SPECIFICATIONS

MEDIUM DUTY TRANSIT BUS WITH ADA ACCESSIBILITY OPTIONS

*** Note: All specifications will be considered minimum unless stated otherwise.***

PURPOSE

This item shall be a vehicle suitable for public transportation. The intent for these specifications is to set-forth the minimum performance for a commercial body-on-chassis transit bus. The vehicle shall be a standard production bus, which will be used to transport the general public living in urban areas. When equipped with an optional wheelchair lift and securement devices, this vehicle shall accommodate seating combinations for both ambulatory and wheelchair passengers and will be required to operate on all types of neighborhood streets and roads with frequent starts and stops.

All parts not specifically mentioned which are necessary in order to provide a complete vehicle, shall, at a minimum, conform in strength, quality of material and workmanship to what is provided by the automotive industry generally. All equipment and parts shall be new and conform in strength, quality of material, and workmanship to the standards approved by and generally utilized by the automotive industry as well as meet all other applicable standards.

Dealer shall have as part of the documentation with the vehicle, a form with a detailed listing of the warranties on the vehicle as well as details on any conversion and/or options ordered. The vehicle manufacturer must strictly comply with chassis OEM standards and specifications for installation and application of all products, equipment, components, and any other items placed in or upon the chassis. Vehicle and modifications must comply with all Federal Motor Vehicle Safety Standards.

EXCEPTIONS TO THESE REQUIREMENTS AND SPECIFICATIONS: If a bidder has any exceptions to these requirements, such exceptions must be stated in writing and describe what is proposed to be furnished in lieu of the specified requirements.

SECTION 1 – CHASSIS

1.1 CHASSIS: Shall be a dual wheeled truck chassis. The most current production year model chassis available shall be used for this vehicle and shall be of the appropriate GVWR rating by the OEM to accommodate the final GVWR established for the completed unit by the after-market vehicle manufacturer. Bidder shall state type of chassis to be used.

1.2 ACCESS PLATE: Shall install an access plate above fuel tank to allow easy access to fuel pump sending unit.

1.3 ALIGNMENT: Shall have a full and complete frontend alignment performed by an OEM approved dealer service center after the manufacturing process has been completed and prior to delivery with a copy of the certificate.

1.4 ALTERNATOR: Heavy duty OEM, minimum 225 amperage alternator or approved equal. A dual OEM system meeting or exceeding minimum amperage requirement is acceptable.

1.5 BATTERY: Shall be a dual battery system supplied with heavy-duty commercial type batteries with a minimum 1250 CCAs. The battery storage compartment shall be located in an enclosed compartment either on the side of the vehicle incorporating a sliding tray for ease of access and shall not extend beyond or below a line horizontal to the step well or the battery storage compartment shall be located in an enclosed compartment in the stepwell.

1.6 BRAKES: Power front and rear disc with four-wheel anti-lock.

1.7 COOLING SYSTEM: Heavy duty, including heavy duty extra capacity radiator, and factory installed coolant recovery system.

1.8 DRIVE SHAFT: Shall have a drive shaft loop to prevent a broken shaft from touching the ground or contacting the brake lines.

1.9 ENGINE: Shall be the largest gasoline engine available with the highest horsepower rating offered by the OEM chassis manufacturer to accommodate the GVWR of the completed bus.

1.10 EXHAUST: Engine exhaust system shall be routed to exit the rear driver's side of the vehicle to channel exhaust gases away from curbside passengers to the maximum extent possible.

1.11 EXTERIOR DIMENSIONS: Dimensions shall be: Minimum Width of 96", Maximum Height of 115", and Maximum Length 26’.

1.12 TRANSMISSION: Automatic with a minimum of four (4) forward speeds and one (1) reverse, equipped with auxiliary transmission oil cooler and have a backup alarm controlled by transmission shift control in the reverse position.

1.13 FAST IDLE: Shall provide an engine fast idle control to permit the driver to increase engine idle RPM to a preset RPM when the transmission is in the PARK position and the parking brake is set. Idle RPM should automatically return to normal when the brake is released or transmission is put into gear.

1.14 FUEL TANK: Shall have a fuel .tank with a minimum capacity of 33 gallons located in a protected area under the floor.

1.15 REAR AXLE: Manufacturer to select axle ratio, which will provide the best overall performance, and of the heaviest duty available.

