Contractor agrees to advise the County of the earliest possible shipping date for acceptance by the County. Contractor agrees to bear all risk of loss, injury, or destruction of goods and materials ordered herein which may for any reason occur prior to acceptance by the County. No such loss, injury, or destruction shall release Contractor from any obligations hereunder.

**Inspection.** Goods and material must be properly packaged. Damaged goods and materials will not be accepted, or if the damage is not readily apparent at the time of delivery, the goods shall be returned at no cost to the County. The County reserves the right to inspect the goods at a reasonable time subsequent to delivery where circumstances or conditions prevent effective inspection of the goods at the time of delivery.

**Warranty.** The Contractor warrants to the County that all goods and services furnished hereunder shall be free of defects in materials, workmanship, and from defect in design. In addition, Contractor warrants the goods and services are suitable for and will perform in accordance with the purposes for which they were intended.

**Insurance Requirement.** Contractors awarded bids or contracts are required to maintain, at their expense adequate insurance coverage to protect them from claims arising under the Worker's Compensation Act, any and all claims for bodily injury and property damage to the Contractor and to the County while completing delivery and services. A certificate of insurance may be required before work begins and be maintained until work is completed. Certificate Holder Shall Be: Anderson County Government, Clinton, Tennessee. Anderson County Government shall be named as an additional insured on all policies except worker's compensation and auto. Insurance carrier ratings shall have a Best's rating of A-VII or better, or its equivalent. Cancellation clause on certificate should strike out "endeavor to" and include a 30-day notice of cancellation where applicable. Any deviations from the above requirements must be disclosed to the County Purchasing Agent. Any liability deductibles or exclusions must also be disclosed.

Attachment 3 – Sample Contract for Goods

Uniform Commercial Code. All applicable portions of the Tennessee Uniform Commercial Code shall govern contracts with the County.

Non-discrimination. The Contractor shall comply with the Tennessee Human Rights Act, T. C. A. §4-21-101 et. seq., as amended and any rules and regulations promulgated in accordance therewith.

Equal Employment Opportunity. It shall also be an unlawful employment practice for the Contractor (1) to fail or refuse to hire or to discharge any individual or otherwise to discriminate against any individual with respect to their compensation, or the terms, conditions, or privileges of their employment, because of such individual's race, color, religion, sex, age, handicap or national origin; or (2) to limit, segregate, or classify their employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect their status as an employee, because of such individual's race, color, religion, sex, age, handicap or national origin. Contractor shall comply with The Civil Rights Act of 1964, 42 U.S.C. sec. 2000 et seq. (2000), as amended.

Notice. Any notice required or provided pursuant to this Agreement shall be in writing and sent or delivered to the parties.

Titles and Subtitles. Titles of paragraphs and subparagraphs are for convenient reference only and shall not have the effect of modifying, amending, or changing the express terms of this Agreement.

Assignment. This Agreement shall be assignable only upon the written consent of the non-assigning party. Consent to an assignment shall not be unreasonably withheld. In the event of assignment or succession, the terms and conditions of this Agreement shall be binding upon the parties and their successors, assigns, heirs, executors, and/or administrators.

Further Documentation. The parties agree for themselves and their successors and assigns to execute any and all instruments in writing which are or may become necessary or proper to carry out the purpose and intent of this Agreement.

City, State Zip

Contractor/Supplier:

Anderson County Government  
Administrative Approval:

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Natalie Erb, CPA, CTP, Finance Director Date

\_\_\_\_\_  
Printed Name

Anderson County Department Head  
Approval:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Company

Approved as to Form

\_\_\_\_\_  
Address

\_\_\_\_\_  
Law Director Date

## General Terms and Conditions

### BID ENVELOPE SUBMISSION INSTRUCTIONS:

Bids are to be received in a sealed envelope/package with the bid number, company name and opening date clearly marked. Failure to comply may result in rejection of the entire bid. Anderson County will not be responsible for any lost or misdirected mail. Late bids, e-mailed bids and faxed bids will not be considered nor returned. It is the sole responsibility of the bidder to ensure their bid is delivered to the Purchasing Department.

Please note that Anderson County Government does not receive a guaranteed delivery time for express mail and/or packages. PLEASE MAIL ACCORDINGLY.

ANDERSON COUNTY FINANCE DEPARTMENT  
100 NORTH MAIN STREET, SUITES 214 AND 218  
CLINTON, TN 37716

Email: [purchasing@andersontn.org](mailto:purchasing@andersontn.org)  
Website: <http://andersontn.org/purchasing>

(865) 457-6218 Phone  
(865) 457-6252 Fax

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**Bid documents must be completed in ink or typed, signed in ink,  
and free from alterations, erasures or mark-throughs.**

### SECTION 1 - GENERAL TERMS AND CONDITIONS

**1.1 ALTERATIONS OR AMENDMENTS:** Alterations, amendments, changes, modifications or additions to this solicitation shall not be binding on Anderson County without prior written approval.

