

**ADA Bus and Purpose Built Vehicle - Attachment E**

**12 x 2 x 1 Low Floor (12 fixed seats – 2 w/c positions – 1 driver)**

**NOTE: Vendors must complete all blocks highlighted in BLUE below. Failure to complete ALL blocks highlighted in BLUE may deem your offer non-responsive.**

<b>Vendor Name:</b>	Creative Bus Sales
<b>Vendor-suggested Model Name and Model Number:</b>	Spirit of Freedom
<b>Base Price:</b>	\$135,820.00

**NOTE: If Add below is included in the base price, enter \$0.00 in the BLUE cell below and indicate "standard" in the GREEN cell. Use the GREEN cell below also to indicate whether the Add requires an additional Add or Deduct. Be Specific. If there is no charge for an add, enter \$0.00 in the BLUE cell, and enter "NO CHARGE" in the GREEN cell. Zero dollar amounts in the BLUE cell without an associated comment in the GREEN cell COULD be considered non-responsive.**

<b>Cab and Chassis Manufacturer:</b>	Ford E450
<b>Body Manufacturer:</b>	Arboc

**NOTE: If Deduction below is not included in the base price or not deductible, enter \$0.00 in the BLUE cell below and indicate "standard" in the GREEN cell. Use the GREEN cell below also to indicate whether the Deduct requires an additional Add or Deduct. Be Specific. Zero dollar amounts in the BLUE cell without an associated comment in the GREEN cell COULD be considered non-responsive.**

<u>Optional Equipment Additions</u>	<u>Add-on Amount</u>	<u>Add Comments</u>
Driver Seat: Upgrade to next upholstery above standard	\$10.00	Cloth or Vinyl
Passenger Seats: Level 3 woven cloth fabric treated with moisture barrier key to vehicle's interior panels and exterior color. (Per Seat)	\$10.00	Level 3 Cloth with Moisture Barrier/Seat
Flip Seat (per seat)	\$380.00	Single Flip Seat
Fold Away Seat (per seat)	\$475.00	Single Fold Away Seat
3pt GO-ES Seat (per seat)	\$173.00	Single 3PT-GO-ES Seat

<u>Base Equipment Deduction</u>	<u>Deduct Amount</u>	<u>Deduct Comments</u>
NONE		

<b><u>PRICE CALCULATIONS</u></b> <b><u>(These cells automatically populate)</u></b>	
Base Price:	\$135,820.00
Total of All ADDS:	\$1,048.00
25% of all ADDS:	\$262.00
Total of All DEDUCTS:	\$0.00
25% of All DEDUCTS:	\$0.00
<b>Evaluated Amount:</b>	<b>\$136,082.00</b>

**ENTER THIS AS YOUR BID ON-LINE**

<b><u>DELIVERY INFORMATION</u></b>		
Distance from Dealership to SFM Delivery Point (In Miles)		97
Amount of Base Price Allocated to Delivery to SFM		\$150.00
<b>This field will automatically populate from the Delivery Information entered above.</b>	Price Per Mile Contractor May Charge	\$1.55
Enter the days ARO in the BLUE cell	DAYS ARO:	150 Days

**ATTACHMENT E**  
**STATE OF SOUTH CAROLINA**  
**TECHNICAL SPECIFICATIONS (ADA BUS 12 x 2 x 1 LOW FLOOR)**

**A. Chassis**

1. Chassis -12 X 2 X 1 (12 fixed seats – 2 w/c positions – 1 driver) LOW FLOOR Chassis will be current year production model (i.e., 2023- 2025).
2. 14,200 GVWR Minimum Cutaway with all standard equipment. Vehicle must include as standard the following: Chrome Appearance, Tilt-Wheel, Cruise Control, and largest fuel tank available on each model and configuration. No Standard Features shall be deleted. Each Proposal shall include a listing of all Standard Features, Safety and Security Features and Accessibility Features to be provided as standard on this contract.
3. Fuel Type – Gas
4. Horsepower 305 – 300 Minimum
5. Torque 370 – 360 Minimum
6. 5-speed automatic Minimum
7. Spare tire and wheel (shipped loose)
8. An Alternative Fuel Engine, which is the OEM standard for this size bus considering components and accessories proposed, must be provided as an alternative fuel option. Manufacturer shall propose engine horsepower and torque. Proposer shall provide company name(s) and contact information for alternative fuel engine equipment manufacturer(s) and installer(s). Only OEM approved upfitters are authorized to convert engine and components. No plug and play components unless authorized by the OEM.
9. Suspension system shall be heavy duty and load rated for the GVW of the vehicle.
10. MOR/Ryde Suspension Kit shall be installed on the rear axle per manufacturers requirements.

**B. Dimensions**

1. Wheelbase 189” minimum
2. Overall length 297” minimum
3. Overall width 102” minimum excluding mirrors
4. Inside width 96” minimum
5. Overall height 110” minimum
6. Inside Height – Front 85” minimum
7. Rear 78” minimum
8. A 5,000-pound maximum front GAWR Twin I-Beam IFS; 9,600-pound maximum Dana Full Floating rear axle. The GM Chassis with front axle rating of 4,600lbs and rear axle rating of 9,600lbs is acceptable.
9. The drive shaft will be rated capable of transmitting the power units to the drive wheels. Safety guards are required as necessary to prevent a broken drive shaft from touching the ground or contacting any part of the frame.
10. The vehicle shall be equipped with street-side exhaust terminating at the left no closer than three (3) feet to the rear bumper.
11. The OEM driver’s door will be equipped with a running board assembly with splash guard. The running board will be reinforced to accommodate heavy daily use. The running board will be reinforced to accommodate heavy duty daily use. The construction will be heavy duty diamond plated, or punched, or perforated slip resistance the length of the driver’s door.
12. An angled entry door at 12 that eliminates the 90-degree angle turn at the top of the ramp is acceptable. Overall, with may be 93” rather than the 102” stated above if equipped with said angled entry door

