

# Nassau Fire Apparatus

Stock Demo 4649 2012 Brigadier

One (1) **2012 Conversion, Type III, Model 170 Brigadier**  
**COMPLETED VEHICLE DIMENSIONS**

The vehicle described herein shall have the following approximate dimensions:

One (1) **Conversion, Type III, Headroom, 72" (Standard)**

Headroom shall be 72"

One (1) **Conversion, Type III, Body Width, 98"**

Body Width shall be 98"

One (1) **Conversion, Type III, Body Length, 170"**

Body Length shall be 170"

One (1) **Chassis, 2012 Chevy G4500 Cutaway, 159" WB, Diesel**

## **CHASSIS REQUIREMENTS**

The chassis listed below has been determined to best meet the needs of this agency. Bidders may offer an alternate chassis bid, but may **not** do so exclusive of the following specification:

MODEL: 2012 Chevrolet G4500 Cutaway

CG33803 – Chevrolet Express Commercial Cutaway RWD 4500 159" WB

100" Cab to Axle

C7I – 14,200# GVWR

Front GAWR – 4600#

Rear GAWR – 9600#

YF5 – Emissions – California State Requirements

50U – Exterior Color – Summit White

ZY1 – Paint, Solid

ZW9 – Standard Body

Frame – Ladder Type

YF2 – Ambulance Package

LGH – Engine – Duramax 6.6L Turbo Diesel V8 w/ B20 Bio-Diesel Capability

260 hp (193.9 kW) @ 3100 rpm

525 lb-ft of torque (708.7 N-m) @ 1600 rpm

Engine Oil Cooler

MYD – Transmission – 6-Speed Automatic, Heavy Duty electronically controlled w/ overdrive & tow/haul mode & internal transmission oil cooler

V14 – External Transmission Cooler

Tow/Haul Mode Selector – instrument panel mounted

Battery – Dual Heavy-Duty 770 Cold-Cranking Amps, maintenance-free w/ rundown protection & retained accessory power

Oil Life Monitor

Power Steering

KD9 – Alternator – Dual 145 Amps Each

UF3 – High Idle Switch

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V10 – Cold Climate Package  
    K05 – Engine Block Heater  
    K08 – Auxiliary Heat Generator, Fuel-Operated (Supplemental heat source to cooling system to improve heat output for HVAC)  
G80 – Differential – Heavy-Duty Locking Rear  
GT4 – Rear Axle – 3.73 Ratio  
Front Suspension – front independent w/ coil springs & stabilizer bar  
Rear Suspension – rear hypoid drive axle with multi-leaf springs  
Brakes – 4-Wheel Anti-Lock, 4-Wheel Disc  
Brake/Transmission Shift Interlock – for automatic transmissions  
2SD – Preferred Equipment Group  
ZR7 – Chrome Appearance Package  
V46 – Front Chrome Bumper  
V22 – Chrome Grille w/ Dual Composite Halogen Headlamps  
Exhaust – Aluminized stainless-steel muffler & tailpipe  
NE7 – Fuel Tank Capacity – Approximately 57 Gallons (includes auxiliary feed fuel fitting & in tank return line)  
Daytime Running Lamps  
Flasher – Heavy Duty, LED  
Glass – Solar-Ray light-tinted, all windows  
VK3 – Front License Plate Kit  
D28 – Delete Outside Mirrors  
Wipers – Front intermittent wet-arm with pulse washers  
QT4 – Wheels – (6) 16" x 6.5" (40.6cm x 16.5cm) Gray-Painted Steel Heavy Duty  
R05 – Dual Rear Wheels – Gray-Painted Steel  
XHF – Front Tires – LT225/75R16E All-Season, Blackwall  
YHF – Rear Tires – LT225/75R16E All-Season, Blackwall  
UJ6 – Tire Pressure Monitor System  
ZHF – Spare Tire – LT225/75R16E All-Season, Blackwall  
B31 – Floor Covering – black rubberized-vinyl front  
AS5 – Seats – Front Bucket w/ Custom Cloth Trim, Head Restraints & Inboard Armrests  
ZX2 – Seating Arrangement – Driver & Front Passenger Highback Bucket, Adjustable (includes head restraints & cloth trim)  
93G – Medium Pewter – Custom Cloth Seat Trim  
Headliner – Cloth, over driver & passenger  
Visors – Driver & front passenger, padded  
Assist Handle, Front Passenger  
C60 – Air Conditioning – Single-Zone Manual  
ENC – HVAC System – Auxiliary Provisions  
Defogger – Side Windows  
Heater & Defogger with front & side window defoggers  
Instrumentation  
    Analog with Speedometer

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- Odometer with Trip Odometer
- Fuel Level
- Voltmeter
- Engine Temperature
- Oil Pressure
- Driver Information Center
  - Fuel Range
  - Average Speed
  - Oil Life
  - Fuel Used
  - Ice Warning
  - Engine Hours
  - Average Fuel Economy
  - Tachometer
  - Maintenance Reminders
- Warning Tones – Headlamp on & key-in-ignition
- UM7 – Audio System – AM/FM Stereo w/ Seek-and-Scan, Digital Clock & 2 Front Speakers Door
- U05 – Horn – Dual-Note High & Low
- K34 – Cruise Control
- V4D – Circuits – Stop/Turn Signal
- ZQ2 – Power Convenience Package
- A31 – Power Windows
- AU3 – Power Door Locks w/ Lock-Out Protection
- Theft-Deterrent System – vehicle, PASSlock
- ZQ3 – Tilt-Wheel & Cruise Control Convenience Package
- D31 – Rearview Mirror – Manual Day/Night
- Lighting – Interior w/ dome light & door handle-activated switches
- AK5 – Air Bags – Frontal – Driver & Right-Front Passenger (includes air bag frontal, passenger side) deactivation switch,

## **Warranty**

- Basic: 3 Years/36,000 Miles
- Drivetrain: 5 Years/100,000 Miles
- Corrosion: 6 Years/100,000 Miles
- Roadside Assistance: 5 Years/100,000 Miles

## **PAYLOAD**

<b>GVWR</b>	<b>FRONT</b>	<b>REAR</b>
<b>14200</b>	<b>4600</b>	<b>9600</b>

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One (1) **Running Boards, One (1) Pair ADP (Type III)**  
**RUNNING BOARDS**

Aluminum diamond plate running boards shall be fabricated and installed under the cab. The running boards must incorporate a pair of splash guards behind the front wheelwells to further protect the cab. The running boards shall flare from the mud guards outward toward the rear, and must terminate at the same width as the modular body.

One (1) **Grip Strut Inserts in Running Boards IATS**

Aluminum "Grip Strut" material shall be installed in the above noted running boards to provide additional slip resistance. All welds shall be on the bottom side of the running boards so that they are not visible from above.

A smooth aluminum baffle system shall be welded below each grip strut section. This baffle system shall be designed to allow moisture and debris to drain through the grip strut, but shall prevent road splash from passing through from below.

One (1) **Mirrors, Sail Mount, Velvac Heat/Motor/Turns STD- Chevy**  
**MIRRORS**

The mirrors are Velvac brand model 2020 sail mount mirrors. They shall have a folding arm and shall be heated and motorized. They each shall also be provided with a black finish, and amber turn signal lights.

One (1) **Rubberized Vinyl Cab Flooring STD**  
**CAB FLOORING**

The chassis shall have rubberized vinyl flooring to aid in cleaning and long term wear.

One (1) **Spare Tire, Shipped Loose**  
**SPARE TIRE**

One (1) spare tire shall be provided and shipped loose.

One (1) **Wheel Sims - Phoenix 16", Set of Four (4) Chev.**  
**WHEEL SIMULATORS**

A set of four (4) Phoenix DOT Liner polished stainless steel wheel sims shall be provided and installed on the chassis wheels. Types that require loosening or removal of the OEM lug nuts for installation will not be acceptable.

One (1) **Air Fill Extensions, Rear Tires (16"/17"), Phoenix "Air Max"**  
**REAR TIRE AIR FILL EXTENSIONS**

A set of four (4) Phoenix "Air Max" series valve stem extensions shall be installed on the dual rear tires of this ambulance per the manufacturer's instructions.

One (1) **DEF/Urea Tank Fill Bezel**

One (1) **Idle Control, Electronic Throttle**  
**IDLE CONTROL**

A chassis idle control system shall be utilized to operate while this ambulance is parked "on-scene" to maintain an adequate DC electrical supply.

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One (1) **Warn. Light, Grille, Pass. Side, Whel LED Warn. Chevy G, Cast CAB / CHASSIS EXTERIOR LIGHTING**

## **WARNING LIGHTS - GRILLE**

Two (2) Whelen 700 series Super L.E.D. lights shall be mounted in, or near, the chassis grille in Cast Products aluminum bezels.

The lens colors (from passenger side to driver's side) will be: Red / Red

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/o flange**

One (1) **Warn. Light, Inters., Pass Side, Whel 3x7 LED Warn. w/f WARNING LIGHTS - INTERSECTION**

Two (2) Whelen 700 series Super L.E.D. warning lights shall be installed, one (1) on each chassis fender. The lights are to be located approximately as shown on the attached drawings.

The lens colors (from passenger side to driver's side) will be: Red / Red

## **FLANGES**

Two (2) Whelen chrome plated flange(s) shall be provided and installed on the specified 3x7 Series lights as indicated in the attached drawings.

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/ flange**

One (1) **Siren Speakers, Chevy 2011 G-Series SIREN SPEAKERS**

One (1) pair of Cast Products siren speakers shall be installed in the front bumper outer edges per the instructions provided by its manufacturer. Each speaker shall be rated for not less than 100 watts.

One (1) **Auxiliary AC Condensor, Pro Air Skirt Mount**

One (1) **Heat / AC Skirt Mount Condenser Kit AUXILIARY HEAT/AIR CONDITIONING**

A Pro Air auxiliary skirt mounted air conditioning condensor with dual 12V fans shall be installed under the ambulance body, near the side entry, and connected to the ambulance AC system.

One (1) **Booster Pump - 12V**

A 12 volt pump shall be provided and installed in the water supply line to the heater in order to improve heat output at idle speed.

One (1) **Front End Alignment, Chassis Pre-Delivery w/Printed Report CHASSIS FRONT END ALIGNMENT**

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Prior to delivery of the completed ambulance to this agency, the chassis shall have the front end alignment checked by the use of a computerized alignment program. Should the alignment check indicate that the measurements fall outside of the OEM specifications, the alignment must be adjusted to within OEM tolerances. A computerized print-out generated by the alignment software, indicating the correction, shall be included in the Owners Operating Manual.

One (1)

## **General Body Construction (Standard)**

### **GENERAL BODY CONSTRUCTION**

Because of a concern regarding single point responsibility for the major components of this ambulance, the body shall be built directly by the prime contractor in the same or adjacent facilities in which the remainder of the conversion is completed. Bids that offer "third party" or sub-contractor built bodies, including leases, rentals, sub-corporations, etc., will not be acceptable.

The module body for this vehicle shall be constructed utilizing aluminum alloy materials consistent with the load and service requirements of an ambulance. Structural members and skin shall be attached by heliarc welding. Rivets, screws, bolts, tape or other fastening devices will not be allowed as the primary method of attachment.

Structural members, i.e. tubes, zees, corner extrusions, etc., are to be 6063-T5 aluminum. Sheet aluminum used for walls, doors, roof, etc., are to be of 5052-H32 aluminum. Sample sections of all structural extrusions shall be made available for inspection by representatives of this agency on or before the bid opening.

The dimensions shown in the attached drawings are the minimum acceptable. ALL EXCEPTIONS TO, OR DIFFERENCES IN, BODY DIMENSIONS MUST BE NOTED IN THE BIDDER'S PROPOSAL.

One (1)

## **Roof Construction, 4"x4" formed channel @ 16" o.c. (Standard)**

### **ROOF CONSTRUCTION**

The roof shall be constructed using 4" x 4" x .125" formed aluminum channels placed laterally and spaced at approximately 12" between roof bows. These channels will be fully welded, at their ends, to the roof edge extrusions as well as the vertical wall structure and continuously welded to the roof sheet. The formed channel shall have a radius built into the open end that will be welded to the roof sheet and forms a crown roof so it will shed water. The channels shall also have reinforced notches for the wiring harness and openings for air ducts if a ducted HVAC system is specified. This system shall be able to hold 4 times the weight of the completed ambulance on the roof and still meet all the requirements of AMD 001 Static Load Test.

The roof edge extrusion shall be not less than .125" thick and must measure approximately 4.75" x 6" with a 2" radius corner. It will incorporate a drip rail for its entire length.

The roof skin shall be a SINGLE sheet of .0900" aluminum. It must be welded to the sub-structure wherever possible and fit into slots in the roof edge extrusion. It shall be continuously welded to the roof edge extrusions.

Four (4) cast aluminum corner caps shall be installed at the outside corners occurring where the vertical and roof edge extrusions meet. These caps shall match the transitional radius' of the

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extrusions, and must be continuously welded, inside and out, to the extrusions. The visible welds will be ground and finished to provide a smooth, seamless appearance.

The use of these corner caps is essential to the overall integrity of modular body structural system. Designs which involve welding the corner and roof edge extrusions together without the use of this feature, or roof corners manufactured from separate extrusions will NOT be acceptable to this agency. In no case, shall the corner caps be weakened by the addition of corner cap lights.

To facilitate the proper anchorage of ceiling mounted fixtures and devices, .090" aluminum plates are to be welded to the lateral roof frame channels.

