REQUEST FOR PROPOSALS (RFP)

Ambulance Replacement Village of Oak Park Fire Department

Issued: June 15, 2020

Due: July 13, 2020

The Village of Oak Park ("the Village") is requesting qualifications to identify vendors to assure that it is receiving the optimum level of services at a competitive price.

Responses must be returned on or before July 13, 2020 at 5:00 PM to:

Village of Oak Park
Fire Station 1
Attn: RFP-FIRE-20-Ambulance
100 North Euclid Avenue
Oak Park, IL 60301

SECTION I. INSTRUCTIONS AND SPECIFICATIONS

The Village of Oak Park will receive proposals at Fire Station 1, 100 North Euclid Avenue, Oak Park, Illinois 60301, Monday through Friday, 8:30 a.m. to 5:00 p.m. Proposals will be accepted until 5:00 p.m. (local time) on July 13, 2020. Firms responding to this Request for Proposals must submit three (3) hardcopies copies of their proposals in sealed envelopes as well as one (1) soft copy via email, and must conform to the format specified below.

The Village Board of Trustees reserves the right to accept or reject any and all proposals or to waive any technicalities. Information concerning this request for proposals is available from Thomas Ebsen, Fire Chief, 100 North Euclid Avenue, Oak Park, Illinois 60301. Chief Thomas Ebsen can be reached by telephone at the following number, (708) 358-5602, or via e-mail at tebsen@oak-park.us.

The documents constituting this request for proposals are listed below. Respondents are responsible for the completion of Sections II through VIII, in their entirety and in the order presented below. Missing information or proposals that are deemed by the Village to be incomplete will not be considered for award.

I	INSTRUCTIONS AND SPECIFICATIONS
II	BACKGROUND INFORMATION
III	DETAILED SPECIFICATIONS
IV	PROPOSAL FORM
V	COMPLIANCE AFFIDAVIT
VI	ORGANIZATION OF PROPOSING FIRM
VII	E.E.O. REPORT

Upon formal award to the successful Service Provider, an agreement will be executed for the performance of services and payment of agreed-upon fees.

Below is a tentative schedule for the request for proposal, evaluation of responses, selection and approval of a preferred firm or firms ("Service Providers"), and implementation:

Proposals due to Fire Station 1	July 13, 2020
Proposals reviewed and identification of preferred firm(s)	July 17, 2020
Recommendation to Village Manager of preferred firm(s)	July 20, 2020
Village Board approval of agreement(s) (tent)	July 27, August 3, 2020
Execution of work plan	August 17, 2020

SECTION II. BACKGROUND INFORMATION

The Village of Oak Park serves an area of four and one-half square miles located eight miles west of downtown Chicago. Oak Park has a population of approximately 52,000 (based on 2010 Census). The Village's population is diverse in income levels, age, and professions with a stimulating mixture of racial, religious and ethnic groups. Oak Park is a Home Rule community and operates under the Board- Manager form of government, in which an elected legislative body, consisting of the President and a Board comprised of six Trustees, hires a professional manager to oversee the day-to-day operations of all governmental services and programs, and carry out the policy directives set out by the elected officials.

The Village of Oak Park provides a multitude of services to its citizens in the form of police and fire protection, street maintenance and construction, community relations, housing programs, youth services, school crossing guards, traffic control, forestry, garbage collection, flood control, health and human services, animal control, water and sewer, building and code enforcement, economic development, and general administrative functions.

The Village of Oak Park has an annual general operating budget of approximately $63.7million with fire operations accounting for approximately $16 million, or 26% of total general operating expenditures. During the fiscal year 2020, the Village of Oak Park expects to receive from various sources including but not limited to: Property Tax, State Income Tax, Motor Fuel Tax, Sales and Use Taxes, Municipal Telecommunications Tax, Personal Property Replacement Tax, Local Liquor Tax, Real Estate Transfer Tax, Utility Tax, Hotel/Motel Tax, Community Development Grants, and other miscellaneous grants. The COVID-19 pandemic will have a material adverse affect on the Village's financial condition, however, the Village Board has opted to proceed with an ambulance purchase as originally budgeted in Fiscal Year 2020.

More detailed information on the government and its finances can be found in the Village's Budget and the Comprehensive Annual Financial Report (CAFR. The budget, CAFR and other pertinent statements can be viewed at the Village of Oak Park's website at http://www.oak-park.us/your-government/finance-department.

GENERAL INFORMATION AND CONDITIONS

The intent of this Request for Proposals ("RFP") is to meet the specific needs of the Village of Oak Park Fire Department. The acceptance of a bid/proposal and the award of a contract shall be at the Village's sole discretion, and shall be based in part on whether a bidder is both responsive and responsible and meets the specifications herein at the most competitive price.

The Village of Oak Park reserves the right to:

● Increase the number of vehicles, equipment quantities and the configuration that is required and defined under this RFP.
● Waive any informalities, irregularities, and technicalities of procedure.
● Require the bidder, prior to awarding this contract, to submit evidence of the manufacturer's qualifications as the Village deems necessary, and consider any evidence available to it of the financial, technical, or other qualifications and abilities of the manufacturer, including past performance on contracts of this type with other agencies.
● Reject any or all quotations and to select quotations based on the needs of the Village's Fire Department.
No bid may be withdrawn for a period of sixty (60) days following the date of bid opening. No charges of any kind will be allowed unless specifically set forth in a bid.

MINIMUM REQUIREMENTS

Bidding and Proposals

● Proposals will only be considered from manufacturers that have an established reputation in the field of ambulance construction and that have built ambulances for a minimum of ten (10) years.

● The bidder shall show the production of a minimum of 50 vehicles of the type, class, and chassis listed herein.

● Proposals that allow the trade-in of the replaced ambulance and provide the highest values may be preferred over others.

WARRANTY

Vehicle

● The successful bidder shall provide a minimum 36 month/36,000 mile vehicle warranty which covers defective parts and or components of its manufacture, the 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 and shall include any and all costs for labor and parts or materials that are required to correct any and all deficiencies. It is not the intent of this requirement that routine preventative maintenance items such as light bulbs, filters, tires, brake linings, windshield wiper blades, etc. be covered. A sample of this warranty shall be submitted with the bidder's proposal.

● The chassis manufacturer shall provide a warranty of not less than 3 years or 36,000 miles on the engine, climate control systems, cooling system, starter, alternator, steering, axle and power train components.

Modification

● The manufacturer shall warranty the structural integrity of the modular body for a period of not less than 15 years. This warranty shall be in writing and shall be submitted with the bidder's proposal.

● The manufacturer shall provide a conversion electrical system warranty, covering components of the electrical system, for the lifetime of the vehicle. It is not the intent that routine preventative maintenance items such as light bulbs, etc. be covered. A sample of the electrical system warranty shall be included with the bid proposal.

Paint

● The manufacturer shall provide a paint warranty for not less than 10 years. This warranty will consist of 100% coverage throughout the 10 year period specifically related to faults of manufacturing or material quality (ex. paint quality, corrosion, electrolysis, etc.)

INSPECTION TRIPS

Pre-Construction

● There shall be a required pre-construction conference at the successful bidder’s manufacturer's facility before any construction can begin. The pre-construction conference meeting shall be conducted at the “primary builder” of the apparatus. No meeting shall take place at a dealership’s place of business. No more than three (3) Village Fire Department personnel along with a representative or dealer of the successful bidder shall attend. At this meeting, all parties shall review the specifications to ensure that the ambulance is built to meet or exceed all requirements. After this meeting, the representative of the successful bidder shall present the Village’s Fire Department with detailed drawings and a work order to be used in the production of the ambulance.

PRE-DELIVERY

● There shall be a pre-delivery inspection trip at the factory of the successful bidder. The inspection trip shall consist of no more than three (3) members from the Village's Fire Department along with a representative of the successful bidder, to insure compliance with all specifications. All expenses relating to the pre-construction and final inspection trips shall be at the cost of the successful bidder and be at no cost to the Village. This shall include all meals and lodging along with travel allowances for fuel for any factory under 250 road miles from the Village and/or round trip coach air flight, for up to three (3) representatives for any factory that is over 250 road miles from the village.

Pre-Delivery Service
● Bid prices must include all necessary dealer preparation applicable to new equipment prior to final delivery to the Village. The dealer shall provide and/or complete the following services:
● Proposal Compliance - Inspect ambulance for compliance with the selected bidder's proposal.
● Fluid Levels - Inspect for correct capacities of the following: engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear end fluid.
● Visual Inspection - Inspect tires and wheels for proper pressure and lug nut torque. Tighten any loose hardware and repair minor paint scratches or chips.
● Check doors for correct adjustment.
● Electrical Inspection - Operate all lights, sirens, and other electrical accessories.
● Road Test - Run a road test operating all electrical loads for several minutes.
● Fuel Tank - Fuel tank shall be filled to capacity prior to final delivery.
● Cleaning / Detailing - The ambulance shall be thoroughly washed and detailed at the dealership prior to final delivery. This includes removal of any metal shavings.

DELIVERY

● The ambulance and its equipment shall be delivered Village of Oak Park Fire Department. The ambulance will not be scheduled for delivery until authorized by the Village. Delivery must be by the manufacturer's/dealer's employee or arranged commercial carrier. The transporter of the ambulance must carry full insurance equivalent to industry acceptable standard amounts providing coverage for the employee and the ambulance.

EXTENDED SERVICE

For any extended service within the primary or extended warranty period, where the ambulance is located at the ambulance manufacturer's service center, the manufacturer must provide a loaner ambulance free of charge for use during the extended service period.

SECTION III. DETAILED SPECIFICATIONS

SCOPE OF SERVICE

General Scope: It is the intent of the Village of Oak Park Fire Department to purchase one (1) Type I ambulance herein specified.

TRADE IN DETAILS:

This ambulance will be replacing a 2009 Wheeled Coach Ford E-450. This ambulance is currently used as a reserve and has approximately 55K miles. The Village of Oak Park would like the trade in value for this vehicle.

DETAILED SPECIFICATIONS

BASE VEHICLE REQUIREMENTS: The vehicle will be a Type I Ambulance. The apparatus shall be a Configuration A, 2-door, conventional cab and chassis with a transferable, modular, ambulance body. The apparatus shall be mounted on a commercially available cab and chassis manufactured by Ford Motor Company. The chassis manufacturer shall be the vehicle's point of origin. The chassis shall be supplied by Ford as an incomplete vehicle to the successful ambulance manufacturer. The chassis supplied shall conform to all applicable Federal Motor Vehicle Safety Standards in force at the time of manufacture. A statement of conformity shall be supplied with the chassis in an "Incomplete Vehicle Manual". The apparatus shall be mounted on a 2020 or newer F-550, Regular cab, dual rear wheel, four-wheel drive chassis equipped as follows below.

CAB INTERIOR COLOR: The color of the cab interior shall be gray.

CAB SEATS: OEM high back, easy clean and wipe bucket type seats shall be provided in the cab. The seats shall be adjustable. Seat base must be OEM. After market seats and/or bases are acceptable as long as there are no violations regarding SRS (Air Bag) deployment geometry and Ford QVM Guidelines. The use of aftermarket seats shall be clearly stated on the bid.

OCCUPANT RESTRAINT SYSTEM: The front, forward facing cab seats shall be equipped with OEM installed three point seat belts. The seat belt assemblies shall meet or exceed FMVS 208 and 209. The inside conversion panels shall not interfere with the swivel arc of the shoulder rings.

SUPPLEMENTAL RESTRAINT SYSTEM: An OEM air bag shall be installed on the driver and passenger side. Permanent or Quick release ambulance conversion components shall not interfere with air bag deployment. The air bags must be completely operational. Modifications by the secondary manufacturer are not acceptable.

INTERIOR UPGRADE PACKAGE: Ford interior upgrade package shall be ordered and supplied on the chassis. This package shall include:

- Cloth Headliner
- High trim door panels
- Ford option code 21A high back bucket seats
- Cloth sun visors
- Power Door locks
- Power Windows
- Insulation package

FLOOR PEDALS: The chassis shall have OEM adjustable floor pedals.

DAYTIME RUNNING LIGHTS: Daytime running light shall be supplied and installed by the OEM. Both headlights shall come on with the ignition switch and alternately flash when the emergency light are activated and the vehicle is in drive. Lights should not flash while in park mode.

CAB STEREO: An OEM Ford AM/FM/CD in dash radio and four cab mounted speakers shall be included with the chassis.

CHASSIS VOICE CONTROL SYNCH (FORD ONLY): The chassis manufacturer shall include a FORD SYNC option which will allow for greater safety of the vehicle driver. The driver shall be able to voice control connect to multiple wireless systems. The driver of the vehicle shall refer to the owner's manual for details of operation.

MIRRORS: Dual OEM, Power adjusted mirror glass, manually telescoping Black mirrors, shall be mounted to the forward, lower corner of the cab door window. Both mirrors shall feature a bi-directional break-away function to permit folding the mirror heads against body in close quarters. The mirrors shall be seven inches wide by eight inches high and flat on both right and left sides. All mirrors shall extend at least 1" beyond the outside of the module body.

AMBULANCE PREPARATON PACKAGE: The chassis provided shall be equipped with Ford Ambulance Prep Package 47L.

WHEEL BASE: The wheel base shall be 189 inches with a cab to axle dimension of 108 inches. The wheel base shall be factory supplied by the Original Equipment Manufacturer. Modified wheel bases made from chassis with shorter or longer wheel bases are not acceptable.

TRIM LEVEL: The cab shall be equipped with an "XLT" Trim level with tilt steering wheel, cruise control, power windows and door locks. The front bumper and grill shall be accented with chrome. The OEM grille work shall remain OEM. After-market vacuum formed, proprietary grille work made by the ambulance manufacturer is not acceptable due to replacement part cost and lack of immediate availability.

FRONT BUMPER: Front bumper to be chrome plated steel full width, aerodynamic, and shall have front tow hooks

ENGINE: A Ford Turbo-Charged Gasoline engine shall be provided with a minimum displacement of 7.3 liters. The engine output shall be 430 horsepower at 5,500 revolutions per minute and deliver 475 foot pounds of torque at 4,000 revolutions per minute. Engine performance shall comply with or exceed the most current revision of NFPA 1917.2016.

FUEL SYSTEM: A single fuel tank with a capacity of not less than 40 gallons, tank shall be equipped. If a 50 gallons fuel tank is available please note this option.

TRANSMISSION: Heavy Duty Torque shift 10-speed automatic transmission with overdrive.

TURN DIAMETER: The F-series chassis with 188.8 inch wheelbase will have curb to curb turn diameter of 54.8.

Gross Vehicle Weight Rating (GVWR) 18,000

Front Axle Weight Rating (FAWR) no less than 7,000 pounds

Rear Axle Weight Rating (RAWR) no less than 13,660 pounds

TRANSFER CASE: There shall be an aluminum closed coupled, part-time, 2-speed transfer case provided by the OEM. The case shall feature 3 modes of operation; 2-wheel drive HIGH, 4-wheel drive HIGH, 4-wheel drive LOW. The high range two wheel and four wheel drive ratio shall be 1.00:1 and the low range shall be 2.72:1. The drive mode shall be manually selected by a rotary type electronic switch on the OEM dash. A 4 x 4 shift indicator shall illuminate on the dash when the transfer case is engaged in 4 x 4. After market or a divorced style transfer case is not acceptable.

BRAKES: 4-wheel anti-lock, power assisted hydraulic brakes shall be supplied by the OEM. The brakes shall be 4-wheel Disc type with Dual piston, Pin slider calipers. The front disc diameter shall be 14.53 inches in diameter and the rear disc shall be 15.55 inches in diameter. The parking brake shall be a foot operated, hand release independent mechanical brake, provided by the OEM.

BRAKE BOOSTER / ANTI LOCK SYSTEM: The brake pedal effort shall be reduced by a hydro-boost power assist unit. The booster shall be installed on the fire wall and linked directly to the foot pedal. Hydraulic brake pressure shall route through a 3-channel, 4-Wheel anti-lock brake system that prevents wheel lock-up.

SHOCK ABSORBERS: The chassis supplied shall be equipped with one shock absorber for each side of each axle. An OEM selected one and three eighth (1-3/8") inch gas type shock shall control vehicle spring oscillation and dampen road related jounce and harshness. Ambulance related shields, floor members or other devices shall not interfere with shock replacement.

FRONT STABILIZER BAR: A computer selected, one inch diameter anti-sway bar shall be supplied. The bar shall regulate body shift and enhance drivability, handling and control. The solid torsion spring steel bar shall be attached to the vehicle frame utilizing natural rubber bushings and removable steel bushing housings. The ends of the bar shall be inserted into natural rubber bushings, located near the front wheels. Both axle attachment points shall be cast into the forged steel, I-beam front axle.

REAR STABILIZER BAR: The rear sway bar shall remain OEM.

REAR AXLE TYPE AND RATIO: The axle shall be Limited Slip Differential with a 4.10:1 gear ratio.

REAR KNEELING SUSPENSION: A Liquid Spring rear hydraulic strut suspension shall be installed in lieu of the standard rear OEM single stage leaf springs. The suspension company shall be QS 9000 and ISO 9001 certified for excellence. The liquid suspension shall be rated at 13,660 pounds GAWR and installed per Liquid Spring Directions. Suspension Installation instructions and drawings shall be followed. All guidelines regarding chassis and axle capacity ratings as published by Ford Motor Corporation shall be adhered to.

KNEELING FEATURE ENABLE: The rear suspension shall kneel when the triggering device is activated AND an enable switch, located in the cab console is activated.

KNEELING FEATURE ACTIVATION: The kneeling feature shall activate in PARK position only. The kneeling feature shall NOT activate in any forward or reverse gear. The above rear suspension shall kneel when the trailing rear access door is opened.

WHEELS: Duel rear wheels to be furnished. All rims shall be 19.5” x 6.00” aluminum.

FRONT TIRES: 225/70SR-19.5 BSW steel belted all season radials.

REAR TIRES: 225/70SR-19.5 BSW steel belted all season radials.

SPARE TIRE: 225/70SR-19.5 BSW steel belted all season radials. Spare wheel to be furnished shall be a steel rim and shipped loose.

RIM TRIM: Will be included with aluminum rims. Center covers for front wheels and high tops for rear wheels.

INNER DUAL TIRE VALVE EXTENSION: There shall be a system installed to extend the fill valve for the inner dual.

VEHICLE EXHAUST TERMINATION POINT: The exhaust system routing shall remain unmodified and the termination point shall remain after the rear axle on the right side. The exhaust pipe shall be configured to hook up to a Plymovent system. The tailpipe outlet shall not terminate within 12” of fuel fill, Oxygen, storage, and patient entry door.

VACUUM PUMP: There shall be a vacuum pump to activate the Patient Area "Heater Control Valves" when the patient area heater is energized. The electrical layout shall be shown on the custom wring schematics at the time of delivery.

ALTERNATOR - CHARGING SYSTEM: Two alternators shall be supplied and installed by the OEM. The alternators shall be as supplied by Ford under the 47L Ford Ambulance Prep option. Both alternators shall be controlled by the vehicle's onboard computer. The ambulance manufacturer shall not modify the OEM computer's functional control of the alternators. The alternators' output cable, originally connected directly to the positive post of the under-hood battery, shall be rerouted to a 3/8" diameter, solid brass junction post. A 2/O positive battery cable shall reconnect the alternators to the batteries from the junction post. The ambulance load cable shall connect under the hood to the aforementioned junction post.

THROTTLE HIGH IDLE: A programmable OEM throttle control shall be provided. The throttle shall be programmed for charge protect. The throttle control module shall be located in the ambulance manufacturers’ center cab console. The throttle shall be easily accessible through removable face panels. Program buttons shall not be readily accessible to end users.

MODULE CONFIGURATION

OVERALL LENGTH: The overall length of the vehicle shall not exceed twenty three (23) feet, nine (9) inches. The departure angle and length shall meet or exceed the current revision of NFPA 1917.2016.

MODULE LENGTH: The module length shall be at least one hundred seventy two (172) inches.

MODULE WIDTH: The module width shall comply with the current revision of NFPA 1917.2016. The module shall be ninety six (96) inches wide, excluding lights and accessories.

MODULE HEAD ROOM: The module shall not be less than seventy four (74) inches actual measured headroom. The measurement shall be taken from the patient compartment floor to the ceiling panels.

INTERIOR HEADROOM: The interior finished working headroom in the patient area of the ambulance shall be seventy four (74) inches from floor to ceiling.

MODULE CONSTRUCTION: GENERAL

SERVICE INTENT: The ambulance body shall be all aluminum. The body sheet shall be reinforced with structural members designed to resist deflection and hold up to extreme ambulance service per the latest revision of NFPA 1917.2016.

BODY MEMBER ALLOY: The side, roof, front and rear sheet shall be derived from .125”, 5052-H-32 aluminum sheet. The roof sheet shall be one (1) piece, .090”, from roof rail to roof rail. The side structure and structural shapes shall be extruded of 6105-T5 aluminum.

STRUCTURAL INTEGRITY: The body shall be capable of providing impact, deformation and penetration resistance in the event of a collision.
WELD QUALITY: All welds within the modular body shall meet American Welding Society codes for structural and sheet welding. Compliance documentation must be supplied upon bid review if requested by this agency.

CREVICE PREPARATION: All skin and extrusion surfaces destine to be mated together, shall be primed with epoxy, etching primer prior to assembly. All over lapping extrusion to skin surfaces shall be bedded with a two part acrylic high strength bonding adhesive.

SIDE STRUCTURAL MEMBERS: The sheet edges will be fit into slots designed within a proprietary, double hollow, corner post extrusion in addition to the two part acrylic bonding agent. The sheet will be MIG welded and structurally bonded to the extrusion. Double-hollow designed corner post extrusions shall be used to weld side and end assemblies together. Horizontally oriented, adjoining structural box tubes shall be welded to the corner post with a minimum 50% surface weld. The intermediate structural members of the side grid shall be two (2) inch by two (2) inch 6105-T5 aluminum, architectural box tubing. All entry and compartment door adjacent members shall be one quarter (1/4”) inch, two (2) inch by two (2) inch proprietary extruded shape. The main structure shall surround the compartment openings and provide intermediate skin support. The intermediate structure spacing shall have a nominal dimension of twelve (12) inches. All grid structure shall be welded together with a minimum of 75% of available mating surface. The side skin shall be bonded to the structural grid using (1.75”) wide, VHB (Very High Bond) adhesive tape. The edges of the tube that touch the skin will be sealed with Bostik Brand, Simson ISR 70-03 Construction Adhesive.

SIDE IMPACT RAILS: There shall be four (4) side impact rails, located in the upper and lower sections of the side walls. They shall consist of 6105-T5 aluminum, that is solid half (1/2) inch thick by four (4) inch plate on the curbside and one-half (1/2) inch by four (4) inch plates on the streetside that are continuously MIG welded or Huck structurally fastened to the structural grid. Since this is a safety item, no exceptions will be accepted.

SEAT BELT ANCHORAGE: Occupant seat belts shall be drilled and tapped through one-half (1/2) inch by four (4) inch plate on the curbside and one-half (1/2) inch by four (4) inch plates on the streetside that are continuously MIG welded to the structural grid. Since this is a safety item, no exceptions will be accepted.

SIDE SHEET: The side sheet shall be .125 thick, 5052-H32 aluminum. The side sheet compartment opening cut outs shall be cut with CNC controlled, gantry mounted plasma or high speed routing equipment. The door opening shall be cut to allow for the skin to be molded into the jamb opening to create a crevice free jamb with a smooth paint finish. The machine formed skin shall return into the body at least 3/4" to meet the jamb extrusion. This method will encourage square openings to receive the door assemblies and maintain critical structural locations. The door jamb shall have a full structure frame behind the jamb skin return. It shall not rely strictly on the skin for the compartment jamb. Pre-determined ventilation louvers shall be formed into the body sheet, where specified. A seamless door jamb exterior is required to minimize corrosion. Extruded type exposed door jambs do not meet this specification. The skin shall completely conceal the door-jamb from view. The only visible seams on the body sheet shall be at the corner posts. The skin shall extend .688" below the skirt rail extrusion to a drip edge to keep moisture from collecting underneath where the skin meets the skirt rail extrusion.