**1.2 NO CONTACT POLICY:** After vendor receives a copy of this bid, any contact initiated by any vendor with any Anderson County representative, other than the Purchasing Department, concerning this invitation for bid is prohibited and agreements made thereto will not be considered binding on Anderson County. Any such unauthorized contact may cause the disqualification of the bidder from this procurement transaction.

**1.3 QUESTIONS:** Pursuant to TCA §12-4-113, questions regarding the specifications or bid procedures must be received by the Purchasing Agent and/or designer no less than ninety-six (96) hours before the bid opening date. No addenda within less than forty-eight (48) hours of the bid opening date shall be permitted. Any questions concerning the bid document must be submitted to [purchasing@andersontn.org](mailto:purchasing@andersontn.org) no less than ninety-six (96) hours before bid opening date.

**1.4 BID CLOCK:** The bid/time clock in the Anderson County Purchasing office will be the time of record.

**1.5 TAXES:** Anderson County is not liable for Federal excise or State sales tax. Tax exemption certificates will be provided upon request.

**1.6 CONFLICT OF INTEREST:** If requested by the Purchasing Agent, vendors must complete and submit a "Conflict of Interest Affidavit Statement" prior to contract award, see T.C.A. 5-14-114 and T. C. A. 12-4-101.

**1.7 NON-COLLUSION:** Vendors, by submitting a signed bid, certify that the accompanying bid is not the result of, or affected by, any unlawful act of collusion with any other person or company engaged in the same line of business or commerce, or any other fraudulent act punishable under Tennessee or United States law.

**1.8 NON-DISCRIMINATION:** Contracted vendors will not discriminate against any employee or applicant for employment because of race, religion, sex, national origin or disability except where religion, sex, national origin or disability is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor.

**1.9 SAME AS OR EQUIVALENT TO:** Vendors are to bid as specified herein or propose an approved equal. Determination of equality is solely Anderson County's responsibility. Any designated brands are for reference purpose only, not a statement of preference. When an alternate manufacturer, brand, model or make is bid, Anderson County will determine if the item bid meets or exceeds the items as specified. If the bidder does not indicate that an alternate manufacturer, brand, model or make is being bid, it is understood that the item(s) bid are the same manufacturer, brand, model or make as requested in the Invitation to Bid. Comparable products of other manufacturers will be considered if proof of comparability is contained in the bid submission. It shall be the responsibility of the vendors, including vendors whose product is referenced to furnish upon request catalog pages, brochures or other data to provide an adequate basis for determining the quality and functional capabilities of the product offered. Failure to provide this data may be considered valid justification for rejection of bid.

**1.10 MULTIPLE BIDS/AWARDS:** Anderson County may consider multiple bid awards.

**1.11 STATE OF TENNESSEE CONTRACTORS' LICENSE LAW (T.C.A. 62-6-119) b):** Bids for which the total cost of the project is twenty-five thousand dollars (\$25,000) or more, the outside of the sealed bid envelope/package containing the bid provides the following information: the Company Name, the Contractor's license number, license classification, the date of the license expiration and that part of each license classification applying to the bid. In addition, each heating ventilation or air conditioning, plumbing and electrical subcontractor's license number, date of the license expiration and that part of each classification applying to the bid if the value of the work is \$25,000 or greater, must be notated. If the value of either the contractor or the subcontractor's work is less than \$25,000, the bid envelope/package containing the bid is to be notated with the phrase "Contractor or Subcontractor's Bid is Less than \$25,000" after each appropriate heading. In the case of joint ventures, each party submitting the bid must provide this information. If no subcontractors are being used, the outside of the envelope/package containing the bid must state, "No Subcontractors are being used on this project."

**1.12 ACCEPTANCE:** Vendors shall hold their price firm and subject to acceptance by Anderson County for a minimum period of sixty (60) working days from the date of the bid opening, unless otherwise indicated in their bid. Any or all bids may be rejected for good cause.

**1.13 BID AWARDS:** Bids will be awarded to the lowest and best bidder, taking into consideration the qualities of the articles to be supplied, their conformity with specifications and their suitability to the requirements of Anderson County and the delivery terms. Anderson County also reserves the right to not award this bid.

**1.14 BIDDER'S MINIMUM QUALIFICATIONS:** Bidders must have the resources and capability to provide the materials and services as described in the solicitation. Anderson County reserves the right to request additional information and/or material not specified as a bid requirement from any bidder to confirm qualifications.

**1.15 DEBARMENT:** By submitting a response to this solicitation, bidders are certifying that bidder is not currently debarred from doing business with any local or state Government or the Federal Government. Bidders shall provide documentation relating to any and all debarments that occurred within the last ten

years. The County will search the "System for Award Management" for federally excluded vendors before awarding a bid.