One (1)

**Wall Construction, 2x2's @ 12" o.c. (Type III)**

## **WALL CONSTRUCTION**

The front wall structure shall consist of 2" x 2" x .125" vertical and 2" x 1" x .125" horizontal 6061-T6 aluminum tubes. These tubes shall be fully welded to the front roof edge extrusion, to the floor structure and the vertical corner extrusions. The spacing of the vertical tubes shall be no greater than 12" on center.

A skin of .125" smooth aluminum shall be attached to the structural elements by intermittent fillet welding along the vertical tubes. This shall act to tack the material in place and thus reduce heat warp on its outside face. In addition, a fillet bead of structural adhesive shall be applied full height on each side of the vertical tubes to further bond the skin to the structure and provide sound attenuation.

The curbside and streetside walls shall be similarly framed using 2" x 2" x .125" aluminum tubing. The spacing of these vertical tubes shall be no greater than 12" on center. The tops of the vertical wall tubes are to align with, and be fully welded to the 2" x 1" tubes forming the roof structure foundation for the roof edge extrusions to set on top of. At the bottom of the walls, the vertical tubes shall be fully welded to the floor, compartment, and side impact beam structures.

Approximately 16" above floor level, a "C" channel section side impact beams shall be welded into the sidewall structure on each side, full width on the curbside and between the exterior compartments on the streetside. These impact beams shall consist of an 6" wide x 2" thick aluminum "C" channel section manufactured of .187" aluminum with an second sheet of .187" aluminum welded into the flat surface of the hat section, forming a total thickness of .375" aluminum plate. The 2" x 2" structural uprights shall be welded into the impact beam assembly top and bottom forming a contiguous wall structure. The resulting impact beam will also be used to provide a secure mounting point for all side wall seat belt harnesses for the squad bench and left side (CPR) attendant seat. Note: Merely welding sheet aluminum to the structural uprights will NOT meet the requirements of this section.

A front bulkhead interior wall will be installed, recessed behind the cab, to allow for increased OEM seat back recline. This bulkhead shall be constructed of 1" x 3" aluminum tubes and shall be welded to the roof, wall, compartment, and floor components. This recess shall be 10".

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A SINGLE sheet of .125" 5052-H32 smooth aluminum wall material shall be attached to the outside of the 2"x2" tubular structure of each sidewall framed assembly by intermittent fillet welding along the vertical tubes. This shall attach the wall material directly to the structure uprights, while eliminating excessive heat warp on its outside face. In addition, a fillet bead of structural adhesive shall be applied full height on each side of the vertical tubes to further bond the skin to the structure and provide sound attenuation.

At the front and rear vertical corners of the module, an aluminum 90 degree corner extrusion must be utilized to tie the four (4) wall sections together and provide greater structural integrity. The extrusions shall extend from the body sill to the top of the wall, and when welded in place, shall become an integral part of the overall module structure. Each extrusion will have a wall thickness of not less than .125". A .200" thick internal center rib shall divide the radius for the length of the extrusion to give it greater lateral and longitudinal stability and strength. The outside radius will be approximately 1.625". At each side of the extrusion, a slot shall be provided to accept the .125" aluminum wall skins. The skins shall be inserted full depth into the slots and then be welded to the extrusion along the inside edge so that the welds are not visible from outside. The outside slotted edge shall be filled with structural bonding material prior to body painting, thereby providing a smooth, rounded appearance to the skin and extrusion joint.

One (1)

**Walk-Thru, Type III, Sliding Door w/ Fixed Plexi Window**  
**CAB TO PATIENT COMPARTMENT WALK-THRU**

A 17" wide x 48" tall walk-thru opening shall be framed into the front wall for access from the module to the cab. A 3/4" thick plywood sliding door with a 14" wide x 11" high fixed Plexiglas window will be installed on the cab side of the front wall and shall slide on an overhead sliding door track. The door shall be held open or closed by "Grabber" door catches.

One (1)

**Floor Construction, Composite (No Wood) ILOS**  
**FLOOR CONSTRUCTION**

The ladder frame style floor structure of the module shall be constructed of 2" x 2" x .125" aluminum tubes. The structure shall consist of two (2) longitudinal members - running the length of the body - and lateral members spanning between, and outboard of, the longitudinal tubes.

The longitudinal members are spaced to fit into 2" x 2 1/2" x 3/16" x 6" long structural "L" steel angle sections welded to each end of steel lateral frame spacers identified elsewhere in this specification. This "system" of construction provides lateral structural elements at approximately 12" on center for the length of the floor. It also ensures the lowest possible loading height and improved center-of-gravity. The aluminum structural elements of the floor are to be fully welded where they join.

.090" thick aluminum sheets shall be bonded and sealed to the top of the floor system to serve as a moisture barrier and to tie the floor's structural components together, acting as a diaphragm for greater structural integrity.

Over the aluminum moisture barrier, 3/4" (19mm) thick composite plastic panels shall be secured, using #8 screws driven through the material and the aluminum structural members below. The floor shall be flat and all depressions and screw head penetrations must be filled with an elastic floor fill compound suitable for such applications.

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One (1) **Body-to-Chassis Mounting, Type III (Standard)**  
**BODY TO CHASSIS MOUNTING**

The chassis manufacturer shall mount the body to the chassis frame at the ten points provided by the OEM chassis manufacturer. For consistency of materials, compliance with the chassis manufacturers second unit body mounting requirements and to facilitate future remounting of the body; only OEM supplied mounting hardware shall be used. Methods of body to chassis mounting that do not match the OEM cab mounting process will not be considered due to the stresses created by difference in flexibility between the cab and the modular body. The mounting hardware shall consist of ten- (10) .50" x 6" wide 6061-T6 formed, offset aluminum plates welded to the lateral sub floor members at points corresponding to the mounting points on the OEM frame rails. Rubber mounting isolators, steel caps and Grade 8, 7/16" bolts supplied by the chassis manufacturer shall comprise the balance of the mounting hardware. There shall be an insulating layer of an electrolytic barrier between the dissimilar metals of the OEM isolator caps and the aluminum plates welded to the sub floor frame and between the aluminum plates and the steel, nut-spin prevention plate on the top of the mounting hardware.

The body will be attached to the cab using a minimum of twenty-four (24) .250" x 20 stainless steel bolts, fender washers and nylon lock nuts. A one-piece automotive style closed cell bulb seal will be installed between the cab and body with an inner seal of butyl rubber rope to completely seal the joint between the cab and the modular body.

One (1) **Undercoating, Module Floor, Ziebart ILOS**  
**MODULE UNDERCOATING**

The module floor and adjacent chassis frame components shall have Ziebart brand undercoating applied in accordance with Ford QVM guidelines prior to delivery to this agency.

One (1) **Insulation, Walls and Ceiling, Spray Foam**  
**BODY INSULATION**

The interior of the ambulance walls and ceiling shall be insulated with expanding spray foam insulation to a maximum of 2" thick. This process must be completed after the electrical wiring is installed.

One (1) **Insulation, Entry Doors, Spray Foam**  
**ENTRY DOOR INSULATION**

Module entry doors shall be insulated with spray foam. The insulation shall be sprayed so as not to interfere with door latching mechanisms.

One (1) **Insulation Enhancement, Temp-Coat Ceramic Spray (Std.)**  
**INSULATION ENHANCEMENT COATING**

Prior to the installation of the above specified insulation, Temp-Coat insulating liquid coating shall be sprayed over the entire inside of the raw ambulance body - including floor and inside of entry doors. The coating will consist of a mixture of silicas and ceramic beads emersed in high quality latex base with Acrylic binders.

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Temp-Coat will be sprayed to a thickness of approximately 30 mils. and will add to the overall thermal performance of the specified insulation - adding thermal resistance approximately equal to R-20 in radiant heat testing.

One (1) **Insulation, Floor, 1.5" Plank Foam**

## **FLOOR INSULATION**

The ambulance flooring system shall be insulated with 1-1/2" thick expanded Polystyrene plank foam insulation. The foam panels shall be cut to closely fit the spaces between the structural framing and shall be attached to the underside of the floor skin with a spray adhesive suitable for use on EPS insulation.

After the insulation is in place, an aluminum weather shield (.060" aluminum) cover is to be bonded to the entire bottom side of the floor framing to protect the insulation from road splash.

One (1) **Drip Rail Trim Mouldings Over Door Openings (Standard)**

## **DRIP RAIL MOULDING**

Above each entry and compartment door (excluding doors within 6" of the roof drip rail), an extruded anodized bright finish aluminum drip rail shall be fastened to the body with Acrylic structural adhesive tape. These drip rails must be finished to eliminate rough or sharp edges.

Two (2) **Stone Guards, ADP, Front Wall (Standard)**

## **STONE GUARDS**

Two (2) aluminum diamond plate stone chip guards will be rivited to the lower corners of the front wall of the ambulance, just outboard of the chassis, to protect the paint finish from damage. The backside of these stone guards shall be sealed to the painted finish by the use of gray Butyl sealant tape.

One (1) **Rub Rails, Skirt Line, One (1) Set "Premium" Style**

One (1) **Decals, Striping, White "Marque" logo reflective**

One (1) **Fenderettes, One (1) Pair Stainless Steel**

## **FENDER FLARES**

A stainless steel fender flair shall be installed around the rear wheelwell openings. The flares must be 16 gauge type 304 rolled stainless steel with #7 RMS bright polished outer surfaces. They will be installed so as not to interfere with tire rotation, movement, or replacement. A layer of butyl self sealing tape will be applied between the fender flares and the body panels for corrosion protection.

One (1) **Fuel Fill Bezel, Cast Aluminum w/ Door (Standard)**

## **FUEL FILL BEZEL**

The fuel tank fill will be protected by a cast aluminum fuel fill guard with polished flanges. This fuel fill guard will have a breakaway safety collar feature incorporated into its construction. In addition, the opening will have a door with spring loaded hinge to keep it closed.

One (1) **Fuel Fill Splash Guard, Brushed Stainless Steel**

## **FUEL FILL SPLASH GUARD**

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A brushed stainless steel fuel fill splash guard shall be provided and installed below the fuel fill opening to protect the body from fuel overflow or drips. The plate shall be fastened to the body using two-sided Acrylic tape and Butyl rubber sealant. Screws are not to be used for attaching this plate to the body.

One (1)

**Rear Bumper Assembly, Kick-Up w/ Gas Struts**  
**REAR BUMPER**

The rear bumper sub-structure must be constructed from 2" x 3" steel channels and 10 gauge steel plate. The components must be fully welded and coated with an etching primer and undercoated to prevent rust, and then bolted to the OEM frame rails.

The structure of the bumper must be designed with a "kick-up" feature to allow the entire bumper assembly to flex upward in high departure angle conditions without damage. Gas struts will be used in the design to prevent the bumper from moving unnecessarily and to keep it in the "down" position.

Aluminum diamond plate bumper pods, approximately 23" wide x 11" deep x 3 1/2" high shall be constructed to fit over the outboard ends of the sub-structure and must be fastened in place using stainless steel fasteners. These aluminum bumper pods shall be isolated from the steel bumper assembly to prevent dissimilar metal reactions.

The middle portion of the bumper assembly (approximately 48" wide) shall incorporate a fold up section of aluminum grip strut material. The hinge must be stainless steel and installed so that the step folds toward the body to facilitate stretcher loading.

One (1)

**Rear Bumper Flip-Up Step - Finish Rear Face w/ ADP (Std.)**

The rear face of the fold up step shall be finished with .072" diamond plate.

One (1)

**Bumper Guards, Rear, Extruded Rubber, 10"w x 2"h (Std.)**  
**REAR BUMPER GUARDS**

Bumper guards, fabricated of extruded rubber, with approximate dimensions of 10" wide x 2" high x 2" deep shall be provided and installed on the rear face of the left and right aluminum diamond plate bumper covers.

One (1)

**Rear Riser, ADP (Standard)**  
**REAR RISER PANEL**

Extending from the rear step to the bottom of the rear doors, for the full width of the rear wall, shall be a section of aluminum diamond plate. It will be fastened to the body using rivets.

One (1)

**License Plate Bracket, Recessed (Standard)**  
**LICENSE PLATE HOLDER**

A cast aluminum license plate bracket with polished flanges shall be recessed into the rear riser. It shall be provided with one (1) LED license plate light.

One (1)

**Mudflaps, Rear, One (1) Pair Rubber, w/Logo**  
**REAR MUD FLAPS**

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One (1) pair of black rubber, anti-spray mudflaps shall be provided and installed behind the rear tires. They shall be attached with non-rusting bracketry so as to allow easy replacement when necessary.

One (1) **Grab Bar, Exterior, One (1) Mounted Next to Side Entry Door**

## **EXTERIOR GRAB BAR**

One (1) 15" stainless steel grab bar shall be provided and installed next to the side entry door. It shall be designed so that the ends angle towards the body surface and the mounting bolts are not exposed. Grab bars that are attached using screws are not desired by this agency. At the ends of the grab bar, a plastic or rubber spacer must be installed to protect the paint.

One (1) **Exterior Storage Compartments - General (Standard)**

## **EXTERIOR STORAGE COMPARTMENTS**

Each compartment will be built as an individual structure - common walls between compartments will not be allowed. All joints must be MIG or TIG welded and sealed with automotive grade seam sealer to prevent dust and moisture intrusion. Each compartment will be vented by not less than one (1) black plastic vent capable of 17.9 square inches of free air each, depending on size of the compartment, larger compartments will get (2) vents as needed.