CORNER POST EXTRUSION: The corners of the modular body shall be made from an extruded aluminum structure that has an alloy of 6063-T6. The corner post extrusion shall be 3.25” x 3.25” with a 2” radius on the outer corner. The corner post extrusion shall have an internal web member that runs on a 45 degree angle to the front and side of the modular body. Where the internal web meets the exterior extrusion wall the internal web shall flair into a .125” radius giving a .25” wall thickness at the exterior wall of the extrusion. There shall be a .75” flange on each side of the corner post extrusion that is a side skin receiver. The side skin receiver shall be funnel shaped to allow the exterior side skin to fully seat into the corner post extrusion. The interior walls of the corner post extrusion shall be .125” thick and they shall incorporate a 45 degree weld bevel on the interior corners.

REAR SILL EXTRUSIONS: The rear body and floor substructure shall be constructed of a dual proprietary aluminum extrusion with mating joints. The lower floor extrusion is a combination continuous extrusion with an incorporated L mating surface. The lower door extrusion is a multi-chamber construction with matching radius corner and surfaces to the floor sill. This combination of extrusion and joint structure provides for strong joint strengths, and continuous contact surface between the floor sill and the outer-body door extrusion.

FRONT AND SIDE WALL GUSSET PLATES: The front wall and side wall structural members shall have additional support with a fully welded gusset system that shall be made of 5052-H32 aluminum plate, one quarter (1/4) inch thick by four (4) inch by four (4) inch.

REAR AND SIDE WALL GUSSET PLATES: The rear wall and side wall structural members shall have additional support with a fully welded gusset system that shall be made of 5052-H32 aluminum plate, one quarter (1/4) inch thick by four (4) inch by four (4) inch.

ROOF RAIL EXTRUSIONS: The roof corners of the modular body shall be made from an extruded aluminum structure that has an alloy of 6063-T6. The roof rail extrusion shall be 4.55” x 3.5” with a 2” radius on the outer corner. A full length drip rail shall be incorporated into the roof rail corner post extrusion, drip rails at the top of the modular body that are not inclusive of the roof rail extrusion do not meet the intent of the specification and are deemed non-compliant to this specification. The roof rail extrusion shall have an internal web member that runs on a 45 degree angle to the front and side of the modular body. Where the internal web meets the exterior extrusion wall the internal web shall flair into a .125” radius giving a .25” wall thickness at the exterior wall of the extrusion. There shall be a .75” flange on the lower side of the roof rail extrusion that is a side skin receiver. The side skin receiver shall be funnel shaped to allow the exterior side skin to fully seat into the roof rail extrusion. There shall be a .75” x .125” recess into the roof side of the extrusion for locating the roof sheeting. This recess shall have a 45 degree weld bevel. The interior wall of the roof rail extrusion that is in-board of the side skin funnel shall be 2” wide so that they line up with the exterior side wall. The interior wall of the roof rail extrusion that is in-board of the roof sheeting recess shall be 2.25” wide so that they line up with the 2.25” roof bows. The interior walls of the roof rail extrusion shall be .125” thick and they shall incorporate a 45 degree weld bevel on the interior corners.

ROOF SHEET: The four (4) edges of the sheet shall be continuously welded to the roof rail extrusion to prevent leaks. All perimeter welds shall be ground smooth and worked smooth prior to the overall body paint and finish. Non-fully welded roof sheets to the roof rail extrusions do not meet the intent of this specification and are deems non-compliance to this specification.

ROOF BOWS: The roof sheet shall be supported by full width .125” x 2” x 2.25” architectural box tubing. The roof bows shall be located on twelve (12) inch centers. The roof bows shall be MIG welded to the roof rail extrusions with no less than four (4) and one-half (1/2) inches of continuous weld per end. The roof sheet shall be bonded to the roof bows with VHB (Very High Bond) adhesive tape.

ROOF CORNERS: The roof rail extrusions shall be welded together along the roof bow mating walls at the corners. In addition, the outer surfaces of the roof rail extrusions shall be 100% continuously TIG welded to cast aluminum corner castings. The castings shall have internal mating flanges that extend horizontally inside the upper roof rail extrusion and vertically down the corner post extrusions.

FLOOR MEMBERS: Floor structures shall be 6105-T5 aluminum, one-quarter (1/4) inch by 1.500 by 3.000 aluminum, architectural proprietary shape with bevels built into the extrusion die to allow for full weld penetration on the edge of the extrusions. The die must be designed so that the inside of the corner has the same thickness of aluminum as the remaining four sides.

FLOOR GUSSET PLATES: The floor member to side wall fully welded gusset system shall be made of 5052-H32 aluminum plate, one quarter (1/4) inch thick by four (4) by four (4) inch and quarter (1/4) inch x six (6) inch x six (6) inch. A minimum of 12 gussets shall be located, dual gusset plates at each main cross member site.

FULL WIDTH CROSS MEMBERS: The module floor shall provide core support for the side assemblies and shall incorporate a minimum of three (3) full body width floor members shall connect to and support the side wall assemblies. Each member shall be made of 6063-T6 aluminum. The front floor tube is to be a minimum of 3.000 x 1.500 x .250 thick 6105-T5 aluminum tube which is fully MIG welded into the front corner post at each side of the vehicle. On top of the tube is to be a minimum .188 thick 5052 aluminum front sill running full width of the body. One of the members located just forward and/or rear of the rear wheel housing shall be one-quarter (1/4) inch by 1.500 by 3.000 rectangular architectural box tubing. The last floor cross-member shall be a 1.625 x 2.188 x .250 6105-T5 aluminum tube on the rear wall which is fully MIG welded into the rear corner posts at each side of the vehicle. This tube is butted up and welded to a 2.000 x 1.000 x .125 thick 6105-T5 tube which is also fully MIG welded to the rear corner post. A minimum of eight (8) total 6” gussets, (1/4) inch thick will be installed to reinforce two (2) at each cross member and sidewall tubes directly fore and aft of the axle.

WATER-TIGHT PATIENT CABIN: The sub floor shall be shielded from moisture. A forty (40) mil thick aluminum sub sheet shall be sealed to the floor structure with silicone sealant. Additional aluminum plates shall be intermittent welded between compartments, wheel well liners, step wells and fuel filler housings. All of the areas shall be thoroughly sealed from one to the other, creating a sealed patient cabin from the outside. Extrusion hollows shall be filled with expandable foam sealant to prevent fumes and moisture from entering.

MODULAR BODY ATTACHMENT: The body shall be attached using Grade 8 bolts with a minimum of (5/8) inch diameter. A minimum of four (4) bolts will attach to each side of the frame rail.

DOOR CONSTRUCTION

DOOR SKIN: No welded seams are allowed, only one piece formed corners. The door skin shall be .090 thick, 5052-H32 aluminum sheet formed on all four sides utilizing an ACF Multiflex Corner Former Model MF 25 to create a crevice free surface for best paint adhesion and corrosion resistance. The formed edges shall not have elongation cracks due to forming and shall maintain material thickness uniformly over the entire sheet. The formed edges uniformly round off seamless for better paint adhesion and aesthetic appeal that does not require cutting and welding in the corners.

DOOR FRAMING: The door frame shall reinforce the perimeter of the skin pan. The extrusion shall incorporate a T-slot to receive an extruded, hollow, dual durometer closed cell UV protected TPV gaskets with relief holes for even compression for a proper and complete seal from the door to the door jamb. The gasket corners shall be welded without using adhesives for bonding. The door frame extrusion shall also add torsion resistance to the door assembly. The door jamb extrusion and frame extrusion shall be cut 45 degree on each corner. Each of the four corners shall incorporate a key way and spline that is designed to drive into each corner and maintain a perfect 90 degree angle prior to welding. The door castings shall include gusset plates for additional support for the door construction. The door frame shall also incorporate a clearance way for UNF threaded blind fasteners for the door panels. The door panel shall not rest on the body of the blind fasteners.

FINAL DOOR ASSEMBLY: The door skin shall be bonded to the frame assembly with an adhesive sealant in addition to intermittent welding. For entry doors: Additional, horizontal structure shall be added to maintain door skin flatness as well as penetration resistance in the event of a collision. The horizontal members are extruded J-channel, 0.150” thick. A minimum of two (2) horizontal members shall be welded in. A vertically oriented 0.150” thick formed hat-channel shall be welded to the webs of both horizontal channels for additional buckling resistance. Compartment doors shall have a reinforcement system of horizontal or horizontal/vertical structure added to maintain skin flatness and impact resistance.

ENTRY DOOR WINDOW(S) OPENINGS: The entry door(s) shall incorporate recessed areas that are stamped into the outer door skin to allow for a flush window appearance and shall not protrude with a lip on the outer door skin of the modular body.

DOOR PANELS: The inside entry door panels shall be made of (.080”) thick aluminum plate and shall be finished per these specifications later in this document. The center panel shall be removable for easy lock service/lubrication. The inside of the compartment door panels shall be made of (.080") thick polished aluminum diamond plate. The edges of the door panel shall be recessed into the door frame extrusion. The panels shall be fastened to the door frame with stainless steel, #10-32 UNF machine screws threaded into aircraft quality blind fasteners. Each fastener shall have an internal tooth lock washer to preclude loosening.

DOOR JAMB: The door jamb shall accommodate rigid fastening of compartment door hinges. The jamb shall include a hollow cell that shall conceal wiring for the non-mechanical door switch. The door jamb frame shall be cut 45 degree on each corner from the door edge corner, each of the four corners shall consist of a key way and spline that is designed to drive into each corner and maintain a perfect 90 degree angle prior to welding. Additionally, the jamb shall be continuously MIG welded on the inside and the outside corners. A seamless door jamb exterior is required to minimize corrosion - extruded type door jambs do not meet this specification. The skin shall completely conceal the door-jamb from view. "No Exterior Door Extrusions Allowed".

HINGE: All doors shall have stainless steel, continuous, piano hinge. The pin diameter shall be .250 and staked into place to prevent drifting out of the hinge leaf. The knuckle lengths shall be one inch. The hinge attachment bolts shall be one quarter inch diameter by one inch long stainless steel Type TT (Thread Rolling Screws) hex head bolts. All tapped holes for hinge bolts shall be treated with an anticorrosion compound prior to installation of each hinge bolt. Thread cutting screws are not acceptable. Each hinge leaf shall have a Mylar insulation strip (3M Scotch No 8411) between the leaf and the Jamb/Door.

LATCHES: The latches shall meet FMVSS 206. All latches shall be two-stage, rotary- type. The latches shall be through bolted to the door frame extrusion. All entry doors shall have two rotary latches per door. To assure uniform latch timing and functional door reliability, only straight, one-quarter (1/4) inch diameter rods shall connect the latches to the handle. All double hung compartment doors shall have two rotary latches per door.

NADER PINS: All nader pins shall be headed to prevent the door(s) from opening under impact. They shall be hex headed Grade-8 fully adjustable with a 5/16” thick knurled stainless steel retainer plate to keep the nader pin from moving after adjusted. The opening in the door jamb extrusion shall be large enough to allow full adjustment with the nader pin washer covering the hole.

COMPARTMENT CONSTRUCTION

MATERIALS: Unless specified otherwise, all exterior compartment walls and backs shall be constructed of .100 polished aluminum diamond plate. All compartment floors shall be formed of .125 aluminum sheet. Compartments for generators, oxygen, and backboards will have .250 compartment floors. All compartment ceilings shall be formed of .090 aluminum sheet. The ceilings and floors shall form around the sides and back to provide an overlapping joint. The floor and ceiling surfaces shall be double action (DA) sanded to 180 grit. The floors and ceilings are bonded to the walls and back and intermittent welded on six (6) inch centers.

DRAIN HOLES: Drain holes shall be provided on the bottom of the compartments. Each hole shall be baffled to prevent splash water from entering the compartment.
VENTILATION: There shall be a hole in the compartment below floor line approximately 5-3/8"wide x 2-9/32"tall that will accept a specially designed baffled vent. The baffles shall have a stainless steel spring that allow for only one way operation. They allow air to escape out of the compartment when the door is closed, but not for air to come back into the compartment to keep dirt and dust out of the compartment interior. Engineering shall determine the amount of these vents required by the volume of space in the compartment.

CURB SIDE ACCESS DOOR: The curbside access door shall be at least 73 13/16" high by 31" wide measured at the door jamb opening.

JAMB PROTECTION: At the curbside module entry door, a full width, formed, stainless steel jamb protection plate shall be provided to prevent heavy traffic from chipping the paint.

DOOR CHECK: The curbside entry door shall be equipped with a door check (hold open) device. All vertically hinged doors in excess of 13" pass through width shall have a gas operated bi-directional spring shock door check. Door check brackets shall be drilled and tapped through a minimum of 3/8" material to preclude coming loose.

DOOR SWING: The compartment door checks shall be installed to allow the door to open ninety degrees (90) from the fully closed position.

CURB SIDE ACCESS DOOR LOCATION; The module side entry door shall be located on the curbside of the module, just rearward of the ALS cabinet to provide efficient egress into the module. This door shall include a secondary webbing strap to prevent the door from being blown open too far.

STEP WELL: A curbside entry door shall feature a double step "step well" to assist in patient cabin egress. The step shall have a tread dimension of not less than 10 inches. The riser dimension shall not exceed nine and one-half inches, measured from the step tread to the floor of the patient cabin. A right angled trim, made of bright aluminum diamond plate, shall be formed over the flooring material and wrap around the 3-sided perimeter of the step well. Step well material shall be 0.100 thick, Polished aluminum diamond plate. The step well shall be illuminated. The step well shall meet or exceed the current revision of NFPA 1917.2016.

STEP WELL ILLUMINATION: A 3" LED clear interior light shall illuminate the curbside step well per the current revision of NFPA 1917.2016.

BODY DROP: The skirt line of the modular body ahead of the rear wheels shall be 6" lower than behind the rear wheels. This will allow the curbside entry step to be lower to ground level making it easier to enter the curbside entry door and meet the requirement of NFPA 1917.2016 latest revision.

LEFT FRONT COMPARTMENT (M-1): This compartment shall be located in the left front corner of the modular body. The minimum compartment dimensions shall be 67.5" high x 22.125" wide x 20.0" deep.

SPECIAL COMPARTMENT CONSTRUCTION (M-1): The aforementioned compartment shall be made of the following materials:

MATERIALS: All exterior compartment walls and back shall be constructed of .090 aluminum sheet. The aluminum alloy, for all compartment parts shall be 5052-H32. All compartment floors shall be formed from .125 aluminum sheet. All compartment ceilings shall be formed from .090 aluminum sheet. The ceilings and floors shall form around the sides and back to provide an overlapping joint. All interior surfaces shall be double action (DA) sanded to 180 grit. The floors and ceilings are bonded to the walls and back and intermittent welded on six (6) inch centers. Continuous welds around the compartment seams are not acceptable due to cracking, in time, located just outside the welded heat affected zone.

COMPARTMENT DOOR PANEL: The inside door panel of this compartment shall be smooth aluminum.

COMPARTMENT INTERIOR FINISH: The M-1 compartment is a high use stowage area that will require a high strength, abrasion and chemical resistant finish. This compartment shall have a BLACK colored, high build polyurethane coating with a minimum thickness of 60 mils. The coating shall be a spray-on, abrasion resistant, textured coating that can withstand a harsh working environment without peeling, chipping or

discoloring. The surfaces for the coating shall be mechanically and chemically prepared for maximum adhesion to the aluminum. The chemical adhesion promoter shall leave a moisture free surface for the etching primer to adhere to. The polyurethane coating shall not be applied over untreated aluminum.

COMPARTMENT COMPONENT FINISH: The shelf(vs), tray(s) and/or divider(s) will require a high strength, abrasion and chemical resistant finish. The compartment component(s) shall have the same polyurethane coating as the compartment inner surface.

VERTICAL DIVIDER: Located in the "M-1" compartment shall be NE semi-rigid fixed divider shall be formed of 5052-H32 aluminum sheet. The divider shall be full height of the compartment by fourteen inches (14") deep; measured from the back of the compartment. The exposed edge shall be covered with automotive edge trim.

COMPARTMENT LIGHT: One (1) Vista Brand 12V LED Rope light, Model #FSW1F, shall be mounted in the compartment, per customer specified location.

LEFT FRONT UPPER COMPARTMENT (M-1A): This compartment shall be located in the left front corner of the modular body. The minimum compartment dimensions shall be 17.5" high x 22.125" wide x 20.0" deep.

VENTILATION: There shall be three sets of six louver punches on the outside and inside door panel to properly ventilate the electrical components located in the above-mentioned compartment.

COMPARTMENT LIGHT: (1) One light shall be mounted in the ceiling of the "M-1A" compartment. The light shall be surface mount and shall be LED.

INVERTER: There shall be a 120V 1000W inverter supplied and installed in compartment M1A. Inverter to power all 120V interior outlets while vehicle is running and not on shoreline supply.

LEFT FRONT MIDDLE COMPARTMENT (M-2): This compartment is located adjacent and rearward to the left front compartment. The minimum compartment dimensions shall be 40.5" High x 49.875"Wide x 20" Deep.

BIO-WASTE CLOSEOUT: Outside enclosure box for interior only access to the bio-waste receptacle shall be provided in the exterior compartment. The closeout shall be located in the upper right-hand corner of the compartment, aligned with the bio-waste cavity built into the action area tray. The closeout shall be made out of the same material as the compartment interior and shall be finished out as though it was designed to be there and not screwed in place as an afterthought.

ELECTRICAL COMPARTMENT; The electrical main area has been relocated to interior access only cabinet H.

VEHICLE MOUNTED WIFI: There shall be mounted a Cradlepoint brand model “COR IBR900” or similar mobile WIFI modem/router. Router shall be 3G/4G compliant, ruggedized, and able to broadcast a/b/g/n/ac Wi-Fi signals. Power to be continually supplied from the vehicle’s battery.

ADJUSTABLE SHELF: A standard duty aluminum adjustable shelf shall be provided. The shelf shall be formed of .125 (1/8") thick aluminum, with 2 inch upward turned lips on all four sides. The shelf shall be mounted on Unistrut infinitely adjustable, aluminum extruded, heavy duty shelf track. Incrementally adjustable, non-aluminum shelf track is not acceptable.

SHELF BRACKET: Each above exterior adjustable shelf shall include four (4) self-gusseted .157” thick shelf brackets that will allow for easy adjustment up and down for each shelf. Each bracket shall be secured to the shelf by carriage head bolts on the top of the shelf and hex head bolts to secure them to the shelf tracking material in the compartments. This will guard against shelf deformation in the compartments when the shelves are secured in place.

COMPARTMENT LIGHT: One (1) Vista Brand 12V LED Rope light, Model #FSW1F, shall be mounted in the compartment, per customer specified location.

CONDUIT No 1: An empty 1.5” diameter conduit expressly designed to add wires after vehicle delivery by the end user or his/her authorized agent shall be supplied and installed. The conduit shall be semi-rigid, nonconductive liner that is free of inside ridges that can bind on the wire harness being pulled through the conduit. The outer jacket shall be a non-conductive, spiraled rigid coil designed to maintain the original shape of the liner, throughout the length of the conduit run.

ORIGINATION POINT: The aforementioned conduit shall originate in the left front middle (M-2), exterior compartment.

TERMINATION POINT: The aforementioned conduit shall terminate in the patient cabin behind the main action area control panel.

CONDUIT No 2: An empty 1.5” diameter conduit expressly designed to add wires after vehicle delivery by the end user or his/her authorized agent shall be supplied and installed. The conduit shall have semi-rigid, nonconductive liner that is free of inside ridges that can bind on the wire harness being pulled through the conduit. The outer jacket shall be a non-conductive, spiraled rigid coil designed to maintain the original shape of the liner, throughout the length of the conduit run. A pull wire shall be installed into the conduit to aid the purchasing agency in future installation of equipment.

ORIGINATION POINT: The aforementioned conduit shall originate inside the main electrical cabinet.

TERMINATION POINT: The aforementioned coaxial cable shall terminate in the cab behind the driver's seat.

LEFT REAR COMPARTMENT (M-3): This compartment shall be located in the left rear corner of the body. The minimum compartment dimensions shall be 61 1/2" High x 25" Wide x 20" Deep.

COMPARTMENT DOORS OPTION: A set of double hinged compartment doors shall be set for this special request compartment. Each door shall have a single handle and two rotary latches. Doors shall comply with aforementioned construction techniques.

COMPARTMENT LIGHT: One (1) Vista Brand 12V LED Rope light, Model #FSW1F, shall be mounted in the compartment, per customer specified location.
2 Separate Aluminum Plates on Unistrut

HANDLIGHTS: Two (2) Streamlight Vulcan 180 LED handlights shall be provided and installed. Exact location inside compartment M-3 to be determined at the pre-build meeting. Handlights to be wired to the battery so that the lights are charging at all times.

SCBA BRACKETS: Two (2) SCBA brackets to be installed. I

RIGHT REAR COMPARTMENT (M-5): This compartment shall be located in the right rear corner of the body. The minimum compartment dimensions shall be 82.812" High x 25.625" Wide x 21.0" Deep
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SPECIAL COMPARTMENT CONSTRUCTION (M-5): The aforementioned compartment shall be made of the following materials:

MATERIALS: All exterior compartment walls and back shall be constructed .125 aluminum sheet. The aluminum alloy, for all compartment parts shall be 5052-H32. All compartment floors shall be formed from .125 aluminum sheet. All compartment ceilings shall be formed from .090 aluminum sheet. The ceilings and floors shall form around the sides and back to provide an overlapping joint. All interior surfaces shall be double

action (DA) sanded to 180 grit. The floors and ceilings are bonded to the walls and back and intermittent welded on six (6) inch centers. Continuous welds around the compartment seams are not acceptable due to cracking, in time, located just outside the welded heat effected zone.

VENTILATION: All compartments, made from aluminum sheet, shall have at least eight louvers of ventilation to the outside. Oxygen cylinder compartments shall be louvered through the door with at least 9 square inches of free-vented area.

DRAIN HOLES: Drain holes shall be provided on the bottom of the compartments. Each hole shall be baffled to prevent splash water from entering the compartment.

COMPARTMENT DOOR PANEL: The inside door panel of this compartment shall be smooth aluminum.

COMPARTMENT INTERIOR FINISH: The M-5 compartment is a high use stowage area that will require a high strength, abrasion and chemical resistant finish. This compartment shall have a BLACK colored, high build polyurethane coating with a minimum thickness of 60 mils. The coating shall be a spray-on, abrasion resistant, textured coating that can withstand a harsh working environment without peeling, chipping or discoloring. The surfaces for the coating shall be mechanically and chemically prepared for maximum adhesion to the aluminum. The chemical adhesion promoter shall leave a moisture free surface for the etching primer to adhere to. The polyurethane coating shall not be applied over untreated aluminum.

COMPARTMENT COMPONENT FINISH: The shelf(vs), tray(s) and/or divider(s) will require a high strength, abrasion and chemical resistant finish. This compartment component(s) shall have the same polyurethane coating as the compartment inner surface.

CEILING VENTILATION: Specified compartments shall have a hat channel at the ceiling level. The hat channel shall run to no closer than 1" from the compartment side walls to allow for air exchange. Hidden from view, shall be two to three, (4") holes above the hat channel to exhaust the compartment air when the door is closed to allow it to close with minimal effort.

FIXED DIVIDERS: One semi-rigid fixed dividers shall be formed of 5052-H32 aluminum sheet. The divider shall be sixty inches (60") high by fourteen inches (14") deep; measured from the track; and have a 2" return flange formed along the sixty inch edge for mounting. All corners on the divider and shelf shall be rounded or chamfered. One fixed, horizontally oriented shelf shall be formed of 5052-H34 aluminum sheet. The shelf shall be fastened to the right wall of the compartment and to the divider. The shelf shall be eight inches (8") wide by fourteen inches (14") deep. The shelf shall not have a lip and shall be positioned 42" from the compartment floor. The exposed edges of the divider and shelf shall be covered with automotive edge trim. Two full width, horizontally oriented, Unistrut C-channel tracks shall be fastened to the back wall of the aforementioned compartment.

