

## **ADDENDUM 1**

### **CHASSIS SPECIFICATIONS – 77 Passenger Type “C” School Bus**

#### **1. General Description/Type-C Conventional, 71-Passenger**

- a. Vehicles shall be new, 2018 model year (chassis and body)
- b. Wheel base not to exceed 273 inches maximum
- c. Minimum interior headroom above floor covering, full 77 inches

#### **2. Engine and Related Equipment**

- a. Diesel engine: minimum 220 H.P./ 600 Ft. Lbs. turbo charged, electronically controlled, In-line 6 cylinder configuration **or** gasoline engine with non-required specifications deleted as required.  
**(10 year 200,000 mile engine warranty) NOTE: V-8 engine not acceptable**
- b. Heavy duty dry element air filter with restriction indicator on housing
- c. Heavy duty cooling system with expansion tank
- d. Engine alarm system with low oil pressure, high engine temperature and low coolant level indicators
- e. Block heater 750 watt, 110 volt
- f. Horton electric type engine cooling fan clutch
- g. Electronically controlled cold weather starting aid
- h. Primary fuel filter/water separator
- i. Secondary fuel filter, spin on type
- j. Coolant filter, spin on type
- k. Fast idle throttle control
- l. Exhaust driver side exit, forward of rear tire assembly
- M. Espar Heater – 17,000 BTU with timer and driver manual timed control

#### **3. Transmission**

- a. Heavy Duty Allison 2500 series automatic with synthetic fluid.  
**(5 Year/Unlimited Mile Warranty)**

#### **4. Axles, Suspension and Steering**

- a. 12,000 lb. capacity front axle with oil lubricated bearings
- b. 10,000 lb. capacity parabolic front springs
- c. 21,000 lb. capacity rear axle, single speed
- d. 21,000 lb. capacity rear Springs
- e. Front and rear dual action heavy-duty shock absorbers
- f. Power steering
- g. Tilt/Telescoping steering wheel
- h. Rear End 5.29

#### **5. Electrical Equipment**

- a. Alternator, 270 amps (12 volt) minimum
- b. Dual electric horns
- c. Three Group 31 Batteries Measuring minimum 3375 CA

## **6. Instrumentation**

- a. Complete instrumentation to include gauges for speedometer/odometer, fuel level, voltmeter, oil pressure and coolant temperature with lights to indicate directional signal operation, and park brake applied
- b. Audible warning system, with lights, to indicate low oil pressure, high coolant temperature, low voltage and low fuel

## **7. Brakes**

- a. Hydraulic type, split, four wheel heavy duty disc brake stainless steel (**Performance Friction**) rotors with anti-lock system
- b. Four piston permanent mount calipers
- b. Hydraulic power assist with electric back up pump (No accumulators)
- c. Drive line internal expanding type park brake, 9 X 3 inch minimum
- d. Audible warning system, with lights, to indicate low brake pressure and low boost pressure

## **8. Fuel Tank**

- a. 100 gallon minimum capacity, ICC/FVMSS approved, with crash barrier, mounted between frame rails
- b. Fuel gauge sender access with cover
- c. Spring loaded fuel tank filler Access door

## **9. Wheels and Tires**

- a. Disc wheels hub piloted, 10-hole, single front - dual rear
- b. 11R22.5 14 ply Highway Tread Front and Full Traction Rear Tires
- c. Front and rear wheels/tires balanced from factory
- d. Rear rubber fenders
- e. Front and rear mud flaps

## **10. Front Bumper**

- a. Heavy duty, 3/16" minimum metal thickness

## **11. Color**

- a. Chassis, including wheels, Rub Rails and bumpers, shall be painted black

## **12. Line Sheet**

a. A line setting sheet to be furnished for each chassis

**13. Warranty**

a. Bidders to submit literature concerning chassis, chassis components, accessories, body and body components warranty coverage  
**(Body and Chassis to have a Bumper to Bumper 5 year/Unlimited Miles Warranty) Excluding wearable items**