**C. Electrical**

1. All wiring provided by the manufacturer shall be copper and conform to all SAE J1292 requirements. All wiring shall be sufficient size to carry the required currents without excessive voltage drops. Circuits that serve the bus body and accessory equipment shall be separate and distinct from the chassis circuits. All wiring shall be color-and function coded every 6”. Wiring function shall be permanently labeled on wiring. All wiring shall be run inside the body in a protected area. Any wiring that is exposed to the elements shall be in nonmetallic loom and securely clipped for maximum protection. Clips shall be rubber or plastic coated to prevent it from cutting through the wiring insulation. Protective grommets shall be installed at all points where wiring penetrates metal and other materials. A separate panel for all add-on components shall be located in an accessible area inside the vehicle. Circuit breakers and electrical panels shall be installed at easily accessible locations. The bidder shall provide a complete laminated wiring diagram showing the original wiring and the added wiring for the vehicle. This is to be mounted at a location convenient for service personnel. No lock wire connectors will be allowed. Insulated stake-on spade terminals or equivalent shall be used. Grounding of components shall be through polarized shielded terminals wired to main structural ground points. All exterior connections shall be weatherproof covered with heat shrink tubing or screw type plug wire connector

- (Amphenol plug) lock type plug. WeatherPack Approve
2. All accessories and electrical equipment, except head and parking lights, emergency flashers, and wheelchair lift shall be wired through the vehicle ignition switch so as to be operative only with switch in ON position.
  3. Vehicle shall be equipped with a self-contained strobe lamp with a minimum rating of ten (10) joules and double flash and maximum height of six inches (6"). The strobe lamp flash tube shall be warranted for a minimum of twelve (12) months. All other components shall be covered for the full warranty period. The strobe lamp shall be mounted on the roof centerline within thirty-six inches (36") from the rear of the vehicle. This light shall be wired to operate with the ignition switch and a manual switch on the control panel and shall be protected by a circuit breaker so that a short at the strobe lamp will not adversely affect any other component. The strobe light must include a protective guard that is approved for use by the strobe light manufacturer. A protective guard shall be constructed of stainless steel at a and shaped to fit around the strobe light. This guard shall be designed and installed to utilize strobe light mount allowing limbs or low hanging objects to ride over the lamp. There will be two (2) extra wires pulled for the strobe light connection on the roof to panel. All vehicles shall be equipped with a center mount red LED brake light.
  4. Backup Alarm: Minimum sound rating of 95 decibels.
  5. Power wire to wheelchair lift shall be securely clamped to lift and protected by in-line circuit breaker.
  6. A separate battery system must provide for auxiliary power to the wheelchair lift. Wheelchair battery will have two (2) connections to isolate the battery from the main battery and a separate battery system for the lift. The battery shall be affixed to the frame rail in a skirt mounted battery tray box with a lockable key and signage. Fast idle control box will be installed to maximize charging during lift operation and long-operating times with equipment, A/C, lighting, wheel-chair operating, etc. A minimum alternator of 240-amp.

#### **D. Interior**

1. Passenger entrance door controllers will be protected from moisture and water buildup. Access to controller and mechanism will be through a hinged access panel. Rear heater will be mounted as far rear as possible.
2. Standard bus body shall meet all stated specifications, State, Federal, FMVSS, Altoona Tested, and ADA. The vehicle shall be reinforced such that the structural integrity of the basic vehicle is not degraded.
3. Vehicles shall meet all applicable requirements of the Americans with Disabilities Act (ADA) as set forth in CFR 37 and 38, issued September 6, 1991, with respect to the body structure.
4. The cage shall be mounted into the chassis by manufacturer approved system and be adequately reinforced at all points where stress concentration may occur to prevent vibration, drumming, or flexing in service.
5. The body shall contain a collapse resistant steel roll cage. The exterior of the body shall be constructed of steel or aluminum, excluding the front and rear end caps.
6. The frame will consist of tubular steel or equivalent. Frame must consist of no less than eight (8) stringers (horizontal support) and three (3) longitudinal (running lengthwise) members
7. The body shall be insulated with a minimum 2" fiberglass blankets no less than R-6 Urethane foam fire-resistant insulation material to prevent heat loss in cold weather, and cool air in hot weather.
8. The interior panels shall be rust and fire-resistant polyurethane painted or vinyl-clad sheet steel, aluminum, melamine, or fiberglass reinforced plastic. The interior shall be finished with a hard, smooth, cleanable, fiberglass, composite, steel or aluminum liner.
9. A minimum 2" thick blanket of fiberglass or OEM insulation to fully insulate the vehicle body in the roof and all bod panels, including all extended top and bottom door panels to deaden sound and reduce vibration and heat transfers.
10. INSULATION The body shall be insulated as standard with the form insulation package to be applied in roof, side walls, rear cap surfaces.
  - a. Front Cap shall be OEM
11. Body may be composite or fiberglass construction as long as vehicle is compliant with E1 and E2 above and all other certifications contained herein.

#### **E. Roof**

1. The roof shall be completely joined to become an integral part of the basic body. Both outer and inner roof shall be attached to the body in the same manner to prevent leakage. The new top must be completely sealed with an anti-fungal sealant (a sealant that will prevent leaks and fungus buildup). One-piece exterior roof as option. The roof shall be a one-piece (no seams) roof. The new top must be completely sealed with an anti-fungal sealant (a sealant that will prevent leaks and fungus buildup).
2. Minimum of 75" center aisle height.
3. The roof conversion shall meet the FMVSS 220 requirements (engineering documentation should be provided). A certified copy of the FMVSS 220 rollover protection test results for the type of vehicle to be provided must be included with the bidder's documents for the bid to be considered for award.