DIVIDER MATERIAL: The aforementioned divider(s) shall be made of 0.188 thick 5052-H32 aluminum sheet.

RETAINER STRAP: One 2" wide webbed restraint strap shall be supplied in the compartment. The strap shall employ a metal buckle system with a push button release. The strap is to be fastened to the compartment walls with a 2" footman's loop. The fastener is not to be fastened through the webbing material.

RETAINER STRAP: One 2” wide webbed restraint strap shall be supplied in the compartment. The strap shall employ a metal buckle system with a push button release. The strap is to be fastened to the compartment walls with a 2” footman's loop. The fastener is not to be fastened through the webbing material.

COMPARTMENT LIGHT: (1) One light shall be mounted in the ceiling of the "M-5" compartment. The light shall be surface mount and shall be LED.

RETAINER BAR: Retainer bar to be installed

RIGHT FRONT COMPARTMENT (M-7): This compartment shall be located in the right front corner of the module body. The minimum compartment dimensions shall be 67.5" High by 25 1/4" Wide. The compartment door shall provide direct outside access into the right front advanced life support equipment storage area.

REAR ACCESS DOORS: The rear of the module shall be equipped with double, hinged patient compartment access doors. The doors shall be centered on the body and align with the patient compartment aisle space. The doors shall measure 46 3/4 inches wide by 60 5/8" high, jamb to jamb.

REAR ACCESS DOOR JAMB: At the rear access doors, a full width, formed, stainless steel jamb protection plate shall be provided to prevent the cot frames from chipping the paint. The stainless steel protection package shall start from under the kick plate and follow the contour of the jamb extrusion, cover the end of the sub-floor and cover the last four inches of the vinyl floor covering.

LOAD HEIGHT: Load height is defined as the vertical measurement from the level ground to the finished floor plane. The load height specified herein shall not exceed the current NFPA 1917.2016.

TALK THROUGH CAB TO MODULE WINDOW: A 14" inch high by 19" inch wide access from the module to the cab shall be provided. Sliding polycarbonate doors shall close off the access window. The cab shall NOT be rigidly fastened to the modular body. A flexible, Accordion shaped, closed cell rubber bellows, custom made for the opening shall be provided to tie the cab to the module. One joint in the bellows is acceptable and shall be located on the bottom of the opening. The joint shall be completely vulcanized. The window provided shall meet or exceed current NFPA 1917.2016.

CAB ROOF SUPPORT: There shall be a 3/16" thick by 3" wide extending from driver's side to passenger side on the underside of the cab roof above the headliner to prevent any oil canning noise that might be caused by wind against the front body wall and the cab roof.

MODULE ENTRY DOOR INSULATION; Module entry doors shall have 0.1875 inch thick mass loaded acoustical ethylene vinyl acetate material attached to the inside surface of the exterior skin to provide a noise reduction of 75%. There shall be 2 inch thick moisture resistant hydrophobic, micro-porous, polymeric substance adhered to the ethylene vinyl acetate material to provide added DB absorption and a minimum R rating of 11. The insulation shall be fitted tightly against the structural members to maximize R-value effectively. Gap spacing round each cell within the structure grid and the block foam shall not exceed 1/16". A layer of 0.250 inch thick foil encapsulated micro-cellular closed-cell polyethylene with an R rating of 7.75. There shall be a minimum air gap of 0.5 inch between the inner most foil surface and the doors interior surface materials. Insulation shall not interfere with door latch hardware. The total R value of the module entry doors must be greater than or equal to 12.

MODULE ENTRY DOOR SOUND PROOFING; Module entry doors shall have 0.1875 inch thick mass loaded acoustical ethylene vinyl acetate material attached to the inside surface of the exterior skin to provide a noise reduction of 75%

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DOOR JAMB SILL PROTECTION: On the compartments specified below, the paint on the bottom horizontal portion of the door jamb shall be protected by a twenty (20) gauge minimum stainless steel protection plate. This plate shall originate at the toe of the door jamb lip (where it mates against the skin), then forms around the lower flat surface, then forms up across the gasket mating surface and finally forms across the inner jamb surface and terminates where the compartment meets the jamb.

- Left Front Upper Compartment Bottom Door Jamb.
- Left Front Compartment Bottom Door Jamb.
- Left Front Middle Compartment Bottom Door Jamb.

- Left Rear Compartment Bottom Door Jamb.
- Right Rear Compartment Bottom Door Jamb.
- Right Rear Forward Compartment Bottom Door Jamb.
- Right Front "ALS" Compartment Bottom Door Jamb.

FUEL FILLER AND HOUSING: The filler neck supplied by the OEM shall be used. The filler neck shall be vented and be diameter indexed to accommodate a FUEL pump nozzle. The fuel filler neck shall be bolted to a cast aluminum fill housing. The filler housing shall be an open design with a bright polished mounting flange. The housing configuration and filler installation shall comply with the OEM Body Builders Layout Book. The fuel filler neck shall be grounded directly to the frame rail to prevent static electric charges from igniting the fuel vapors during refueling. The fuel filler cap shall be supplied by the OEM. The cap shall be attached to the filler housing with a lanyard. The filler cap shall incorporate an over-tighten protection device that ratchets, when the preset cap torque is reached.

OVER FILL PROTECTION: The paint, located under the fuel fill housing shall be protected with .100 stainless steel. The plate shall run from the fill housing to the skirt line of the module.

BODY PROTECTION AND LIGHTING

WIRE/HOSE COVER: The area between the back of the cab and the front of the module shall have a .100 aluminum diamond plate cover, attached to the frame rails, to protect any hoses and/ or wires routed in that location. The cover shall be mounted to close-off the area with a finished appearance.

FRAMING: The rear step bumper shall exceed the current revision of NFPA 1917.2016. The bumper shall be framed in with ¼ x 2 x 4 6063-T6 aluminum rectangular tubing. The bumper shall be through bolted directly to the chassis frame.

OUTER PONTOONS: The outer bumper ends (pontoons) shall be covered in .100 polished aluminum aggressive diamond plate. The outer corners shall be chamfered and shall extend out past the body and line up with the lower body side skirt rails to create a continuous look. Each pontoon cover shall be through bolted to the bumper frame with stainless steel, pan-head, Phillips head, ¼-20 bolts and Nylock nuts.

DEPTH OF BUMPER: The rear bumper shall protrude from the rear surface of the module body to the rearward most metal surface by at least thirteen and one half inches (13 1/2") and not more than fourteen inches (14").

CENTER STEP: A flip up step shall be provided to allow closer access to the patient cabin floor. The step shall be as wide as the rear access door jamb. The step shall be made of 2" x 9-1/2" grip strut commercially perforated aggressive traction. A stainless steel piano hinge shall have a staked in, ¼" diameter pin, one inch knuckles and one Type-F ¼" through bolt every four inches. The step shall have a passive positive locking device to ensure that the step remains in the vertical position while the ambulance is kneeling.

DOCKING BUMPERS: The rear bumper shall be equipped with natural, black rubber dock bumpers. The bumpers shall measure 4 inches high by 18 inches long by 4 inches thick. The bumpers shall be through bolted to each pontoon with two (2) 3/8 diameter, grade 8 bolts. The bolts shall be counter bored into each dock bumper. Each mounting hole shall be reinforced with a counter bore diameter, thick flat washer. Each bolt shall be threaded into a spiral lock flanged nut or approved equal.

FENDER: The rear fenders shall be made of extruded rubber. The rubber fender mounting lip shall be reinforced with a radius matched 0.125 aluminum strip to promote even compression pressure between the fasteners. The mounting fasteners shall be 100% nylon bolt with 100% nylon nuts shall hold the fender to the body. The fastener centers shall not exceed ten inches (10).

BODY CORNER POST PROTECTION: The lowest front twenty four inches (24") of the corner post extrusions shall be protected against stones and road debris. The corner post guards shall be formed of .080 thick polished aluminum diamond plate, contour fit to the corner post extrusions and riveted into place. A bead of silver colored, silicone sealant shall be applied across the top edge of the guards. The bottom of edge of the guard shall be left unsealed to promote moisture drainage.

BODY CORNER POST PROTECTION: The Rear lower twenty four inches (24") of the corner post extrusions shall be protected against stones and road debris. The corner post guards shall be formed of .080 thick polished aluminum diamond plate, contour fit to the corner post extrusions and riveted into place. A bead of silver colored, silicone sealant shall be applied across the top edge of the guards. The bottom of edge of the guard shall be left unsealed to promote moisture drainage.

REAR KICK PLATE: The rear kick plate shall be made of 0.100 inch thick Polished aluminum diamond plate and run from corner post to corner post. The height shall be tapered from the skirt-line of the body to the bottom door jamb under the rear access doors and then transition from under the rear doors to the same height as the rear corner guards on the corner post.

TAG HOLDER: The license plate holder shall be a Cast Products part number CPI-LP0002-1. It shall be flush mounted by cutting away the material behind the installation to the approved size by CPI for proper installation. The holes shall be drilled and nylon isolators shall be installed so that the screws that secure the license plate holder are isolated from the aluminum ambulance body. There shall be lights installed at the top of the license plate holder and wired to the parking light circuit.

FRONT OF BODY: The front of the body shall have skirt-line protection plates made of .080 aluminum diamond plate. The corner posts shall have form fit diamond plate protection height matched to the frontal plates. The height of the protection is twenty four inches up from the body skirt line.

SKIRT RAILS: The entire skirt-line of the body, forward and aft on the rear wheels shall have formed .188" diamond plate skirt rails to protect the body. Each skirt rail shall meet current NFPA 1917.2016. Each rail shall be chamfered 45 degrees at both ends. There shall also be a series of twelve (12) rectangular holes, six (6) each side. Six (6) of the holes shall face outward and six (6) shall angle downward. The side facing shall be for warning lights and the downward shall be for ground lighting. The rails shall be fastened through the bottom of the rail into the bottom of the modular body. The rails shall not cut into the paint. They shall be mounted through nylon isolators in such a manner that they are spaced off the body.

<u>FRONT PAIR SKIRT RAIL LIGHTS</u>

MODULE SKIRT LIGHTING; There shall be installed LED lighting into the module skirt rail to provide additional perimeter warning on the lower section of the module sides. Lighting shall flash and be controlled through the conversion electrical system. Lighting colors shall be RED with location determined at a pre-build meeting.
MIDDLE PAIR SKIRT RAIL LIGHTS

MODULE SKIRT LIGHTING; There shall be installed LED lighting into the module skirt rail to provide additional perimeter warning on the lower section of the module sides. Lighting shall flash and be controlled through the conversion electrical system. Lighting colors shall be RED with location determined at a pre-build meeting.

<u>REAR PAIR SKIRT RAIL LIGHTS</u>

MODULE SKIRT LIGHTING; There shall be installed LED lighting into the module skirt rail to provide additional perimeter warning on the lower section of the module sides. Lighting shall flash and be controlled through the conversion electrical system. Lighting colors shall be RED with location determined at a pre-build meeting.

SKIRTRAIL LIGHT SWITCHING: The above mentioned skirt rail LED lights shall be wired to activate by separate switch in cab console.

MODULE SKIRT LIGHTING; There shall be installed Six Kinequip LED lighting into the module skirt rail to provide additional perimeter warning on the lower section of the module sides. Lighting shall be controlled through the conversion electrical system. Lighting colors shall be White with location determined at a pre-build meeting. The ground lights shall remain illuminated for only 30 seconds after vehicle is turned off, regardless of door status.

LED GROUND SWITCHING: The above-mentioned LED Ground lights shall be wired to activate by separate switch in cab console and with any entry or compartment door.

REAR ACCESS DOOR CHECKS: Rear access doors shall open at least 150 degrees. The door checks shall be 2 piece, heavy duty, cast aluminum, grabber type with gaskets. The door shall have a ½ round stock loop that plunges into a positive rubber/cast socket.

RUNNING BOARDS: Running boards (An auxiliary step) shall be constructed of .100 embossed diamond plate with an aggressive traction "Grip strut" insert and shall be installed on each side of the cab. There shall be a grip strut insert into the board design. The running boards shall not deflect when stepped on. Built in diamond plate mud flaps shall keep front tire induced road grime off the step.

FRONT MUD FLAPS: Mud flaps shall be mounted to the front fenders just behind the front tires. The mud flaps shall be 1/4" thick natural rubber material. Each mud flap shall be sandwiched between the wheel well liner and a torque distribution plate. The torque distribution plate shall be at least .100 thick aluminum plate. Each mud flap shall be through bolted to the fender with at least three (3) fasteners.

REAR MUD FLAPS: Mud flaps behind both sets of rear tires shall be supplied and installed. The mud flaps shall be 1/4" thick natural rubber material. Each mud flap shall be sandwiched between the wheel well liner and a torque distribution plate. The torque distribution plate shall be at least .100 thick aluminum plate. Each mud flap shall be through bolted to the wheel well liner with at least three (3) one-quarter inch (1/4") diameter stainless steel bolt.

COURTESY STEP LIGHTS: There shall be a pair of courtesy step lights consisting of a Whelen style T0CACCCR 2" light, mounted to the front of the modular body on the lower body diamond plate stone guards. The lights shall be illuminated with the door ajar circuit for the cab doors.

CORROSION: The anti-electrolysis procedure for any holes that are drilled for application of materials is to be as follows, After the hole is drilled, the opening(s) are to be treated with Tactile 517 prior to installation of any fasteners to guard against any future corrosion.

EXTERIOR FASTENERS: All screw sites require a replaceable nylon insert for the fastener to thread into to isolate the dissimilar metals. Each hole shall be treated with an Electrolysis Corrosion Control compound (Tactile 517) prior to installation of the nylon inserts. All exterior screws shall be stainless steel.

BODY CORNER CAPS: The front and rear upper body corners shall include a cavity built into the aluminum body that shall not sacrifice the body integrity.

FRONT CORNER ICC LIGHTS: The front body corner caps shall include DOT approved compliant light fixtures with clear lenses. The lenses shall house ICC fixtures that include amber LED's to be mounted to the front and front corners. There shall also be additional LED lights that alternate red and clear within the light to act as additional warning lights.

FRONT I.C.C. LIGHTS: Clearance lights shall be provided per FMVSS 108. The lights shall illuminate the height of the vehicle, and define the vehicle center line. Three (amber) lights shall be provided on the front of the module and be populated with at least four LED's and shall have chrome bezels.

REAR CORNER ICC LIGHTS: The rear body corner caps shall include DOT approved compliant light fixtures with clear lenses. The lenses shall house ICC fixtures that include red LED's to the rear and rear corners. There shall also be additional LED lights that alternate red and amber within the light to act as additional warning lights.

REAR I.C.C. LIGHTS: Clearance lights shall be provided per FMVSS 108. The lights shall illuminate the height of the vehicle, and define the vehicle centerline. Three red lights shall be provided on the rear of the module and be populated with at least four LED's and shall have chrome bezels.

CORNER CAP WARNING LIGHT SWITCHING: The above mentioned corner cap LED lights shall be wired to activate in Primary Only.

LED Lights, Patient on Board, X-Series Units

LED LIGHT: There shall be a Kinequip LED (light emitting diodes) light installed on the ambulance. The fixture shall measure 1" tall x 1.75" wide and shall be installed to the ambulance with nylon isolators to separate the stainless fasteners from the surface to eliminate electrolysis. The light shall be a combination of red and white with four individual LED’s. There shall be two red and two white diodes which shall alternate flash red and white with an internal flasher within the light. The flange of the light shall be chrome in color. Final location shall be determined by this department and noted on the final build order at confirmation.

TAIL LIGHTS

Tail Lights, Whelen LED Combinations, STD, X-Series

SIDE MARKER LIGHTS: Side marker lights shall be Kinequip Model 112401RD (Red) and shall flash alternately with the rear turn lights. All lights shall be LED.

LIGHT SIZE: The light style shall be Whelen M9 series and shall be provided as follows.

STOP/TAIL LIGHT: The stop/tail light fixtures on the rear of the body shall be Whelen Brand series M9, Light Emitting Diode to operate as both tail and stop modes and shall be red when illuminated.

TURN SIGNAL LIGHT: The turn signal light fixtures on the rear of the body shall be Whelen Brand series M9, Light Emitting Diode to operate as left and right turn signal lights and shall be amber arrow when illuminated.

BACK UP SIGNAL LIGHT: The backup signal light fixtures on the rear of the body shall be Whelen Brand series M9, Light Emitting Diode to operate as left and right back up signal lights and shall be clear when illuminated.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

INTERIOR TURN AND STOP LIGHTS: There shall be three LED lights located interior the patient area mounted over the rear doors secured to the rear header pad to indicate to the patient area personnel of the intention of the driver to turn and/or stop the vehicle. The turns shall be amber and the stop shall be red fixtures.

EXTERIOR FLOOD and LOAD LIGHTING

LEFT SCENE LIGHTS: Two scene lights shall be provided on the left side of the module. The lights shall be Whelen LED-M9 series. The scene light group shall meet or exceed the present revision of the NFPA 1917.2016.

BRIGHT CHROME-LIKE FLANGES: The M9 scene light group shall each have bright chrome trim flanges.

SCENE LIGHT SWITCHING: The scene lights shall come on with two separate rocker switches labeled Right Flood and Left Flood, located in the center cab console controlled by the master switch. The right (curb side) scene lights shall also come on when the side entry door is opened.

RIGHT SCENE LIGHTS: Two scene lights shall be provided on the right side of the module. The lights shall be Whelen LED-M9 series. The scene light group shall meet or exceed current revision of the NFPA 1917.2016.

BRIGHT CHROME-LIKE FLANGES: The M9 scene light group shall each have bright chrome trim flanges.

REAR LOAD LIGHTS: Two rear load lights shall be provided on the rear of the module, above the rear access doors. The lights shall be Whelen LED-M9 series. The scene light group shall meet or exceed current NFPA 1917.2016.

BRIGHT CHROME-LIKE FLANGES: The M9 scene light group shall each have bright chrome trim flanges.

REAR LOAD LIGHT SWITCHING: The rear load lights shall come on with a separate rocker switch located in the cab console controlled by a master switch. The switch shall be labeled "Rear Flood" and shall control both rear load lights on the rear of the body and above the rear access doors. The rear load lights will come on when rear doors are opened.

ADDITIONAL FLOOD LIGHT ACTIVATION: The rearward scene lights shall come on with when the vehicle is placed in reverse in addition to the rear flood/load lights.

AIR CONDITIONER, SECONDARY SYSTEM: An auxiliary air conditioner (A/C) shall be supplied and installed in the patient area of the modular body. The A/C unit shall be a self-contained unit with a cooling output capacity of 12,000 British Thermal Units (BTU). The unit shall be mounted on the outside forward-facing area of the box per the A/C unit manufacturer's specifications.

The A/C unit shall run on one hundred fifteen volts, alternating current at a frequency of sixty Hertz. Current draw shall not exceed fifteen Amperes, including the compressor and the fan motor set on HIGH speed.

The Climate control system shall have its own thermostat and control system separate from any other functions

REFRIGERANT: The system shall operate on 24.5 ounces of R-134a Freon.

THERMOSTAT: A built in thermostat, utilizing a capillary tube as a metering device, shall have a temperature range of sixty degrees Fahrenheit.

UNIT WEIGHT: The overall unit weight shall not exceed eighty-five pounds.

HVAC SYSTEM; The patient area HAC system shall be mounted over the area between the cab and the patient compartment behind the attendant seat at ceiling level. A/C Unit will have a ducted delivery system in the ceiling with eight (8) adjustable vents. There shall be 4” flexible hose from the evaporator to the ceiling

mounted distribution channel. The unit shall be mounted on the outside forward-facing area of the box per the A/C unit manufacturer's specifications.

HEPA FILTER: The return air grille shall be supplied with a HEPA filter that is designed to fit the slot within the removable powder coated grille. It shall be installed and shall not rattle within the grille. The filter shall be replaceable by this department's fleet maintenance in the field.

RETURN AIR GRILLE: Installed around the Heat/AC unit shall be a perforated 13 gauge steel grille. The grille shall allow 156 inches of return air flow to the Heat/AC unit. The grille shall provide complete access to the Heat/AC unit. The grille to have a black powder coat finish. There shall be two quarter turn locks supplied and installed on the grille. The locks shall have a black powder coated finish. Lock pawl activation shall be enabled with a round bitted key.

REAR AIR CONDITIONING EVAPORATOR: Air Conditioning is hereinafter referred to as A/C. The module shall have an additional, self-contained A/C evaporator unit complete with a dual blower motor driven, high output fan. The fan shall be three speed and shall move 580 cubic feet of air per minute on high. The A/C unit shall also incorporate a hot water heater core for heat. The valves shall operate with the heater/defrost controls. The unit shall be rated at least 32,000 British Thermal Units (BTU) in A/C Mode and 48,000 BTU in Heater Mode. The Vehicle A/C Heater system must meet or exceed current NFPA 1917.2016.

CONDENSATION DRAIN PAN: A condensation pan shall be provided to collect water condensation from the evaporator coil. The drain pan shall be formed from 1/8 ABS plastic sheet and shall be listed (tilted) toward the drain fitting. The Evaporator unit shall be mounted so that the weight of the coil, case and blower assembly does not rest on the pan. Additionally, the entire evaporator shall list toward the condensation drain fitting to enhance water flow to the drain hose. The drain hose shall be ½ I.D., collapse resistant and fiber reinforced poly-tubing. The hose shall be routed from the condensation pan to the street.

HEATER HOSES: Heater hoses for the cab shall remain O.E.M. with an option of blue silicon hoses and hytorque clamps: 5/8 inside diameter, EPDM Nomex rubber hoses shall route from the O.E.M tie in point to the rear heater core.

AIR CONDITIONING HOSES: All A/C Hoses shall meet Society of Automotive Engineers (SAE) J-2064. The discharge (High side) hoses shall not be less than 5/16 inside diameter (Size 6). The suction (Low side) hoses shall not be less than ½ inside diameter (Size 10). All hoses shall be A.S.T.M. Type D, with a thermoplastic inner liner (Nylon) that is protected by two textile reinforced braided electrometric outer jacket. The hose shall be qualified for use with R-134A, R-404 and R-407. The hose specified herein shall be subjected to a battery of tests per A.S.T.M. D-380. The results shall be supplied by the hose manufacturer.

RETURN AIR GRILLE: Installed around the Heat/AC unit shall be a perforated 13 gauge steel grille. The grille shall allow 156 inches of return air flow to the Heat/AC unit. The grille shall provide complete access to the Heat/AC unit. The grille to have a black powder coat finish. There shall be two quarter turn locks supplied and installed on the grille. The locks shall have a black powder coated finish. Lock pawl activation shall be enabled with a round bitted key.

CARBON FILTER: The return air grille shall be supplied with a pre carbon filter that is designed to fit the slot within the grille. It shall be installed and shall not rattle. The filter shall be replaceable and/or cleanable by this department's fleet maintenance in the field.

DUAL AC CONTROL / THERMOSTAT: The air conditioning and heat for the patient cabin shall be controlled by a set of controls in the action area with a multiplexed temperature probe for the patient area. Controls in the front chassis cab through the multiplexed system shall also be installed. A digital display shall indicate the patient cabin temperature on both displays.

LINER PANELS: The patient cabin head liner substrate material shall be 3mm Dibond, aluminum composite material (ACM) with a polyethylene core and coil coated painted .012" aluminum top and bottom surfaces. Upholstered center panels shall provide access to ceiling wiring both front and back of the center light rail and be covered in the same upholstery type as the seat and back rest pads found on the squad bench and/or CPR seat.