One (1) **Streetside-Front Compartment (#1), Smooth Alum. 1" Dished Floor ILOS**

## **STREETSIDE-FRONT EXTERIOR STORAGE COMPARTMENT (#1)**

The streetside-front exterior storage compartment shall be constructed using .125" smooth aluminum plate with a DA finish and shall be sized according to the attached drawings. The floor of this compartment will be dished approximately 1" to increase its vertical storage capabilities.

add 8" treadplate (as in marked drawing) on top of compartment so that long boards can slide in under and will not slide out, front towards door of compartment

One (1) **Streetside #2 Compartment, Smooth Alum. Sweep Out, ILOS**

## **STREETSIDE #2 EXTERIOR STORAGE COMPARTMENT**

The streetside #2 exterior storage compartment shall be constructed using .125" smooth aluminum plate with a DA finish and shall be sized according to the attached drawings. The floor of this compartment will be of a sweep-out design to aid cleaning.

One (1) **Streetside Wheelwell Compartment (#3), Smooth Aluminum**

## **STREETSIDE WHEELWELL COMPARTMENT (#3)**

There shall be a compartment above the streetside wheel well area - sized as indicated in the attached drawings. This compartment shall be fabricated of .125" smooth aluminum plate with a DA finish, "sweep-out" style floor. The door to this compartment shall be fastened to a smooth aluminum slide-out tray with 200 lb. capacity ball bearing slides.

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One (1) **CPR Seat w/ Hinged Backrest and Fixed Seat**  
**CPR SEAT**

A 28" wide CPR seat shall be provided in the streetside cabinet wall, above the wheel well, between the Action Area and the monitor/defibrillator shelf areas. It shall feature a fold-down backrest, padded vinyl seat, back, and head rest cushions and lap-style seat belts secured to the wall.

One (1) **Streetside-Rear Compartment (#4), Smooth Alum., Sweep-out ILOS**  
**STREETSIDE-REAR EXTERIOR STORAGE COMPARTMENT (#4)**

The streetside-rear exterior storage compartment shall be constructed using .125" smooth aluminum plate with a DA finish and shall be sized according to the attached drawings. The floor of this compartment will be of a sweep-out design to aid in cleaning.

One (1) **Curbside-Rear Compartment (#5), Smooth Alum., Sweep Out ILOS**  
**CURBSIDE-REAR EXTERIOR STORAGE COMPARTMENT (#5)**

The curbside-rear exterior storage compartment shall be constructed using .125" smooth aluminum plate with a DA finish and shall be sized according to the attached drawings. The floor of this compartment will be of a sweep-out design to aid in cleaning.

add 8" treadplate (as in marked drawing) on top of compartment so that long boards can slide in under and will not slide out, front towards door of compartment

One (1) **Curbside Intermediate Compartment (#6), Smooth Alum., Sweep Out IATS**  
**CURBSIDE INTERMEDIATE COMPARTMENT (#6)**

There shall be a compartment immediately aft of the curbside wheel well area - sized as indicated in the attached drawings. This compartment shall be fabricated of .125" smooth aluminum with a DA finish and "sweep-out" style floor.

One (1) **Side Entry Stepwell, Type III, ADP (Standard)**  
**SIDE ENTRY STEPWELL**

Inside the side entry door, a stepwell shall be constructed using bright aluminum diamond plate. The approximate size shall be 32" wide with a 20.75" tread and 9.5" riser. All seams must be welded and sealed.

One (1) **ALS Compartment Door (#8), Size Other Than Standard**  
**ALS CABINET EXTERIOR ACCESS DOOR**

The ALS cabinet shall be accessible from the exterior of the ambulance via a door located on the curbside wall, just forward of the side entry door. The size of this door shall be as indicated in the attached drawings.

One (1) **Compartment, Curbside (#9), for Battery Storage**  
**BATTERY STORAGE COMPARTMENT**

A battery storage compartment made of smooth aluminum shall be located on the curbside of the ambulance, forward of the side entry door as indicated in the attached drawings. The floor

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of the compartment shall be sweep-out design and the door shall be right side hinged with a single Nader pin and rotary latch.

The compartment shall include a slide-out tray specified later in this document.

One (1) **Slide-Out Tray, Floor Mount in Curbside Battery Compartment**  
**BATTERY COMPARTMENT SLIDE-OUT TRAY**

Provide and install one (1) slide out tray on the floor of the curbside battery compartment capable of holding three (3) batteries.

One (1) **Stair Slot on Compartment Door**  
**Stairchair Mount**

Stairchair mount with seat belt style straps installed on the compartment door of #4 streetside compartment.

One (1) **Protective Coating for Compartment(s) IATS**  
**BEDLINER SPRAY COATING FOR COMPARTMENTS**

The following compartment(s) shall receive Vortex (or equal) spray-on bedliner coating. The coating shall be not less than 2 mils thick and the color shall be GREY:

1. ALL CompartmentS

One (1) **Vertical Divider, Fixed, Smooth Aluminum ILOS**  
**VERTICAL DIVIDER**

One (1) full height, fixed, 125" smooth aluminum divider shall be provided in the SS1 compartment to separate the backboard storage area from the oxygen cylinder storage area. This divider shall be attached to the back, top and floor of the compartment and the outer edge shall be finished with 1/2" diameter aluminum bar stock. It will also have a DA finish on both sides.

One (1) **Vertical Divider, Fixed ADP in CS-Rear Compartment (Std.)**  
**VERTICAL DIVIDER**

One (1) full height, fixed, aluminum diamond plate divider(s) shall be provided in the curbside-rear compartment to separate the backboard storage area from the remainder of the compartment. This divider shall be attached to the back, top and floor of the compartment.

Two (2) **Protective Coating for Divider(s), Two Sides IATS**  
**BEDLINER SPRAY COATING FOR COMPARTMENT DIVIDER(S)**

The following compartment divider(s) shall receive Scorpion (or equal) spray-on bedliner coating on both sides. The coating shall be not less than 2 mils thick and the color shall be GREY:

1. STREET SIDE FIRST AND CS REAR Divider

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One (1) **Adjustable Shelf in SS#2 (Standard)**  
**ADJUSTABLE SHELF**

One (1) adjustable shelf shall be provided in compartment SS2. It will be formed from aluminum and shall be approximately 16" deep with a 2" high lip around all four (4) sides. The top edges of the shelf will be finish sanded to provide a smooth, rounded surface. A vinyl edge guard shall be placed over the outboard edge to prevent damage to the shelf and equipment during removal/replacement.

Three (3) **Adjustable Shelves in Curbside-Rear Comp't. (Standard)**  
**ADJUSTABLE SHELVES**

Three (3) adjustable shelves shall be provided in the curbside-rear compartment. They will be formed from .125" smooth aluminum and shall be approximately 16" deep with a 2" high lip around all four (4) sides. The top edges of the shelf will be finish sanded to provide a smooth, rounded surface. A vinyl edge guard shall be placed over the outboard edge to prevent damage to the shelf and equipment during removal/replacement.

Two (2) **Adjustable Shelf IATS**  
**ADDITIONAL ADJUSTABLE SHELF/SHELVES**

In addition to the above specified adjustable shelf, 2 adjustable shelf/shelves shall be provided in SS Rear compartment. Each shelf will be formed from .125" aluminum and shall be not less than 2" less in depth than the net depth of the compartment in which it resides. All shelves shall have a 2" high lip around all four (4) sides. The top edge of the lip will be finish sanded to provide a smooth rounded surface. A vinyl edge guard shall be placed over the outboard edge to prevent damage to the shelf and equipment during removal/replacement.

Two (2) **Compartment Adjustable Shelf Tracks, Unistrut**  
**ADJUSTABLE SHELF TRACK**

Four (4) Unitstrut brand aluminum adjustable shelf tracks are to be installed in each compartment, two (2) each side, requiring an adjustable shelf or tray. Each track shall feature a continuous adjustment slot and two (2) short spring channel nuts designed to accept 1/4-20 bolts.

A 1.75" x 1.75" gusseted angle shall be used to support the shelf and fastened to each adjustable track using two (2) 1/4-20 hex head bolts per bracket. Loosening the nuts on these bolts will allow the shelf or tray to be easily adjusted. When tightened, the bolts shall secure the shelf or tray and prevent movement or "shake-down".

Two (2) **Protective Coating for Compartment Shelf IATS**  
**BEDLINER SPRAY COATING FOR COMPARTMENT SHELVES**

The following compartment shelf(ves) shall receive Scorpion (or equal) spray-on bedliner coating. The coating shall be applied to the inside surfaces of the shelf and the outside vertical edges. It shall be not less than 2 mils thick and the color shall be \_\_\_:

1. \_\_\_ Shelf

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One (1) **Plastic Tiles on Compartment / Shelf Floors**  
**PLASTIC TILES**

Mateflex "Versaflex" soft PVC plastic interlocking tiles shall be provided and installed on the floor of all compartments, shelves and trays.

One (1) **Plastic Tile Color - Black (STD)**

The color of the Mateflex tiles shall be black

One (1) **Extruded/Pan Formed Hybrid Doors (Standard)**  
**EXTRUDED DOOR CONSTRUCTION**

All module entry and compartment doors shall be constructed of a custom designed extrusion made of .125" 6063-T5 aluminum used in conjunction with a pan formed exterior door panel. The extrusions shall be made in such a fashion as to allow the weather seal to be installed so that the seal engages the door frame outboard of the rotary latches. The door and door frame extrusions shall be miter cut at 45 degree angles to ensure a square corner, with a 90 degree 1/4" thick aluminum saw-tooth key inserted in each corner and then welded to give a solid true corner. The door skin shall be "pan formed" from a single sheet of .125 aluminum, designed to fit over the extruded door framework, thereby forming the exterior door surface skin, top, bottom, and sides of the completed door assembly exterior. The formed skin will then be welded at all four corners and attached to the door framework with welding and structural bonding material.

The completed door assembly must close into a similarly designed door opening extrusion welded into the walls of the ambulance. The extruded door frame shall be welded to structural uprights and door jamb framework welded into the wall assembly. The door frame extrusions shall incorporate a flange return on the outward edges that allow the .125" wall skin to fit flush to the extrusion surfaces. The joint between the wall skin and the door jamb extrusions shall be closed with a full perimeter weld on the exterior surface and an intermittent "stitch" weld on the interior surface. The exterior surface will then be ground smooth and body finished to provide a smooth cosmetic transition from skin to extrusion without any exposed joints or ridges, which could trap road grime, salt or other contaminants.

The doors will seal against the door framework by use of a bulb type automotive style rubber seal, installed on the door itself. Door seals shall be continuous type, permanently attached around the entire perimeter of the door, without breaks or voids. These seals shall be installed outboard of the door latching mechanisms in such a fashion as to protect the nader pins and rotary latches from exposure to outside contaminants.

Stainless steel continuous "piano" hinges will be used on all doors. All hinges must have 1/4" diameter pins (minimum), and shall be fastened with stainless steel screws. A isolating barrier must be installed between the hinge and the body/door attachment to prevent contact between dissimilar metals. The use of rubber or similar thick materials is not acceptable because of the tendency of such materials to compress, and/or deteriorate, and thus require frequent readjustment.

The side entry door will have pressurized gas strut overhead door checks which will hold the doors at not less than 90 degrees when open. The gas struts will include an "over-check"

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feature to prevent failure due to the door leaf being moved past 90 degrees. The compartment doors shall have spring-loaded door hold-openers. The rear entry doors shall have Cast Products "Grabber" model door hold opens installed on each door. The rubber inserts in the body side of the hold open mechanism shall be replaceable

## **COMPARTMENT DOORS**

The inside of each compartment door will be finished with .125" bright aluminum diamond plate, attached to the door extrusion flanges using stainless steel machine screws, riv-nuts, and rubber gaskets to hold the skins securely to the door frame without vibrating loose.

## **ENTRY DOORS**

Inner door liners shall be .125" smooth aluminum, painted with Multi-spec paint to coordinate with the patient compartment interior and screwed to the door extrusion flanges with stainless steel screws into riv-nuts.

One (1)

## **Compartment and Entry Door Latching Hardware (Standard)**

### **DOOR LATCHING HARDWARE**

All module doors, compartment over 23" high and entry, shall utilize two (2) rotary style latches per door leaf, closing onto two (2) "Nader" striker pins with capped heads and adjustable cage nuts. Smaller doors, under 23" high shall be able to use (1) rotary style latch. Construction using other latching methods, striker pins without capped ends NOT acceptable.

Eight (8)

## **Compartment Door Handles, Eberhard**

### **COMPARTMENT DOOR HANDLES**

All exterior compartment doors shall have a chrome plated Eberhard locking handle with neoprene gasket. The handle will be connected to the latching mechanism by threaded rods. Latching systems using cables or pinned rods will NOT be acceptable.

One (1)

## **Curbside Slider Entry Door**

### **SIDE SLIDER ENTRY DOOR**

The module body shall include a sliding side entry door to access the curbside of the patient compartment. The door shall slide out and towards the rear of the module body. The door design must meet FMVSS 206 for sliding doors. The door shall not extend out more than 5 1/4" from the module when in the open position and shall be flush in the closed position. The door shall operate on a total of nine (9) casters and three (3) double offset tracks for ease of operation. The door shall be held closed with two (2) rotary latches and two (2) locking tabs. The door must have a hold open system to prevent the door from closing by itself, when unit is parked on an incline. A chrome locking handle shall be installed on the exterior of the door. A molded assist handle shall be installed on the interior of the door to assist with closing the door from inside the vehicle. The door shall shut on extruded hollow core, automotive type door seal that fits into an aluminum extruded T channel to prevent any water or air from leaking into the vehicle's interior.