#### **F. Front Entrance Door**

1. Vehicle shall be equipped with a double leaf front entrance door, located opposite the driver, ILO pivot pins is acceptable. Door shall be of the hinged type and shall be driver operated electric. Door located is to the right of

- the driver at approximately a 90-degree angle for maximum viewing of entry way.
2. The door shall provide a clear entry height of a minimum at least 75" from the first step to door header.
  3. The door when extended open shall have a clear opening width of at least 30".
  4. Padded head bumpers shall be installed over the entrance door, wheelchair lift and emergency door.
  5. Door shall be flush with outside of the bus when in a closed position. Suitable weather stripping shall be used to provide a water and weather tight seal.
  6. A grab rail (minimum of 1-1/4" in diameter) shall be mounted at an angle to the door on each side to provide additional support while loading and unloading.
  7. When the front entry door is open, a light shall provide at least 1-foot-candle of illumination on the street surface for a distance of 3' from all points on the bottom step tread. Such light shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

### **G. Door Opener**

1. An electric, driver operated bus-type extended door opener with positive locking control shall be provided to open and close the front door. The emergency release lever shall be an interlocking compression-type and located in the header. Interior passenger entrance door controllers will be protected from moisture and water buildup. Access to controller and mechanism will be through a hinged access panel.
2. The door opener switch shall be placed on the console, but not overhead, and within reach of the seated driver and not to interfere with the boarding passengers.
3. Bidder shall submit door opener drawing and specification with bid.

### **H. Windows**

1. OEM standard windows and doors and windshield on the basic chassis shall be retained. Glass shall be OEM safety tinted.
2. Windows shall be OEM safety glass and uniformly tinted.
3. Hinged emergency escape windows shall be provided on each side, near the middle of the vehicle. Windows shall be designed and installed to meet FMVSS 217 for emergency egress. The emergency windows shall be clearly labeled and operating instructions clearly visible. A minimum of one (1) emergency window on each side shall be provided.
4. All windows shall be fitted with durable, firmly installed, weather seals to prevent the entrance of air and water, including spray from commercial vehicle wash equipment, and driving rain. Materials used for weather seals shall be designed to withstand varying temperature extremes, road splashed salt and other exterior elements without cracking, leaking, loosening, or deteriorating.
5. All windows, except windshield, front doors, and rear emergency door, shall be tinted (minimum of 35%) with OEM privacy tint.
6. All windows (including windshield) and tinting shall meet all applicable Federal and State

### **I. Emergency Exit**

1. Hinge-out windows shall be installed for emergency escape. Emergency escape windows shall comply with FMVSS-217.
2. A rear emergency door with upper and lower windows and a positive latching mechanism shall be installed. This door shall have a lock to prevent entry from outside.
3. The vehicle transmission shall not shift out of the park position when the rear emergency door is unlatched. An audible alert and a dash warning light shall be produced any time the emergency door is unlatched with the ignition on.
4. Emergency escape windows shall be clearly labeled, and operation instructions shall be clearly visible at each escape window. The emergency release handle will meet FMVSS-217 requirements and shall not return to the locked position automatically; it shall require the driver or other authorized person to manually re-lock it. An audible alert and a dash warning light shall be produced any time the emergency window is unlatched with the ignition on. All emergency exits shall comply with F.A.C. 14-90.
5. Each emergency exit shall be identified with window signage, shall provide passengers with a clear identification of exit routes. Next to emergency exits shall be a decal, one (1) inch Helvetica Medium white letters on red background, stating "Emergency Exit"

### **J. Side and Rear Doors**

1. There shall be glass at the top of the rear door (no glass at the bottom). The rear door shall include emergency exit functionality. The width shall accommodate the egress of disabled persons and meet FMVSS and ADA requirements.
2. Rear and side doors shall be easily operable from the inside and need to be locked from the outside with easily accessible door locks provided. (The rear door ajar alarm shall have a light and be audible. All exterior doors to be keyed alike with exception of the chassis. Door and switch key to be interchangeable,

## **K. Roof Ventilator/Emergency Exit**

1. A dual purpose manually opened and electric operated roof ventilator/emergency exit with power fan shall be installed in the raised roof of the vehicle at approximately the center of the passenger compartment. The hatch shall be 23" x 23" minimum and shall be installed so that fresh air can be circulated in the vehicle. A model like Transpec would be acceptable. The hatch shall meet all federal safety standards. No warning devices may be installed.

## **L. Bumpers**

1. Front bumper shall be OEM chrome. The rear bumper must be bolted to mounting brackets that are welded to the frame rail of the bus. The rear bumper standards of OEM shall meet all ADA Federal and State regulations and guidelines and painted flat matte black.
2. Reflective safety tape shall be mounted on the rear bumper to provide night visibility for motorists.
  - a) Reflective safety tape shall read:  
"THIS VEHICLE STOPS AT ALL RAILROAD CROSSINGS"

## **M. Exterior Body Lighting**

1. Exterior body lighting shall meet all state and federal regulations. Where applicable LED lighting will be provided.
2. Lighting requirements for the front entry and lift door areas must meet ADA requirements.

## **N. Exterior Mirrors**

1. Dual view heated motorized controlled exterior mirrors shall be provided and installed with minimum dimensions of 7" x 9" to include a 6" x 4" convex lower mirror. Heated motorized remote outside right and left side view mirrors shall be provided. Mirrors shall be constructed of anodized aluminum, chrome plated or other non-corrosive materials.
2. A minimum 8" x 10" wide-angle rear window lens for backing up and driving safety shall be provided.

## **O. Finishing Procedures**

1. Other exterior metal components, such as the trim around doors and windows shall be painted or powder coated with industry appropriate coatings.