PATIENT CABIN DOME LIGHT RAIL SYSTEM: The patient cabin shall have a single fixture that extends within ten (10) inches of the rear header pad. The single fixture shall have individual circuit boards containing LED (light emitting diodes) sufficient to meet or exceed the lumen requirements of the s NFPA 1917.2016 present revision. The light rail shall be constructed of not less than .090" aluminum and shall be antimicrobial powder coated white to match the ceiling panels. The fixture shall be capped off at both ends to match the light rail extrusion to give the light rail an aesthetically appealing look and all the fasteners shall match the color of the light rail. There shall be switching in both the cab and the patient area to operate the lights both in low and high output. There shall also be two full length rows of red LED lights on a separate switch to operate with or without the main white lights. The ceiling light configuration shall meet current s NFPA 1917.2016.

CHECK OUT LIGHT SWITCH: There shall be a switch installed designed to defeat/enable power to prescribed interior dome lighting. The location of the switch shall be noted in the shop order after determination at the pre-build conference.

INTERIOR CHECKOUT TIMER: A programmable timer circuit shall be included as part of the Multiplexed electrical system. It shall be activated with the opening of either the Curbside or Rear Access Doors. The circuit shall be constant hot and only operate with the Battery Switch in the off position.

INTERIOR CHECKOUT TIME FRAME: The light circuit shall stay on for a period of 15 minutes.

LIGHTS POWERED BY TIMER: The aforementioned timer shall power all of the dome lights on the low intensity setting. The duration of the light shall vary with the setting of the timer.

I. V. BAG HANGING HARDWARE, No 1: One self-contained recessed I. V. Hook assembly shall be installed in the ceiling. The I. V. Hook assembly shall fold and stow recessed in a cast aluminum housing. The hooks are to be spiral shaped to preclude I. V. Bag from falling off with push button release for each fluid bag. The I. V. Hook assembly shall hold (2) two bags of fluid. A rubber with Velcro anti-sway device shall be included for IV retention, without depending on adjacent cabinetry.

LOCATION; Located midline of the Primary patient, in the close proximity to the Knee/Waist area of the patient.

I. V. BAG HANGING HARDWARE, No 2: One self-contained recessed I. V. Hook assembly shall be installed in the ceiling. The I. V. Hook assembly shall fold and stow recessed in a cast aluminum housing. The hooks are to be spiral shaped to preclude I. V. Bag from falling off with push button release for each fluid bag. The I. V. Hook assembly shall hold (2) two bags of fluid. A rubber with Velcro anti-sway device shall be included for I. V. retention, without depending on adjacent cabinetry.

LOCATION; Located midline of the Secondary patient, in the close proximity to the Knee/Waist area of the patient.

CURB SIDE OVER HEAD ASSIST RAIL: This rail shall be naturally accessible to assist working attendants in maintaining their balance. The rail shall exceed NFPA 1917.2016 3.15.2C. The rail shall be 1 ¼ diameter, 100% stainless steel and 72 inches long. All rail fittings shall be TIG welded to the main rail. The rail shall be located over the squad bench. Grab rails that utilize separate, setscrew rail fittings are not reliable and not acceptable.

RECESSED STREET SIDE OVER HEAD ASSIST RAIL: The rail shall exceed the current revision of current NFPA 1917.2016. The rail shall be 1 ¼ diameter, 100% stainless steel and 72 inches long. All rail fittings shall be TIG welded to the main rail. The rail shall be recessed in an ABS pan 1.5", located curbside of center pad.

MODULE DOOR INSULATION: There shall be 2 inch thick moisture resistant hydrophobic micro porous polymeric substance adhered to the ethylene vinyl acetate material to provide added DB absorption and a minimum R rating of 11. The insulation shall be fitted tightly against the structural members to maximize R-value effectively. Gap spacing round each cell within the structure grid and the block foam shall not exceed 1/16". A layer of 0.250 inch thick foil encapsulated micro-cellular closed-cell polyethylene with an R rating of 7.75. There shall be a minimum air gap of 0.5 inch between the inner most foil surface and the doors interior surface materials. Insulation shall not interfere with door latch hardware.
The total R value of the module entry doors must be greater than or equal to 12

MODULE DOOR INSULATION: Module entry doors shall have 0.1875 inch thick mass loaded acoustical ethylene vinyl acetate material attached to the inside surface of the exterior skin to provide a noise reduction of 75%.

MODULE FLOOR INSULATION: The floor shall have 0.5 inch thick mass loaded acoustical (XPS) extruded polystyrene foam composite attached to the inside floor surface to provide a noise reduction of 75%. Patient compartment floor is now fully insulated for sound deadening and enhanced temperature control without increasing load height. The total R value of the floor must be greater than or equal to 4.5 to 5.0 per inch.

INSULATION WALLS AND CEILING; The walls shall have minimum of 1 inch thick closed- porous polymeric substance with a minimum R rating of 4. The insulation shall be fitted tightly against the structural members to maximize R-value effectively. Gap spacing around each cell within the structure grid and the block foam shall not exceed 1/16". A layer of 0.250 inch thick foil encapsulated micro-cellular closed-cell polyethylene with a minimum R rating of 7.75. The material must pass FMVSS 302 testing. There shall be a minimum air gap of 0.5 inch between the inner most foil surface and the interior surface materials. The total R value of the walls must be greater than or equal to 11.75
The ceiling shall have a 1 inch thick closed-cell hydrophobic micro porous polymeric substance with a minimum R rating of 4. The insulation shall be fitted tightly against the structural members to maximize R-value effectively. Gap spacing around each cell within the structure grid and the block foam shall not exceed 1/16". A layer of 0.250 inch thick foil encapsulated micro-cellular closed-cell polyethylene with a minimum R rating of 7.75 There shall be a minimum air gap of 0.5 inch between the inner most foil surface and the and the ceiling panel. The total R value of the ceiling must be greater than or equal to 11.75.

STEPWELL INSULATION PACKAGE: The underside of the curbside step well shall be insulated between the structure with urethane froth insulation and then the underside shall be undercoated to protect the insulation from weather elements.

SOUND DEADENING PACKAGE: The doors, and bare interior walls not covered by cabinetry of the ambulance shall be insulated with a premier insulation package that will both offer sound/acoustical and HVAC characteristics for the patient area of the ambulance. The material offers Sound, Air and Moisture barrier by blocks airborne noise from entering the vehicle through open passages. When used between metal surfaces and mounting brackets it acts as a de-coupler and damper reducing the vibration of each surface and minimizing the transfer of noise between the surfaces and the cabin interior. The separation of exterior and interior surfaces by utilizing this product also provides a thermal barrier which enhances the climate control in the vehicle. It is used as a moisture barrier within doors to protect electrical passages and gives a solid feel by filing gaps between panels. The following are some of the characteristics of the material:

1) Is a decoupling / damping layer to reduce impact/airborne noise through floors.
2) Adds insulation value as it exhibits a R value of 3+.
3) Product is made from postindustrial recycled content.

4) Passes FMVSS 302 flammability testing.
5) Passes automotive physical performance specifications.
6) Reduces noise levels up to 75% between the interior and exterior.
7) Is made of Non–PVC so it doesn't deplete the ozone layer.
8) Improves climate control efficiencies.

MODULE INSULATION: The module insulation, except the under the floor shall consist of material having the following characteristics, 8mm thick nonabsorbent, reflective and shall have an air cell core. The air cell core shall consist of one layer of polyethylene bubble film that is sandwiched between one (1) layer of 99 percent pure aluminum foil and white colored polyethylene film. The insulation shall be installed with at least ½ air space from exterior skins, exposed to direct sun light. The insulation thermal rate testing shall be conducted in accordance with A.S.T.M. E84-89A, ANSI 2.5, NFPA 255, UBC 42-1, and U.L. 723. The walls shall not be less than R-15.0 down, R-7.31 Horizontally and R5.4 up. The insulation shall have a NFPA Class A and a UBC Class 1 fire rating with a flame spread index of 20 and a smoke developed index of 30. The application shall include a single layer of the insulation on all four walls, doors, compartments, ceiling and floor.

PUBLIC ADDRESS (Visual) WARNING LIGHTS

WARNING LIGHT FLASHER: There is not to be an external flasher unit. The LED warning lights shall each flash independently of each other. There shall be no preset flash pattern and it will not comply with the present revision of NFPA 1917.2016. This agency chooses to have this flash pattern as we feel that it is as effective as the required flash pattern incorporated within the verbiage of the present revision of NFPA 1917.2016.

PRIMARY / SECONDARY SWITCH: The warning light system shall be controlled with a switch(es) located in the cab console. The switch(es) shall allow for "Off" position, "Primary" position, and "Secondary" position. Each output of the switch shall be indicated with a small red lamp, integrated in the switch legend area. The switch shall have an engraved, illuminated legend that clearly defines the function of the switch.

OPTICOM: The ambulance shall include a GPS Opticom unit that is also able to provide LED flash ability consistent with a GTT model 792H. A switch in the console shall be supplied with an auto off for the flashing module if vehicle is taken out of drive gear.

OPTICOM LOCATION: The above mentioned Opticom unit shall be ordered and incorporated in the center front warning light.

<u>GRILLE LIGHTS</u>

LIGHT HEADS: A pair of Whelen Engineering, M7 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD HOUSING: The grille lights shall have a chrome finish flange to fit the OEM grille.
LED M7 (2) RED & (2) GREEN

WARNING LIGHT; There shall be installed a Whelen M7 size Red LED light with Red lens.
The above LED light(s) shall be programmable to flash without an external flasher.

WARNING LIGHT; There shall be installed a Whelen M7 size Green LED light with Green lens.
The above LED light(s) shall be programmable to flash without an external flasher.

<u>INTERSECTION LIGHTS</u>

LIGHT HEADS: A pair of Whelen Engineering, M4 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.
LIGHT HEAD HOUSING: The intersection light shall have a contoured housing to fit the OEM fender.

WARNING LIGHT; There shall be a Whelen M2 warning light installed with Split colors Red and White Diodes. The light shall feature dual built in flashers that are programmable.

FLASH PATTERN; The programmable split color light shall have each independent color wired to a specific flasher circuit by the up-fitter. The flash pattern number shall be confirmed by the agency at the pre-construct meeting. The individual sections of the light are synched to other lights as indicated in the notes of the production order.

OUTER FRONT BODY LIGHTS

LIGHT HEADS: A pair of Whelen Engineering, M9 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

WARNING LIGHT; There shall be installed a Whelen M9 size Red LED light with red lens and programmable flash functions
The above LED light(s) shall be programmable to flash without an external flasher.

UPPER SIDE BODY LIGHTS

LIGHT HEADS: Two pair of Whelen Engineering, M9 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

WARNING LIGHT; There shall be installed a Whelen M9 size Red LED light with red lens and programmable flash functions.
The above LED light(s) shall be programmable to flash without an external flasher.

REAR INTERSECTION LIGHTS

LIGHT HEADS: A pair of Whelen Engineering, M7 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

WARNING LIGHT; There shall be installed a Whelen M7 size split Red/ White LED light with Clear lens.

FLASH PATTERN; The programmable split color light shall have each independent color wired to a specific flasher circuit by the up-fitter. The flash pattern number shall be confirmed by the agency at the pre-construct meeting. The individual sections of the light are synched to other lights as indicated in the notes of the production order.

REAR OUTER BODY LIGHTS

DIM FEATURE: All rear body lights shall automatically be dimmed to an appropriate level (determined at a build-out meeting) when the parking brake is applied. Driving brake lights shall be dimmed to an appropriate level consistent with NFPA 1917.2016 Section 7.9. A manual override switch will also be provided to keep the rear lights in permanent dim mode. While parked the lights shall automatically be programmed to dim to the lowest allowable level per NFPA.

LIGHT HEADS: A pair of Whelen Engineering, M9 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

WARNING LIGHT; There shall be installed a Whelen M9 size Red LED light with red lens and programmable flash functions
The above LED light(s) shall be programmable to flash without an external flasher.

ADDITIONAL REAR BODY LIGHTS

LIGHT HEADS: Two pair (one pair of RED LED lens, one CLEAR LED lens, one AMBER LED lens of Whelen Engineering, M9 Series LED Light heads shall be supplied in the aforementioned location.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).

WARNING LIGHT; There shall be installed a Whelen M9 size Red LED light with red lens and programmable flash functions
The above LED light(s) shall be programmable to flash without an external flasher.

WARNING LIGHT; There shall be installed a Whelen M9 size Red LED light with red lens.

BRAKE LIGHT OVERRIDE: The rear warning lights described above shall steady burn with the brake light switch on the foot pedal.

BRAKE OVERRIDE FUNCTION: The brake light override feature shall function during all modes of lighting operation EXCEPT primary mode. The aforementioned lights shall steady burn when the brake pedal switch is activated even when the emergency lighting is turned OFF. When the warning lights are in Secondary mode, then the rear lights specified above shall steady burn for the duration of the foot pedal depression and resume flashing when the foot brake is released.

CENTER REAR BODY LIGHTS

LIGHT HEADS: A Whelen Engineering, M6 Series LED Light heads shall be supplied in the aforementioned location. The light head shall feature Light Emitting Diodes. The light head shall comply with all photometric, chromaticity and physical requirements set forth in the current revision of NFPA 1917.2016. The lens shall feature a smooth outer surface designed to filter light frequency (Color) evenly over the area of the entire light head. A certificate of Compliance shall be made available to the agency upon request.

LIGHT HEAD FLANGE: Whelen bright, chrome (Flange), on the above "M" Series light head(s).
Light: Whelen M6, LED, AMBER LED/AMBER Lens, Programmable
The above LED light(s) shall be programmable to flash without an external flasher.

ADDITIONAL FRONT WARNING LIGHTS: There shall be installed four additional warning lights in the front upper zone.

ADDITIONAL WARNING LIGHT: There shall be installed a Whelen M9 size White LED light with Clear lens and programmable flash functions

WARNING LIGHT: There shall be installed a Whelen M9 size Red LED light with red lens and programmable flash functions
The above LED light(s) shall be programmable to flash without an external flasher.

ALTERNATIVE LIGHTBAR SWITCHING: The switching of the lighting package that makes up the alternative light bar package shall be through the Primary/Secondary switching system. All red lights shall be through the primary side of the switch and any clear lighting (if optioned) shall be through the secondary side.

REAR TRAFFIC ADVISOR: A Whelen Model No TANF85 LED "Traffic Advisor" shall be supplied and installed at the location specified below. The device shall contain eight amber LED "Light Emitting Diodes" Whelen 500 series LED lamps mounted in an extruded black anodized aluminum housing. Both end lamps shall feature arrow shaped directional shades to clarify traffic reroute direction(s) and the fixture shall measure approximately 43.25". A Whelen TA CTRL 1A control head shall flash the light string in one of four modes.
Left - This light cycle shall flash sequentially beginning with the light on the far right and end with the arrow light on the far left; then repeat.
Right - This light cycle shall flash sequentially beginning with the light on the far left and end with the arrow light on the far right; then repeat.
Split - The center two lights shall flash simultaneously and then flash the outer adjacent lights sequentially to both end arrow lights; then repeat
Flash - All lights in the bar shall flash simultaneously.

TRAFFIC ADVISOR MOUNT: The traffic advisor shall be mounted directly onto the rear of the body above the rear entry door jamb. Each mounting fastener shall be a through bolt application. The traffic advisor shall be thoroughly sealed with a silicone based sealer. The wire harness shall pass through a weather proof grommet and be thoroughly sealed with a silicone based sealer.

ELECTRICAL SYSTEM 12 VOLT- GENERAL

MODULE GROUNDING: A minimum of (2) two braided ground straps shall be through bolted to the chassis frame and the floor structure of the modular body. The bolts shall be at least 3/8 diameter. A flat washer shall be provided under the head of the bolt, over the strap lug. Additionally, an internal tooth lock washer shall preclude loosening. Conventional stranded copper cables are not acceptable because they do not suppress RFI and does not meet SAE J551.

GENERAL GROUNDS: To comply with current NFPA 1917.2016 plus enhance ground quality and reduce trouble shooting time, all devices wired within the ambulance conversion shall be centrally grounded. Each

device shall have a separate ground wire routed to a central buss bar then grounded via fine strand cable to the module body. Local grounds are acceptable only when the device is drawing at or less than 100 milliamps (0.1 amps).

12 VOLT WIRE: All wires within the ambulance harnesses shall meet current NFPA 1917.2016. All wire insulation shall be GXL cross-linked polyethylene. Permanent wire identification and wire function shall be printed on 4 centers along the full length of the wire. Wire conductors shall be stranded copper.

WIRE PROTECTION: All wire within the conversion shall be protected and run in split convoluted loom with a melting temperature of 300 degrees, Fahrenheit. All wire harnesses shall be clamped and routed to eliminate possibility of damage due to cut/chaffed wire. Grommets made of rubber or plastic shall be used where harnesses pass through metal or wood. Large holes and irregular shaped wire passages shall use automotive edge trim to protect the wire conduit/loom. Wire harnesses shall be neatly clamped into protective routing areas away from heat sources, unfriendly edges or moving devices.

SPOT LIGHT: A hand held 400,000 candle power, blue eye spot light shall be provided in the cab. A chromed hook with spring retainer shall be included to stow the light.

HANDHELD SPOTLIGHT LOCATION: The spot light shall be hard wired to the center console. The light shall be enabled through the battery switch.

TWO BATTERY SYSTEM: The ambulance conversion and chassis shall run with two maintenance free twelve volt batteries as specified below.

BATTERY LOCATION: Both batteries shall be located under the OEM hood in the engine compartment.

BATTERY BRAND: Both batteries shall be the OEM brand, same model and type. Each battery shall be rated at a minimum OEM rating. The batteries shall be warranted by the OEM manufacturer for at least three years (thirty six months) from the date of delivery to the agency.

BATTERY SWITCH: A conversion disconnect switch shall be supplied to remove positive polarity from the ambulance conversion circuits. Constant battery power shall be supplied for device memories. None of the chassis functions shall be effected by this switch per Fords Qualified Vehicle Modifiers program, bulletin No 63. The switch shall be a Cole Hersee Model M2484-16 with a legend bezel that defines the ON and OFF position. An indicator light shall illuminate on the cab console panel.

POWER MODULE DOOR LOCKS: Each compartment and/or entry doors listed below shall Lock or Unlock with a single depression of a momentary switch. Each door shall be fitted with a bidirectional, momentary electric solenoid designed to operate a mechanical rod in a linear fashion. The rod shall mechanically interface with the door lock mechanism inside the door. All rod connections shall be designed for high cycle operation without mechanical disconnection. The battery compartment shall NOT have the power lock/unlock feature. This compartment shall remain key operated.

DOOR LOCK SWITCH: The aforementioned door lock(s), shall be wired to activate with the OEM cab door locks and their switches in the cab.

OEM KEY FOB OPTION: The aforementioned door lock(s), shall be wired to activate with the OEM cab door locks and their switches in the cab as well as the OEM remote key fob activator.

DOOR LOCK SWITCHES: The module entry doors shall have internal integrated electric door lock activation switches.

POWER DOOR LOCK (M1A); There shall be installed an electric solenoid powered actuator for the compartment door lock.

POWER DOOR LOCK (M1); There shall be installed an electric solenoid powered actuator for the compartment door lock.

POWER DOOR LOCK (M-2); There shall be installed an electric solenoid powered actuator for the compartment door lock.

POWER DOOR LOCK (M-3); There shall be installed an electric solenoid powered actuator for the compartment door lock.

POWER DOOR LOCK (Module Rear Entry); There shall be installed an electric solenoid powered actuator for the door locks.

POWER DOOR LOCK (M-5); There shall be installed an electric solenoid powered actuator for the compartment door lock.

POWER DOOR LOCK (Curbside Entry); There shall be installed an electric solenoid powered actuator for the door lock.

POWER DOOR LOCK (M-7); There shall be installed an electric solenoid powered actuator for the compartment door lock.

REMOTE KEYPAD #1: There shall be a remote keypad installed on the ambulance for unlocking the doors that have electric door lock actuators.

REMOTE KEYPAD LOCATION: The keypad shall be installed on the side of body by the curbside door.

HIDDEN DOOR LOCK SWITCH: A weather proof momentary switch shall be installed, concealed from view. Installation of Remote Door Lock Switch feature may increase likelihood of unauthorized entry into vehicle. By checking this option, purchaser further agrees to hold AEV or chassis manufacturer harmless for any loss of vehicle or contents caused by unlawful access.

LOCATION; The switch shall be located in the OEM grille area.

BACK UP ALARM: The apparatus shall include a 97 to 107 decibel back up alarm, activated by shifting into reverse. The apparatus back up alarm shall not include any type cut off device.

MAIN ELECTRICAL DISTRIBUTION:

Electrical System: The electrical system shall be a custom made LX1 system utilizing Class 1 Inc. ES-Key™ technology and UltraView™ displays. The minimum system components include an UltraView™ 700 display, an UltraView 450 display, a Supernode II™ with integrated climate control capability, and other ES-Key™ components as necessary. The electrical system shall include programming cable and software.

UltraView™ 700 display: The UltraView™ 700 display (UV700) is a custom programmed, 7 inch, full color LCD ES-Key display. It is a 14 button, touch screen capable display. The LCD is bonded for direct sunlight view ability. The UV700 is sealed to IP67 and allows for flexible mounting options (flush, pedestal or rear). The UV700 has 3 J1939 CAN Bus connections and 3 NTSC/PAL Video inputs.

The UV700 is switches are configured to allow for the control of emergency master and non-emergency master functions and are completely configurable VIA the ES-Key™ Professional software. Switches may be set to act as momentary, maintained or 3 way switches without any physical hardware change. All switches and or indicators may be configured as touch screen inputs into the ES-Key™ system. The 14 buttons are LED backlit.

The UV700 display contains ES-Key™ diagnostics, allows viewing of vehicle voltage, current draw, oxygen remaining, date and time, climate control status, temperature and control, elapsed time counter, and warning messages.

UltraView™ 450:

The UltraView™ 450 display (UV450) is a custom programmed, 4.3 inch, full color LCD ES-Key display. It is an 8 button, touch screen capable display. The LCD is bonded for direct sunlight view ability. The UV450 is sealed to IP67 and allows for flexible mounting options (flush, pedestal or rear). The UV450 has 2 J1939 CAN Bus connections and 2 NTSC/PAL Video inputs.

The UV450 switches are configured to allow for the control of emergency master and non-emergency master functions and are completely configurable VIA the ES-Key™ Professional software. Switches may be set to act as momentary, maintained or 3 way switches without any physical hardware change. All switches and or indicators may be configured as touch screen inputs into the ES-Key™ system. The 8 buttons are LED backlit.

The UV450 display contains ES-Key™ diagnostics, allows viewing of vehicle voltage, current draw, oxygen remaining, date and time, climate control status, temperature and control, elapsed time counter, and warning messages.

Supernode II™:

The Supernode II™ is a high density input output node that is part of the Class 1 Inc. ES-Key™ system. The Supernode II™ has 24 inputs (8 positive/8 negative), 24 outputs, a Universal System Manager, a Data logger, programmable special utilities, and select J1939 engine and drive train message reception with ES-Key™ I/O association.

There are 18 positive and 6 negative outputs in the Supernode™. Each positive output is capable of 13 amps continuous duty. The negative outputs are capable of 2 amps continuous duty. There is an LED associated with each input and output to indicate the inputs and outputs are physically on. Supernode II™ outputs contain features such as digital circuit breaker, flash capability, PWM capability and open load detection.

Each positive output has a digital circuit breaker feature. The "digital circuit breaker" feature will automatically turn OFF an output within 0.5 seconds when the sourced current exceeds 14 Amps. The Supernode II™ will attempt to reconnect the output to the load twice more at 5 second intervals, if the output is still overloaded the Super Node will maintain the output OFF. Outputs 0 7 have a “digital circuit breaker - slow blow” which dynamically adjusts the time frame the output stays active when the load exceeds 13 Amps. This feature synthesizes the opening of a standard fuse when reacting to overload conditions. A load of 13.5 Amps will automatically turn off after approximately 12 seconds, and a load of 26 Amps will automatically turn off after approximately 3 seconds. The "digital circuit breaker" feature can be reset (or reinitialized) by de-activating the output through the ES-Key TM network. When the output is turned back ON, the over current tests will be initiated. When an output switch is in an over current situation, a fault is logged to the USM and data logger functions of the Super Node.