One (1)

## **3" Drop on Curbside Skirt for Slider Door**

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One (1)

## **Curbside Entry Door Handles, Eberhard** **CURBSIDE ENTRY DOOR HANDLES**

The curbside module entry door shall have a chrome plated Eberhard locking handle with neoprene gasket on the exterior of each door. On the interior of this door, a Eberhard automotive lever style handle with slide lock lever and black plastic bezel will be installed.

These handles will be connected to the rotary latching mechanism by steel rods with an anti-corrosion coating factory applied. Latching systems using cables or pinned rods for latch activation will NOT be acceptable.

One (1)

## **Rear Entry Doors (Eberhard)** **REAR ENTRY DOORS**

Double leaf rear entry doors to the patient compartment shall be provided, sized and located as shown in the attached prints. They shall have a full length stainless steel hinges with pins not less than 1/4" in diameter.

One (1)

## **Rear Entry Door Handles, Eberhard** **REAR ENTRY DOOR HANDLES**

Each rear module entry door shall have a chrome plated Tri-Mark locking handle with neoprene gasket on the exterior of each door. On the interior of each door, a Tri-Mark automotive lever style handle with slide lock lever and black plastic bezel will be installed.

These handles will be connected to the rotary latching mechanism by steel rods with an anti-corrosion coating factory applied. Latching systems using cables or pinned rods for latch activation will NOT be acceptable.

One (1)

## **Rear Entry Doors, Cast Grabber Door Checks (Standard)**

One (1) pair of Cast Products "Grabber" door hold open devices shall be installed on the exterior of the doors to hold them open when necessary. The devices shall be located on the approximate horizontal centerline of each door as indicated in the attached prints. The rubber insert into the "female" side of the hold open device shall be replaceable.

Two (2)

## **Emergency Exit Latches Required**

One (1)

## **Entry Doors, Latch Adjustment Access Ports IATS** **ENTRY DOOR LATCH ADJUSTMENT PORTS**

All module entry doors shall receive two (2) rotary latch adjustment access ports in the door liner material. Each access port shall allow for easy access to the rotary latch mechanisms for adjustment and/or maintenance. Each opening will be protected with an aluminum diamond plate or vinyl wrapped cover.

One (1)

## **Window, Side Entry Door, Upper, Bronze Tint**

One (1)

## **WINDOW, 19" x 18" BRONZE TINT SLIDER** **ENTRY DOOR WINDOW**

A 19" x 18" black aluminum framed window is to be centered in the entry door, with the top of the window about 6" down from the top of the door. The bronze tinted window shall be capable of opening via a sliding section of the glass. The sliding section must be positively latched when

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in the closed position to prevent it from being opened from the outside. It must also include a sliding screen section to cover the opening.

One (1) **CLAMP RING - WINDOW 19" x 18" - 2.28" WALL**

Two (2) **Window, Rear Entry Door, Upper, Bronze Tint**

Two (2) **WINDOW, 19" x 18" BRONZE TINT FIXED**  
**ENTRY DOOR WINDOW**

A 19" wide x 18" high black aluminum framed window is to be centered in the entry door, with the top of the window about 6" down from the top of the door. The bronze tinted window shall be single piece fixed glass.

Two (2) **CLAMP RING - WINDOW 19" x 18" - 2.28" WALL**

Two (2) **Window, Rear Entry Door, Lower, Dark Tint**

Two (2) **WINDOW, 18" x 12" DARK TINT FIXED**  
**ENTRY DOOR WINDOW**

A 18" wide x 12" high black aluminum framed window is to be centered in the entry door, with the bottom of the window about 6" up from the bottom of the door. The dark tinted window shall be single piece fixed glass.

Two (2) **CLAMP RING - WINDOW 18" x 12" 2.28" WALL**

One (1) **WINDOW, 36" x 18" DARK TINT FIXED**  
**WINDOW OVER SQUAD BENCH**

A fixed window shall be provided and installed in the curbside wall above the squad bench as shown in the attached drawings. It shall have approximate dimensions of 36" wide x 18" high and shall have dark glass.

One (1) **CLAMP RING - WINDOW 36" x 18" 2.28" WALL**

Four (4) **1" x 4" Reflector - Red (standard)**  
**EXTERIOR BODY REFLECTORS**

Four (4) 1" x 4" Red reflectors shall be provided and installed as follows... One (1) each in the lower rear corner of each side of the module and, One (1) each in the lower right and left corners of the rear wall of the module. These reflectors shall be in addition to any corner lighting that may be present.

Six (6) **Compartment Door LED Warning Lights - Whelen OS Series**  
**COMPARTMENT DOOR WARNING LIGHTS /REFLECTIVE STRIPING**

One Red LED light/re and white reflective striping shall be provided and installed in the lower corner of each compartment door. These lights shall flash whenever the compartment doors are open and module power is on.

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One (1)

## General Electrical System Information (Specification)

### CONVERSION ELECTRICAL SYSTEM

This vehicle's 12-Volt DC power supply shall be separate and distinct from the chassis (OEM) system, except that both will be powered by the same chassis generating system and batteries. The total ambulance electrical system shall be equipped with, but not limited to the following: dual 12-volt batteries, generating, starting, lighting, ignition, visual and audible warning systems, specified electrical equipment and devices including master switch consoles located in the cab and patient compartment, plus other specified accessory wiring. The electrical systems and equipment shall comply with all applicable FMVSS including Federal Motor Carrier Safety Regulations (FMCSR). It shall also conform to all the applicable Society of Automotive Engineers (SAE) recommended standards and practices, whether or not specifically referenced in this document.

All electrical and electronic components shall be selected to minimize loads, thereby not exceeding the vehicle's generating system capacity. System components must be readily accessible through access panels or doors for routine service and maintenance. Likewise switches, indicators and controls shall be located and installed in such a manner so as to facilitate routine service, maintenance and replacement.

All electronic devices and equipment installed in this ambulance must have proper filters, suppressers or shielding to contain electromagnetic radiation and prevent radio frequency interference (RFI).

### WIRING

The ambulance body and accessory electrical equipment shall be served by circuits separate and distinct from the chassis circuits. All conversion wiring shall be copper and conform to SAE J1292 requirements. The wiring shall be covered with type GXL high temperature thermoplastic, or better, insulation rated to 125 degrees centigrade and conforming to SAE guidelines.

Wiring shall be permanently color coded and ink dye labeled with the circuit name the wire serves. Such labeling shall occur along the entire length of wiring at approximately 4" intervals. Wiring installed by the ambulance manufacturer shall carry the maximum load of the circuit it serves. Cables larger than 10 AWG shall have terminals mechanically crimped and soldered to insure minimal voltage drop. All wired devices, switches, outlets, etc. excluding circuit protection devices, shall be rated to carry 125 percent of the maximum ampere load for which the circuit is protected. Enough wire shall be provided at all electrical components, terminals and connection points to allow for two (2) cut off replacements.

Circuit connections shall be made on terminal blocks or other approved electronic connectors. Wires shall fasten directly to the terminal blocks or be crimped to plastic encased spade terminals or ring connectors. The use of "Scotch-Lok" type fasteners are NOT ACCEPTABLE. Splices in wire runs will NOT be allowed.

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The main wiring harness serving the module shall be installed above the finished ceiling at its approximate longitudinal centerline. An easily removable, padded access panel shall cover the harness chase. All wiring will be run in protective looms and must be adequately secured to prevent sagging and excessive movement. All items and materials used for protecting and securing the harness must be designed for its specific application and be standard automotive, aircraft, or marine grade. Main wiring harnesses which are located behind cabinetry or wall panels are not acceptable to this purchaser.

Wiring routed into the engine compartment or beneath the vehicle shall be protected by high temperature loom with a rating of 300 degrees Fahrenheit. Where necessary, the wiring and loom must be protected by rubber grommets and secured with insulated metal cable clamps tightly fastened to an adequate supporting structure. Wiring must be kept at least six inches (6") away from chassis exhaust system.

One (1)

## **12 Volt Load Center Location [J-Box] (Standard)**

### **12 VOLT LOAD CENTER**

The 12 volt load center is the location of the conversion electrical system's major 12 volt electrical control and distribution components. The load center will be within a designated interior cabinet located next to the module walk/pass through and may not be mounted in the engine compartment nor in any outside or outside accessible compartment. This cabinet shall be accessible through a hinged, locked door.

One (1)

## **12 Volt Elec. System, V-Mux Multi-Plex**

### **12 VOLT ELECTRICAL SYSTEM**

The electrical power control system that this ambulance utilizes shall be the V-MUX® Multiplex System, no substitutes accepted. The manufacturer of the multiplex system shall provide at a minimum ten (10) different users of the system.

The multiplex system hardware that is being put into the apparatus of this bid should be field proven for a minimum of four years.

There are several key benefits to multiplexing, one is to reduce the number of connectors and splices in a vehicles electrical system. To achieve this it is important to integrate many of the stand alone components and modules listed below into the node or nodes. Wherever it is stated that an "add-on" module will not be acceptable, it means that the requirement must be met utilizing the existing multiplex electrical system without stand-alone accessory switching or wiring harness. There shall be no exceptions.

The Vehicle Manufacturer shall design from the ground up, the wiring harnesses needed to interface with the modules. Cut up or modification of existing hardwired harnesses is not acceptable.

The grounds from each device should return to the main ground trunk in each sub harness. Terminal strips should be reduced as much as possible or eliminated, as each crimp is a weak point in the harness that may fail over time.

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The multiplex network must be Peer to Peer. That is, no one module should hold the programming for other modules.

The definition of Peer to Peer for the purpose of this specification is that each module that controls a device shall hold its own configuration program and be able to turn that device on, even if disconnected from the network, if the interlocks are local. Inputs such as Emergency Master and Front Light bar in the same node as the outputs for the light bar will turn on the light bar even if disconnected from the network.

## **DRIVER'S CONSOLE CONTROL SCREEN**

The driver's console control screen shall be a Vista III Color monitor. It shall have seven (7) permanent push-button switches that shall perform the following functions (left to right)...

- A) EMERGENCY MASTER - serves as a master control switch for all emergency circuits
- B) EXTERIOR LIGHTS - switches all flood lighting on or off.
- C) DIM PANEL - turns on/off the Vista III's backlighting
- D) HOME - resets the Vista III Display to the home screen
- E) SECONDARY MENUS - accesses secondary menus
- F) HEAT/AC - Accesses the Heat/AC screen for control of the environmental systems
- G) MODULE MASTER - serves as a master control switch for all non-emergency module circuits

In addition to the above "preset" switches, each Vista III display shall be capable of up to forty (40) menu screens each with eight (8) "virtual" (i.e. programmable) switches. These switches shall control a variety of functions such as (but not limited to) Primary / Secondary Lighting, Light bars, Wig Wags, Horn / Siren, specific Flood Lights, Inverter, Electric O2 system, etc.

## **ATTENDANT'S CONSOLE CONTROL SCREEN**

The attendant's console control screen shall be a Vista III Color monitor. It shall have seven (7) permanent push-button switches that shall perform the following functions (left to right)...

- A) VACUUM PUMP - switches the on-board electric vacuum pump on or off
- B) INTERIOR LIGHTS - switches all ceiling mounted lighting on or off.
- C) POWER VENT - switches the dual power vent fans on or off

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D) HOME - resets the Vista III Display to the home screen.

E) SECONDARY MENUS - accesses secondary menus.

F) HEAT/AC - Accesses the Heat/AC screen for control of the environmental systems

G) MODULE MASTER - serves as a master control switch for all non-emergency module circuits

In addition to the above "preset" switches, each Vista III display shall be capable of up to forty (40) menu screens each with eight (8) "virtual" (i.e. programmable) switches. These switches shall control a variety of functions such as (but not limited to) Primary / Secondary Lighting, Light bars, Wig Wags, Horn / Siren, specific Flood Lights, Inverter, Electric O2 system, etc.

One (1)

**Warning Light Sequencer System - V-Mux**

## **WARNING LIGHT SEQUENCER**

The electrical system shall be provided with the ability to sequence warning light loads both on "startup" and "shutdown" in order to reduce load shock caused by the sudden activation or deactivation of loads.

One (1)

**Load Management System, V-Mux**

One (1)

**Driver's Control Console Gauges (V-Mux)**

## **DRIVER'S CONTROL CONSOLE GAUGES**

### **AMP/VOLT METER**

Amp/volt meter readings shall be incorporated into the VMux Vista III display in the driver's control console. The ammeter shall be capable of indicating a current of at least 200 amperes charging or discharging. Current shall be measured by means of a Hall Effect sensor - a shunt is not acceptable.

### **HOURLY METER**

A 2" diameter Hoyt digital hour meter with black bezel shall be installed in the driver's console. It shall be wired to operate and record running hours of the chassis engine.

The meters must all be installed so that they can be viewed by either driver or engineer.

One (1)

**No Hourmeter Required**

One (1)

**Door Open Indicator - V-Mux**

## **OPEN DOOR INDICATOR**

An "open door" indicator system shall be provided in the cab console. It shall be incorporated into the VMux Electrical system and shall have a visual display on each of the units Vista III monitors indicating which door is ajar. An audible alarm will sound in the cab should the vehicle be taken out of PARK with a door open.

One (1)

**Warning Light Flasher, Vanner 5860GCPE (Standard)**

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## **WARNING LIGHT FLASHER**

A flasher shall be provided and installed to flash the warning lights at a rate of 75 to 125 flashes per minute.

One (1) **Warning Light Flash Pattern, K-Spec (Standard)**

The warning lights shall flash as described in the KKK-A-1822 specification.

One (1) **Power Locks for Module Entry Doors**

## **POWER LOCKS - MODULE ENTRY DOORS**

Power locks shall be provided for the side and rear-curb side module entry doors. The system shall include the actuator, actuator connector, actuator pigtail, relay and relay connector. Two switches shall be installed to control the locks, one (1) on the curbside wall just inside the side entry door and one (1) on the rear wall, just inside the rear entry doors.