## **P. Undercoating**

1. The entire underside of the vehicle body, including the undersides of fenders, shall be coated with a fire-resistant asphalt base rubber base, or equivalent.

## **Q. Exterior Color**

1. All OEM standard white paint colors shall be available.
2. Any metal body extensions shall match bus body OEM standard paint colors.
3. The body shall match the chassis OEM standard paint color, unless specifically requested by the project that the roof be white with a contrasting body color.

## **R. Interior**

1. Interior finish shall be completed in a highly professional manner. Interior colors shall be color-coordinated and complimentary to the bus's exterior color. All standard interior design options and color palettes should be included in offerors package. Color photos should be included.
2. All sharp edges, sharp corners, and/or protrusions shall be eliminated for safety reasons. Any fastenings or other objects that can catch a passenger's clothing or cause injury shall not be permitted. No abrasions, marks, or cuts will be acceptable on any of the interior walls or seats. An inside mirror (minimum of 6" x 9") shall be mounted for the driver to see the passengers.
3. Vehicles shall meet all applicable requirements of (ADA) as set forth in CFR 37 and 38, issued September 6, 1991, with respect to the vehicle interior. STOP request pull cord w/ touch tape. Audible signal required. Also an interior overhead illuminated STOP request sign is required.
4. Interior paneling shall be OEM or equivalent. If interior finish is not OEM bid bidder must provide pictures to show that interior finish is completed in a highly professional manner.
5. Interior color shall be color-keyed to the bus's exterior color.
6. All rivets, screws, snaps, etc, in paneling shall present a finished look. All joints in the interior paneling shall be covered by trim strips or molding.
7. All interior panels, materials, and treatments shall meet all federal motor vehicle safety standards. A smoke colored plexi-glass modesty-panel shall be located behind the driver.

## **S. Flooring**

1. Only chassis frame modifications shall consist of frame rail extension section engineered for the application and shall be installed by a recognized "qualified vehicle modifier (QVM)." No modifications shall be made to the OEM drive train (i.e. engine, transmission), OEM drive train mounts, and/or OEM drive train specified

component positioning.

2. The sub-flooring shall be a minimum 5/8" thick exterior A-C marine grade, waterproof plywood securely fastened to the under structure. All edges, cutouts, notches, etc., shall be properly sealed after cutting to prevent moisture from entering between the plies. All Floor covering including steps shall be slip resistant vinyl flooring, constructed with aluminum oxide, silicon carbide, quartz and multiple colored PVC chip blended throughout a high-quality vinyl wear surface for better depth perception for sight impaired (top coating is not acceptable).
3. Bacteriostats will be incorporated providing all exposed surfaces with excellent anti-bacterial properties. Minimum floor thickness of 2.7 millimeters (combination of flooring and backing material will not be accepted) or equal will be acceptable.
4. 2.7mm thick or greater excluding backing material (thickness of vinyl only).
5. Flooring shall contain aluminum trioxide and silicon carbide for superior slip resistance and quartz rock to prevent wear, blended throughout a high-quality vinyl wear layer.
6. Manufacturer is required to provide batch-testing results upon request on each production run of the flooring product used on this procurement to ensure compliance to the specification.
7. This includes providing written documentation that a PTV pendulum test-rating equal to or greater than 36 is achieved.
8. Flooring shall be an easy to clean, smooth safety floor providing a non-skid walking surface that retains consistent slip resistance, regardless of wet or dry weather conditions, for the life of the bus.
9. All installations and transitions shall be smooth and fully supported from main floor and including to any wall positions, presenting no tripping hazards and minimizing debris accumulation.
10. All seams shall be heat welded to prevent moisture migrating to the subfloor per manufacturer's specifications.
11. Flooring shall have a standee line minimum of 2.5 in. wide and extend across the bus aisle behind the driver compartment.
12. All stair edging shall be marked with a bright yellow ~~or white~~ contrasting strip a minimum of 2.5 in wide. Flooring shall carry a 15 year non prorated warranty.
13. Seams are to be heat welded to provide a permanent waterproof seal against water penetration leading to premature sub-floor failure or curling leading to possible tripping hazards.
14. Metal molding shall be provided at the edge of the stepwell or threshold and along the front edge of center aisle. Landing area and step edgings are to be yellow safety vinyl edging. Edging is to heat welded to the main floor and step tread to provide for a long-lasting seam. Step tread and riser are to be a one continuous piece construction eliminating seam at the back of the step. Tread to be supported at the upward bend at the back of the step and up the riser by coving material.

## **T. Seating**

1. Driver seat shall be OEM or equivalent. Driver's seat shall be deluxe high back, fully padded, contoured bucket type of heavy-duty construction, with armrest. The driver's seat shall be easily adjusted forward and backward without the use of tools. OEM unbelt restraint system is required. Upholstery shall be color-keyed to the passenger seats.
2. Double bench seating shall be 3-34" forward facing RH, 3-34" forward facing fixed Feather Weight Mid-Hi with grab (Bidder to furnish floor plan drawing.)
3. Level 3 vinyl shall be used for ALL passenger seats.
  - a. Level 3 woven cloth fabric shall be offered as an optional upgrade. All woven cloth seats shall be treated with a moisture barrier treatment. Seats shall key to the vehicle's interior panels and exterior color.
4. Knee room 11" – 12"
5. Aisle width 12" - 14"
6. Seat cushions shall have a minimum depth of 18 inches.
7. All seating shall meet or exceed all applicable FMVSS requirements.