Outputs 0 through 17 are flash capable at 2 different rates and pulses (allowing for alternating synchronized flash patterns). Additionally, any output in the ES-Key™ network may be flashed at intervals of .25 seconds utilizing Supernode™ special utility functions.

Outputs 10 through 17 may be pulse width modulated (PWM) to control loads at a reduced power. PWM may be used as a light dimming feature. An output set to its PWM state will drive its load at 60% duty cycle at 400HZ.

Outputs 0 through 9 have open load detection circuitry. When an open load is detected a network message is generated. This message may be utilized as a diagnostic feature or to display a message in the information center in the front switch panel.

The Supernode II™ special utility functions that include timers (delay on/off and one shot), counters, bi-stable switches, and select J1939 broadcast messages.

The Supernode II™ has an integrated USB port. The USB port allows for direct connection to the ES-Key system without additional interface devices.

The Supernode II™ has an integrated Load Manager: An integrated sequential switching of lamp loads is extremely important on this vehicle. An "Emergency Master" switch that simultaneously energizes a large number of lights can momentarily reduce the vehicle's voltage. Similarly the simultaneous removal of these loads can cause high alternator output voltage transients which may damage sensitive electronic equipment. The LOAD MANAGER sequencer assures that loads are applied and removed gradually, thus eliminating the possibility of inducing failures in the vehicle's equipment.

The load manager shall be a precision, solid state controller which sequentially switches "ON" multiple circuits at 1/2 second intervals. Individual switches shall enable the user (Driver) to select output "ON or "OFF" status, at any time. The sequencer shall be initiated by the "Emergency Master" switch. The sequencer priority shall be set at the pre-build conference.

The aforementioned LOAD MANAGER shall monitor the vehicles battery voltage. When the electrical loads have exceeded the charging system output, the voltage falls. When the voltage falls to 11.5 volts, the LOAD MANAGER will begin to shed up to five loads. The load shed priority shall be set by the circuit significance, followed closely by circuit draw. The LOAD MANAGER will shed loads until the voltage level begins to rise. CAB CONSOLE: A ergonomically designed console with a A-A plywood substrate shall be contour matched to the cab floor. The console shall be a parallel wall design with a twelve and one half inch over all width. End panels and center console bulkhead panels shall add rigidity and square to the console. The substrate shall be laminated per the following finish specification.

The Supernode II™ has an integrated Climate Control Module that controls the vehicles air conditioning clutch, heating valve, and fan motor speed with high current digital outputs based upon received J1939 CAN commands from the UV700 or UV450 displays. The Climate Control Module has two modes of operation: automatic and manual.

VOLTAGE MONITOR: A voltage monitor shall be built into the LX1 electrical system. It shall activate a warning light in the cab console, UV700 or UV450 display when the alternator output voltage falls below 11.5 volts. The warning light shall be a red back lighted, engraved legend stating Low Voltage.

CAMERA #1: There shall be a camera mounted on the rear of ambulance body to allow the driver to view as they are backing up. Unless otherwise specified, the camera shall be mounted over the rear doors as close to the centerline of the vehicle as possible. The system shall include all the necessary cables and adapters to connect the system together with power as needed. The monitor shall automatically be tied in so that when the vehicle is placed in reverse, it will automatically illuminate the monitor and through the monitor controls shall allow for the monitor to be illuminated when the vehicle is in any gear.

FIELD EFFECT TRANSISTORS: All conversion related circuits shall be protected with field effect transistors. The value of the threshold for each circuit shall not exceed 75% of the rated capacity of the weakest component in the circuit. The system shall try to reset three times before shutting down until the system is reset.

PATIENT AREA CONTROL PANEL LOCATION: Streetside Action Area panel.

SWITCH PANEL LOCATION: Streetside Action Area panel.

LOAD MANAGER: An integrated sequential switching of lamp loads is extremely important on this vehicle. An "Emergency Master" switch that simultaneously energizes a large number of lights can momentarily reduce the vehicle's voltage. Similarly the simultaneous removal of these loads can cause high alternator output voltage transients which may damage sensitive electronic equipment. The LOAD MANAGER sequencer assures that loads are applied and removed gradually, thus eliminating the possibility of inducing failures in the vehicle's equipment.
The load manager shall be a precision, solid state controller which sequentially switches "ON" multiple circuits at 1/2 second intervals. Individual switches shall enable the user (Driver) to select output "ON or "OFF" status, at any time. The sequencer shall be initiated by the "Emergency Master" switch. The sequencer priority shall be set at the pre-build conference.
The aforementioned LOAD MANAGER shall monitor the vehicle’s battery voltage. When the electrical loads have exceeded the charging system output, the voltage falls. When the voltage falls to 11.5 volts, the LOAD MANAGER will begin to shed up to five loads. The load shed priority shall be set by the circuit significance, followed closely by circuit draw. The LOAD MANAGER will shed loads until the voltage level begins to rise.

CAB CONSOLE: An ergonomically designed console with a A-A plywood substrate shall be contour matched to the cab floor. The console shall be a parallel wall design with a twelve and one half inch overall width. End panels and center console bulkhead panels shall add rigidity and square to the console. The substrate shall be laminated per the following finish specification.

AUXILIARY CAB CONSOLE: A ergonomically designed extension console shall be contour matched to the Main ambulance conversion console. The console shall be a tapered design with a fourteen and one half inch width at the front of the console and a twelve inch width at the rear of the console. The height shall not exceed the height of the engine cover console measured at the rear. The length of the console, measured at the center, shall be at least twenty-one inches.

DRINK HOLDERS: The aforementioned extension console shall feature two drink holders, large enough to accommodate 44 ounce paper cups. The drink holders shall be recessed into the console with one piece, self-rimming trim rings. The console finish and the drink hole recessed areas shall be water proof, due to cup condensation.

The Drink Holder shall be located at the Front of the Add-On Console.

NOTEBOOK SLOT: There shall be no notebook slot.

RADIO CHARGERS: Two (2) Motorola APX 6000 mobile radio chargers shall be provided and installed on the rear wall of the cab between the seats. 12V constant power to be supplied from the battery. Exact location to be determined at a pre-build meeting. Price difference to be included in bid between dealer provided and customer provided.

KNOX BOX: A Knox brand “Keysecure 5” shall be installed on the rear cab wall located midway between both front seats. Power to be tied into the ignition system. Price difference to be included in bid between dealer provided and customer provided.

CAB CONSOLE FINISH: The console body shall be finished with a 20 mil Easy Grip film. The Easy Grip shall be a self- adhesive as well as bonded to the substrate with high bond contact adhesive. All joints shall be inconspicuous and bonded along the edges.

Customer Radio: Space for Customer installed Radio Heads.

CAB CONSOLE FINISH: The console body shall be finished with a 20 mil Easy Grip film. The Easy Grip shall be a self- adhesive as well as bonded to the substrate with high bond contact adhesive. All joints shall be inconspicuous and bonded along the edges.

GROUND STRAPS: Four (4) 7/8" wide by 1/8" thick, fine strand, woven straps shall provide a ground path from the module body to the chassis frame. Woven straps filter out RFI noise originating from alternators, strobe power supplies and other devices, that may find their way into intercom, stereo and two-way communication radios. Each end of the ground straps shall be through bolted with 3/8" diameter, grade 5 or 8, hex head bolts and lock nuts. Each connection site shall be cleaned to the bare metal prior to fastening the strap. The connections shall have a dielectric anti corrosion spray applied.

BATTERY CHARGER: The ambulance chassis batteries shall be wired into an onboard Inteli Power (Model PD2060) Battery Charger system through the shoreline power. When the vehicle has the ability to be connected to 125vac household current through the shoreline that is specified within these specifications, the Inteli Power shall properly charge and condition the chassis batteries so that they will maintain the voltage and amperage required to operate the ambulance conversion properly.

BATTERY CHARGER LOCATION: The aforementioned battery charger shall be installed in the left front middle compartment.

POWER SOURCE FOR PORTABLE EQUIPMENT No 1: Positive and Negative polarity fourteen gauge wires shall be supplied and installed for subsequent storage of portable equipment. The wires shall have 36" tails and be barreled off and protected by a tem (10) ampere automatic reset circuit breaker.

LOCATIONS: The power sources shall be located (1) console, in the cab and (1) behind the A/A panel.

POWER SOURCE: The aforementioned power provision shall be fed off of the output of the ignition switch or when the battery charger/conditioner is connected to the shoreline.
125 VAC to 12 VDC CONVERTER/BATTERY CHARGER No 1: A IOTA Engineering, LLC, Model DLS-30 Converter with a 30 ampere output capacity shall be supplied and installed. The device shall convert a 125 Volt, 60 Hertz Alternating current input into 13.4 to 13.6 Volt Direct current. The device shall provide clean, constant D.C. Power. When specified below this device shall be capable of serving as a battery charger that charges up to its full output capacity and tapers back the output to a maintenance mode depending upon the need of the batteries.
This DLS series battery charger/power supply shall be designed with high quality components that have life span ratings of up to ten years of continuous use. This device shall feature self- protection features including:
1) AC Input Protection: protects against damaging spikes (up to 190 Volts) AC that may come from the line or generator.
2) Reverse Battery Polarity Protection: protects against incorrect wiring hook up with fuses that can be easily replaced.
3) Brown Out Input Protection: protects against input spikes created by temporary or intermittent loss of input power.
4) Over Current Protection: protects against supplying too much output current
5) Over Temperature Protection: protects against thermal damage with a uniqueproportional fan control circuit that turns on a whisper quiet when the unit reaches 35 degrees Fahrenheit (35 degrees Celsius).

Warranty: The device shall be covered by the manufacturer for a period of two years against defects in materials or workmanship from the date of retail delivery.
An alternate charger / Converter may be supplied provided the alternate is equal in function, warranty and the alternate device has been approved by the agency prior to production.

IV WARMER LOCATION: Located in the M2, second back street side compartment.

CONVERTER TO POWER: The aforementioned converter/charger shall power the Portable Equipment Pre-wire within these specifications when the shoreline is connected and the aforementioned converter/charger has 110vac power.

LOW VOLTAGE BUZZER: There will be a buzzer located in the cab console giving an alert warning in addition to the Indicator light.

COMMUNICATIONS RADIO/COMPUTER RELATED;

MOBILE RADIOS: 2 Kenwood NXT-7000 (single band VHF) mobile radios to be installed. Radio #1 to be located in the cab, center console. Radio #2 to be located in the rear action area. Include pricing option/difference if radios were to be provided by customer.

POWER SOURCE FOR COMMUNICATION RADIO(S) No 1: Positive and Negative polarity ten gauge wires shall be supplied and installed for subsequent installation of communications radio(s). The wires shall be barreled off and protected by a thirty (30) ampere automatic reset circuit breaker

POWER SOURCE: The power provision shall be fed off of the output of the conversion main power (Battery) switch.

LOCATION: The aforementioned power source shall be located in the center console, in the cab.

POWER SOURCE FOR COMMUNICATION RADIO(S) No 2: Positive and Negative polarity ten gauge wires shall be supplied and installed for subsequent installation of communications radio(s). The wires shall be barreled off and protected by a thirty (30) ampere automatic reset circuit breaker.

POWER SOURCE: The power provision shall be fed off of the output of the conversion main power (Battery) switch.

LOCATION: The aforementioned power source shall be located in the center console, in the cab.

POWER SOURCE FOR COMMUNICATION RADIO(S) No 3: Positive and Negative polarity ten gauge wires shall be supplied and installed for subsequent installation of communications radio(s). The wires shall be barreled off and protected by a thirty (30) ampere automatic reset circuit breaker.

POWER SOURCE: The power provision shall be fed off of the output of the conversion main power (Battery) switch.

LOCATION: The power source shall be located behind the Action area control panel in the patient cabin.

<u>COMPUTER MOUNTS</u>:

#1: Proclip brand or similar vertical computer mount to be installed on/near the cab center console area. Exact location and type of mount to be determined at a pre-build meeting. The mount will hold a “Microsoft Surface 4” brand tablet computer or current equivalent.

#2: Havis brand or similar horizontal computer mount to be installed on the action area. Exact location and type of mount to be determined at a pre-build meeting. The mount will hold a “Panasonic Model CF-19” Toughbook.

GPS ANTENNA: A GPS antenna and cable shall be installed on the roof of the box. Cable to be extended to the cab compartment in the center console area.

ANTENNA LEADS

COMMUNICATIONS RADIO ANTENNA PRE-COAX No 1: This coaxial cable shall be RG58-U type. Leave an 18 service loop at the mod roof and a 36 tail at the interior termination point. A tag shall specify the other termination point for each coax provided.

ORIGINATION POINT: The Coaxial cable shall originate on the module roof. The port location shall be centered side to side and approximately 36" back from the front edge of the module roof.

TERMINATION POINT: The Coaxial cable shall terminate in the cab / drivers' cabin in the center console.

COMMUNICATIONS RADIO ANTENNA PRE-COAX No 2: This coaxial cable shall be RG58-U type same as #1.

ORIGINATION POINT: The Coaxial cable shall originate on the module roof. The port is located approximately 24 inches back rearward of roof port #1.

TERMINATION POINT: The Coaxial cable shall terminate in the cab / drivers' cabin in the center console.

COMMUNICATIONS RADIO ANTENNA PRE-COAX No 3: This coaxial cable shall be RG58-U type same as #1.
ORIGINATION POINT 3: The Coaxial cable shall originate on the module roof. The port location shall be centered side to side and is located approximately 24 inches back rearward of roof port #2.

TERMINATION POINT: The Coaxial cable shall terminate in the action area console, located in the patient cabin, above the main work station.

CRADLEPOINT ANTENNA: A 5-wire cradlepoint antenna shall be installed on the roof terminating in the electrical cabinet near the cradlepoint location.

125V SHORE LINE AND OUTLETS

SHORE LINE INLET No 1: The primary 125 Volt shore line inlet, rated at 20 Amperes shall be supplied. The plug style shall be a straight blade (NEMA 5-20P) style with a U-shaped ground. The inlet shall automatically eject the shore line connector when the vehicle ignition switch is placed in the START position. The shore line inlet shall employ a novel internal switch that closes and opens the 125 Volt circuit after the mating connector is inserted and before the connector is removed to eliminate arcing at the connector contacts. This will prolong the life of the inlet and the shore line connector. The inlet shall be protected with a weather-proof cover.

SHORELINE INDICATOR LIGHT: There shall be a green indicator light to power to the shoreline system within the ambulance body. The light shall be an LED 130v light fixture that is shock and vibration proof. The light fixture shall have a 100,000 hour life for long lasting service in the field. Being LED technology, the fixture shall have a very low heat generation. The LED indicator light fixture shall be located above the shoreline inlet.

SHORE LINE COVER: The shoreline inlet shall be protected with a white weather-proof cover.

SHORELINE EJECT TIMER: The shoreline timer shall be an Inpower VCM-05-01SF to allow the auto eject to be wired to the ignition switch ILO splicing into the OEM starter circuit

SHORE LINE INLET No 2: The secondary 125 Volt shore line inlet, rated at 20 Amperes shall be supplied. The plug style shall be a straight blade (NEMA 5-20P) style with a U-shaped ground. The inlet shall automatically eject the shore line connector when the vehicle ignition switch is placed in the START position. The shore line inlet shall employ a novel internal switch that closes and opens the 125 Volt circuit after the mating connector is inserted and before the connector is removed to eliminate arcing at the connector contacts. This will prolong the life of the inlet and the shore line connector. The inlet shall be protected with a weather-proof cover.

SHORE LINE COVER: The shoreline inlet shall be protected with a blue weather-proof cover.

<u>125 VAC OUTLETS</u>

125 VAC OUTLET No. 1: The following outlets shall be UL listed, 125 Volt, Hospital grade, Straight blade NEMA 5-15R outlets. Each outlet shall be installed in a UL listed, recessed, fiberglass back box with a minimum of one and three quarter inch of box depth. The outlet cover shall be stainless steel. The outlet must be grounded and protected by a GFI (Ground Fault Interrupted) Breaker. Each outlet body must illuminate when power is applied to the outlet. Each Outlet shall be clearly labeled with a permanent RED colored decal defining the outlet voltage.

OUTLET LOCATION: This 125 Volt outlet shall be located in the patient cabin's, main "Action Area", with location as shown on the approval drawings.

125 VAC OUTLET No. 2:

OUTLET LOCATION: This 125 Volt outlet shall be located inside of the right front ALS Cabinet. The outlet shall be mounted on the back wall of the cabinet (related to inside access) in the upper right corner. The location of the outlet shall be defined on the proposal drawings.

125 VAC OUTLET No. 3:

OUTLET LOCATION: This 125 Volt outlet shall be located in the patient cabin's, telemetry area that is located just forward of the street side CPR side seat. The outlet shall be mounted on the back wall so that the depth of the back box does not protrude into adjacent cabinets.
The location of the outlet shall be defined on the proposal drawings.

125 VAC OUTLET No. 4:
OUTLET LOCATION: This 125V outlet shall be located in the front cab area near the passenger side footwell. Exact location to be decided at the pre-build meeting.

125 VAC OUTLET No. 5:
OUTLET LOCATION: This 125V outlet shall be located in the exterior-access passenger side rear backboard compartment. Exact location to be decided at the pre-build meeting.

<u>INTERIOR 12 Volt Direct Current (DC) OUTLETS</u>:

12 VOLT OUTLET No 1: This outlet shall be a, 12 volt, direct current, 20 Ampere, automotive "cigar" lighter size commercial outlet. This outlet shall be located and wired as specified below. The outlet shall be separately protected and shall be electrically isolated from other electrical functions on the vehicle. This outlet shall be wired per current NFPA 1917.2016.

OUTLET #1 LOCATION: This 12 Volt outlet shall be located in the patient cabin's, main "Action Area", on the back wall.

POWER SOURCE: The input for the outlet shall be wired to the output of the battery switch.

12 VOLT OUTLET No 2: This outlet shall be wired the same as outlet #1.

OUTLET #2 LOCATION: This 12 Volt outlet shall be located inside of the right front ALS Cabinet. The outlet shall be mounted on the back wall of the cabinet (related to inside access) in the upper right corner. The location of the outlet shall be defined on the proposal drawings.

OUTLET #2 ORIENTATION: The outlet shall be oriented Vertically in the location defined above. The U-shaped ground connector socket shall be at the TOP of the outlet.

POWER SOURCE: The input for the outlet shall be wired exactly like outlet Number One.

ELECTRONIC SIREN: The siren hardware shall consist of a remote mount siren amplifier and a flush mounted control head, E-Q2B Electronic siren. The two channel siren amplifier shall operate two 100 watt RMS speaker drivers and the following functions: RAD, PA, MAN, HF, WAIL, YELP, PIER. The siren control head shall feature a rocker type power switch, rotary function/Mode switch, a Manual momentary button switch, Diagnostic indicator lights a hardwired microphone and a microphone volume control potentiometer.

SIREN OR HORN SELECTOR SWITCH: The O.E.M. horn ring shall control the O.E.M. electric horn and the siren's manual momentary input controls. A switch shall connect the horn ring to either the O.E.M. HORN or to the SIREN. The switch shall be located in the cab console's switch panel. The switch legend that clearly defines the switch function shall be engraved in the switch panel. The legend shall be illuminated when the head light switch is on.

SIREN SPEAKERS: The speakers shall each have a 100 watt driver and shall emit through an horn body located directly behind the O.E.M. fog light location in the bumper area, one on left side and one on right side. The siren and speakers shall meet or exceed current NFPA 1917.2016 Specifications.

AIR HORN SYSTEM: The apparatus shall be supplied with an authoritative sounding air horn system that is loud enough to overwhelm almost every usual audible distraction. The air horns shall, when enabled, emit a loud (138 decibel) signal with tremendous power for the duration of the users' depression of the Activation switch. The system shall contain two horns of UNEQUAL length to cover a wider frequency range.

AIR HORN ACTIVATION: The air horns shall be activated through a twelve volt solenoid valve. The solenoid valve shall feature an orifice size large enough to allow 20 CFM of air volume to pass through at fifty pounds per square inch of pressure. The solenoid valve shall be activated by a momentary switch. The solenoid valve shall automatically shut off when the switch is released. The foot switch shall be ENABLED as follows:

AIR HORN SUPPLY TANK: There shall be an air horn supply tank to store the air that is generated by the compressor to supply the specified horns. This tank that shall be determined by engineering and the air horn manufacturer shall be secured to the chassis frame rails.

AIR HORN ACTIVATION REQUIREMENTS: The Emergency Master switch shall be activated for the air horns to be active.

COMPRESSOR FOR AIR HORNS: A Buel Model No 6540 maintenance free, Oil-less Air compressor shall be supplied and installed. This intermittent duty (6 minutes ON, 25 minutes OFF) compressor shall be dedicated for the air horn use only. The compressor shall generate 1.15 cubic feet per minute (CFM) of air volume at

zero pounds per square inch and shall have a compression capacity of at least 125 pounds per square inch. The compressor shall run and stop automatically with a pressure switch that is set to come on at ninety five (95) pounds per square inch and SHUT OFF at One hundred twenty five (125) pounds per square inch. The compressor inlet port shall be filtered. The compressor shall supply compressed air to a pressure vessel listed below. The pressure vessel shall not exceed 3.0 gallons (693 cubic inches) of volume. Amperage draw shall never exceed 18 amperes at 12.0 volts, even at start up. The compressor shall be equipped with a drier system

The specified air horn compressor shall be located in the M6 compartment.
AIR HORN LOCATION: The air horn trumpets shall be located under the front OEM directly below the grille , one (1) on the driver side and one (1) on the passenger side

LEFT AIR HORN: The left air horn shall be a Buell-Strombos model No 1061. The horn shall feature all brass construction, hand spun brass bell, a stainless steel diaphragm and heavily chrome plated exterior finish. The horn shall emit 140 decibels at one meter with a frequency of four hundred ninety three (493) Hertz.

RIGHT AIR HORN: The left air horn shall be a Buell-Strombos model No 1062. The horn shall feature all brass construction, hand spun brass bell, a stainless steel diaphragm and heavily chrome plated exterior finish. The horn shall emit 140 decibels at one meter with a frequency of three hundred ninety six (396) Hertz.

GENERAL CABINET CONSTRUCTION
Each patient compartment cabinet shall be permanently labeled with its maximum load capability

SUBSTRATES: FLOOR AND SUBSTRATE: The interior cabinets and components shall be constructed of a combination of aluminum and Thermo-Lite Board. The cabinets are manufactured with either .090” or .125” aluminum overlaid with Therma-Lite Board material. The Thermo-Lite Board Tough, made with a medium weight woven fiberglass lay-up, this product is acceptable for standard structural load applications. The material density shall be 40 lbs per cubic feet. The material is a unique closed cell, lightweight composite product, manufactured with cross-linked polymer foam and fiberglass, that offers high specific strength and toughness. The non-absorbent material is extremely durable, provides an excellent bonding surface, has good impact strength, sound and thermal insulation, and is resistant to contamination.

CABINET INTERIOR FINISH: Cabinet interiors and cabinet access panels shall be Silver based Powder Coated utilizing Alesta® brand AM: Antimicrobial-treated Powder Coatings that are utilized in areas where clean is critical such as Hospital environments and Medical/healthcare equipment and are white in finished color.

LAMINATE: A high impact, phenolic backed, high impact, and abrasion resistant laminate shall be used. The laminate shall be at least .039" thick. This material as well as all interior components shall meet or exceed F.M.V.S.S. #302 (Burn rate of interior components). Color selection shall be specified at the pre-build conference. Laminate Color shall be gloss white on the inside of any solid cabinet doors and noted within these specifications for the patient area walls and surfaces.

CABINET ASSEMBLY: The cabinet cases or enclosures shall be secured to the Thermo-Lite Board with the use of both adhesives and mechanical fasteners. When the Thermo-Lite Board is secured to another Thermo-Lite Board, it shall be achieved utilizing both adhesives and mechanical fasteners. All the cabinet assemblies shall be secured to the modular body utilizing bolts secured to tapping plates on the body structure.