One (1) **Power Locks for Compartment Doors**

## **POWER LOCKS - EXTERIOR COMPARTMENT DOORS**

Power locks shall be provided for \_\_\_\_ exterior compartment door(s). The system shall include the actuator, actuator connector, actuator pigtail, relay, and relay connector. A single switch, located in the Action Area, shall serve to control the power locks.

One (1) **Remote Power Switch to Activate Cab & Module Door Locks**

## **REMOTE POWER DOOR LOCK CONTROL**

A remote momentary toggle switch with a rubber boot shall be provided to control the cab and module door locks. It shall be mounted front left grille area

One (1) **Module Power Disconnect Switch, TST Remote**

## **MODULE POWER DISCONNECT SWITCH**

A TST CDR-357 "On/Off" style master module remote disconnect switch shall be installed in the electrical cabinet and wired to operate with the chassis ignition switch. The battery switch must be capable of carrying the load of the OEM batteries. It shall NOT disconnect battery power to the chassis circuits, but only ambulance conversion added circuits.

One (1) A manual disconnect switch is not desired.

**Battery Charger/Converter, Pre-Wire (Type III)**

## **BATTERY CHARGER/CONVERTER PRE-WIRE**

One (1) pre-wire shall be installed to accommodate a battery charger/converter. The wiring shall terminate in the #2 driver's side exterior compartment and shall consist of appropriately sized power and ground leads.

One (1) **Battery Charger/Converter, Iota 30 Amp**

## **BATTERY CHARGER/CONVERTER**

One (1) Iota brand 30 amp battery charger/converter with IQ4 auto-switch shall be provided and mounted in the cab behind the driver's seat. It shall be powered by the shoreline inlet.

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One (1) **Inverter, Prosine 1800W w/ X-fer Switch and Remote Display**  
**INVERTER**

A Prosine brand 1800 watt inverter with internal transfer switch shall be provided and connected to wiring provided in the streetside #2 compartment. It shall be UL listed and wired to power the interior 110 volt receptacles. A remote display panel shall also be provided and installed in the action area.

One (1) **12 Volt Recepts, Cigarette Lighter Style, Two(2)**  
**12 VOLT RECEPTACLES**

The patient compartment shall be supplied with a 12-Volt DC 20 amp service capacity. This circuit must incorporate a Schottky diode or similar device to isolate medical equipment connected to the system.

Two (2) cigar lighter style 12 volt receptacles shall be installed; one (1) in the action area, and one (1) in the curbside front inside/outside (ALS) compartment. They shall be battery hot at all times. The recept shall include a stainless steel face plate and a rubber cap to protect the opening when not in use.

One (1) **Speakers, for AM/FM Radio, One (1) Pair Ceiling Mounted**  
**RADIO SPEAKERS**

A set of speakers for the AM/FM radio shall be provided and mounted in the module ceiling per the attached prints. A volume control switch will be installed in the rear switch console.

One (1) **Clock, Analog, 12V, 2" Dia. w/ Sweep Second Hand ILOS**  
**PATIENT COMPARTMENT CLOCK**

One (1) VDO 12 volt, 2" diameter, backlit analog clock with a sweep second hand shall be provided and mounted in the Action Area.

One (1) **Conduit w/ Pull Wire, 2" OD, Cab To Action Area**  
**CONDUIT WITH PULL WIRE**

A PVC pipe conduit with a maximum outside diameter of 2" and a pull wire shall be provided and routed from behind the driver's seat in the cab to the primary action area. An aluminum diamond plate cover shall be provided to cover the PVC pipe in exterior compartment SS2.

One (1) **110 Volt AC Wiring And Components, Type II and III**  
**110 VOLT AC WIRING AND COMPONENTS**

This vehicle shall be furnished with a two (2) wire plus ground 110 volt AC wiring system completely separate from its 12 volt DC system. It must comply with Article 551 of the National Electrical Code and is to be used for powering maintenance devices, battery chargers, etc. while on standby.

One (1) **Block Heater Switch IATS**  
**BLOCK HEATER SWITCH**

In addition to the breakers indicated above, a house style 110V toggle switch with internal red pilot light and stainless steel face plate shall be installed \_\_\_\_ and wired to control power to the engine block heater. A decal or label shall be affixed to the face plate with the words, BLOCK HEATER clearly visible.

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One (1) **Shoreline, 20A Kussmaul "Auto-Eject"**  
**SHORE POWER**

A Kussmaul "Auto Eject" system inlet, or "shoreline inlet", shall be installed where shown in the attached drawings. It must contain a male inlet connection rated and labeled for 20 amps, be suitable for wet conditions, and be protected by a white spring loaded plastic cover. A properly sized female mating plug must also be provided for connection to this agency's wiring.

To protect this device from arcing during connection or disconnection, a time delay and interrupter device shall be installed.

One (1) **Shoreline, Delay/Interrupter, Kussmaul Dynamic Disconnect**  
**DELAY/INTERRUPTER**

A Kussmaul "Dynamic Disconnect", model #091-18-098 delay/interrupter shall be provided for the non auto-eject shoreline.

One (1) **Shoreline Light, Red LED w/Label**  
**SHORELINE LIGHT**

A red LED shoreline light shall be provided and installed. It shall indicate the shoreline breaker status, "on" when set, "off" when tripped and shall include a 2" long x 1/2" wide red label with white lettering, "SHORELINE POWER". The light shall be mounted \_\_\_\_\_.

One (1) **Inverter, Pre-Wire (Standard)**  
**INVERTER PRE-WIRE**

Wiring will be furnished and installed for an inverter in the streetside #2 compartment. This wiring shall include power and ground feeds as well as system feeds connected to the interior outlets. This wiring shall be suitable for the installation and operation of an inverter, if specified elsewhere or agency supplied.

One (1) **Recepts, 110V AC Hospital Grade Duplexes**  
**110 VOLT RECEPTACLES**

Three (3) hospital grade 110 volt AC duplex receptacles with green internal pilot lights and stainless steel face plates shall be installed in the patient compartment as follows: one (1) in the action area; one (1) in the curbside front inside/outside (ALS) cabinet; one (1) on the streetside wall in the monitor/defibrillator shelf area.

One (1) **Dome lights, 9 Diode LED Eight (8)**

One (1) **Fluorescent Light(s), 36" Thin-Lite #718XL, Two (2)**  
**INTERIOR FLUORESCENT LIGHTING**

Two (2) 36" Thin-Lite Model 718XL - 60 watt dual bulb fluorescent light(s) with prismatic lenses shall be located laterally, as shown in the attached drawings, and recessed in the ceiling headliner so that not more than 1" protrudes. These lights shall operate on the 12 volt DC system and will be capable of being switched simultaneously at the attendant's switch console, and/or individually at each light. Lights which do not utilize the prismatic lenses specified above, will not be acceptable due to lens discoloration potential.

One (1) **Timer, 60 Minute w/o Hold Feature**

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## **TIMER SWITCH**

One (1) Intermatic 60 minute spring wound mechanical timer(s) shall be provided and installed to control the \_\_\_ lights specified above. The timer shall be installed in the curbside wall adjacent to the side entry door.

One (1) **Cabinet Lighting, Surface Mount LED**  
**INTERIOR CABINET LIGHTING**

One (1) multi-diode L.E.D. surface mounted light shall be mounted in each interior cabinet - on the backside of each cabinet face, just above the door opening so that they shine toward the back of the cabinet. Any exposed wiring within the cabinet shall be protected by a plastic raceway fastened in the upper corners of the cabinet as necessary. The lights shall be switched at the rear switch panel.

One (1) **Map Light(s), Gooseneck, Federal Littlite, 12"**  
**GOOSENECK LIGHTS**

One (1) 12" long Federal "Littlite" gooseneck style light(s) shall be provided and mounted front console.

One (1) **Light, Side Entry Stepwell, (1) Recessed 4" 10 diode LED**  
**STEPWELL LIGHTING**

One (1) 3-1/2" recessed, nine diode, LED light with chrome flange cover shall be provided and installed in the left (rear) wall of the side entry stepwell and shall be wired to operate when the side entry door is open.

One (1) **4" Recessed 10 diode LED**

One (1) **Entry Door LED Warning Lights**  
**ENTRY DOOR WARNING LIGHTS / REFLECTORS**

One Red LED light/reflector shall be provided and installed in the lower corner of each module entry door. These lights shall flash whenever the entry doors are open and module power is on.

Three (3) **LED Warning Lights**

One (1) **Action Area Light, Liteco 18" Pulsar Fluorescent**  
**ACTION AREA LIGHTING**

One (1) 18" Liteco Pulsar Series, 12 volt, dual bulb, surface mount fluorescent light shall be mounted in the action area. It will be controlled by a switch in the rear switch panel.

One (1) **Spotlight, Handheld, Optronics "BlueEye", 400,000 CP (Std.)**  
**HANDHELD SPOTLIGHT**

To aid in night operation, one (1) Optronics Blue Eye 400,000 candlepower hand held spotlight with momentary "on" switch shall be provided. This light shall be hard wired to connections installed beneath the passenger's seat base in the cab. This spotlight shall be "shipped loose", but shall include a mounting bracket to allow this agency to mount the light in a location of it's own choosing.

One (1) **Exterior Lighting Requirements - General**  
**EXTERIOR LIGHTING**

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Exterior lighting fixtures shall be corrosion and weather resistant. Fixtures attached to the sides of the ambulance below the 75" level shall be near flush mounted, not protruding more than 2".

Because of this agency's concern for corrosion protection, all exterior lighting shall be attached to the body or chassis using nylon inserts which shall serve to isolate the mounting screws from the aluminum or sheet metal. The holes into which the nylon inserts are placed must be drilled prior to painting the body so that paint protects the edge of the aluminum at each hole. Methods of attaching the light fixtures to the body or chassis that involve the screw coming into direct contact with the aluminum or sheet metal are not desired - even if purported "anti-corrosion" coatings are applied to the mounting screws beforehand.

One (1)

## **DOT Clearance and Marker Lighting (Upper Perimeter Module Walls) - Whelen OS CLEARANCE AND MARKER LIGHTING**

Seven (7) amber LED upper body marker/clearance lights are to be mounted at the extreme upper front and side corners of the module, above the drip rails, in accordance with FMVSS requirements. See attached drawings.

Seven (7) red LED upper body marker/clearance lights are to be mounted at the extreme upper rear and side corners of the module, above the drip rails, in accordance with FMVSS requirements. See attached drawings.

One (1)

## **Corner Lights Feature , (4) Lower Module Corners CORNER LIGHTS**

A group of three marker lights are to be incorporated into an angled recessed area of the four corner extrusions, with the top light being about 22" above the sill line and the two remaining lights each spaced approximately 3" on center below. The lights in the front corners will be amber, the rear corners are to have red lights.

The front group shall be wired as follows:

TOP: marker  
CENTER: turn signal  
BOTTOM: marker

The rear group shall be wired as follows:

TOP: brake  
CENTER: turn signal  
BOTTOM: marker

These marker lights are required because of this agency's concern for increased visibility during all operating conditions at all angles about the vehicle. Because this feature is a construction technique and not a proprietary feature, reflectors or surface mounted clearance lights will not be considered equal.

These lights shall be protected by aluminum diamond plate corner protection plates attached to the corner extrusion with stainless steel screws with butyl tape backing.

One (1)

## **Corner Lights - Whelen OS Series**

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One (1) Lightbar, Front, None Required, 7-Light Pattern, Whel LED Warn.  
FRONT MODULE WALL EXTERIOR LIGHTING

## WARNING LIGHTS

Seven (7) Whelen 900 series L.E.D. flashing lights shall be provided and installed on the upper front wall of the ambulance body, below the drip rail, as per the attached prints.

The lens color (from passenger side to driver's side) will be: Clear / Clear / Clear / Clear \ Clear \ Clear \ Clear.

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Lightbar, Rear, None Required, Whel LED Warn.  
REAR MODULE WALL EXTERIOR LIGHTING

## WARNING LIGHTS

Three (3) Whelen 900 series Super L.E.D. lights shall be provided and installed on the upper front wall of the ambulance body, below the drip rail, as per the attached prints.

## SCENE LIGHTS

Two (2) Whelen 900 series scene lights with tilt optic lenses shall be mounted on the upper rear of the ambulance as shown in the attached drawings.

These lights will be controlled via a switch on the cab console and shall operate whenever the rear entry doors are open and also whenever the chassis is placed in "reverse" gear.

The lens color (from passenger side to driver's side) will be: Red / Scene / Amber \ Scene \ Red

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Amber,LED, Clear Lens,w/o flange

One (1) Whelen,7x9,Red,LED, Clear Lens,w/o flange

One (1) Warn. Light, Rear Mid-Level, Pass. Side, Whel LED  
WARNING LIGHTS - MID-LEVEL

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Two (2) Whelen 900 series Super L.E.D. lights shall be provided and installed on the rear of the ambulance body, positioned to show through the entry door windows as per the attached prints.

The color of these lights shall be Red / Red.

Connected to brake lights, on when brakes are applied

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/o flange**

One (1) **Warn. Light, Rear Mid-Level, Driver Side, Whel LED**  
Connected to brake lights, on when brakes are applied

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/o flange**

One (1) **T/B/T/BU Lights, Whelen,4x6,LED,dual turns,w/f  
STOP, TAIL, TURN AND BACKUP LIGHTING**

## **TAIL/BRAKE**

Two (2) Whelen 600 series Super L.E.D. tail/brake lights with Red lenses shall be installed on the rear of the module as shown in the attached drawings.