## BODY SPECIFICATIONS – 77 Passenger Type “C”

### 1. Body Construction

- a. Constructed to conform to Federal Motor Vehicle Safety Standards for joint strength and roll over protection
- b. Four (4) formed rub rails shall be applied and riveted to the body sides at window level, at seat cushion level, at floor level and at lower edge of body skirt, all rub rails to be painted black
- c. Seat level rub rails to extend around rear corners of body to emergency door posts
- d. Fiberglass blanket insulation in body sides, back, front cowl, roof and roof caps
- e. Exterior painted National School Bus Yellow with black trim/rub rails and **white roof**
- f. Interior painted White with medium tan trim
- g. Interior body side panels from window level to seat cushion level to be aluminized steel with textured finish
- h. Enclosed battery compartment with sliding tray and latching access hatch mounted in left body skirt
- i. All body panels to be adequately rust protected prior to assembly, finished floor and chassis to be completely undercoated, including side skirts below floor line
- j. Complete sound reduction spray full length of bus
- k. Plywood sub floor of 5/8 inch **marine grade**
- l. Heavy duty mud flaps to be installed at all four (4) wheel positions
- m. Extra insulation in Driver’s area
- n. All painted surfaces must include a minimum of 5 year paint warranty with 2 year fade protection

### 2. Doors

- a. Electrically operated outward opening entrance door with vandal lock
- b. Rear center emergency door conforming to FMVSS217 for emergency exits, **“No Vandal Lock”**
- c. Fuel tank filler access door
- d. Left and right assist rail

### 3. Windshield and Windows

- a. Two (2) or four (4) piece flat design windshield
- b. Tinted, laminated AS-1 safety glass windshield with shaded top band
- c. Split sash side windows with AS-2 laminated safety glass-tinted and black window frames
- d. Upper and lower AS-2 laminated vision glass in emergency door and entrance door, AS-2 laminated rear vision glass **(No Tint)**
- e. Four (4) hinged push out type emergency exit windows with AS-2 laminated tinted safety glass, two (2) on each side of bus. Each window shall be equipped with audible warning indicator.  
**NOTE: Tempered glass not acceptable in any position**
- f. Front and driver's side Plexiglas visor

### 4. Seats and Upholstery

- a. Seating must conform to FMVSS for crash protection
- b. Crash barrier in front of both front seats, with modesty panels
- c. All seats upholstered with fire block material in solid gray without welts with Velcro fasteners
- d. Padded and upholstered header pads above entrance and emergency doors will match seat upholstery or be in solid black
- e. Magnum 200 Mechanical Driver Seat 6 Way Adjustable, Cloth Insert Black.
- f. Bright Orange 3 Point Driver Seat Belt
- g. Electronic Adjustable Driver's Pedals (Brake & Accelerator)

### 5. Floor Covering

- a. Gray or Black smooth rubber in driver's area, under-seat areas and on interior wheel housings
- b. Heavy duty ribbed rubber covering in aisle and on entrance steps plus abrasive or pebble style step treads
- c. Extruded aluminum trim strips on all joints in floor covering
- d. Cove molding at all floor to sidewall joints

### 6. Heaters and Defrosters

- a. 90,000 BTU front heater and defroster with hot water control valve and two (2) speed blowers
- b. 50,000 BTU stepwell heater with three speeds
- c. 80,000 BTU under-seat Heater with 2 speeds
- d. 80,000 BTU front under-seat heater with 2 speeds

- e. Two(2) heater water shut off valves at engine connections
- f. Metal covering on all interior heater hoses
- g. Two(2) auxiliary multi directional two speed defroster fans. One (1) mounted on left side of driver above windshield area and one (1) in center of above windshield area