## **U. Passenger Restraint System**

1. Each seat position shall be equipped with a single USR passenger restraint belt or an equal with push button release and heavy-duty under seat retractors that must meet all applicable FMVSS regulations. Length of each belt needs to be sufficient to accommodate a very large adult. Minimum of two (2) seat belt extenders to be included. Seat belt and extenders must be provided by the same manufacturer and work together in unison.
2. Seat belts shall be securely attached to structural members of the seat at two points. Attachment to vehicle under flooring is acceptable when a 3" washer is used. Belts may be attached to and become an integral part of the bench seat if the seat has been tested to meet applicable FMVSS requirements. 207 test.

## **V. Floor Plans**

1. Passenger seats shall be arranged such that the unobstructed hip-to-knee room, measured at seat level for each seated passenger, shall not be less than 27". Vendor must provide pictures of all available floor plans.

## **W. Lighting**

1. The interior of the vehicle shall be adequately illuminated. All lighting should be LED. Overhead lighting fixtures and courtesy lights shall be arranged in such a manner to provide lighting intensity at a reading level.
2. Adequate light shall be provided for the instrument panel, with intensity controlled by an instrument panel switch.
3. All door lights and the front passenger door/stepwell shall illuminate automatically when doors are opened. Stepwell light type and location shall be provided so as to not be a hazard to boarding passengers.
4. Lift lighting shall be provided and required to illuminate on the lift, as well as on the street surface outside the lift door, to meet ADA requirements.

## **X. Instrument Panel, Dash, and other Controls**

1. Dash shall be color coordinated with interior trim color. Glove box with light and lock to be provided above driver's seat. An engraved, etched, or screen printed on a plastic panel plate will be installed in site view of the driver's position stating the overall height clearance.
2. Instrument panel and dash shall be equipped with the following OEM instruments, gauges, and controls. All controls and switches shall be within easy reach of the driver. No overhead switches or controls are permitted. Lights in lieu of gauges are not acceptable except as noted.
3. Speedometer with odometer and trip odometer
4. Oil pressure gauge
5. Ammeter
6. Engine coolant temperature gauge
7. Fuel gauge
8. Upper beam head lamp indicator (light)
9. Directional signals (light)
10. Parking brake on (light)
11. Headlight switch
12. Inside hood release
13. Controls for heater, defroster, and air conditioner 12-volt power source
14. Standard OEM AM/FM push button radio, with digital clock or equal, windshield wiper and washer two speed, intermittent type, and emergency flashers
15. Operator instrument panel and console shall be equipped with the following controls. All controls and switches shall be within easy reach of the driver. Need switches with indicator lights, all switches and controls shall be lit.
16. General Interior Lights Brake Lock/Lift Over-ride Ventilator Fan
17. A/C Rear Entrance Door Rear Heater Lift Door Ajar
18. Rear Door Ajar w/ Light and Audible
19. OEM driver's sun visor and interior rear-view mirror to be provided.

## **Y. Heating and Cooling**

1. Front heater and defroster shall be OEM with the maximum BTU rating available.
2. Front, high capacity, air-conditioning shall be provided. OEM in-dash unit shall be supplied with the maximum BTU rating available. The dash unit shall be separately controlled from any auxiliary system.
3. An auxiliary rear heater system with minimum of 35,000 BTU's available shall be supplied. The heater shall provide a maximum amount of comfort for vehicle passengers. The unit shall be located in the rear under seat. Blower shall be controlled by a three position and OFF positions.
4. Ceiling mounted rear A/C evaporator, dual split compressor system, shall be 75,000 BTU High Performance; OEM front dash installed evaporator shall be provided. The A/C air conditioning system shall lower the internal temperature of the vehicle from 100 degrees Fahrenheit to 70 degrees Fahrenheit in 30 minutes
5. Air circulation shall be high volume with low velocity to provide draft-free comfort.
6. There shall be easily accessible shut-off valve(s) in the heater piping to permit the water circulation to the heater to be shut off during hot weather.

## **Z. Stanchion and Grab Bars**

1. Stanchions and grab bars shall be of stainless steel or equivalent, a minimum of 1-1/4" in diameter with an option for adding padding.
  - a. If requested by the using agency, adding padding shall be permanently bonded to stanchions and grab bars. All stanchions shall be mounted, structural main members.
2. Vertical stanchion bars shall be provided for both sides of the front passenger entrance. A grab bar shall extend from the left stanchion, rear edge of the stepwell, to the vehicle sidewall at an appropriate height to provide passengers some support while climbing the steps.
3. Modesty panels shall be provided at the rear edge of the stepwell, under the grab bar and directly behind the driver seat.
4. Bonded anti-vandal grab bars shall be located on top of each forward-facing permanent passenger seat.
5. A passenger assist grab bar shall be provided on the passenger door area.

6. Additional padded stanchions shall be installed at the locations indicated on attached diagrams.

#### **AA. Priority Seating Sign**

1. Each vehicle shall contain a sign which indicates that the seats in the front of the vehicle are priority seats for people with disabilities.
2. Each wheelchair station location shall be designated as such.
3. The signs shall be in compliance with CFR 38, subpart 38.27 and the Appendix to it.