## **TURN SIGNAL**

Two (2) Whelen 600 series Super L.E.D. turn signal lights with amber arrow lenses, shall be mounted on the rear of the module as shown in the attached drawings.

Two (2) Whelen 600 series Super L.E.D. turn signal lights with amber arrow lenses, shall be mounted on the front of the module as shown in the attached drawings.

## **BACKUP**

Two (2) Whelen 600 series Super L.E.D. backup lights with clear lenses shall be installed on the rear of the module as shown in the attached drawings.

## **FLANGES**

Eight (8) Whelen chrome plated flange(s) shall be provided and installed on the specified 600 Series lights as indicated in the attached drawings.

One (1) **Warning Light, Whelen**  
Mounted over center Amber LED in rear of vehicle over doors.

One (1) **Interior Brake/Turn Lights, Whelen LED Strip Light**  
**INTERIOR BRAKE AND TURN LIGHTING**

There shall be one (1) Whelen Strip-Lite #PSRASXCR series L.E.D. light mounted over the rear entry doors. It shall be wired in conjunction with the vehicle's brake and turn lighting.

One (1) **CS Warning Lights Spec Verbage, Whel LED , dual scene**  
**CURBSIDE MODULE WALL EXTERIOR LIGHTING**

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## **WARNING LIGHTS**

Two (2) Whelen 900 series Super L.E.D. lights shall be provided and installed on the upper curbside wall of the ambulance body, below the drip rail, as per the attached prints.

## **SCENE LIGHTS**

Two (2) Whelen 900 series scene lights with tilt optic lenses shall be mounted on the upper curbside of the ambulance as shown in the attached drawings.

These lights will be controlled via a switch on the cab console and shall operate whenever the side entry doors are open.

The lens color (from passenger side to driver's side) will be: Red / Scene / Scene / Red

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/ flange**

One (1) **SS Warning Lights Spec Verbage, Whel LED , dual scene  
STREETSIDE MODULE WALL EXTERIOR LIGHTING**

## **WARNING LIGHTS**

Two (2) Whelen 900 series Super L.E.D. lights shall be provided and installed on the upper streetside wall of the ambulance body, below the drip rail, as per the attached prints.

## **SCENE LIGHTS**

Two (2) Whelen 900 series scene lights with tilt optic lenses shall be mounted on the upper streetside of the ambulance as shown in the attached drawings.

These lights will be controlled via a switch on the cab console and shall operate whenever the side entry doors are open.

The lens color (from passenger side to driver's side) will be: Red / Scene / Scene / Red

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,7x9,Red,LED, Clear Lens,w/ flange**

One (1) **Whelen,3x7,Red,LED, Clear Lens,w/ flange**

One (1) **Compartment light attached to DS wheel well light  
Driver side Wheel Well Compartment Exterior Light**

A LED light shall be mounted on the wheel well LED flange facing down into wheel well compartment. Shall be activated when compartment door is opened.

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One (1) **Headlight Flasher, Sound Off ETHFSS-SP (Multi-Pattern)**  
**HEADLIGHT FLASHER**

A Sound Off, model #ETHFSS-SP solid state headlight flasher with multi-pattern 1.9 to 3.6 flashes per second shall be provided to flash the chassis headlights. The flasher will be controlled via a switch in the cab console labeled: WIG WAGS

Eighteen (18) **Compartment Lights, Whelen Strip Lighting**  
**COMPARTMENT LIGHTING**

Two(2) WHELEN strip Light LED light shall be mounted in each exterior lower storage compartment. Four (4) WHELEN strip light LED mounted in each exterior full height compartment. All lights shall be mounted vertically in each compartment. The lights shall operate whenever the compartment door is open and the battery disconnect switch is on.

Eighteen (18) **Whelen Strip Lighting**

Two (2) **Running Board Light, LED, (1) Pair 4" Recessed**  
**RUNNING BOARD LIGHTS**

One (1) 4" diameter LED light with clear lens and recess mount black plastic flange shall be installed on each side of the lower front module wall to illuminate the cab running boards when the cab doors are open.

One (1) **Back-up Alarm, 97 dBa (Standard)**  
**BACK-UP ALARM**

A solid state back-up alarm capable of sounding an alarm of at least 90 decibels shall be installed so that when the chassis gear selector is placed in "Reverse", it will automatically activate. The alarm must be able to be momentarily shut off via a switch located on the driver's switch console. However, the alarm must reset automatically so that it will sound again when reverse gear is selected.

One (1) **Siren, Whelen 295HFSA7 (floor mount consoles)**  
**SIREN**

A Whelen #295HFSA7 siren shall be installed in the console located in the cab. It shall be wired so that it will operate when the Ignition switch is "On". The siren shall be capable of powering (2) 100 amp speakers.

One (1) **Antenna Bases, Coaxes, Power and Ground Wires (BGDR)**  
**ANTENNA BASE, COAX and POWER/GROUND WIRES**

One (1) Motorola style antenna bases shall be provided and mounted mid-line of the module roof. They shall include shielded coax cables with PL-259 connectors which will both terminate behind the driver's seat with enough pig-tail to reach to the dash area if necessary.

The roof (top) next to each base, and the connector end, shall be labeled ANT #1 and ANT #2 to allow quick identification when installing and testing this agency's radios.

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In addition to the antenna coaxes, two (2) 10 gauge Red power wires and two (2) 10 gauge Black ground wires shall also terminate behind the driver's seat. These wires will also be provided with enough pig-tail to allow extension to the dash area. Each power wire shall be protected by a 50A (minimum) breaker or fuse.

Two (2)

## Antenna Coax

Two (2)

## Antenna Power and Ground

One (1)

## Back-Up Camera System - Weldon V-Mux BACK-UP CAMERA SYSTEM

A backup camera system shall be provided and installed to aid the driver in safely maneuvering and positioning the ambulance. The system shall consist of a high resolution color camera mounted on the rear of the ambulance and the V-Mux monitor in the cab will show the cameras picture . The system shall only operate when the chassis is in reverse gear.

One (1)

## Heat / AC, Pro Air Ducted Combo System HEATING AND AIR CONDITIONING

Heating and air conditioning for the patient compartment will be provided by a combination heat/ac unit.

The heater portion will have a BTUH capacity of 35,000, the air conditioner will have a BTUH capacity of 32,000. A three-speed blower fan capable of 650 CFM on the highest setting will be included.

To reduce the potential for condensate leakage, dual 3/8" ID drain hoses shall be installed on the AC drain pan. The drain hoses shall terminate below and outside the ambulance body.

The combo system shall be provided with an electrically controlled water shutoff valve which shall close to stop the flow of hot water to the heater whenever the air conditioning is operating.

The combo heat/air conditioning unit shall be installed as indicated in the attached prints and shall be ducted along the centerline of the patient compartment ceiling, on either side of the center wiring chase. An insulated collector box shall be mounted directly to the heat/AC unit with a total of eight (8) separate outputs. Each output shall be connected to a 2" diameter plastic flexible duct run installed above the ceiling, and be connected to a single heat/AC vent mounted in the ceiling headliner. A total of eight (8) of these round low-profile adjustable vents shall be installed in the ceiling as indicated in the attached drawings. Each vent shall swivel 360 degrees to direct air flow as needed, and each shall have the ability to close and restrict the air flow from that vent up to 90% of capacity. The system shall be capable of providing in excess of 80 percent of the total air flow capability of the blower fan.

It is important that this feature be installed entirely above the ceiling level, except for the low profile vents, so that headroom height is not affected. Designs that require the ductwork be installed in only one side of the patient compartment or below the ceiling level are not desired by this Agency.

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The return air shall be ducted from the floor level via ductwork built into the side face of the passenger side front wall cabinetry. The entire system shall be sealed to prevent the intake of outside air. A closed system is desired to maximize interior circulation, thereby providing a uniform distribution of conditioned air throughout the module interior.

One (1) **Insulation Enhancement, Temp-Coat Ceramic Spray Ducted A/C  
INSULATION ENHANCEMENT COATING**

Temp-Coat insulating liquid coating shall be sprayed in the roof area occupied by the Heat - A/C ducting. The coating will consist of a mixture of silicas and ceramic beads emersed in high quality latex base with Acrylic binders.

Temp-Coat will be sprayed to a thickness of approximately 30 mils. and will add to the overall thermal performance of the specified insulation - adding thermal resistance approximately equal to R-20 in radiant heat testing.

One (1) **Heat / AC, Combo System Installed Above Walk/Pass-Thru**

One (1) **No thermostat required on VMux system**

One (1) **Exhaust Fans, Dual 12V Blowers (Standard)  
EXHAUST FANS**

The patient compartment of this ambulance will be ventilated with fresh outside air via two (2) static intake vents and two (2) power exhaust vents. The system shall be capable of completely exchanging the air volume within the patient compartment every two (2) minutes. The location of the intake and exhaust vents shall be as indicated in the attached drawings.

One (1) **Entry Doors Liners, Full Length Design**

One (1) **Entry Doors, Full Length Liners, Aluminum w/ Multispec Face  
ENTRY DOOR LINERS**

The entry doors shall be finished using .090" smooth aluminum covered with multispec coating. The liner shall be secured to the inside of the entry doors using black oxide or stainless steel screws and finish washers.

One (1) **Multispec Color: White Sand MS99-6053**

Three (3) **Entry Door Grab Bars, 1.25" S/S, 45° "V" Style  
ENTRY DOOR GRAB BARS**

A 1.25" diameter stainless steel grab bar with 45 degree "V"-style bend shall be provided and installed on the inside of each entry door, as shown in the attached drawings.

One (1) **Grab Bar, Above Cot, 1.25" x 96" Stainless Steel (STD)  
GRAB BAR ABOVE COT**

One (1) 1.25" diameter x 96" long stainless steel grab bar shall be provided and installed on the ceiling above the primary cot per the attached prints. The grab bar will include at least one (1) welded intermediate stanchion and all fastening points shall fall on roof tubes or backer plates for added strength and support.

One (1) **Grab Bar, Above Squad Bench, 1.25" x 72" Stainless Steel**

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## **GRAB BAR**

One (1) stainless steel grab bar shall be provided and ceiling mounted above the squad bench per the attached prints. It shall be 1.25" diameter x 72" long with (1) welded center - all fastening points must fall on roof structure or backer plates welded to roof structure.

One (1)

**Upholstery, Seamless Vinyl, Solid Color (Standard)**

## **UPHOLSTERY**

All vinyl upholstery shall be a minimum of 60 mil. thick, suitable for seamless seating and shall be applied over high density foam. For seat cushions, the foam must be 2" thick. For back and head rests, it shall be 2" thick.

Because of this agency's concern for reducing the exposure of stitched seams to fluid borne pathogens - all seat cushions, back, arm, head rests and header pads shall be seamless design. Designs using piping, welts, stitched seams, or heat sealed joints to join upholstery panels is not acceptable. Each cushion shall be backed by 1/4" laminated wood.

All upholstery must be easily removable to facilitate cleaning in case of contamination.

One (1)

**Upholstery Color, Gunmetal**

The upholstery color shall be "Gunmetal"

One (1)

**Seat Cushions Attached To Seat Bases With Velcro ILOS**

## **SEAT CUSHION ATTACHMENT**

To further aid in easy removal for cleaning and disinfecting, all seat cushions shall be attached to seat bases using Velcro or 3M Dual-Lock fastening systems.

One (1)

**Padded Vinyl Trim (Standard)**

## **PADDED TRIM**

To mitigate injury to passengers, trim pieces consisting of 1/4" plywood covered with 1/4" high density foam and wrapped with heavy duty vinyl to match seating upholstery will be installed:

A. At the vertical outside corner of the cabinet forward of the attendant seat

B. At the upper horizontal and vertical corners above the action area

C. At the upper horizontal and vertical corners above the defibrillator shelf

One (1)

**Flooring, Lon Seal "Lon Plate II"**

## **FLOORING**

The finish flooring shall be one (1) piece, heavy duty commercial grade vinyl with an integral diamond tread pattern for slip resistance (Lon Seal Lon Plate II), permanently adhered to the sub-floor.

Because of this agency's concern for ease of cleaning and decontamination (when necessary), where the floor and the streetside cabinet riser meet the flooring material must be rolled-up into a 3" high by 1/4" deep recess built into the base of the riser. A continuous bead of clear silicone caulk must be used to seal the edge of the flooring at the top of the recessed cove.

One (1)

**Flooring Color, "Lon Plate II", Gunmetal #424**

The flooring color shall be Gunmetal #424.

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One (1) **Floor Sill Plates, Brushed Stainless Steel (Standard)**  
**ENTRY DOOR SILL PLATES**

20 ga. brushed stainless steel plates shall be provided and installed as follows:

**A.** Just inside the rear patient compartment entry doors at the floor. The plate shall extend from the door sill into the patient compartment approximately 3".

**B.** At the side entry stepwell / floor transition. The sill plates shall be formed to trim the edge of the floor cutout around the side entry stepwell structure. The width of these plates shall be apx. 2".

Sill plates shall be fastened using stainless steel screws countersunk flush with the surface. Additionally, clear silicone sealant shall be used to seal the plates to the flooring to prevent accumulation of fluids beneath.

One (1) **Console, Cab, Type III Chevy Floor Mount**  
**DRIVER'S CONTROL CONSOLE**

The driver's control console shall be constructed of 1/2" plywood, covered with Gray non-padded vinyl to compliment the cab interior, and located so as not to interfere with any OEM dash features such as radio/climate controls, etc. The top face must be 1/4" black Kydex or ABS material and be hinged to allow easy access to electrical components within the console. All corners must be free of sharp edges and the console must be fastened to the cab floor in a manner so as to allow for quick and easy removal for access to components below.