## **7. Electrical Equipment**

- a. All body circuits to be protected with fuses
- b. All body wiring to be color and number coded, a detailed schematic to be provided by manufacturer
- c. All body electrical components shall be wired through a solenoid to shut off electrical power with ignition in the off position
- d. Two (2) four inch combination stop and tail LED lights
- e. Two (2) seven inch combination stop and tail LED lights
- f. Two (2) back up LED lights with audible alarm
- g. Seven inch LED turn signals with amber lenses, no arrows, front and rear body mounted
- h. Armored identification if light extends from body and clearance lights mounted per regulations
- i. Interior LED step well light and exterior LED landing light, both wired for automatic operation with entrance door control
- j. Interior LED dome lights, dual rows with a minimum of ten (10) individual lights
- k. Combination LED amber-red eight light warning system
- l. Dual stop arms electrically operated and controlled with LED lighting.
- m. White, roof mounted strobe light mounted in accordance with Missouri regulations, light shall not extend higher than four inches above the highest point of the roof
- n. Electric two (2) speed windshield wipers with single control and intermittent operation feature
- o. Electric windshield washers with one (1) gallon reservoir
- p. AM/FM/USB radio with P/A system and a minimum of eight (8) internal speakers

## **8. Mirrors**

- a. Exterior remote powered mirror system conforming to FVMSS standards and to include self-defrost heaters with auto shut off
- b. 6 x 30 inch interior rear view mirror with padded edges and adjustable sun shade with back-up camera

## **9. Roof Vent/Emergency Exit**

- a. Two (2) roof vents/emergency exits with inside and outside release. Each vent shall be equipped with an audible warning indicator. One(1) vent to be installed in front mid section and one (1) vent to be installed in rear mid section.

## **10. Miscellaneous Equipment**

- a. One (1) 5 lb. Fire extinguisher with hose, 2A/10BC minimum rating
- b. One (1) first aid kit equipped as required, mounted on front interior header panel
- c. One (1) reflective emergency triangular warning device kit, mounted on front floor
- d. One (1) body fluid clean up kit with plastic container mounted on front interior header panel
- e. Folding fender steps for windshield access and suitably located assist handles on each side of the bus
- f. Electric crossing arm device, with non metallic arm, wired for automatic operation with the red 8-way warning lamps with interrupt circuit operated by momentary on button
- h. White roof
- I. Driver Overhead Locking Compartment mounted to as opening is not interfered with by mirror
- J. Glove box type compartment mounted by stairwell
- k. Route Changer- 3 Digit Manual Route Changer Located on Front and Door Side of bus

## **11. Lettering**

- a. Lettering – To be determined prior to delivery by the Transportation Department
- b. Rear emergency door and side emergency exit windows to be identified with minimum two (2) inch tall black letters, both inside and outside above exits, to read "Emergency Door" over rear door and "Emergency Exit" over exit windows
- c. Emergency roof exits/vents to be identified with minimum two (2) inch tall black letters on interior roof, to read "Emergency Exit"

## **12. Front & Back AC**

- a. 126,000 BTU Air Conditioning with minimum 3 year warranty
- b. Front/Rear In Wall Units

## **13. REI HD- 8 Camera Video System, Minimum 750GB Hard Drive**

**14. Zonar System- To be partially installed and connected to REI system  
(Zonar portion supplied by district) (Install per Brad Oyler's Specs)**

**15. Install 2 way radios- Radios supplied by Independence School District  
(Installed per Brad Oyler's Specs)**

**16. Manuals**

- a. Operating, service and parts manuals shall be furnished to the District upon delivery of completed units

**17. Safety Test**

- a. School bus must meet Colorado Rack test and Kentucky Pole Test. Documentation must be provided

**18. Training**

- a. Winning bidder to provide factory training to 2 technicians on site at Bus Manufacturers Build Location free of charge to District

**19. Comparison vehicle**

- a. A completed vehicle, similarly equipped to specifications as listed in these bid specifications, must be made available to the Independence School District Board and Transportation Department for inspection for comparison purposes