#### **BB. Wheelchair Securement System**

1. A four-point track/belt tie down system shall be provided at each wheelchair station to securely hold the wheelchair in a forward-facing position. Securement systems and their attachments to the vehicles, shall withstand a force in a forward longitudinal direction of 2,500 lbs. per securement leg and a minimum of 5,000 lbs. Movement of an occupied wheelchair or mobility aid shall be no more than 2" in any direction. The lap and shoulder belt needs to be retractable.
2. This system shall be composed of the following components, four separate belts, lengths of track with all necessary buckles, hardware fittings, and other parts to make it a complete ADA wheelchair securement system Floor Track system shall be standard.
3. In certain wheelchair station arrangements, shared floor track may be used, provided that adequate belt securement slots are furnished. Adequate length of track should be provided to accommodate various sizes of wheelchairs within each wheelchair station.
4. The recessed track shall be securely mounted into the rubber flooring. Care shall be taken to avoid damaging or destroying the integrity of the rubber flooring.
5. During installation of the wheelchair securement system, care shall be taken to avoid damage to any of the vehicle's components. Particular attention should be taken to avoid damage to the fuel tank(s) during and after installation of the floor tracks. One method, which has been used to avoid damage, is to remove the fuel tank(s) from the vehicle prior to drilling of the track bolt holes to prevent puncturing of the tank(s).
6. After bolting the tracks to the floor, any excess bolt length should be cut off. Then the tanks can be remounted with consideration given to using wooden spacers, treated to resist rotting between the underside of the floor and the top of the tank(s). The purpose for the spacers is to block the tank away from the floor to prevent the bolt ends and nuts from rubbing holes into the fuel tank. If removed, the fuel tank(s) should be reinstalled securely and safely.
7. It should be noted that the method of installing the track is the sole responsibility of the vendor and they may use whatever method will obtain the required results. By submitting and signing this bid, the bidder hereby certifies that the wheelchair securement system has met all applicable federal motor vehicle safety standards and has been mounted in accordance with the manufacturer's specifications.
8. When not being used for securement, the securement system shall not interfere with passenger movement, shall not present any hazardous condition, and shall be reasonable protected from vandalism. Track size shall be the appropriate length so that all belts of the system can be attached. Location for mounting the track may be on sidewall or behind modesty panel; however, the location must be easily accessible.
9. Literature describing and giving instructions on the use of the wheelchair securement system shall be provided with each wheelchair lift equipped bus. One hour of wheelchair securement training given by a certified ADA trainer shall be given at the time of vehicle delivery.
10. Vehicles shall meet or exceed all applicable requirements of the ADA as set forth in CRF 37 and 38, issued September 6, 1991 or any subsequent updates, with respect to mobility aid accessibility. The contractor is solely responsible for any additions, deletions, omissions, or interpretations of ADA, as it relates to the construction of said contracted vehicle(s).

#### **CC. Wheelchair Occupant Restraint System**

1. A three-point restraint system consisting of a lap and shoulder belt combination shall be provided for each wheelchair station. The shoulder belt shall be a minimum of 86" in length and the lap belt shall be a minimum of 43" in length. Belt connection around wheelchair occupant shall be button release and comply with all federal and state motor vehicle safety standards and regulations.
2. The shoulder attachment point shall be secured in a structural member of the sidewall. The lap belt shall be secured by inserting in into the floor track or secured to the retractor assembly provided for the wheelchair securement system. The shoulder and lap belt shall connect at the buckle portion of the restraint. Restraints shall be designed and installed in such a manner that the restraint belts transfer crash forces to the hips and upper torso portions of the skeleton and shall not transfer these forces to the abdomen section of the passenger. The attachment shall comply with all federal and state motor vehicle safety standards and regulations.
3. Shoulder belts shall be retractable at the wall connection or removable and shall not hand loose or interfere with movement in bus when not in use. Restraint belts that are removable from floor and wall shall be stored in same track or other storage area as provided for in wheelchair securement system. Restraint belts permanently fixed to the floor will not be acceptable.
4. The wheelchair occupant restraint system shall be independent from the wheelchair securement system. Restraint system shall not be attached to the wheelchair.



#### **DD. Emergency and Safety Equipment**

1. Fire extinguisher dry chemical type, multipurpose, Class ABC, 5lb, rechargeable with gauge, UL approved, shall be provided. To be mounted securely in the best area to ensure easy access in the case of an emergency.
2. First Aid Kit – 16 unit (1-15 persons) First Aid Kit shall be provided
  - a. Seatbelt Cutter
  - b. Body Fluid Kit
  - c. Blood Pathogen Kit
3. Warning kit – Three (3) portable warning reflectors, which can be mounted on stands, shall be furnished in a kit or box. Kit shall be mounted in an accessible location.

#### **EE. Vehicle Accessibility Ramp**

1. An optional kneeling system shall lower and raise the front of the bus a minimum of 3 inches, both above and below the level of the bus maintained by the leveling valves, at any load up to and including GVWR, measured at the longitudinal centerline of the entrance door.
2. The bus shall kneel at a maximum rate of 1.25 inches per second at essentially a constant rate. After kneeling, the bus shall rise within 2 seconds to a height permitting the bus to resume service and shall rise to the correct operating height within 7 seconds regardless of load up to GVWR. During the lowering and raising operation, the maximum acceleration shall not exceed 0.2g and the jerk shall not exceed 0.3g/sec.
3. Vehicle shall be integrated with a Braun ramp with a 1,000-pound capacity and with a minimum usable ramp area of 34” inches wide and 62: inches length. Design being capable of deploying to the ground at a maximum 1:5 continuous grade slope.
4. The entry door shall be outward opening, two-leaf type with over-lapping rubber seal at the meeting edges of panels.
5. The entry door shall be attached to the body with two heavy-duty steel pivots pins with nylon bushings.
6. Each door panel shall have a 11-gauge aluminum frame and shall be glazed with a full height AS2 glass panel.
7. Doors must be parallel to the frame rails of the vehicle to allow for safe parallel curb loading in the event the ramp does not need to be deployed. An entry door angled at 12° is also acceptable.
8. The door shall be electrically controlled by a switch located within reach of a seated driver.
9. All hardware that will be subjected to wear, corrosion, or other adverse action that would reduce the safety of the ramp, and items requiring periodic maintenance shall be provided with easy inspection access.
10. All through-body fittings shall be of non-corrosive materials.
11. All wiring and cords for an interior mounted ramp shall be able to withstand adverse weather conditions, extreme heat, and cold. Protective covering for wiring and cords shall be provided, if necessary.
12. Vendor shall re-undercoat with an automotive type undercoating, and otherwise seal all through-body fittings from moisture. The reapplication of undercoating is only required for through-body fittings.
13. The safety interlock will disable the ramp unless certain vehicle safety conditions are achieved and will lock the transmission shifter while in Park when the ramp is deployed, or if the Park Brake is applied. Locking the shifter while Park Brake is set prevents premature brake wear from driving with the Park Brake set.
14. An operational manual shall be provided with each vehicle to include at a minimum, normal and manual ramp operations, and preventive maintenance schedule, use of wheelchair restraint and seat belt system, lift trouble shooting and parts listing. One hour of ramp operation and safety training shall be provided at the time of delivery with each vehicle. If the training is not possible at the time of vehicle delivery, the training must be scheduled on a later date. Evidence of such training must accompany other documents such as invoice etc.