**1.16 PROTEST:** Any vendor wishing to protest the bid award shall notify in writing the Anderson County Purchasing Agent and the County Law Director, 101 S. Main Street, Suite 310, Clinton, TN 37716. No protest will be accepted, except those protests made in writing and received within (10) ten calendar days of the bid award. Protests must be in writing and envelopes/package containing protest must be clearly marked with bid number and words "BID PROTEST". The Purchasing Agent, in conjunction with the Purchasing Committee, and with the advice and counsel of the County Law Director, shall review and make a final decision as to any bid protest. Appeals shall be filed in the Circuit or Chancery Courts of Anderson County within sixty (60) days of the final decision.

**VENDORS PLEASE NOTE: ANDERSON COUNTY WILL NOT STOP THE PURCHASE PROCESS. THE PURCHASE MAY BE COMPLETED OR THE PROJECT MAY BE RE-BID WHILE THE PROTEST PROCEDURE IS STILL IN OPERATION. IF A RE-BID IS MADE, THE PROTESTING VENDOR SHOULD SUBMIT A NEW BID. OTHERWISE, THEY WILL BE WITHOUT A BID ON THE RE-BID. FURTHER, THE RE-BIDDING WILL NOT END THE APPEALS PROCESS. IT WILL CONTINUE UNTIL A FINAL DECISION IS REACHED OR THE COMPLAINANT WITHDRAWS THE APPEAL.**

**1.17 DELIVERY:** Bid pricing is to include complete supply and delivery to Anderson County, Tennessee. Vendors are to state the delivery time in the bid. Anderson County requires that vendors deliver all products "free on board" to final destination unless indicated otherwise in the bid requirements.

**1.18 PROOF OF FINANCIAL AND BUSINESS CAPABILITY:** Bidders must, upon the request of Anderson County, provide satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. Anderson County will make the final determination as to the bidder's ability.

**1.19 VENDOR'S DEFAULT:** Anderson County reserves the right, in case of vendor default, to procure the articles or services from other sources and hold the defaulting vendor responsible for any excess costs occasioned thereby.

**1.20 DUPLICATE COPIES:** Vendors are to submit one original and at least one exact copy of their bids, including brochures; unless additional copies are requested in bid specifications.

**1.21 DRUG-FREE WORKPLACE:** Under the provisions of Tennessee Code Annotated §50-9-113 enacted by the General Assembly effective 2001, all employers with five (5) or more employees who contract with either the state or a local government to provide construction services are required to submit an affidavit stating that they have a drug free workplace program that complies with Title 50, Chapter 9, in effect at the time of submission of a bid at least to the extent required of governmental entities. The statute imposes other requirements on the contractor and contractors should consult private legal counsel if legal questions arise under this section or any other provision of this document. All contractors with five (5) or more employees that will be providing construction services are to return the provided written affidavit signed by the principal officer of a covered employer acknowledging that the contracting entity is in compliance with the Drug Free Workplace laws of State of Tennessee.

**1.22 COMPETITION INTENDED:** It is the responsibility of the bidder to review the entire Invitation to Bid document and to notify the Purchasing Department if the Invitation to Bid is formulated in a manner that would unnecessarily restrict competition or if it is ambiguous in what is being requested. The Purchasing Agent must receive questions regarding the specifications or bid procedures no less than ninety-six (96) hours prior to the time set for the bid opening.

**1.23 SCHOOL CAFETERIA BIDS:** If this bid is for Anderson County School's Cafeteria Food Service Department, bidders must be in compliance with Section 104(d) of the William F. Goodling Child Nutrition Reauthorization Act of 1998 which requires school and institutions participating in the National School Lunch Program (NSLP) and School Breakfast Program (SBP) to "Buy American" to the maximum extent practicable.

**1.24 TERMINATION:** Anderson County reserves the right to terminate contracts in whole or in part with thirty (30) days written notification to the contractor. In the event of termination, the County shall not be liable for any costs other than the cost of services performed and materials delivered and accepted prior to termination date.

**1.25 OSHA SAFETY:** The Vendor is responsible for training their employees in Safety and Health Regulations for the job, assuring compliance with Tennessee Occupational Safety and Health regulations and any other Regulatory Agency.

**1.26 PERFORMANCE BOND:** A standard surety or performance bond or an irrevocable letter of credit in favor of Anderson County Government at a federally insured financial institution will be required to be submitted with bid, if indicated in section four, item six insurance requirement checklist.

**1.27 BACKGROUND CHECKS:** Contractors shall comply with Public Chapter 587 of 2007, as codified in Tennessee Code Annotated Section 49-5-413, which requires all contractors to facilitate a criminal history records check conducted by the Tennessee Bureau of Investigation and the Federal Bureau of Investigation for each employee prior to permitting the employee to have contact with students or enter school grounds when students are present.