CABINET TRIM: All trim throughout the interior conversion shall be anodized aluminum or formed stainless steel**.** All exposed corners within the patient compartment shall have padded or rounded corners. Rounded corners shall be at least .250 inch radius. Rounded corners shall not compromise maximum cabinet assembly strength. The trim shall be bonded with a high strength adhesive.

FIT AND FINISH: Mitered joints throughout the interior conversion shall have a gapless, hairline fit. Sliding polycarbonate door assemblies shall be scratch free and all edges shall be smooth and free of saw marks and sharp edges. Cabinet to cabinet joints shall not require more than 7/32 diameter welting to create a finished/well-fit look. Cabinets shall fit tightly against the ceiling as well utilizing the same requirements as the cabinet to cabinet fit.

FUNCTION: Doors and drawers shall fit the opening. When specified, flush fitting doors shall have even door to opening gaps. All doors shall open and close bind free. Drawers shall slide in and out freely, without drag. All drawers shall be mounted on side mounted, full extension drawer slides, rated no less than 75 pounds per pair. All hinged composite core doors shall have positive latches.

CABINET DOOR OPTIONS

SLIDING POLYCARBONATE DOORS: Polycarbonate shall hereinafter be identified as Lexan. Unless specified otherwise, all cabinets along the street and curb side of the vehicle shall have a mitered framed, sliding transparent Lexan door assembly. The Lexan shall be at least 3/16 inch thick. Each door shall be fitted with a full length, extruded aluminum door handle. The door pull extrusion shall also add bend resistance to the door. The door track/Frame extrusion shall incorporate a flocked natural rubber track insert to prevent the doors from sliding free during transit. Additionally the corners of the assembly shall have drive-in corner splines. Each spline shall be mechanically fastened into place. All extrusions shall be anodized and the cabinet enclosure side of the extrusion shall incorporate a track to hold a rope of LED (light emitting diode) light to illuminate the cabinet interior.

HINGED POLYCARBONATE DOORS: Polycarbonate shall hereinafter be identified as Lexan. The polycarbonate shall be at least 3/16 inch thick. The desired thickness shall be noted within this specification at each door location. The door orientation, hinge style and latch shall also be noted at each door location as well. The door edges shall be rounded and smooth since it will be the finished edge that will be visible.

SOLID HINGED DOOR: A 3/4" (19mm) total thick door (comprised of 5/8" Therma-Lite Board backed with 1/8" powder coated aluminum) shall be supplied on the aforementioned cabinet. The substrate shall be The Thermo-Lite Board Tough, made with a medium weight woven fiberglass lay-up, this product is acceptable for standard structural load applications. The door shall be flush fitted to the opening and have uniform gap spacing around the perimeter of the door. There shall be lightly brushed “U” shaped trim around the perimeter of the laminated door that is attached utilizing both adhesive and screws. The door shall be hung on a continuous, stainless steel piano hinge with mounting screws, spaced every 2”es along the full length of the hinge. The door shall be color key laminated with high pressure laminate on both sides.

CABINET LINER: The bottoms of all the cabinet, drawers and shelves of the cabinets in this specification shall all be lined with a rubberized matting material. The top surface of the matting material shall be non-skid with a pebble finish. The material shall not be adhered in place so it is removable to clean the underlying surface of the cabinet(s). The material shall be trimmed to fit without bumps or gaps. All the material shall be one piece in each location.

SOUND BARRIER BACKER; There shall be an additional material installed behind aluminum cabinet structures to reduce the transmission of sound and thermal properties. The material offers Sound, Air and Moisture barrier by blocks airborne noise from entering the vehicle through open passages. When used between metal surfaces and mounting brackets it acts as a de-coupler and damper reducing the vibration of each surface and minimizing the transfer of noise between the surfaces and the cabin interior.

LAMINATE COLOR: The laminate color selection shall be Light Gray with a Matte finish. A sample of the subject laminate color shall be supplied at the post award conference.

POLYCARBONATE COLOR: The polycarbonate throughout the vehicle shall be transparent with a gray medium tint. All doors shall be at least three sixteenths of one inch thick (3/16"), shatterproof and scratch resistant. The edges of the door shall be worked and burned smooth. The material shall be flexible enough to be cold formed (Bent) at ninety degrees, without fracturing the material.

HANDLES, POLYCARBONATE DOORS: Full height, anodized aluminum, extruded drive on handles shall be supplied on each 3/16" door. The handle shall wrap around the leading edge of each door and mount with one way angular, blind mounting teeth designed to be driven on.

ATTENDANT SEAT: There shall be a high back captain's seat mounted in the patient area. The seat shall have an integrated child safety seat with a pull-down backrest and concealed 4-point child restraint. The seat shall be mounted per the requirements in the latest revision of NFPA 1917.2016.
The seatbelt on the main part of the seat shall be an integrated, 3-point that is supplied and tested by the seat manufacturer as a complete package.

SEAT BASE: There shall be a powder coated metal seat that is tested to be utilized with the Emergency Vehicle Seating Child integrated Child Safety 4-point harness that is hidden behind the removable back pad. The metal base shall be mounted to the ambulance floor and secured to modular body sub-structure according to the manufacturer's guidelines.

AIR CONDITIONING EVAPORATOR CABINET: The patient cabin shall be equipped with a rear air conditioning and heat unit. The cabinet housing the unit shall be composite materials with Color Keyed laminate to the exterior and matte white to the interior as needed. The AC Unit is to be located on the floor behind the Attendant seat. The design shall provide adequate air return to meet or exceed the current revision of NFPA 1917.2016.

CURBSIDE UPPER CABINET: The curbside upper cabinet is located on the curbside (right side) of the patient cabin, over the squad bench. The cabinet length shall be maximized and start within 2”es of the curbside entry door opening and mate to the right rear wall of the patient cabin.

CABINETS "K1 & K2": An interior cabinet shall be provided above the squad bench, on the curb side of the vehicle. This multipurpose cabinet interior shall be finished in high impact, white colored mica that is impervious to disinfectants and cleaners. The cabinet shall have two openings, each with a fixed divider set back from the face.

DUAL FLIP UP POLYCARBONATE DOORS: Dual 3/8" (0.375 in) thick, overlay flip up doors shall be supplied on the cabinet.

HINGES: Reel Torque Style.

NON-LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. A small "pre-load" on the latch shall be imposed to prevent the door from rattling.

NON-LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. A small "pre-load" on the latch shall be imposed to prevent the door from rattling.

CURB SIDE GLOVE BOX STORAGE: There shall be glove box storage for three (3) boxes of gloves located on the curbside, above the entry door. A three box glove dispenser shall be built into the cabinet with a fixed partition between each box of gloves. The gloves shall dispense through oblong slots cut into the 3/8-inch thick Lexan door. One door shall cover all three glove box bays, hinge across the top and feature a brass bodied, roller bearing type catch at the bottom.

HINGED POLYCARBONATE DOOR: A 3/8" (0.375 in) thick, overlay hinged door with three oblong, dispense through holes shall be supplied on the aforementioned cabinet. The outer door edges and the oblong hole edges in the door shall be router semi-round and burned smooth. Each oblong hole shall align with the center of each divided cabinet cell. The design intent for the oblong holes is to be capable of dispensing gloves through the door, directly from the box.

LEFT FRONT CABINET, CABINET "H": Cabinet "H" is the storage cabinet behind the attendant seat

SOLID HINGED DOOR: A 3/4" (19mm) thick door shall be supplied on the aforementioned cabinet. The door shall be flush fitted to the opening and have uniform gap spacing around the perimeter of the door. The door shall be finished with white cabinet liner laminate on the inside and the same colored mica as the cabinet face on the outside.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

HINGE ORIENTATION: The aforementioned door shall be hinged along the right edge of the door.

NON-LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. A small "preload" on the latch shall be imposed to prevent the door from rattling.

RIGHT FRONT CABINET (I): The right front cabinet is hereinafter known as ALS cabinet. The cabinet shall be constructed of Aluminum and composite materials as appropriate. All fixed and adjustable shelf surfaces shall be covered in Easy Grip material. All fixed and adjustable shelf lips shall be covered with anodized aluminum trim. All shelves shall have a ¾ lip. The ALS cabinet shall be at least 22.0 cubic feet of storage and Configured as follows.

GLOVE BOX STORAGE: RF ALS CABINET : There shall be a storage section in the front right ALS cabinet for the storage of examination gloves. The cabinet shall be built to house three independent boxes, single depth. A singular acrylic door shall retain the boxes, secured by a latch. The door shall have 3 separate machined openings, smooth and burr free. The independent openings will allow for gloves to be removed without opening the door.

HINGED POLYCARBONATE DOOR: A 3/8" (0.375 in) thick, overlay hinged door with three oblong, dispense through holes shall be supplied on the aforementioned cabinet. The outer door edges and the oblong hole edges in the door shall be router semi-round and burned smooth. Each oblong hole shall align with the center of each divided cabinet cell. The design intent for the oblong holes is to be capable of dispensing gloves through the door, directly from the box.

INTERIOR COLOR: The above cabinet interior surfaces shall be white powder-coated anti-microbial finish.

CABINET I-1; No storage at this location of the top ALS.

CABINET I-2: The middle section shall be shortened in height to accommodate for a slide out drawer directly below. This cabinet shall meet current NFPA 1917.2016. Access from the inside shall be as follows below.

ROLL UP DOOR: There shall be a Robinson Shutter Style roll up door installed on the inside of the patient cabin to cover the Right Front ALS cabinet. It shall be the counterbalance style door with side tracks. The door shall form a coil at the top of the door opening which shall be hidden by the extended door header. This counterbalance style door is the only type of door that shall be acceptable so it leaves the back wall of the

compartment unobstructed when the door is opened. There is a lower round bar latch to secure the door. The door shall feature a key lock.

RIGHT FRONT CABINET OUTSIDE ACCESS: The right front cabinet of the module shall have outside access through the right front (M-7) compartment door.

SHELF STANDARDS: The aforementioned cabinet shall be equipped with non-incremental, aluminum, C-shaped shelf standards.

ADJUSTABLE ALUMINUM SHELVES: Two shelves shall be supplied in the cabinet. Each shelf shall be white anti-microbial coated. The shelf shall be secured to four shelf clips An anodized aluminum angle shall be securely fastened to the front edge of the shelf. The vertical leg of the angle shall provide a lip along the front edge.

KNOX MEDICATION BOX: One Knox brand “MedVault Mini” will be installed in I-2 with 12V power continuously provided by the battery.

DRAWER I-2a: One drawer shall be supplied, installed and located directly below cabinet I-2. The drawer shall feature a 13mm (1/2") thick substrate with laminate. The drawer body shall be laminated on ALL exposed surfaces, including hidden and less conspicuous surfaces. This drawer shall add at least 1.9 cubic feet of interior stowage accommodations described in NFPA 1917.2016. Access from the inside shall be as follows below.

DRAWER FRONT: A 3/4" (19mm) thick drawer front shall be fitted on the aforementioned drawer. The drawer front shall be flush fitted to the opening and have uniform gap spacing around the perimeter. The drawer front shall be finished with white cabinet liner laminate on the inside and the same colored mica as the cabinet face on the outside.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

LOCKING LATCH: A positive latch shall be supplied and installed on the aforementioned cabinet door. The latch shall be powder coated Black and be near flush when in the "Closed" position. The latch shall be fitted with a cylinder type lock that prevents door latch activation, when locked. Door latch activation shall be triggered by depressing a flush fitted release button that unlatches a lever. The spring loaded lever shall rotate about an axis near the surface of the door panel and extended a rotating pawl behind the latch side door frame. The depth of the pawl shall be adjustable to the latch side door frame. A small "preload" on the latch shall be imposed to prevent the door from rattling.

DRAWER SLIDES: The aforementioned drawer shall be equipped with ball bearing, full extension drawer slides rated at one hundred and thirty pounds at an eighteen inch length, per pair. The length of the slide shall be at least the length of the drawer body and shall travel at least the length of the slide plus one inch over travel. The slides shall be mounted to the side of the drawer body and cabinet case. The slide sectional envelope shall not exceed one half inch wide by two and three eighth inches high.
In order to thoroughly clean the drawer and the case, the drawer slides shall feature a quick detach lever in each slide, to allow the drawer to be removed from the case without tools.

ADJUSTABLE CABINET DIVIDERS: The aforementioned cabinet(s) shall incorporate ABS adjustable tracking on the top and bottom of the required cabinets to accept the 3/16" clear polycarbonate material cut to size.

They shall be installed so that they are readily accessible to move, but not so they shall move during transit. The cabinet shall have two adjustable dividers included.

LEXAN DIVIDER ADDITIONAL; The aforementioned adjustable tracking option above shall include (_4_) additional 3/16" clear polycarbonate material cut to size. They shall be installed so that they are readily accessible to move, but not so they shall move during transit. The cabinet shall have two adjustable dividers included.

CABINET I-3: The lower section shall be approximately 25% of the overall cabinet height. The cabinet shall be made of aluminum and composite components as designed. It must meet current NFPA 1917.2016. Access from the inside shall be as follows below.
(Cabinet C)

DOUBLE HINGED POLYCARBONATE DOORS: Two 3/8" (0.375 in) thick, overlay hinged doors shall be supplied on the aforementioned cabinet. The edges of the doors shall be router semi-round and burned smooth. The spacing between the doors shall be uniform and both doors shall be height aligned.

NON-LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. A small "pre-load" on the latch shall be imposed to prevent the door from rattling.

RIGHT FRONT CABINET OUTSIDE ACCESS: The right front cabinet of the module shall have outside access through the right front (M-7) compartment door.

RIGHT REAR CABINET: The right rear exterior compartment specified herein shall be completely concealed from interior view by a right rear cabinet. All exposed surfaces of this cabinet shall be fully laminated over substrate matching main cabinet structures. The vertical outer corner shall feature a radius anodized aluminum trim. The trim shall originate from the top of the mated squad bench and terminate into the ceiling.

UPHOLSTERY PAD: An upholstered pad covering the entire forward facing wall, over the squad bench shall be provided. The pad shall include at least 1/2" thick foam padding covered in the same heavy duty vinyl covering specified for the squad bench cushions and the remaining upholstery package.

INSIDE ACCESS INTO RIGHT REAR COMPARTMENT: Inside access to the right rear cabinet shall be positioned above the squad bench seat cushion level, on the wall facing the aisle. The access opening shall accommodate clear access to splints, collars or other medical appliances that are stored in the right rear exterior compartment. The access opening from the interior is maximized based upon exterior fixed fixtures in the exterior compartments. If the agency determines that specific size openings are required, they shall declare these during post-award, pre-construction meetings.

SOLID HINGED DOOR: A 3/4" (19mm) thick door shall be supplied on the aforementioned cabinet. The door shall be flush fitted to the opening and have uniform gap spacing around the perimeter of the door. The door shall be hung on a continuous, stainless steel piano hinge with mounting screws, spaced every 2”es along the full length of the pre-punched hinge. The door shall be finished with white cabinet liner laminate on the inside and the same colored mica as the cabinet face on the outside.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

HINGE ORIENTATION: The aforementioned door shall be hinged along the right edge of the door.

NON-LOCKING LATCH: A black positive latch shall be supplied and installed on the cabinet door. A small "preload" on the latch shall be imposed to prevent the door from rattling.

SQUAD BENCH ALUMINUM COMPOSITE: A squad bench shall be installed on the curbside of the patient compartment. the squad bench system shall be constructed of aluminum and composite components. Seating shall be installed as described writing these specifications. All seat belts and anchorage shall comply with FMVSS. 209 and 210. The Squad Bench shall comply with current NFPA 1917.2016. A back and headrest shall be supplied for all seated personnel along the squad bench.

BIO-WASTE RECEPTACLE: A biological waste receptacle shall be installed in a roll-out drawer. The drawer body shall be fully laminated and shall be mounted on full extension side mounted drawer slides with 100 pound per pair load rating. The slides shall feature a quick disconnect to allow the drawer to be removed for cleaning. The drawer body receptacle shall accommodate a sharps container and a solid waste container. A white colored "Bio-waste" symbol and legend shall be applied to the drawer front.

SOLID SLIDE OUT DRAWER: A drawer front shall be supplied on the cabinet. The substrate shall be as specified above in the General Cabinet Construction section of this specification. The drawer front shall be flush fitted to the opening. The drawer shall be constructed like a tray with raised sides and rear. It shall be attached to the cabinet by way of drawer slides to allow the drawer to open and close for maximum usable access to the drawer tray surface. The drawer shall be finished on the inside with white cabinet liner that is applied the same way as the laminate on the cabinet face.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

NON-LOCKING LATCH: A black positive latch shall be supplied and installed on the cabinet door. A small "preload" on the latch shall be imposed to prevent the door from rattling.

BIO-WASTE LOCATION: The bio-waste containers shall be in the squad bench and accessible from the curb side entry door. The drawer shall be installed at the head of the squad bench and shall rollout toward the aisle. The receptacle shall accommodate a sharps container and a solid waste container per the following paragraphs. A white colored "Bio-waste" symbol and legend shall be applied to the drawer front.

WASTE CONTAINER: One six quart (346 cubic inch), rimmed plastic waste container shall be supplied and fitted into the "Bio-waste" enclosure.

SHARPS CONTAINER: A puncture proof, disposable sharps container located at the head of the squad bench with a 2 gallon capacity shall be supplied for safe disposal of used/contaminated syringes. .

UNDER LID STOWAGE: The squad bench shall provide storage under the access lids. This multipurpose storage area shall be finished in high impact, white colored laminate. Must meet current NFPA 1917.2016.

SQUAD BENCH LIDS: Two (Split) squad bench lids shall be supplied over the squad bench storage area.

HINGE, SQUAD BENCH LID(S): All squad bench lids shall be installed with butt style, hinges. The hinges shall be through bolted for longevity of the vehicle. There shall be a minimum of two hinges per lid.

LID LATCH: One latch to hold each lid down shall be supplied. The lid latch shall be stamped stainless steel construction and latches automatically by simply closing the bench lid.

LID CHECKS: Each squad bench lid shall have a bi-directional gas spring lid check (Hold open). The force value selected and ball stud locations shall provide lift assistance after twenty degrees of bench lid lift angle. The ball stud mounts shall be at least 10 millimeter.

EDGE TRIM: The edge of the squad bench lid shall be finished with aluminum anodized "J" trim. The trim is to be supplied with countersunk holes to allow for screws to be installed flush so the screw head does not catch anything.

FORWARD SQUAD BENCH WALL: A substantially framed wall shall be supplied and installed at the head of the squad bench. The wall shall be framed in 1 ¼ stainless steel round tubing. The framework shall originate from the floor of the patient cabin, form a U-shaped trajectory that terminates in the step well. Additionally two reinforcement points shall be added to connect the main frame "U" to the upper portion of the end of the squad bench. All connection fitting plates shall be TIG welded to all four connection points. The mechanical fasteners shall be through bolted to aluminum structure or aluminum reinforcement bracing. Self-tapping screws for this application is not acceptable. A 2” thick cushion shall be mated to stainless steel plates that are TIG welded to the main framework.

CABINET "A"ALUMINUM COMPOSITE: An upper, interior cabinet shall be provided directly over the rearward section of the Base wall cabinet. This cabinet shall accommodate a power air exhaust blower with a removable service panel. This multipurpose cabinet interior shall be finished as stated in the cabinet construction specification. Must meet current NFPA 1917.2016.

RESTOCKING FEATURE: The uppermost cabinets, shall have sliding polycarbonate doors. Additionally the entire framed assembly shall hinge upward 90 degrees to provide 100% access for the purpose of restocking the cabinet. The assembly shall be supported by a gas piston spring on each side and latched with two positive, slam action latches that are blind mounted behind each end of the window frame. The use of plywood in this assembly is not acceptable, due to lost access area.

SHELF STANDARDS: The aforementioned cabinet shall be equipped with non-incremental, aluminum, C-shaped shelf standards.

ADJUSTABLE ALUMINUM SHELF: A shelf shall be supplied in the cabinet. Each shelf shall be white anti-microbial coated. The shelf shall be secured to four shelf clips an anodized aluminum angle shall be securely fastened to the front edge of the shelf. The vertical leg of the angle shall provide a lip along the front edge.

CABINET "B" ALUMINUM COMPOSITE: An upper, interior cabinet shall be provided directly over the "Action Area". This multipurpose cabinet interior shall be finished in high impact, white colored laminate. The cabinet shall be ergonomically angled toward the CPR seat. Must meet current NFPA 1917.2016.

RESTOCKING FEATURE: The uppermost cabinets, shall have sliding polycarbonate doors. Additionally the entire framed assembly shall hinge upward 90 degrees to provide 100% access for the purpose of restocking the cabinet. The assembly shall be supported by a gas piston spring on each side and latched with two positive, slam action latches that are blind mounted behind each end of the window frame. The use of plywood in this assembly is not acceptable, due to lost access area.

SHELF STANDARDS: The aforementioned cabinet shall be equipped with non-incremental, aluminum, C-shaped shelf standards.

ADJUSTABLE ALUMINUM SHELF: An additional shelf shall be supplied in the cabinet. Each shelf shall be white anti-microbial coated. The shelf shall be secured to four shelf clips An anodized aluminum angle shall be securely fastened to the front edge of the shelf. The vertical leg of the angle shall provide a lip along the front edge.

BASE WALL CABINET: The base wall cabinet is located on the Street side (Left side) of the patient cabin. The overall height of the Base Wall Cabinet shall be approximately 75% of the overall head room. This cabinet shall be built in ONE piece. The laminate along the fascia shall be ONE piece on single color laminate selections. A CPR Side Seat shall be provided on the street side aligned with the primary patient knees.

ACTION AREA: The action area is a work surface located on the forward end of the Base Wall Cabinet and adjacent to the attendant seat. The work surface shall be at least 5.5 square feet. The work area height shall be 24 inches to 29 inches. The work surface shall have a three quarter inch (3/4") high lip.

ACTION AREA COUNTER SURFACE: The action area counter surface shall be made from one half inch thick solid surfacing material. The color shall complement the color scheme of the mica, floor and upholstery in the remaining areas of the vehicle interior. This material shall be installed by certified personnel trained on the specific brand of solid surfacing material being installed. The successful bidder shall disclose the make of the solid surfacing material they are providing to the agency on their "Shop Order".

SOLID SURFACE EXTENSION; There shall be an extension of the solid surface countertop to in front of the O1 cabinet. The material shall be matching in color to the main countertop with a one inch lip.

CABINET - DRAWER: The aforementioned cabinet shall be fitted with a rollout drawer. The drawer body shall be constructed of 12mm (1/2") thick A-A cabinet grade plywood. This includes both sides back and bottom. The drawer body shall be laminated on ALL surfaces inside, outside and on all edges. (Including the bottom). The laminate shall be 28 mil white colored mica. The laminate shall be bonded to the drawer body with high bond contact adhesive specifically formulated for this application. The drawer body shall maximize the interior cabinet volume. The drawer body height shall be the height of the cabinet opening less one and one-half (1 1/2"). Vinyl or pressed particle board drawer bodies are unacceptable due to weight and durability constraints.

DRAWER FRONT: A 3/4" (19mm) thick drawer front shall be fitted on the aforementioned drawer. The drawer front shall be flush fitted to the opening and have uniform gap spacing around the perimeter. The drawer front shall be finished with white cabinet liner laminate on the inside and the same colored mica as the cabinet face on the outside.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. There shall be a key included for locking purposes.

DRAWER SLIDES: The aforementioned drawer shall be equipped with ball bearing, full extension drawer slides rated at one hundred and thirty pounds at an eighteen inch length, per pair. The length of the slide shall be at least the length of the drawer body and shall travel at least the length of the slide plus one inch over travel. The slides shall be mounted to the side of the drawer body and cabinet case. The slide sectional envelope shall not exceed one half inch wide by two and three eighth inches high.
In order to thoroughly clean the drawer and the case, the drawer slides shall feature a quick detach lever in each slide, to allow the drawer to be removed from the case without tools.