#### **FF. Miscellaneous Requirements**

1. Driver Warning- The engraved vehicle height clearance warning sign shall be posted in clear view of the driver.
2. The equipment provided and work performed under this contract will be financed, in part, by grants provided under programs of the Federal Transit Act, as amended. All federal requirements shall apply to this contract.

#### **GG. Options**

1. Using Governmental Units will adjust their purchase orders by adding any “Optional Equipment Addition” to or deducting any “Optional Equipment Deduction” from the base price of the vehicle.
2. Using Governmental Units may wish to add optional equipment not listed in the attached spreadsheet. Pricing for said items will be at dealer cost plus no more than 10% markup. See section VIIIB “Optional Items” for more details.

#### **HH. Basic Provisions**

1. Warranty Requirements- Warranties in this document are in addition to any statutory remedies or warranties imposed on Contractor. A description of the local dealer warranty process shall be included in the Purchasing Agreement package including information on how warranty issues are tracked. The Contractor warrants and guarantees to each end user that each complete vehicle, and specific subsystems and components as follows:
2. Complete Vehicle- The vehicle is warranted and guaranteed to be free from defects for a minimum of Thirty-six (36) months or thirty-six thousand (36,000) miles, whichever comes first, beginning on the date of acceptance of each vehicle. During this warranty period, the vehicle shall maintain its structural and functional

integrity. The warranty is based on regular operation of the vehicle under the operating conditions prevailing in the purchaser's locale.

3. Subsystems and Components- Specific subsystems and components are warranted and guaranteed to be free from defects and related defects for the times and/or mileages provided by the OEM.

## **II. Required Decals**

1. Required Decals: "Emergency Door" interior and exterior black 1" high
2. "Emergency Equipment" red on white 2" high
3. "No Smoking" red on white 2" high
4. "Watch your Step" Mounted on top riser
5. "Priority Seating WC Area" ADA required
6. International Wheelchair Symbol 4x4 at all ADA required locations.
7. "Stand clear of lift" Black on White 2" high

## **JJ. Delivery**

1. Dealer shall be responsible for delivering vehicles that are properly serviced, clean and in first class operating condition. Pre-delivery service, at a minimum, shall include the following:
  - a. Correct and repair all deficiencies noted in the SCDOT vehicle inspection report conducted on each individual vehicle at the purchasing agency location.
  - b. Check all fluid levels to insure proper fill levels.
  - c. Ensure engine is in proper operating condition.
  - d. Inflate tires to proper pressure.
  - e. Check to insure proper operation of all components, accessories, gauges, lights, and mechanical and hydraulic features.
  - f. Cleaning of vehicle, and removal of all unnecessary stickers, markings and debris.

# STATE OF SOUTH CAROLINA – STANDARDIZED VEHICLE SPECIFICATIONS

(Revised 7/23/2020)

**Introduction:**

The following specifications are applicable if they are listed as “Factory Installed Items” (included in the “Base Price”) or “Option Equipment” (Add or Deduct Pricing). If they are not referenced by the spec item name (example: “Tow Package”) in the individual vehicle spec, they do not apply.

Should it be necessary to deviate from a standard spec, the deviation(s) will be expressly stated within the individual vehicle spec. The individual vehicle spec takes precedence over the standardized vehicle spec. Unless defined otherwise in an individual vehicle’s specification, the following standardized specifications apply where applicable and as listed in each vehicle spec.

**Important Notice:**

Contractors/vendors should review purchase orders carefully for items such as drawbar, pin, clip and shank configuration, as well as anything else needing further description for the order, as provided in the contract documents. They should notify the ordering governmental entity when needed information is missing. This office will require delivery of all specified items unless the ordering governmental entity provides specific notice of relief from same in writing. **These type items are to be included in the contract prices.**

<u>Specification Name</u>	<u>Description</u>
<b>Colors – Exterior</b>	<p>The cost for all factory-standard “no-charge” paints and factory-standard paint palette colors for additional charges, shall all be factored into the vehicle price as contracted.</p> <ul style="list-style-type: none"> <li>• The State will not pay any additional color charges, unless a non-standard/premium color is requested by the purchasing agency.</li> <li>• The colors white are all required colors for state contract pricing.</li> </ul>
<b>Daytime Running Lights</b>	<p>If standard equipment, daytime running lights are to be made inoperable prior to delivery of vehicles purchased by and for law enforcement entities.</p>
<b>Engines - Diesel</b>	<p>For Diesel-powered vehicles and equipment, fuel system components and Diesel engines shall be compatible with B20 bio-diesel blends, minimum.</p>
<b>Engines – Gasoline/Unleaded/E10</b>	<p>For gasoline-powered vehicles and equipment, fuel system components and gasoline engines shall be compatible with E10 ethanol blends, minimum. These engines are to perform as follows:</p> <ul style="list-style-type: none"> <li>• No noticeable degradation in vehicle drivability;</li> <li>• Minimal impact on vehicle operating efficiency (defined to be no more than 10% decrease in fuel economy);</li> <li>• Maintenance sensors and warning systems are to display normally (i.e. use of E10 is not to cause the check engine light to illuminate).</li> </ul> <p><b>NOTICE:</b> The State of South Carolina has transitioned to the E10 Unleaded Fuel Blend. The fuel contracts reflect the same.</p>
<b>Floor Mats</b>	