In addition to the driver's switch panel, this console shall house ammeter, voltmeter, and engine hour meters. It shall also house an electronic siren as well as allowing room for the subsequent mounting of this agency's mobile radio(s).

One (1) **Attendant's Seat, EVS Hi-Back Child Safety (Seamless)**  
**ATTENDANT'S SEAT**

A high back, rear facing automotive style attendant's seat shall be provided and installed adjacent to the Action Area. It shall be an EVS brand "Safety Seat". It shall feature seamless vinyl and will incorporate a child safety seat into the design. A lap style seat belt buckle and retractor shall be provided and attached to the seat base.

One (1) **Attendant's Seat Base, EVS Swivel**  
**ATTENDANT'S SEAT BASE**

An EVS brand swivel seat base shall be provided for the rear facing attendant's seat. The assembly shall be bolted to the floor through mounting plates welded into the floor structural tubing.

One (1) **Interior Cabinetry, Alum. Structure Brigadier**

One (1) **Multispec Color: Greystone MS99-6072**

One (1) **Headliner, Patient Compartment, Aluminum**  
**CEILING HEADLINER**

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The ceiling will be finished with white aluminum panels. Any seams shall be trimmed to prevent sagging and provide a clean attractive appearance. The ceiling panel shall be mechanically attached to the roof structure but all fasteners shall be hidden.

The use of un-backed fiberglass headliner materials will not be acceptable due to their potential for cracking and spalling. Along the longitudinal center of the ceiling, a padded cover shall be installed to close-off the electrical wiring chase. It must be covered with vinyl to match the upholstery.

One (1) **Electrical (J-Box) - Standard Configuration**  
**ELECTRICAL (J-BOX) CABINET**

The Electrical (J-Box) cabinet will be located at the left front corner of the ambulance interior. It will be designed to house the primary components of the module electrical systems, both 12VDC and 110VAC. The cabinet will be configured as indicated in the attached drawings.

One (1) **ALS Cabinet - Custom Configuration ILOS**  
**ALS CABINET**

The ALS cabinet will be located at the right front corner of the ambulance interior. It will feature interior as well as exterior access to storage areas. The cabinet will be configured as indicated in the attached drawings.

**SEE DRAWINGS AND PICTURES**

One (1) **Glove Box Cabinet, Three Hole Design Above Side Entry**  
**GLOVE BOX CABINET**

A cabinet shall be built and installed above the side entry door to house three boxes of protective gloves. The cabinet shall have a single, clear Plexiglas door with three oval cutouts to allow gloves to be removed without opening the door.

The bottom edge of the glove box shall be covered by padded vinyl trim to protect occupants.

One (1) **Squad Bench Base, Aluminum Construction (no wood) B**  
**SQUAD BENCH BASE**

The squad bench base structure shall be a framework constructed of aluminum tubes welded together and to the floor and wall framing. It shall be apx. 16.75" high x 20" deep x length shown in the prints.

Covering the aluminum framework will be 1/4" plywood with commercial high pressure plastic laminate on the outside face. Three (3) sets of seat belts with automatic retractors shall be installed to serve three (3) seated persons, or one (1) secondary stretcher or backboard.

One (1) **Scuff Plate, Brushed S/S, Squad Bench Riser, Isle**  
**SCUFF PLATE - ISLE SIDE OF SQUAD BENCH**

A 20 ga. brushed stainless steel scuff protection plate shall be provided and installed on the squad bench riser. The squad bench riser will also incorporate a 3" recessed floor cove feature

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at its base. The stainless steel overlay will protect the squad bench riser above the floor cove feature and must be bonded to the riser - no screws are to be used.

- One (1) **Floor Cove, 3" Recessed at Squad Bench Riser**  
**FLOOR COVE AT SQUAD BENCH RISER**

The base of the squad bench riser shall feature a 3" high recessed cove area which will allow the flooring material to be rolled up, aiding in cleaning and disinfecting.

- One (1) **Scuff Plate, Swirled S/S, Squad Bench Riser, Front End**  
**SCUFF PLATE - FRONT END OF SQUAD BENCH**

A stainless steel scuff protection plate with machine applied swirl finish shall be provided and installed, full height on the front end of the squad bench. The material is to be bonded to the riser - no screws are to be used.

- One (1) **Scuff Plate, Swirled S/S, Squad Bench Riser, Rear End**  
**SCUFF PLATE - REAR END OF SQUAD BENCH**

A stainless steel scuff protection plate with machine applied swirl finish shall be provided and installed on the rear of the squad bench to help prevent damage. The material is to be bonded to the riser - no screws are to be used.

- One (1) **Squad Bench Lid, Single, Aluminum**  
**SQUAD BENCH LID**

The squad bench lid shall be constructed entirely of aluminum - no wood is to be used. 1/2" x 1 1/2" aluminum tubing shall be welded together to form a ladder frame style structure to which .090" aluminum with commercial grade plastic laminate is to be bonded.

The lid will be hinged along the back of the bench with a stainless steel continuous (piano) hinge. It shall have two (2) gas charged strut hold open devices installed underneath. A stainless steel paddle handle latch, mounted on the squad bench riser, shall provide a positive latch point to prevent the bench lid from opening in the event of an accident.

- One (1) **Squad Bench Interior, Aluminum Insert**  
**SQUAD BENCH INTERIOR LINING**

The area beneath the squad bench shall have an smooth aluminum insert installed. The inner portion of the insert must be finished with a white baked enamel coating.

- One (1) **Sharps Disposal, Recessed At Head Of Squad Bench IATS**  
**SHARPS DISPOSAL AT HEAD OF SQUAD BENCH**

A 4" sharps drop shall be provided in the squad bench lid. The opening shall align with a sharps container (specified elsewhere in this specification) installed beneath the bench lid. The opening shall be covered with a hinged 1/4" thick Red Plexiglas door. A vinyl biohazard sticker shall be applied to the Plexiglas door in accordance with OSHA regulations.

- One (1) **Trash Disposal, Recessed At Head Of Squad Bench IATS**  
**TRASH DISPOSAL AT HEAD OF SQUAD BENCH**

A 6" sharps drop shall be provided in the squad bench lid. The opening shall align with a 2 gallon sharps container installed beneath the bench lid. The opening shall be covered with a

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hinged 1/4" thick Red Plexiglas door. A vinyl biohazard sticker shall be applied to the Plexiglas door in accordance with OSHA regulations.

One (1)

**Portable O2 Storage, Recessed Under Head Of Squad Bench**

**PORTABLE OXYGEN CYLINDER STORAGE UNDER HEAD OF SQUAD BENCH**

A provision to allow the storage of two (2) portable "D" size oxygen cylinders shall be installed under the head of the squad bench. This feature shall be fabricated from .125" polished aluminum tread plate and shall be a seamless extension of the side entry stepwell. Two (2) portable oxygen cylinder storage brackets, specified elsewhere in this document, shall be secured in this storage area to hold this agency's portable oxygen cylinders.

One (1)

**Squad Bench Arm Rest, "Bennington Crash Barrier"**

**SQUAD BENCH ARM REST**

A "Bennington Crash Barrier" armrest with padded cross bars shall be provided and installed at the forward end of the squad bench. The base of the Bennington Barrier will be bolted through the fixed end cap of the squad bench. The top of the Bennington Barrier will be bolted to backer plates welded into the ceiling structure. These plates are to be drilled and tapped for thread cutter bolts.

One (1)

**Post and Wheel Cups (Shipped loose)**

**POST AND WHEEL CUPS**

Post and wheel cups to hold a Ferno Washington Model 11 stretcher shall be supplied and shipped loose for installation by this agency.

One (1)

**Cabinet Above Squad Bench**

**CABINET ABOVE SQUAD BENCH**

A cabinet shall be provided on the upper curbside wall above the squad bench. It shall be sized and shall have openings as indicated in the attached drawings. The bottom of this cabinet shall have vinyl wrapped high density foam padding to protect occupants.

One (1)

**Dry Erase Board Installed**

**DRY ERASE BOARD**

A dry erase board shall be provided and shall be installed on the curbside wall above the squad bench.

One (1)

**Cabinet Above Rear Doors IATS**

**CABINET ABOVE REAR ENTRY DOORS**

A cabinet shall be provided on the upper rear wall above the entry doors. It shall be sized and shall have openings as indicated in the attached drawings. The bottom of this cabinet shall have vinyl wrapped high density foam padding to protect occupants.

One (1)

**Streetside Cabinetry - Custom Configuration**

**STREETSIDE CABINETRY**

The Streetside cabinetry will be configured as indicated in the attached drawings.

One (1)

**Glove Box Cabinet IATS, Three Hole Design Lower Streetside**

**GLOVE BOX CABINET**

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A cabinet shall be installed in the lower rear streetside cabinet wall to house three boxes of protective gloves. It shall have a single, clear Plexiglas door with three oval cutouts to allow gloves to be removed without opening the door.

One (1) **Scuff Plate IATS, Swirled S/S, Lower Streetside Cabinet Wall**  
**SCUFF PROTECTION PLATES - STREET SIDE**

A stainless steel scuff protection plate with machine applied swirl finish shall be provided and installed on the lower street side cabinets, 8" high overlay, to help prevent damage. The material is to be bonded to the cabinet face - no screws are to be used.

One (1) **CPR Seat Interior, Aluminum Insert**  
**CPR SEAT INTERIOR LINING**

The area beneath the CPR seat shall have an .060" smooth aluminum insert installed. The inner portion of the insert must be finished with a white baked enamel coating. The outside of the insert must be sprayed with automotive water based rustproofing to serve as a sound attenuator.

One (1) **Embossed Rubber Liner Under CPR Seat IATS**  
**CPR SEAT INTERIOR LINING**

A black rubber liner material with embossed pebbled pattern shall be installed on the floor of the storage space beneath the CPR seat.

One (1) **Cabinet Above CPR Seat**  
**CABINET ABOVE CPR SEAT**

A cabinet shall be provided on the upper streetside wall above the CPR seat. It shall be sized and shall have an opening as indicated in the attached drawings. The bottom of this cabinet shall have vinyl wrapped high density foam padding to protect occupants.

One (1) **Countertop, Action Area, Solid Surface Material**  
**ACTION AREA COUNTERTOP**

A solid surface material countertop, meeting or exceeding Corian specifications, shall be installed in the Action Area shelf. All edges of the countertop will have 1/2" high lips. The back and side edges shall be sealed to the cabinetry using appropriate caulking material.

One (1) **Solid Surface Countertop Color - Midnight**

The solid surface countertop color shall be Light Grey Granite.

One (1) **Countertop, Monitor/Defib, Solid Surface Material**  
**MONITOR / DEFIB COUNTERTOP**

A solid surface countertop material, meeting or exceeding Corian specifications, shall be installed in the monitor/defibrillator counter area. All edges of the countertop will have 1/2" high lips. The back and side edges shall be sealed to the cabinetry using appropriate caulking material.

One (1) **Pull-Out Drawer Under AA w/ Flip-up Plexi Writing Surface**  
**CABINET DRAWER**

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A pullout drawer with hinged flip-up Plexiglas writing surface will be installed under the Action Area as indicated in the attached drawings. The interior dimensions of the drawer shall measure 14" wide x 15" deep x 3.75" high. It shall have 130 lb. capacity Accuride full extension ball bearing slides and a Southco round plastic latch. The edge of the drawer face is to be finished w/ 1/2" satin anodized aluminum edge trim.

A diamond plate cover shall be fabricated and installed in the streetside #2 compartment to cover the back side of the drawer cabinet.

One (1)

**Sharps Disposal, Recessed Under Action Area**  
**SHARPS DISPOSAL RECESSED UNDER ACTION AREA**

A 4" sharps drop shall be provided in the action area counter. The opening shall align with a sharps container (specified elsewhere in this specification) installed in a sub-compartment inside the streetside #2 compartment. The opening shall be covered with a hinged 1/4" thick Red Plexiglas door. A vinyl biohazard sticker shall be applied to the Plexiglas door in accordance with OSHA regulations.

One (1)

**Trash Disposal, Recessed Under Action Area**  
**TRASH DISPOSAL RECESSED UNDER ACTION AREA**

A 6" sharps drop shall be provided in the action area counter. The opening shall align with a trash container (specified elsewhere in this specification) installed in a sub-compartment inside the streetside #2 compartment. The opening shall be covered with a hinged 1/4" thick Red Plexiglas door. A vinyl biohazard sticker shall be applied to the Plexiglas door in accordance with OSHA regulations.

One (1)

**Locking Drug Box Cabinet IATS**  
**LOCKING DRUG BOX CABINET**

A cabinet designed to house this agency's drug box shall be provided where indicated in the attached drawings.

One (1)

**Inside Access to Exterior Compartment IATS**  
**INSIDE ACCESS TO EXTERIOR COMPARTMENT**

Access to the CS Rear compartment from the inside of the ambulance shall be provided - as indicated in the attached drawings.

One (1)

**Cabinet Shelves, .125" Aluminum**  
**INTERIOR CABINET SHELVING - .125" ALUMINUM**

All interior cabinet shelves shall be constructed of .125" smooth aluminum with "DA" finish and black embossed rubber glued to each shelf floor. The front and back edges will be bent up to form a 3/4" high lip to help retain items placed on the shelf. The front edge will be capped with a black push-on molding.