**1.28 AWARD RESULTS:** As soon as practicable after proposal or bid evaluations, Anderson County shall post the award decision to Vendor Registry at [www.vendorregistry.com](http://www.vendorregistry.com). Individual notices are normally not mailed or e-mailed except to the successful vendor.

**1.29 PRICE INCREASE/DELIVERY CHARGES:** Request for price or delivery charge increases must in be received in writing 30-days prior to implementation. The Anderson County Purchasing Agent will review requests and make a determination to continue or cancel services.

**1.30 INDEMNIFICATION/HOLD HARMLESS:** Vendor shall indemnify, defend, save and hold harmless Anderson County and, its officers, agents and employees from all suits, claims, actions or damages of any nature brought because of, arising out of, or due to breach of the agreement by Vendor, its subcontractors, suppliers, agents, or employees or due to any negligent act or occurrence or any omission or commission of Vendor, its subcontractors, suppliers, agents or employees.

**1.31 DECLARATIVE STATEMENT:** Any statement or words (i.e.: must, shall, will, etc.) are declarative statements and the proposer must comply with the condition. Failure to comply with any such condition may result in their bid being non-responsive and disqualified.

**1.32 WAIVING OF INFORMALITIES:** Anderson County reserves the right to waive minor informalities or technicalities when it is in the best interest of Anderson County.

**1.33 APPROPRIATION:** Funding for multi-year contracts are subject to budget appropriations. In the event no funds are appropriated by Anderson County for the goods or services in any fiscal year or insufficient funds exist to purchase the goods or services of a contract, then that contract shall expire upon the expenditure of previously appropriated funds or the end of the current fiscal year, whichever occurs first, with no further obligations owed to or by either party.

**1.34 ASSIGNMENT:** Vendor shall not assign or sub-contract any agreement, its obligations or rights hereunder to any party, company, partnership, incorporation or person without the prior written specific consent of Anderson County.

**1.35 QUANTITIES:** Anderson County does not guarantee quantities to be purchased off this bid.

**1.36 UNIT PRICE:** In case of discrepancy between any unit price and an extended price, the unit price will be presumed to be correct, subject, however, to correction to the same extent and in the same manner as any other mistake.



**1.37 MODIFICATION OR WITHDRAWAL OF BIDS:** When it is certain that a mistake has been made in the preparation of the bid, a request will be made to the bidder to confirm the bid. Provisions must be made so that mistakes can be taken care of and the ambiguity resolved satisfactorily. Bids may be modified or withdrawn by written notice received in the Purchasing Department prior to the time and date set for the bid opening. The changes or withdrawal of the bids shall be in writing and signed by an official of the company. The envelope containing the modification should clearly state "modification to bid." Either the entire bid or a particular item may be withdrawn or modified in this manner.

**1.38 PRE-BID CONFERENCES:** Attendance at Pre-bid Conferences is strongly encouraged. When deemed necessary a Mandatory Pre-bid Conference will be held. A company representative **MUST** be in attendance and sign the Pre-bid sign-in sheet in order to be considered for bid award.

**1.39 ADDENDUM:** § T.C.A. 12-14-113 Anderson County Government reserves the right to amend this solicitation by addendum. Addenda will be posted to the vendor registry up to 48 hours in advance of the bid/proposals due date and time. It is the bidder's responsibility to check the website for addendum. If in the County's opinion revisions are of such a magnitude, the deadline for this solicitation may be extended in an addendum. Addenda may change specifications, reply sheets, and times and dates for pre-bid meetings as well as due dates/deadlines for questions and bids/proposals.

**1.40 OWNERSHIP:** All bids, once received, become property of Anderson County Government and will not be returned.

**1.41 WEATHER AND COURTHOUSE CLOSINGS:** In the event of a situation severe enough to necessitate the closing of Anderson County Government offices during a planned bid opening, vendors will receive notification of the new date and time upon re-opening of county government offices. No bids will be opened until the rescheduled date for bid opening and all bidders/proposers whose submissions meet the extended deadline will be given equal consideration at that time. Anderson County shall not be liable for any commercial carrier's decision regarding deliveries during inclement weather.

**1.42 IRAN DIVESTMENT ACT OF 2014:** Pursuant to the Iran Divestment Act of 2014, Tenn. Code Ann. § 12-12-106 requires the State of Tennessee Chief Procurement Officer to publish, using creditable information freely available to the public, a list of persons it determines engage in investment activities in Iran, as described in § 12-12-105. Inclusion on this list makes a person ineligible to contract with Anderson County; if a person ceases its engagement in investment activities in Iran, it may be removed from the list. The State of Tennessee list is available here: <http://tennessee.gov/generalservices/article/Public-Information-library>.