1.16 SUSPENSION: Shall be load rated and the heaviest duty available for the GVWR of the vehicle provided. Stabilizer bars shall be provided on the front and rear axles. Rear suspension must accommodate any increased load capacity of an optional lift.

1.17 TIRES AND WHEELS: Shall be the OEM's premium tubeless all season radials rated for the size and GVWR to include a spare tire and wheel of the same OEM type. All wheels shall be painted to match the exterior color of the vehicle. If the spare tire is not mounted, via a frame mounting, then it must be placed on cardboard to prevent damaging the floor covering during transport to the agency.

SECTION 2 – BODY

2.1 BODY: Shall be either a fiberglass reinforced plastic body with incorporated steel structural reinforcements, or a metal sheeting material attached to a structural safety cage designed to meet all applicable FMVSS requirements. No two sided tape may be used to attach the exterior skin. If two or more dissimilar metals are used for the body, the manufacturer must provide adequate protection to prevent electrolysis from damaging the vehicle in any way.

2.2 ADA: Completed vehicle shall meet all applicable requirements of the AMERICANS WITH DISABILITIES ACT (As set forth in CFR 37 & *38,* issued 9.6.1991, with respect to the body structures).

2.3 BUMPERS: Shall be provided for both front and rear of vehicle. OEM type and style is to be retained in the front. Manufacturer shall install a rear bumper designed and built of a 12-gauge or heavier metal, and mounted to the frame outward from the body so as to protect the rear body panels from a collision at 5 mph or less. The finish shall be anodized aluminum, steel chrome plate, or an OEM standard coating and must compliment the body style and color.

2.3 METAL AND METAL FASTENERS: All metal and metal fasteners, including any required nuts and washers, used in the manufacturing process shall be rust and corrosive resistant. Metal and metal coating processes to ensure rust and corrosive resistant properties shall be subject to testing and approval. Metal and metal screws exposed to the outside environment shall be stainless steel or approved equal to the extent possible.

2.4 DOOR – AMBULATORY FRONT ENTRANCE: Shall consist of two panels, folding transit type, which provides a minimum width clear center opening of 26" and a minimum height from lower step to door header of 75". Ambulatory door shall have an electrical/mechanical power unit that allows operation by a dash-mounted switch. Door opener shall provide a smooth operation throughout the open and close cycle.

Door opener must be designed to allow ease of troubleshooting and field maintenance and shall have an integrated manual backup system in the event of an electrical or mechanical failure. Door shall have an exterior key lock system. The step and well shall be designed and constructed of corrosion resistant materials with adequate strength and reinforcing to accommodate a 250 lb passenger. Maximum riser height shall be 10" with a minimum tread depth of 8".

2.5 DOOR – REAR EXIT: Shall have a rear galvanized steel door on the back of the body and have an alarm to alert the driver if door is not in the locked position. Door shall be accessible from the interior as well as the exterior and have a window mounted in the door as well as side windows on each side of door.

2.6 EXTERIOR LIGHTS: Shall provide exterior dome LED type clearance lights to be mounted in a recessed area or shall have an "armor type" protection. All exterior lights, with the exception of the OEM headlights and front turn signals, shall be the LED type including rear parking, brake, turn signal, and backup lights. Shall also provide LED type mid-body and side turn signal lights.

2.7 EXTERIOR MIRRORS: One mirror shall be mounted on each side of the vehicle and shall be power and heated Velvac or Rosco Breakaway Mirror or approved equal with a "breakaway design" and a minimum of 54 square inches of reflective area and have a convex mirror incorporated. Mirrors shall be mounted to minimize road vibration.

2.8 PAINT: Bus shall be painted the manufacturer's standard white and have a 2" high intensity white 3M Diamond Grade 983 Series, or approved equal, reflective type tape stripe down both sides of vehicle just below side windows and along the rear of vehicle just under rear window(s).

2.9 PROTECTIVE BODY SIDE MOLDINGS: Shall install a molding along each side of the vehicle's body located at the floor line if the body side panel is a two piece design. If the body side panel is a one-piece design then this molding is not necessary. Each molding should be approximately 2" to 3" wide, made of aluminum or other corrosive resistant metal and should incorporate a black plastic or vinyl insert and should run full-length horizontally where practical (may be omitted in areas such as doors, steps, and gas pockets).