COMPUTER DRAWER: There is to be a computer drawer integral to the wall cabinet structure. Final layout and location shall be approved by this agency on the interior drawing layout prior to production.

CABINET "C": An interior cabinet shall be provided at the rear end of the base cabinet on the street side. This cabinet interior shall be finished in high impact, white colored laminate. Must meet current NFPA 1917.2016.

RESTOCKING FEATURE: The cabinet shall have sliding polycarbonate doors. The entire framed assemblies shall hinge 90 degrees to provide 100% access for the purpose of restocking the cabinets. The assemblies shall be supported by a cable stop and latched with two positive, slam action latches that are blind mounted behind each end of the window frame. The use of plywood in these assemblies are not acceptable, due to lost access area.

SHELF STANDARDS: The aforementioned cabinet shall be equipped with non-incremental, aluminum, C-shaped shelf standards.

ADJUSTABLE ALUMINUM SHELF: A shelf shall be supplied in the cabinet. Each shelf shall be white anti-microbial coated. The shelf shall be secured to four shelf clips An anodized aluminum angle shall be securely fastened to the front edge of the shelf. The vertical leg of the angle shall provide a lip along the front edge.

CABINET "D": An interior cabinet shall be provided directly over the rearward "Telemetry Area" just aft of the CPR side seat within the base cabinet on the street side. This cabinet will be ergonomically angled towards the CPR seat. This multipurpose cabinet interior shall be finished in high impact, white colored laminate. The cabinet shall be ergonomically angled toward the CPR seat. Must meet current NFPA 1917.2016.

RESTOCKING FEATURE: The cabinet shall have sliding polycarbonate doors. The entire framed assemblies shall hinge 90 degrees to provide 100% access for the purpose of restocking the cabinets. The assemblies shall be supported by a cable stop and latched with two positive, slam action latches that are blind mounted behind each end of the window frame. The use of plywood in these assemblies are not acceptable, due to lost access area.

SHELF STANDARDS: The aforementioned cabinet shall be equipped with non-incremental, aluminum, C-shaped shelf standards.

ADJUSTABLE ALUMINUM SHELF: A shelf shall be supplied in the cabinet. Each shelf shall be white anti-microbial coated. The shelf shall be secured to four shelf clips Anodized aluminum angle shall be securely fastened to the front edge of the shelf. The vertical leg of the angle shall provide a lip along the front edge.

CABINET "E": An interior cabinet shall be provided at the rear of the base cabinet on the street side. This multipurpose cabinet interior shall be finished in high impact, white colored laminate. Must meet current NFPA 1917.2016.

(CABINET E) RESTOCKING FEATURE: The cabinet shall have sliding polycarbonate doors. The entire framed assemblies shall hinge 90 degrees to provide 100% access for the purpose of restocking the cabinets. The assemblies shall be supported by a cable stop and latched with two positive, slam action latches that are blind mounted behind each end of the window frame. The use of plywood in these assemblies are not acceptable, due to lost access area.

CABINET ACCESS: The above cabinet shall not be accessible through the outside of the module.

DRAWER "F-1": An interior drawer shall be provided directly below the rearward "Telemetry" Area just forward of the CPR side seat within the base cabinet on the street side. This multipurpose drawer interior shall be finished in high impact, white colored mica that is impervious to disinfectants and cleaners. The cabinet shall add at least 1.0 cubic feet of interior stowage accommodations described in NFPA 1917.2016E 3.11.1.

NON-LOCKING LATCH: A round pull style chrome positive latch shall be supplied and installed on the cabinet door. A small "preload" on the latch shall be imposed to prevent the door from rattling.

CABINET "F-2": An interior cabinet shall be provided directly below the rearward "Telemetry" Area just forward of the CPR side seat within the base cabinet on the street side. This multipurpose cabinet interior shall be finished in high impact, white colored mica that is impervious to disinfectants and cleaners. The cabinet shall add at least 1.6 cubic feet of interior stowage accommodations described in NFPA 1917.2016E 3.11.1.

SOLID HINGED DOOR: A 3/4" (19mm) thick door shall be supplied on the aforementioned cabinet. The door shall be flush fitted to the opening. The door shall be flush fitted to the opening and have uniform gap spacing around the perimeter of the door. The door shall be finished on both sides with the same colored mica as the cabinet face.

DOOR EDGE FINISH: The edges of the aforementioned door(s) shall be covered with anodized aluminum, U-shaped trim. The trim shall be miter cut and wrapped around the perimeter of the door (On ALL four sides), including the hinged side. The trim shall be bonded to the door edge and clamped. No screws or other mechanical fastener shall be used to fasten the trim work to the door(s). The corners of the doors shall be broken (rounded) after application. Vinyl "Iron on" or mica edge banding is not acceptable.

HINGE ORIENTATION: The aforementioned door shall be hinged along the bottom edge of the door.

NON-LOCKING LATCH: A black positive latch shall be supplied and installed on the cabinet door. A small "preload" on the latch shall be imposed to prevent the door from rattling.

BIO-WASTE RECEPTACLE No 1: The receptacle shall accommodate a sharps container and a solid waste container per the following paragraphs. Both the sharps and the solid waste containers shall be attached to a tilt out door, utilizing an aluminum bracket designed to support the bottom of both containers. A white colored "Bio-waste" symbol and legend shall be applied to the aforementioned door.

BIO-WASTE LOCATION: The primary biological waste receptacle shall be supplied and installed in the wall cabinet, rearward of the CPR seat.

SHARPS CONTAINER: A puncture proof, disposable sharps container with a 1.7 quart catchall be supplied for safe disposal of used/contaminated syringes. The red colored container shall display the international symbol for "Biological Hazard" as well as clear identification of the manufacturer and the manufacturer's part number. The safety container top shall feature a "Screw-on Once and Lock Shut" needle entry lid. The hatch shall be a size just large enough to allow a fully assembled syringe, with needle, to enter the container. The container shall feature a dovetail notch, located on the side of the container, near the top. The dovetail shall be designed to suspend the container on a short dovetail rail. Since this a disposable unit, proprietary sized or custom, vacuum formed sharps containers are not acceptable. Maxxim Medical Model No 185 will comply with this specification.

WASTE CONTAINER: One eight 1/8 quart (462 cubic inch), rimmed plastic waste container shall be supplied and fitted to the aforementioned "Bio-waste" enclosure. The waste container shall accommodate solid waste into disposable, red colored "Biological waste" liners. The "waste" and the "Sharp object disposal (Sharps)" containers shall be two separate receptacles, located adjacent to the other. The waste containers' material shall withstand strong disinfectant cleaners.

CPR SEAT: A left side "CPR" side seat shall be provided on the street side and aligned with the primary patient's knees. The seat shall be at least twenty four (24") inches wide and normal squad bench seat height. Upholstered seat pads shall be located within the seat area for the seat, back, both arms and hips. The CPR seat area shall have rounded corners. The cabinet configuration and dimensions shall comply with the drawings attached in appendix A.

CPR SEAT STOWAGE: The under CPR seat stowage cabinet shall add at least 1.5 cubic feet of interior stowage accommodations described in NFPA 1917.2016E 3.11.1. An access lid from the top shall provide entry into the cabinet with a recessed paddle latch.

HINGE, SQUAD BENCH LID(S): All squad bench lids shall be installed with butt style, hinges. The hinges shall be through bolted for longevity of the vehicle. There shall be a minimum of two hinges per lid.

BACK REST: The CPR side seat shall feature a padded, fixed back rest with chamfered upper corners.

TELEMETRY AREA: A four inch wide upholstery covered and padded arm rest shall be installed. The arm rest shall create a 3/4" to 1" lip on the leading edge of the telemetry area.

TELEMETRY AREA COUNTER SURFACE: The telemetry area counter surface shall be made from one half inch thick solid surfacing material. The color shall compliment the color scheme of the mica, floor and upholstery in the remaining areas of the vehicle interior. The material shall be tested to the same material as the "Action Area". The successful bidder shall disclose the make of the solid surfacing material they are providing to the agency on their "Shop Order".

ACTION AREA COUNTER SURFACE: The action area counter surface shall be made from one half inch thick solid surfacing material. The color shall compliment the color scheme of the mica, floor and upholstery in the remaining areas of the vehicle interior. This material shall be installed by certified personnel trained on the specific brand of solid surfacing material being installed. The successful bidder shall disclose the make of the solid surfacing material they are providing to the agency on their "Shop Order".

CARDIAC MONITOR MOUNT: “Top Hat” piece shall be installed to provide an elevated mounting location for the cardiac monitor on the action area. Zoll approved solid mount for X series cardiac monitor will be provided by customer. Exact placement of both to be decided during final drawings.

<u>RESTRAINT SYSTEM(S): The Seat Belt System(s) shall be in the following locations:</u>

RESTRAINT SYSTEM(S): The rear seating locations shall meet NFPA 1917.2016 Section 6.21.3.3.

SECONDARY PATIENT RESTRAINT SYSTEM: There shall be a location for a secondary patient on top of the squad bench located on the curbside interior of the patient area of the ambulance. To secure the patient there shall be three inertia style retractable straps that match up to three 9" sleeved buckles on the face of the squad bench and sleeved retractors by the squad bench lid hinge. The straps and buckles shall be mounted to comply with the pull test requirements in the present revision of NFPA 1917.2016.

FLOOR AND SUBSTRATE: The underlayment shall be Thermo-Lite Board Tough, made with a medium weight woven fiberglass lay-up, this product is acceptable for standard structural load applications. The material density shall be 40 lbs per cubic feet for the 3/4" thickness material used for underlayment application. The material is a unique closed cell, lightweight composite product, manufactured with cross-linked polymer foam and fiberglass, that offers high specific strength and toughness. The non-absorbent material is extremely durable, provides an excellent bonding surface, has good impact strength, sound and thermal insulation, and is resistant to contamination.

FLOOR COVERING: The floor substrate shall be free of dents, voids and moisture prior to application of the floor covering. The plywood substrate shall be 3/4" (19mm) 7-ply exterior grade plywood. The substrate sheet shall be cut from a 60 inch wide by 144 inch long oversized sheet. No substrate seams are allowed in high foot traffic areas. This means NO SEAMS are permitted within 132" of the rear access doors or near the side access door.

On longer bodies, the only ONE seam is permitted as long as the full length of the seam is located directly over the center of a 0.250 x 2 x 3 box tube floor member AND the seam does not fall in the aforementioned "High Traffic" areas.
The floor covering shall be one piece throughout the patient cabin regardless of the body length. The flooring material shall be commercial grade sheet vinyl floor with coin shaped protrusions on the surface. The floor covering shall be Lonseal Loncoin II Flecks No 150 "Onyx " (Black). The main field of the flooring around the "coins", shall be textured to minimize the appearance of minor scratches and imperfections brought on by wear.

FLOORING MAIN EDGE: The one-piece patient cabin floor covering material shall run the full width of the aisle space plus roll up (3") three inches along the Base wall cabinet, squad bench and the right rear cabinet (when applicable). Both roll-up areas shall be recessed approximately 1/2" into the face of the cabinets.

REAR THRESHOLD: There shall then a .125" aluminum sheet that is full width of the rear door area and mate to the top of the rear access door jamb and cover at least six inches of flooring. Yellow Speedliner coating shall be applied to the top surface of the aluminum sheet.

C/S THRESHOLD: There shall then a .125" aluminum sheet that is full width of the rear door area and mate to the top of the curbside access door jamb and cover at least six inches of flooring. Yellow Speedliner coating shall be applied to the top surface of the aluminum sheet.

COT & COT MOUNT HARDWARE

PRIMARY COT: The main cot shall be a Stryker Power-PRO XT Model 6506 or latest current version. If latest current version is not the 6506 model it shall be denoted on the bid as such.

PRIMARY COT MOUNT: The main cot mount shall be a Stryker Power-LOAD Model 6390. The mounts shall be set in the center of aisle and seven inches (7) left of center position. If latest current version is not the 6390 model it shall be denoted on the bid as such.

COT FASTENER MOUNTING METHOD: All mounting bolts shall be 3/8" diameter, socket head cap screws with at least 16 threads per inch. All mounting blocks shall be supplied and manufactured by the cot mount manufacturer. The mounting blocks may protrude above the flooring surface by up to 3/16", as long as all of the edges are chamfered. The aforementioned cap screws shall not protrude above the upper surface of the mounting block.
All cap screws shall be through bolted through 1/2 (.500) inch thick, 6061-T-6 Aluminum plate structure. One and one half (1-1/2) inch x six (6) inch thick plates shall either be MIG welded or Chuck structurally fastened to the floor grid for both cot mount and attendant seat fastening locations. All fastening hardware shall be either through bolted or tapped depending on under floor clearances due to chassis installed components. Mounting bolts shall not point toward fuel filler or fuel vent hoses, in accordance with good engineering practices set forth by the Society of Automotive Engineers and Ford's Qualified Vehicle Modifiers' program.
Bidders shall meet or exceed mechanical strength described in the aforementioned minimum fastening method. Material thickness and/or through bolt criteria is mandatory even if the vendor has current certification to A.M.D. Standard 004 utilizing lesser materials.

COT POSITION: This cot position shall be set up for a primary wheeled cot set centered laterally (side to side) in the aisle. The longitudinal location shall be set 30 inches measured from the backrest of the attendant's seat (set all the way toward the front of the patient cabin) to the head of the primary cot frame, per current NFPA 1917.2016.

PRIMARY COT POSITION REINFORCEMENT; There shall be a singular piece of aluminum reinforcement installed running the length of the primary cot position in the modular ambulance. It shall be secured to the modular tubes by welding or Houck fasteners.

OXYGEN, AIR and VACUUM SYSTEMS

OXYGEN HOSES: All oxygen system service hoses, fittings and devices shall be made of nonferrous materials. Hoses used to pipe Medical Oxygen shall be electrically non-conductive, ¼ inside diameter with an abrasion resistant, green colored outer jacket. The hose manufacturer's name, part number, inside dimension and working pressure rating shall be permanently marked along the entire length of the hose. All hoses shall have a working pressure rating of at least 250 pounds per square inch, withstand a system test pressure of 150 PSI / 1033 kPa test prescribed in current NFPA 1917.2016. Each ambulance shall be tested.

OXYGEN OUTLETS - GENERAL: Each outlet shall be comprised of an "*Inlet Box*" and a "*Latch Plate*" as defined herein. The "*inlet box*" shall be a universal inlet service box with a 165 mm type "K" (3/8") OD Copper inlet pipe stub which is silver brazed to a brass, one piece, (1 5/16") inlet body. The "*inlet box*" shall be designed specifically for positive pressure gas service and feature a primary and secondary check valve. Each check valve shall be rated at 1,379 kPa (200psi).

The "*Latch Plate*" shall insert into the universal "*Inlet Box*". The "*Latch Plate*" is comprised of the outer cover plate and latching mechanism that will define the adapter type/Brand that will ultimately connect the patient to the oxygen system. The outlet cover shall be color coded GREEN in addition to having a clear permanent legend that identifies the gas type. Dual gas specific safety pins shall be integrated in the face of the outlet "*Latch Plate*" for safety.

Outlet adapter types shall be easily changed by simply removing the "*Latch plate*" specifically designed for brand "A" to brand "B" without any further plumbing changes.

As with all medical gas outlets specified herein, all outlets shall be hydrostatically tested and cleaned for oxygen service. All medical gas outlets specified herein shall be UL (Underwriters Laboratory) listed and CSA approved. All outlets will be subject to a line pressure of 50 PSI And shall be leak tested at 150 PSI Per NFPA 1917.2016. Pressure drop across the outlet shall be less than 2.0 PSI At normal working pressure.

OXYGEN OUTLET No 1: This outlet latch shall be designed to accept (Ohio) style, quarter turn / quick release adapters. This Oxygen outlet shall be provided where specified below.

LOCATION: The Oxygen outlet shall be located in the primary action area switch and outlet console.

OXYGEN OUTLET No 2: This outlet latch shall be designed to accept (Ohio) style, quarter turn / quick release adapters. This Oxygen outlet shall be provided where specified below.

LOCATION: The Oxygen outlet shall be located in the primary action area switch and outlet console.

OXYGEN OUTLET No 3: This outlet latch shall be designed to accept (Ohio) style, quarter turn / quick release adapters. This Oxygen outlet shall be provided where specified below.

LOCATION: The Oxygen outlet shall be located in curb side wall, over the squad bench and near the curbside entry door.

OXYGEN OUTLET No 4: This outlet latch shall be designed to accept (Ohio) style, quarter turn / quick release adapters. This Oxygen outlet shall be provided where specified below.

LOCATION: The aforementioned Oxygen outlet shall be located in ceiling panel over the primary patient's' head/chest area. Access to the outlet shall be free of obstructions created by surrounding appliances.

PORTABLE CYLINDER BRACKET No 2: A Zico QR-D-2 or an approved, certified equal with the following minimum features and quality level shall be installed in the location specified below. This universal, adjustable portable cylinder rack shall be supplied and installed to accommodate one cylinder. The bottle rack shall accommodate either D-size or Jumbo D-size cylinders made of steel OR aluminum. The entire rack shall be constructed of heavy gauge stainless steel and aluminum alloy. The rack design shall include a stainless steel cylinder neck restraint that does not interfere with oxygen regulator controls. A quick release at the top alleviates the need for a strap to secure the bottle in place. The rack shall be through bolted to reinforced, structural members or brackets that tie in directly to the body of the ambulance.

LOCATION: The item shall be installed in a designated area as discussed at the pre-construct conference and notated in the shop notes of the production order.

PORTABLE CYLINDER BRACKET No 1: A Zico QR-D-2 or an approved, certified equal with the following minimum features and quality level shall be installed in the location specified below. This universal, adjustable portable cylinder rack shall be supplied and installed to accommodate one cylinder. The bottle rack shall accommodate either D-size or Jumbo D-size cylinders made of steel OR aluminum. The entire rack shall be constructed of heavy gauge stainless steel and aluminum alloy. The rack design shall include a stainless steel cylinder neck restraint that does not interfere with oxygen regulator controls. A quick release at the top alleviates the need for a strap to secure the bottle in place. The rack shall be through bolted to reinforced, structural members or brackets that tie in directly to the body of the ambulance.

RACK LOCATION; The rack shall be located on the aisle side of the ALS cabinet.

MAIN CYLINDER RESTRAINT No 1: One manufacturer supplied M-size compressed, medical gas cylinder shall be carried and secured, vertically inside the left front exterior compartment. Cylinder rack shall be through bolted to the back wall. A rust free cylinder rack with (2) heavy duty pull style, web straps with quick spring loaded release shall be type tested to AMD Test 003 Oxygen Tank Retention system Test. The cylinder valve shall also be visible and accessible from the inside through a clear polycarbonate door.

NECK STRAP: There shall be an additional webbed strap looped onto the racks upper most securing strap. The strap is to have two loops. The bottom loop will be the section secured to the upper most strap and the upper loop shall be secured onto the neck of the oxygen or medical air bottle to help secure it in place in the case of an upward exertion.

CYLINDER TYPE: This rack shall be for a MEDICAL OXYGEN cylinder. The oxygen system input hose shall be suspended over this rack. This input hose shall feature a nonferrous 9/16-18 RH bottle nut and regulator barb. This connection shall comply with the diameter index safety system (DISS) set forth by the Compressed Gas Association (CGA) for safety.

CYLINDER RACK LOCATION: The main oxygen cylinder shall be stored in the left front compartment. The cylinder rack shall be through bolted on the back wall, near the right hand wall of the compartment. The cylinder neck shall be visible and accessible through the viewing window. Cylinder Wrench: There shall be a cast aluminum main oxygen cylinder wrench installed in the compartment with the main oxygen cylinder rack. The wrench shall include a cable lanyard that secures the wrench to the compartment wall allowing enough length of cable to loosen and tighten the regulator fitting on the customer installed main oxygen cylinder. The wrench shall be stored in place with either a hat channel bracket or Velcro to keep it secured while the vehicle is in motion.

VACUUM (SUCTION) PANEL: A variable vacuum regulator and gauge panel shall be installed in the action area control panel. The vacuum regulator shall vary vacuum delivered to a 1200 cubic-centimeter collection jar specified below. The Vacuum gauge shall not be mounted on the collection jar itself.

COLLECTION JAR: The suction system shall be equipped with a shatter proof, graduated, 1200cc, transparent collection container. The container shall be regulated through the Sscor panel and secured in a "boxed in" padded shelf.

COLLECTION JAR PLUMBING: The collection jar shall be connected directly to the regulator panel in the action area console.

SUCTION PUMP: The suction pump shall be installed in the left middle compartment, adjacent to the action area panel. The exhaust tube shall be routed to the outside of the vehicle. The pump shall be mounted on rubber vibration isolators to minimize any vibration noise emitted into the patient cabin. The pump shall provide a free air flow of at least 20 liters per minute and achieve a minimum of (11.81 in) Hg vacuum within four seconds after the suction tube is closed. This 49-state pump shall meet or exceed current NFPA 1917.2016.

SUCTION PUMP LOCATION: The suction pump shall be installed in the M-1A compartment. The pump shall be mounted to the ceiling of this compartment on rubber vibration isolators.

EXTERIOR ENTRY AND COMPARTMENT DOOR HANDLES: Large chrome plated, die cast paddle handles shall be provided to open all module doors. Blind fasteners shall be used to fasten the handles to the door from the backside. Blind Stabilizer pins shall be incorporated on the backside of the handle for alignment purposes. Every paddle handle shall have an isolation gasket between the paddle body and the door skin. All door skin surfaces shall be painted prior to installation of the handle hardware. All paddles, on single hung and leading double doors shall be locking type and keyed the same. Trailing doors shall; have non-locking paddle handles, mounted on the outside of the door. The Handle shall have a bright chrome like finish mounted into the bright chrome dish. When the door is in the locked position, the handle shall extend when pulled like an automotive handle (free floating) to show the operator that the door is locked and needs to be unlocked to be opened. Systems that utilize a handle that does not free float shall not be accepted as it could bind up the inner hardware and shorten the life of the door operation and timing.

INTERIOR ENTRY AND COMPARTMENT DOOR HANDLES: The interior handle shall be lever type. A Lock/Unlock lever shall be installed below the inside lever handle and be clearly marked Lock/Unlock. The inner chrome plated handle shall have a black powder coated cast aluminum bezel for strength. There shall be no plastic parts utilized in this installation.

EMERGENCY INTERIOR LATCH RELEASE: There shall be a latch at both the top and bottom interior of each patient access door. These shall be used should the door rods become unattached from either the handle or latch assembly. The mechanisms shall be cable operated.

ENTRY DOOR PANELS / WINDOWS / HARDWARE

INTERIOR GRAB HANDLE COLOR: The interior grab handles listed below will be powder coated with anti-microbial, yellow in color.

CURB SIDE ENTRY DOOR GRAB HANDLE: The curbside entry door shall be equipped with a two point, 1 ¼ diameter, stainless steel with yellow anti-microbial coating, handicap style grab handle to aid in door closure and entry assistance. The handle shall measure at least eighteen inches long. The handle shall run horizontally, directly above the inside door latch. The door handles shall be fastened directly to the horizontal door structure that is welded to the door assembly.

CURB SIDE ENTRY DOOR RETAINER STRAP: The curbside entry door shall be equipped with a 2” or greater nylon strap to prevent the door from opening past a set point. The intent is to prevent excessive opening that may cause damage to the hinges.

REAR ACCESS DOOR GRAB HANDLES: Each rear access door shall be equipped with a two point, 1 ¼ diameter, stainless steel with yellow anti-microbial, handicap style grab handle to aid in door closure and entry assistance. The handle shall measure at least ten inches long. The handle shall run horizontally, directly above the inside door latch. The door handles shall be fastened directly to the horizontal door structure that is welded to the door assembly.

ADDITIONAL ASSIST RAIL: This rail shall be naturally accessible to assist working attendants in maintaining their balance. The rail shall be 1 ¼ diameter, 100% stainless steel with yellow anti-microbial coating and 18" long. All rail fittings shall be TIG welded to the main rail. The rail shall be located prior to order confirmation. Grab rails that utilize separate, setscrew rail fittings are not reliable and not acceptable.