	<p>Unless stated otherwise in the individual vehicle specifications, the following applies:</p> <ul style="list-style-type: none"> <li>• In vehicles with <u>carpeted</u> flooring, the manufacturer’s vehicle-specific floor mats are to be supplied for all major seating points of the vehicle.</li> <li>• If a manufacturer is unable to supply floor mats for carpeted vehicles (i.e. due to specific vehicle packages), equivalent (in quality and fit) aftermarket mats must be provided for all major seating points.</li> <li>• In vehicles with <u>vinyl or heavy-duty rubber flooring</u>, floor mats are <b>not</b> to be provided, and may not be requested by the ordering governmental entity.</li> </ul> <p><b>NOTICE:</b> Should an individual vehicle’s specifications with carpeted interior request rubber or vinyl floor mats, those mats will be of a high quality, heavy duty construction.</p>
<p align="center"><b>Four-wheel Drive (4x4) &amp; All-Wheel Drive (AWD)</b></p>	<p><b>4x4 Definition:</b> The State of South Carolina recognizes the definition of a 4x4 (four-wheel drive)-equipped vehicle as follows:</p> <ul style="list-style-type: none"> <li>• The vehicle is primarily rear-wheel drive, and equipped with locking differentials, low-range gearing, and is controlled by transfer case.</li> <li>• Power distribution is not distributed/vectored alternately between wheels by the vehicle computer.</li> <li>• The 4x4 system can be selected for 4x2/rear wheel drive, low, and high settings on part-time 4x4 vehicles (either by lever or electronic selection).</li> <li>• Full-time 4x4 vehicles do not have computer-controlled power vectoring to the wheels but may allow for low and high range selection.</li> </ul> <p><b>4x4 Package:</b> For vehicles equipped with 4x4 as defined above, the State requires the following to be provided on said vehicle:</p> <ul style="list-style-type: none"> <li>➤ Transfer case with auto locking hubs (operator may lock hubs without leaving the cab).</li> <li>➤ Factory installed protection for fuel cell and transfer case. Protection must be adequate to prevent puncture to either system.</li> <li>➤ Locking or limited slip differential or electronic traction control.</li> <li>➤ Suspension – all changes recommended by the manufacturer for 4x4 operation to be provided and completed.</li> <li>➤ All-terrain tires</li> </ul> <p><b>All-Wheel Drive (AWD) Definition:</b> The State of South Carolina recognizes the definition of an AWD-equipped vehicle as follows:</p> <ul style="list-style-type: none"> <li>• The vehicle computer controls the amount and timing of power distribution/vectoring to each of the wheels.</li> <li>• The driver does not have the ability to completely eliminate the computer’s control of power distribution (variable mode options of an AWD system does not classify a vehicle as 4x4 instead of AWD).</li> <li>• The vehicle is typically always readily engaged in an All-Wheel Drive power distribution, whether or not the computer has selected all wheels to receive power at any given moment.</li> </ul> <p><b>AWD Package:</b> The State requires AWD vehicles to be fully equipped with all warranty-necessary suspension and protective devices as defined by the manufacturer.</p> <p><b>NOTICE:</b> The State of South Carolina does not consider AWD to be equivalent to 4x4. Therefore, AWD will not be accepted as a substitute for 4x4. Refer to individual vehicle specifications to determine if a vehicle must be either 4x4 or AWD, or if either option is acceptable for the individual vehicle spec.</p>

<p style="text-align: center;"><b>Keys</b></p>	<p>Three (3) ignition-capable (and programmed) keys and two (2) fobs/remotes are to be provided for each vehicle delivered.</p> <ul style="list-style-type: none"> <li>• The two (2) fobs/remotes are only required if the vehicle is equipped with power locks.</li> <li>• For manufacturers whose keys are an integrated key/fob, three (3) fully functional (ignition-capable) integrated key/fobs are required.</li> <li>• Cost for the key and fob sets are to be included in the base price.</li> </ul>
<p style="text-align: center;"><b>Tires</b></p>	<p>Tires are to be mounted with black walls turned to the outside.</p> <ul style="list-style-type: none"> <li>• All tire walls with contrasting colors such as white, red, raised white lettering, etc. are to be turned and mounted to the inside.</li> <li>• The ordering governmental entity may reject delivery if black walls are not turned to the outside.</li> </ul> <p><u>Spare Tires:</u></p> <ul style="list-style-type: none"> <li>• Vehicle specs indicating the requirement of a spare tire (full or temporary)</li> <li>• Vehicle specs indicating <u>full</u> size spare tires shall be equipped with spares that are <u>equivalent</u> to the vehicle's installed tires as delivered to the State.</li> <li>• <u>Law Enforcement Vehicles: ALL</u> Law Enforcement vehicles shall be equipped with full size spares that are <u>identical</u> to the installed tires as delivered to the State.</li> </ul>
<p style="text-align: center;"><b>Vehicle Up-fits – Unapproved / Not Ordered</b></p>	<p>If a vendor <u>chooses</u> to fulfill an order with dealer stock / retail units that were up-fitted beyond factory-standard/equipped accessories (i.e., tow package, bed liner, toolboxes, satellite radio, navigation, etc.), but not requested by the ordering governmental entity, the vendor may <u>not</u> petition the ordering governmental entity for reimbursement of the up-fit(s).</p>

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**End of Standard State Specifications.**  
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