2.10 RUNNING BOARD: Shall provide a heavy gauge diamond plate running board or heavy-duty fiberglass step on driver's side to allow ease of access to cab area.

2.11 RUST PROOFING: Shall be the highest quality available and be applied to entire area of underbody including wheel wells.

2.12 REAR WHEEL WELL HOUSING: Shall be no less than 16-gauge steel or equivalent gauge aluminum.

2.13 WINDOWS: Sash and glass side windows, shall be Kinro 8700 Series or Cleer Vision CT Series windows or approved equal and shall be the horizontal top sliding type equipped with latches. All glass shall be tinted color smoke gray, darkest available according to OEM standard or no less than 30% light transmitting. Emergency exits shall be provided at a minimum of one on each side of vehicle as a one-hinged escape window and shall be designed and installed in compliance with FMVSS 217.

2.14 WIRING: Body wiring harness shall have color, function, and number coded wire. All wiring harnesses shall be tested prior to installation inside the body and shall be inspected after installation to assure electrical systems and lights are functioning properly.

SECTION 3 - INTERIOR

3.1 AIR CONDITIONING: Shall have the largest OEM available BTU system and have a second unit for rear compartment with a minimum rating of 70,000 BTU dual compressor with a minimum three speed fan. Shall be installed following the chassis OEM approved design and installation standards to augment the chassis OEM unit. The additional system shall be a stand-alone system not tied into the chassis OEM system. Mobile Climate Control or an approved equal.

3.2 HEATER: Integral fresh air heater and defroster and shall be augmented by an additional auxiliary rear heater(s) to achieve and maintain an interior temperature of 65° F when the ambient temperature is 0° F. Shall also have a shutoff valve between the engine and rear heater to prevent coolant flow in the warmer months and a decal on body to show the valve location.

3.3 INSULATION: Shall have fiberglass mats, high-density polystyrene or approved equal, and be used to insulate the entire body, sides, front, rear and roof, achieving a R-5 rating or greater.

3.4 FLOOR: Floor shall be an exterior grade, 7-ply water resistant; plywood being no less than 3/4” thickness with underbelly sealed to protect wood from water and road debris and shall be securely fastened to a metal rail sub floor.

3.5 FLOOR COVERING: Floor covering shall be a transit grade rubber in standard black finish with a minimum of 1/8" thickness under the passenger seats and as supplied by the OEM in the driver's area. Aisle covering shall be a transit grade also but be 3/16” thick ribbed rubber material. There shall also be a 2" wide white "Standee Limit" strip set into the ribbed aisle covering located at the rear of the driver's seat as per DOT regulations.

3.6 GRAB RAILS: Shall have dual grab rails installed adjacent to the entrance access to aide passengers with boarding and dual grab rails installed in the roof to provide passengers with a secure holding area from front of vehicle to the rear.

3.7 INTERIOR FINISH: Shall be a flame retardant fiberglass or vinyl padded material or approved equal, of sufficient thickness and durability to maintain it appearance under heavy usage, and be adequately supported to prevent buckling. Material shall be color keyed to the seat color and be subject to approval by the City.

3.8 INTERIOR LIGHTS: Shall have six (6) passenger and one (1) driver dome mounted courtesy lights. Step well shall have at a minimum one (1) shielded light.

3.9 INTERIOR MIRRORS: In addition to the OEM day-night mirror attached to the windshield, an interior convex rear view mirror shall be mounted above the windshield to provide the driver with a full view of the bus interior.

3.10 PASSENGER SEATS: Shall conform to FMVSS 209 and 21 0 standards and shall provide a standard fixed passenger seating in a combination of double transit seats permitting a center aisle. Fixed seats shall be an individual bucket style and shall be the mid back Freedman Feather Weight Mid-High Series Seating or approved equal. Upholstery material shall be a minimum CMl Level 3.5 Medallion Keops Azul Blue Vinyl or an approved equal. Colors shall blend with the OEM interior colors and subject to approval by the City. Minimum hip to knee room on transverse mounted seats shall be 26" unless otherwise approved. Aisle width may vary according to seating configuration with a minimum of 15".