One (1)

**Cabinet Shelf Track, Unistrut Aluminum**  
**ADJUSTABLE SHELF TRACK**

Four (4) Unistrut #P7000EA extruded aluminum channels shall be fastened to the inside of each cabinet. Shelves will be supported using aluminum angle clips that fasten to the shelf tracks

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with a #10-24 machine screw and spring backed channel nut designed to slide within the channel slot.

One (1)

**Cabinet Doors, General (Korlyte)**  
**CABINET DOORS**

Cabinet doors shall be as indicated in the attached drawings.

Sliding Plexiglas doors will be mounted in rubber/felt lined satin anodized aluminum tracks. The doors shall slide easily but with enough resistance to prevent inadvertent opening while the ambulance is in motion. The rubber/felt track liners must be replaceable.

The leading edge of each sliding door shall have a full height extruded aluminum pull handle applied to the Plexiglas using a permanent adhesive. Screwing or bolting the handles in-place will not be acceptable since doing so has proven to lead to premature failure of the Plexiglas. Likewise, finger holes will not be acceptable due to the potential for injury to ambulance personnel.

Hinged doors will be fabricated from white 10mm thick Korlyte composite plastic with .090" powder coated aluminum bonded to the outside of material.

All hinged Korlyte doors will have bright finished "piano" hinges and black plastic Southco M1 flush pull latches. The edges of the door panels are to be finished w/ satin anodized aluminum edge trim.

Korlyte picture frame style doors will be constructed as noted above and shall have 3/8" thick Plexiglas vision inserts. The doors shall have bright finished "piano" hinges. The edges of the door panels are to be finished w/ satin anodized aluminum edge trim.

One (1)

**Plexiglas Color, Bronze**  
**PLEXIGLAS COLOR**

Plexiglas cabinet doors/windows will be Bronze #2404.

One (1)

**Door/Drawer Latch, Southco M1 S/S - Non-Locking**  
**CABINET DOOR LATCHES - NON-LOCKING**

One (1) polished stainless steel non-locking Southco M1 Series flush pull latch(es) shall be installed in cabinet doors as indicated in the attached drawings.

Three (3)

**Door/Drawer Lock, Keyed Tumbler IATS**  
**CABINET DOOR LOCK**

Three (3) chrome plated keyed tumbler lock(s) shall be installed in cabinet doors as indicated in the attached drawings. F3 F4 F5

One (1)

**Oxygen System - General**  
**OXYGEN SYSTEM**

This ambulance shall incorporate an on-board piped medical oxygen system in accordance with the guidelines put forth in KKK-A-1822, as currently amended.

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The system shall consist of a supply cylinder (when indicated below), low pressure, electrically conductive (green) hose approved for medical oxygen, and self-sealing oxygen outlets as indicated below. Industrial or welding oxygen hose is not acceptable. Medical certified hose and components must be utilized throughout.

- One (1) **On-Board Oxygen Regulator, Manual, 50 psi**  
**OXYGEN REGULATOR**

One (1) oxygen regulator(s) shall be provided and attached to the oxygen supply hose(s) provided. The regulator shall feature a chrome plated brass body with all brass high-pressure chamber, 3,000 psi maximum inlet pressure, internal reseating relief valve protecting against overpressurization, 2" diameter gauge, foreign matter filter, neoprene diaphragm, DISS outlet, CGA-540 nut and nipple and UL listing.

- One (1) **On-Board Oxygen Cylinder Bracket, "M" Size (Standard)**  
**OXYGEN CYLINDER BRACKETS**

There shall be two (2) stainless steel hinged strap style brackets, one (1) stainless steel bolt-down base plate and one (1) nylon web style neck strap provided to secure an "M" size oxygen cylinder in the designated compartment.

All strap brackets shall be bolted through the compartment wall structure using steel reinforcing plates and welded threaded studs. Screws are not acceptable for attaching these straps to the compartment walls.

Mounted in front SS compartment

- One (1) **Oxygen Cylinder Wrench (Standard)**  
**OXYGEN CYLINDER WRENCH**

A cast aluminum oxygen cylinder wrench shall be supplied and tethered to the compartment wall next to the oxygen cylinder brackets.

- One (1) **Portable Oxygen Cylinder Bracket, Ferno #520 (Double)**  
**PORTABLE OXYGEN CYLINDER STORAGE BRACKETS**

One (1) Ferno-Washington #520 bracket shall be provided and installed to secure two (2) D or E size portable oxygen cylinders. The bracket will be mounted \_\_\_\_\_.

- One (1) **Oxygen Outlets, Ohio Style Quick Disconnect**  
**OXYGEN OUTLETS**

Three (3) self sealing Ohio style quick disconnect oxygen outlets will be installed, two (2) in the action area and one (1) on recessed in the cabinet above the squad bench, as shown in the drawings.

- One (1) **Vacuum System, Self Contained, Impact 324K ILOS**  
**VACUUM SYSTEM - SELF CONTAINED**

An Impact 324K self-contained vacuum system shall be installed in the action area per the attached drawings. It shall include a vacuum pump, regulator, gauge, disposable 1200 ml

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cannister, 5 feet of suction hose, 3 feet of exhaust hose and Operators Manual. A semi-rigid pharyngeal suction tip and an additional 10 feet of clear plastic tubing will also be included.

One (1) **IV Hangers, Cast Products Recessed in Ceiling (Standard)**  
**IV HANGERS**

Two (2) Cast Products recessed aluminum fold down IV hangers shall be installed on the ceiling where indicated in the attached drawings. They must have rubber fold-down safety arms with Velcro straps. The base must be anchored to mounting plates welded to the roof structure.

One (1) **Cot Fastener, Stryker 6370 Single Position**  
**COT FASTENING SYSTEM**

A Stryker Model #6370 floor mount cot fastener shall be mounted in the ambulance (center position) to accept the cot designated by this agency. The mounting brackets shall be bolted through reinforcement plates in the floor structure. NOTE: Stryker cot mounts are not to be used with other manufacturers cots.

One (1) **Decals, K-Spec Lettering (Shipped Loose)**  
**K-SPEC LETTERING**

Lettering for this ambulance will be die cut reflective blue with a 1/4" border of reflective white. Each letter shall be made of self adhesive automotive premium grade vinyl decal material. All lettering shall be shipped loose for later installation by this agency. Lettering shall be as follows:

One (1) 4" high, Helvetica font, mirror image: AMBULANCE

Three (3) 6" high, Helvetica font: AMBULANCE

One (1) **Decals, Star-of-Life Package (Shipped Loose)**  
**STAR-OF-LIFE DECALS**

K-Spec decals for this ambulance shall consist of Star-of-Life insignias made of die cut self adhesive premium automotive grade vinyl decal material. Colors shall be blue reflective (to match lettering) with a 1/4" white reflective border.

They will be sized as indicated: two (2) 6"; two (2) 12"; two (2) 16", and one (1) 32".

The 32" Star-of-Life will not have the "Snake and Staff" insignia. All decals described above shall be shipped loose for later installation by this agency.

One (1) **Decals, Custom Logo {Quote}**  
**CUSTOM LOGO DECALS**

MARQUE custom logo decals shall be provided and installed on the ambulance as indicated in the attached drawings. The decals shall consist of die cut, self adhesive, premium automotive grade, vinyl decal material.

One (1) **Decals, "Marque" Logo**

One (1) **Paint, Module, PPG - White (Standard)**  
**BODY PAINT**

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Entire bare metal body surfaces to be painted shall be cleaned using DX436 wax & grease remover. All visible welds will be ground smooth prior to a complete dual action sanding, followed by re-cleaning with DX436 wax & grease remover. Then the entire surface shall be sprayed with F3963 Etching Primer which exhibits very good adhesion and corrosion resistance. F3980 a Low VOC, high build primer surfacer will then be applied directly over the etch primer. After allowing the F3980 primer surfacer to air dry, the entire unit will be sanded using dual action sanders leaving a very smooth surface to be painted.

The paint applied to the ambulance shall be PPG Industries Delfleet® Evolution brand, applied throughout a multi-step process including two coats of each basecoat color and clearcoat finish.

Special attention will be given to proper application of coatings according to the specified film build (wet and dry) recommendations of PPG. Product or technical data bulletins should be consulted for any needed information above that which has been outlined herein. All paint materials shall be prepared and applied in accordance with this specification and the paint manufacturer's latest written recommendation prior to paint application.

The coating shall be baked or air-dried. The coatings shall provide full gloss when finished curing and must be suitable for application by conventional pressure air atomizing spray.

Body panels and sub-frame area which cannot be painted after assembly shall be pre-primed and painted prior to main painting process.

The coatings shall not contain lead, cadmium or arsenic. The polyisocyanate component shall consist of only aliphatic isocyanates, with no portion being aromatic isocyanate in character. The solvents used in all components and products shall not contain ethylene glycol, mono-ethyl ethers, or their acetates (commercially recognized as cellosolves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse health effects or present any unusual hazard to personnel when used according to manufacturer's recommendations for handling and proper protective safety equipment, and for its intended use.

The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the course of the bid.

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA "Material Data Safety Sheet".

The following documents of the issue in effect on the date of the invitation to quote form a part of this document to the extent specified herein:

Federal Standards: Number 141 A and 141 B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

Military Standard: MIL-C 83486B Coating, Urethane, Aliphatic Isocyanate, for Aerospace applications.  
Industry Methods. and Standards: ASTM Method of Analysis (American Society for-testing and Materials).  
BMS 10-72A (Boeing Material Specifications).

**Stretcher Strap, Exterior Compartment (Standard)**  
**STRETCHER STRAP**

One (1)

An adjustable nylon web tie down strap with seat belt style connectors will be installed against the back wall of a designated compartment for securing short boards, folding stretchers, or stair chairs. The strap shall be secured to the compartment wall with two (2) footmans loops.

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One (1)

**Interior Safety Signs (Standard)**  
**INTERIOR SAFETY SIGNAGE**

Two (2) signs with the verbiage: "NO SMOKING - OXYGEN EQUIPPED" shall be installed in the vehicle. One (1) will be installed adjacent to the attendant's switch console, and the other shall be installed in a conspicuous location the cab.

Two (2) signs with the verbiage: "FASTEN SEAT BELTS" shall be installed in the vehicle. One (1) shall be installed in a conspicuous location in the patient compartment and one (1) shall be installed in a conspicuous location in the cab.

One (1)

**Fire Extinguisher(s), 5# ABC with Surface Mount Brkt.**  
**FIRE EXTINGUISHER**

One (1) Amerex (or equal) 5# ABC (3A:40BC:C UL rating) dry chemical fire extinguisher(s) will be provided and installed \_\_\_\_\_.

A universal fire extinguisher bracket shall also be installed for each extinguisher to provide crash stable storage and to allow this agency to mount various makes of fire extinguishers without changing brackets.

The universal bracket shall be made of a steel back plate with scratch resistant polyurethane enamel coating. Rubber grommets on the bracket shall serve to cushion the fire extinguisher.

Rubberized cords shall be utilized to secure the extinguisher to the bracket. The cords must be capable of left or right side release and shall remain flexible in extreme temperatures.

One (1)

**Owner's Manual / Equipment Packet / OEM Manual**  
**OWNER'S MANUALS**

The chassis manufacturer's operating and warranty manuals will be turned over to this agency upon delivery and acceptance.

A reference handbook, in a three-ring binder, providing guidelines for the operation, care, and maintenance of systems or components found in/on this ambulance will also be given to this agency at delivery and acceptance. This booklet will also contain: the name, address and phone number of the manufacturer; general, paint, structural and electrical system warranty statements; drawings of this vehicle; electrical system information and schematics; copies of the completed pre-delivery check-off sheet; any other pertinent information applying to the proper and safe operation of this vehicle.

One (1)

**Warranty, Ambulance Module Structure, Twenty (20) Years**  
**MODULE STRUCTURAL WARRANTY**

The warranty terms on the ambulance module structure shall be for a term of twenty (20) years and shall be transferable to subsequent owners. So called "lifetime" warranties are not acceptable unless they specifically identify in the warranty that they will be valid for at least twenty (20) years, and are transferable.

One (1)

**Warranty, Ambulance Conversion Electrical, Ten (10) Years/100,000 miles**  
**AMBULANCE CONVERSION ELECTRICAL WARRANTY**

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The warranty terms on the ambulance conversion electrical system shall be for a term of ten (10) years or 100,000 miles, whichever occurs first. So called "lifetime" warranties are not acceptable unless they specifically identify in the warranty that they will be valid for at least ten (10) years, and are transferable.

One (1)

**Warranty, Ambulance General Conversion, Three (3) Years/36,000 miles**  
**AMBULANCE GENERAL CONVERSION WARRANTY**

The Manufacturer shall provide a 36 month/36,000 mile general warranty on the vehicle conversion, which covers defective parts and/or components, improper choice of materials, parts and/or components, improper design or engineering and poor or improper workmanship or quality control techniques. This warranty shall cover the complete vehicle, exclusive of the chassis, and shall include any and all costs for labor and parts or materials required to correct deficiencies. It is not the intent of this requirement that items such as light bulbs, or equipment installed in or on the vehicle which are covered by their own separate and specific warranty statements, be included in this warranty.

One (1)

**Warranty, Modular Body Paint, Seven (7) Years**  
**MODULAR BODY PAINT WARRANTY**

The ambulance manufacturer in conjunction with the paint supplier shall warrant to the original retail purchaser for a period of seven (7) years from the date of delivery that the original paint on each new ambulance shall be free of substantial defects in materials and workmanship which are attributable to the manufacturer and which arise during the course of normal use and service.

If the bidder's warranty differs, state the Paint warranty terms you are bidding:

Number of years \_\_\_\_\_ Mileage limitations \_\_\_\_\_