DOOR PANELS: The inside upper door panels shall be made of .080 aluminum diamond plate. The edges of the diamond plate shall be recessed into the door frame extrusion. The center panel shall be upholstery over a smooth aluminum substrate.

CURBSIDE LOWER DOOR PANEL: The inside door panels shall be made of .090 aluminum sheet . The edges of the plate shall be recessed into the door frame extrusion. The panels shall be fastened to the door frame with stainless steel, #10-32 UNF machine screws threaded into aircraft quality blind fasteners. Each screw shall have a neoprene lock washer.

REAR ENTRY DOOR WINDOWS: Will have an automotive style window. The window will be recessed in a factory stamped opening. The windows will be near flush. They will be in a fixed position. The window shall have a special coating applied which allows for a default fogged effect. When minor current is applied the window shall transition to clear. Each window will have a nominal area of 320 square inches

SIDE ENTRY DOOR WINDOW: The curb side (Right) entry door shall be equipped with an automotive style window. The window will be recessed in a factory stamped opening. The window will be near flush. The window shall have a special coating applied which allows for a default fogged effect. When minor current is applied the window shall transition to clear. Window will be fixed position. All glass shall be tinted safety glass.

AUTO SHADE INVERTER; A pure sine wave inverter shall be installed to convert the vehicles 12v power to the appropriate voltage as needed to power the auto shade windows to a clear condition.

MODULE ENTRY DOOR INSULATION; Module entry doors shall have 0.1875 inch thick mass loaded acoustical ethylene vinyl acetate material attached to the inside surface of the exterior skin to provide a noise reduction of 75%. There shall be 2 inch thick moisture resistant hydrophobic, micro-porous, polymeric substance adhered to the ethylene vinyl acetate material to provide added DB absorption and a minimum R rating of 11. The insulation shall be fitted tightly against the structural members to maximize R-value effectively. Gap spacing around each cell within the structure grid and the block foam shall not exceed 1/16". A layer of 0.250 inch thick foil encapsulated micro-cellular closed-cell polyethylene with an R rating of 7.75. There shall be a minimum air gap of 0.5 inch between the inner most foil surface and the doors interior surface materials. Insulation shall not interfere with door latch hardware. The total R value of the module entry doors must be greater than or equal to 12

MODULE ENTRY DOOR SOUND PROOFING; Module entry doors shall have 0.1875 inch thick mass loaded acoustical ethylene vinyl acetate material attached to the inside surface of the exterior skin to provide a noise reduction of 75%.

ASSIST RAIL: This rail shall be naturally accessible to assist persons entering the rear of the module in maintaining their balance. The rail shall be 1 ¼ diameter, 100% stainless steel with Yellow anti-microbial coating and 18" long. All rail fittings shall be TIG welded to the main rail. The rail shall be located prior to order confirmation. Grab rails that utilize separate, setscrew rail fittings are not reliable and not acceptable.

TALK THROUGH WINDOW: The Cab to Module communications window shall be provided.

LOCKING PIN: The sliding cab to patient area window shall have a locking pin consisting of metal 1/4" pin with a lanyard retainer to keep from losing the pin when not latched. The pin shall be from the driver's side of the window. The pin shall meet or exceed current NFPA 1917.2016.

PLASTIC VENTILATED COMPARTMENT TILE: A plastic black, ventilated tile shall be installed on all compartment floors and shelves. The tile is to be designed to keep equipment off the floor or shelf to promote drying of wet equipment.

COMPARTMENT TILE EDGING: The yellow plastic tile edge material shall mate to the outer edge of the compartment tile and shall taper to the front edge for a smooth transition.

I. V. WARMER: A Smith Works Floor Mount model IV fluid warmer shall be supplied. This device shall be capable of heating and maintaining four liters of IV fluids at a comfortable body temperature of 98.6 degrees F. The device shall feature a pan type, stainless steel warming surface with a heating element fixed to the underside of the pan and wired through an electronic thermal controller. The controller shall be built into the base of the warming pan and installed as a single unit. This unit shall run on twelve volts, direct current.

I.V. WARMER LOCATION: The IV warmer shall be located inside cabinet "B" that is located directly over the main Action Area, on the street side front corner of the patient cabin.

DECONTAMINATION SYSTEM: An Aeroclave model “ADP-PT” decontamination port system shall be installed. Discharge nozzle to be installed per manufacturer recommendations in the rear of the patient compartment. The intake port from the Aeroclave machine to be installed in Compartment M-5. Exact locations to be determined in the pre-build meeting.

"DAY BRIGHT" LIGHTING : The interior of the cabinets noted below shall be illuminated with LED rope lighting and shall be recessed into the backside of the cabinet perimeter aluminum tracking. The lights must be in the front of the cabinet shining towards the backside of the cabinet in order to see what is in the cabinet without the light being blocked by the components stored in the cabinet. The idea is to illuminate the interior of the cabinet and not to shine outward toward the personnel looking inside the cabinet. There shall be a switch in the patient compartment switch panel to turn the light(s) on and off as desired by the crew.]

INTERIOR CABINET LIGHT SWITCHING: Activated from patient area multiplex console.

Daybright Cabinet light location 1;

Daybright Lighting will be installed in Cabinet B

Daybright Cabinet light location 2;

Daybright Lighting will be installed in Cabinet D

Daybright Cabinet light location 3;

Daybright Lighting will be installed in CabinetO1.

Daybright Cabinet light location 4;

Daybright Lighting will be installed in Cabinet A

Daybright Cabinet light location 5;

Daybright Lighting will be installed in Cabinet K

ACTION AREA LIGHTING: A 12 volt LED light shall be provided directly over the forward, street side work surface. A 12 inch swivel fixture shall be provided. The light shall have an on/off rocker switch on the body of the light housing.

LOCATION: The light shall be mounted to the action area .

TELEMETRY AREA LIGHTING: A 12 volt LED light shall be provided directly over the forward, street side work surface. A 12 inch swivel fixture shall be provided. The light shall have an on/off rocker switch on the body of the light housing.

LOCATION: The light shall be mounted to the bottom of Cabinet C.

UPHOLSTERY MATERIALS: All padding and upholstered seating shall be covered in 36 ounce vacuum form ready vinyl. Sewn seams in the seat covers and cushions shall be minimized. Upon request, the manufacturer shall be capable of supplying vacuum formed, seamless vinyl covered upholstery. The color shall be color keyed to the laminate color selections made.

SEAT / BACKREST CORE MATERIAL: The vinyl covered foam shall meet current NFPA 1917.2016. Seat cushions shall be ergonomically contoured. All core material shall be open cell, high resilience foam.

UPHOLSTERY COLOR: All padding and upholstered seating shall be covered in 36 ounce vacuum form ready vinyl per the aforementioned specification. The color of the vinyl shall be Light Gray. A sample of the actual color shall be submitted with the bid for approval.

TROUGH COVER: All upholstered pad that is built to cover the trough running down the centerline of the vehicle separating the curbside and streetside of the patient compartment shall be manufactured of 1/4" luan non voided plywood with padding and covered with 36 ounce vinyl. The color of the vinyl shall be the same as the remainder of the upholstery in the patient area. The cover shall be fastened to the headliner using stainless steel screws with washers that will accept button covers that are color matched to the trough cover.

UPHOLSTERY JOINERY TYPE: All padding and upholstered seating shall feature upholstery covered foam that eliminates sewn, visible seams. All cushion corners shall be vinyl wrapped. NO sewn seams are permitted, even at the corners. Seat cushion vinyl shall be pre-formed to the cushion shape to eliminate ALL visible seams. Seat cushions with welting/piping and sewn corner seams are not acceptable since blood and other liquid form biological discharge can penetrate the seam holes and reside in the foam. All vinyl surfaces shall be pulled tight against the foam, utilizing a hardwood plywood backing board. Loose fitting vinyl coverings are not acceptable.

FULL CUSHIONS: The post and wheel cups normally placed on the squad bench for secondary stretchers shall be DELETED in favor of full seat cushions without cutouts. The seat cushions shall be the same size as the squad bench lid and WITHOUT cutouts. The user chooses to use a backboard in lieu of a stretcher for a secondary patient.

HEAD PROTECTION - CURB SIDE ACCESS DOOR: A seamless pad specifically designed to protect the head during egress is required. The pad shall consist of a 2” thick foam sheet over a hardwood plywood backing board and covered in seamless vinyl upholstery.

HEAD PROTECTION - REAR ACCESS DOORS: A seamless pad specifically designed to protect the head during egress is required and shall comply with current NFPA 1917.2016. The pad shall consist of a 2” thick foam sheet over a hardwood plywood backing board and covered in seamless vinyl upholstery.

CLOCK: An Emergency Time manager is defined as a 24-hour clock and timer designed to assist Emergency medical personnel with time management. The time Manager shall provide four functions:

Time of day in hours and minutes
LED sweep second hand shall sweep around the hour and minute display
Elapsed time in hours and minutes
4-alarm timers in 1, 2, 5, and 10 minute increments

The clock size shall be approximately 4 3/4" high by 6 3/4" long with a second hand sweep of 3 1/2" diameter. The main digital display shall have 1/2" high characters. The four digit display shall operate in three modes; "time of day", "Elapsed time" and "timer" mode. In "time of day" and Elapsed time" mode, the display will show hour and minutes. In "Timer" mode, an audible alarm shall sound when timer reaches zero.
The clock shall feature power consumption protection, whereas, the clock display shuts down, 20 minutes after the vehicle's engine is shut down and charging voltages are not present. The display shall come back on when the engine is restarted.

Location: Face of M-5

PAINT

100% PAINT FILM COVERAGE: All stages of primer and paint shall cover all surfaces. Hinge mating surfaces on the doors and jambs shall be painted. Bare aluminum and primer only preparation is not acceptable under door hinges. Doors shall be painted without actuation handles installed and doors removed from body. Paint film thickness to be no less than 4.1 mil thickness.

PAINT SYSTEM TYPE: The paint shall be Poly-Urethane type electrostatic application process without exception. An electrostatic paint spray system is a highly efficient technology for the application of paint to specific work pieces. Negatively charged atomized paint particles and a grounded work piece create an electrostatic field that draws the paint particle to the workpiece, minimizing overspray. For this technology, an ionizing electrode, typically located at the paint gun atomizer tip, causes paint particles to pick up additional electrons and become negatively charged. As the coating is deposited on the workpiece, the charge dissipates through the ground and returns to the power supply, completing the circuit. The electrostatic field influences the path of the paint particles. Because the charged particles are attracted to the grounded workpiece, over spray is significantly reduced. Paint particles that pass a workpiece can be attracted to and deposited on the back of the piece. This phenomenon is known as "wrap."

MECHANICAL ADHESION PROMOTER: The entire module shall be degreased. Degreaser shall be applied to manufacturers’ recommendations. The module body is to be inspected for flaws and imperfections, and to assure built to order specifications. All surfaces shall be initial sanded with 180 grit paper and all imperfections repaired.

CHEMICAL ADHESION PROMOTER: The module shall be hot-water washed at (140 degrees or greater). Then the aluminum Body shall be treated with Alumiprep 33 acid etching followed by a complete De-ionized body rinse. To ensure all surfaces are cleaned, this step shall be repeated a second time. The entire unit shall be wet coated with Alodine 5700 conversion coating and de ionized water mixed. The module body is baked at 160 degrees to dry.

PRIMER: The module shall then have 2 coats of epoxy primer. The unit is then baked at 140 degree metal temperature for one hour. The module body will then undergo any bodywork or filler that is required at transition(s). A third coat of epoxy primer is applied and cured. The module body will then be final sanded

prior to Paint color application. Primer shall be sanded with 320 grit paper to assure flat, orange peel free surface.

TOP COAT (PAINT): Entire module shall be degreased. Degreaser shall be applied to manufactures recommendations. Two coats of BTLV High Solids color shall be applied.

CLEAR COAT: The clear coat shall be manufactured by the same company as the primer and base coat. Two coats of "clear coat" polyurethane shall be applied per the manufacturer's instructions.

3M POLISHING SYSTEM: Prior to 100% paint cure, the paint on the ambulance body shall be sanded to 1200 grit and polished flat per 3Ms Perfect-It product program for smooth finish.

CORROSION: Anti-electrolysis procedures include, but are not limited to the following.
1) Ensure all bare substrate is dry and free from contamination.
2) If bare substrate is showing signs of corrosion/oxidation, sand and remove. Use 180 grit until area is removed.
3) Thoroughly blow off areas to remove sand dust and metal shavings.
4) Thoroughly degrease to be pre-primed using the wipe-on, wipe-off method with clean white rags. (Use good quality automotive Degreaser)
5) Apply Wash primer CR using a brush to all mated surfaces. Allow to flash for 15 minutes at 70 deg Fah. Mix wash primer CR 1:1 with wash-hardener.
6) Apply Urethane caulk to all mated surfaces before assembly to reduce the possibility of corrosion.

EXTERIOR FASTENERS: All screw sites require a replaceable nylon insert for the fastener to thread into. This will isolate the dissimilar metals. Each hole shall be treated with an Electrolysis Corrosion Control compound prior to installation of the nylon inserts. All exterior screws shall be stainless steel.

PAINT WARRANTY: The conversion paint shall be warranted to the original owner for a period of 7 years, 70,000 miles. The color shift shall be no greater than Delta E of 4.0 with minimum gloss retention of 60 gloss units at twenty-degree angle. Warranty to include a 36 month Corrosion coverage with no exclusions.

UNDERCOATING; The bottoms side of the module shall be undercoated, with an exception to any area affected by exhaust system direct heat. Application standards for the undercoating shall be achieved or exceeded as directed by QVM or governing standards.

REFLECTIVE TAPE: The module door frames shall have a three quarter inch (3/4") wide white reflective tape applied to the door frame interior. The tape shall illuminate the outline shape of the door when the door is opened.

MAIN BODY COLOR: The main body color shall be oxford white (Ford YZ). The paint finish shall be laid onto the body in a flat, orange peel free, mirror like shine on all four sides.

REFLECTIVE / PRISMATIC TAPE: The aforementioned center step shall have a bright, conspicuous prismatic, reflective tape strip applied the rearward facing edge of the step. The tape shall have alternating colors (Red and White). The tape color shall begin and end in Red, and each segment shall measure between seven and nine inches.

Tape Belt Stripe: Reflective Tape

REFLECTIVE STRIPE; There shall be a six inch tall reflective stripe installed on the chassis cab and module in a straight manner at approximately the belt line of the overall unit. This main stripe is to provide nearly continuous safety identification to the sides and rear of the ambulance while in use.

REFLECTIVE MAIN STRIPE; The main reflective stripe on the chassis cab sides and module sides and rear shall be determined at a pre-build meeting.

PIN STRIPE: The aforementioned paint belt shall be bordered with 1/4" wide automotive pinstripe tape. The tape shall be White in color. The tape shall be firmly pressed onto the paint, on the center of the color change joint.

ROOF PAINT; Color match to sides, top finish to exceed industry standard of 5 plus mil thickness.

Pin Stripe: 1/4" black reflective pinstripe

STRIPING AREA: The rear doors of the modular body above the rear Kickplate only.

DRIP RAILS: A bright drip rail shall be provided over each compartment. Full height compartments are exempt because the perimeter roof rail drip rails will cover these compartments.

OWNER'S MANUAL; There shall be shipped loose with each completed unit a DVD data file with pertinent information from the build of the vehicle.

AMBULANCE MARKING PACKAGE: The vehicle shall be outfitted with all lettering and "star of life" symbol decal package as described in current NFPA 1917.2016. The "star of life" symbols shall meet Figure 4 required by NFPA 1917.2016.

AMBULANCE MARKING PACKAGE - ROOF STAR: A 32" roof star shall be included as a part of the lettering and "star of life" symbol decal package (as described in the current NFPA 1917.2016).

REAR STRIPING: The entire rear of the ambulance will be covered in diagonal alternating yellow & ASTM D red reflective safety striping. Each alternating stripe will be at least 6” in width.

SAFETY PLACARDS; There shall be installed in the chassis cab and patient area descriptive placards in durable materials to remind occupants to fasten seatbelts and to refrain from smoking.

FIRE EXTINGUISHER: One (5) five pound A-B-C type fire extinguisher shall be supplied loose with the vehicle on delivery.

REFLECTOR PACKAGE: Six reflectors shall be supplied on the outside of the module body. The reflectors shall be located at skirt line level and the area size shall be at least 3.75 square inches. Each side shall have one AMBER forward reflector and one RED rearward reflector. The rear of the body shall have one RED reflector, located just above the diamond plate kick plate.

SECTION IV. PROPOSAL FORM

The undersigned proposes to furnish to the Village of Oak Park, the following:

Vehicle (base): – Specify below

_____ $_____

_____ $_____

_____ $_____

Vehicle (add-on equipment) – Specify below

_____ $_____

_____ $_____

_____ $_____

Costs for installation (if any) – Specify below

_____ $_____

_____ $_____

_____ $_____

Hourly Rate(s) for Specified Work (if any) – Specify below

_____ $_____

_____ $_____

_____ $_____

Other Pricing - As indicated below

_____ $_____

_____ $_____

_____ $_____

Proposal Signature: _____

State of _____), County of _____)

_____, being first duly sworn on oath deposes and says that the Contractor on the above Proposal is organized as indicated below and that all statements herein made on behalf of such Contractor and that their deponent is authorized to make them, and also deposes and says that deponent has examined and carefully prepared their proposal from the Contract Specifications and has checked the same in detail before submitting their Proposal; that the statements contained herein are true and correct.

Signature of Contractor authorizes the Village of Oak Park to verify references of business and credit at its option.

Signature of Contractor shall also be acknowledged before a Notary Public or other person authorized by law to execute such acknowledgments.

_____

Organization Name

(Seal - If Corporation)

By:_____Dated:_____
Authorized Signature

_____
Address

_____ _____
Telephone E-mail

Subscribed and sworn to before me this

_____ day of _____, 2020.

_____
Notary Public

SECTION V. COMPLIANCE AFFIDAVIT

I, _____being first duly sworn on oath depose and state as follows:

(Print Name)

1. I am the (title) _____ of the Proposing Firm and am authorized to make the statements contained in this affidavit on behalf of the firm;
2. The Proposing Firm is organized as indicated on Exhibit A to this Affidavit, entitled "Organization of Proposing Firm," which Exhibit is incorporated into this Affidavit as if fully set forth herein;
3. I have examined and carefully prepared this proposal based on the request and verified the facts contained in the proposal in detail before submitting it;
4. I authorize the Village of Oak Park to verify the Firm's business references and credit at its option;
5. Neither the Proposing Firm nor its affiliates[1] are barred from proposing on this project as a result of a violation of 720 ILCS 5/33E-3 or 33E-4 relating to bid rigging and bid rotating, or Section 2-6-12 of the Oak Park Village Code relating to "Proposing Requirements".
6. Neither the Proposing Firm nor its affiliates are barred from contracting with the Village of Oak Park because of any delinquency in the payment of any debt or tax owed to the Village except for those taxes which the Proposing Firm is contesting, in accordance with the procedures established by the appropriate revenue act, liability for the tax or the amount of the tax. I understand that making a false statement regarding delinquency in taxes is a Class A Misdemeanor and, in addition, voids the contract and allows the Village of Oak Park to recover all amounts paid to the Proposing Firm under the contract in civil action.
7. I am familiar with Section 13-3-2 through 13-3-4 of the Oak Park Village Code relating to Fair Employment Practices and understand the contents thereof; and state that the Proposing Firm is an "Equal Opportunity Employer" as defined by Section 2000(E) of Chapter 21, Title 42 of the United States Code Annotated and Federal Executive Orders #11246 and #11375 which are incorporated herein by reference. **Also complete the attached EEO Report or Submit an EEO-1.**
8. All statements made in this application are true and correct.

Signature:_____ Printed Name_____

Name of Business:_____ Your Title: _____

Business Address:_____

(Number, Street, Suite #) (City, State & Zip)

Telephone:_____ Fax: _____ Web Address: _____

Subscribed to and sworn before me this _____ day of _____, 2020.

_____

Notary Public

[1] Affiliates means: (i) any subsidiary or parent of the bidding or contracting business entity, (ii) any member of the same unitary business group; (iii) any person with any ownership interest or distributive share of the bidding or contracting business entity in excess of 7.5%; (iv) any entity owned or controlled by an executive employee, his or her spouse or minor children of the bidding or contracting business entity.

SECTION VI. ORGANIZATION OF PROPOSING FIRM

(Complete Applicable Paragraph Below)

(a) **Corporation:** The Service Provider is a corporation, operating under the legal name of _____ _____and is organized and existing in good standing under the laws of the State of _____. The full names of its Officers are: President _____

Secretary_____

Treasurer_____

The Name and Address of its Registered Agent is: _____
(Name)

_____
(Number, Street, Suite #) (City, State & Zip)

The corporation has a corporate seal. (In the event that this proposal is executed by a person other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization by the Corporation that permits the person to execute the offer for the corporation.)

(b) **Partnership:** The Service Provider is a Partnership operating under the name _____

The following are the names, addresses and signatures of all partners:

Name	Address	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Attach additional sheets if necessary.) If so, check here _____.

If the partnership does business under an assumed name, the assumed name is _____ which is registered with the Cook County Clerk and the partnership is otherwise in compliance with the Assumed Business Name Act, 805 ILCS 405/0.01 *et. seq.*

(c) **Sole Proprietor**: The Service Provider is a Sole Proprietor. If the Vendor does business under an Assumed Name, the Assumed Name is _____, which is registered with the Cook County Clerk. The Vendor is otherwise in compliance with the Assumed Business Name Act, 805 ILCS 405/0.01 *et. seq.*

(d) **Affiliates**: The name and address of any affiliated entity of the business, including a description of the affiliation: __

_____

The name and address of any affiliated person of the business entity, including a description of the affiliation. _____

_____

_____
Signature of Owner

SECTION VII. VILLAGE OF OAK PARK EQUAL EMPLOYMENT OPPORTUNITY REPORT

Please fill out this form completely. Failure to respond truthfully to any questions on this form, failure to complete the form or failure to cooperate fully with further inquiry by the Village of Oak Park will result in disqualification of this proposal. For assistance in completing this form, contact the Finance Department at 708-358-5460. **An EEO-1 Report may be submitted in lieu of this report**

1. Vendor Name:_____

2. Check here if your firm is:

   _____ MBE _____ WBE _____ DBE _____ None of the above

3. What is the size of the firm's current stable work force?

   _____ Number of full-time employees _____ Number of part-time employees

4. Similar information will be requested of all subcontractors working on this contract. Forms will be furnished to the lowest responsible bidder with the notice of contract award, and these forms must be completed and submitted to the Village before th execution of the contract by the Village.

EEO REPORT (An EEO-1 Report may be submitted in lieu of this report)

Please fill out this form completely. **Failure to respond truthfully to any questions on this form, or failure to cooperate fully with further inquiry by the Village of Oak Park will result in disqualification of this proposal**. An incomplete form will disqualify your proposal. For assistance in completing this form, contact the Finance Department at 708-358-5460.

Vendor Name: **Total Employees:**

Job Categories	Total Employees	Total Males	Total Females	**Males**				**Females**				Total Minorities
				Black	Hispanic	American Indian & Alaskan Native	Asian & Pacific Islander	Black	Hispanic	American Indian & Alaskan Native	Asian & Pacific Islander	
Officials & Managers												
Professionals												
Technicians												
Sales Workers												
Office & Clerical												
Semi-Skilled												
Laborers												
Service Workers												
TOTAL												
Management Trainees												
Apprentices												

This completed and notarized report must accompany your bid. It should be attached to your Affidavit of Compliance. Failure to include it with your bid will be disqualify you from consideration.

_____, being first duly sworn, deposes and says that he/she is _____
(Name of Person Making Affidavit) (Title or Officer)
of _____and that the above EEO Report information is true and accurate and is submitted with the intent that it be relied upon.
Subscribed and sworn to before me this _____ day of _____, 2020.

_____ _____
(Signature) (Date)

END OF PROPOSAL