3.11 BENCH SEATS: Seats shall conform to FMVSS standards. Two (2) fold down forward facing, double-passenger seats at wheelchair stations on the left (street) side of vehicle. (Forward facing when serving ambulatory passengers and fold against the wall when space is required for wheelchair passengers). As a forward facing ambulatory seat, each seated position shall be contoured to provide both lateral and front to rear stability and comfort. The bottom seat cushion shall employ a spring suspension system. A padded armrest shall be provided on the aisle side of each forward facing seat. Upholstery to match passenger seats.

3.12 DRIVER'S SEAT: Shall be an OEM high back seat or an approved equal with upholstery to match rear seats.

3.13 SEAT BELTS: Seats shall have self retractable passenger lap securement belts in all locations permitting the retractable unit. Standard belts shall be provided in all locations not permitting a retractable unit. All seats belts shall meet or exceed FMVSS 209 and 210. A premium web cutter shall be supplied with each vehicle and shall be mounted in a highly visible location in the driver's area and have a label stating "Seat Belt and Wheel Chair Securement Belt Cutter".

3.14 SEAT RAILS: Shall be designed into the floor shall not extend beyond the last fixed seat on either side. At no point will the seat rail extend into an area designated as a wheelchair securement area.

3.15 SEATING CAPACITY: Seating capacity shall include driver, 16 ambulatory passengers and 2 wheelchairs, or driver and 20 ambulatory passengers when not carrying wheelchairs. See Section 6 – Floor Plan.

SECTION 4 – WHEELCHAIR LIFT SYSTEM AND RELATED ITEMS:

4.1 WHEELCHAIR LIFT: Shall offer a wheelchair lift mounted left of the rear axle on the right (curb) side with an interlock system. Lift must be fully compliant with all ADA and FMVSS 403 and 404 requirements and specifications. Shall be a Braun, Ricon, Maxon or approved equal. Shall have safety belt mounted to the standee handrails. Lift shall have the pump on the front side of lift to provide ease of access for maintenance. Shall provide a door to access the lift mechanism, type and design typically provided by the manufacturer as approved by the OEM and have a restraint system for when the doors are in their open position. ADA decals shall be affixed to the lift and to the outside side and rear of the vehicle.

4.2 WHEELCHAIR RESTRAINT SYSTEM: Belt restraint systems shall be a complete wheelchair and occupant securement system designed for endurance and ease of use. All wheelchair tie downs shall have self-tensioning retractors and the lap/shoulder belts shall have retractors. Securement systems shall be Q-Straint, Sure-Lock or approved equal. Securement system shall be a full width L-track kit or approved equal and have a minimum measurement of 48" from center of L-track to center of L-track. If the shoulder belt is above 60" then it shall have a height adjuster for satisfactory securement and comfort for the occupant. A storage pouch for each system, designed to accommodate restraint belts, shall be constructed from commercial type heavy duty reinforced vinyl/cloth type material affixed to the inside of the vehicle in a location easily accessible and does not interfere with passenger comfort or seating placement. Restraint system shall be compliant with all ADA requirements and specifications.

4.3 SEAT BELT EXTENSIONS: Seat belt extensions shall offer as an option for seat belt extensions for all passengers.

4.4 AUTOMATIC ENGINE HIGH IDLE SWITCH: A brake interlock system with high idle feature shall be provided to insure that the vehicle cannot be moved while the lift door is open.

SECTION 5 – ADDITIONAL REQUIREMENTS

5.1 BACKUP CAMERA: Shall offer a backup camera that will have the camera mounted above the rear window, with a minimum 4 inch video screen mounted in the driver's area for ease of viewing but does not interfere with driver's view. Shall be a heavy duty system capable of enduring a transit environment and be either mounted in a recessed area or have a guard mounted to prevent damage to camera.

5.2 SURVEILLANCE SYSTEM: Shall be equipped with a multi-camera or duel-vision surveillance system to provide continuous digital video recording from the exterior forward perspective as well as interior activities of the driver and passengers. Surveillance system shall include installation.

5.3 AUTOMATIC SPEED CONTROL: Shall have factory cruise installed.

5.4 WINDSHIELD WIPERS: Intermittent.

5.5 HEIGHT RESTRICTION NOTICE: Shall install a placard in a location clearly visible to the driver stating the maximum height restriction for the vehicle.

5.6 RADIO: Shall provide an AM/FM/CD with public address mode with four or more speakers installed in locations to provide uniform sound within the passenger area and a weather resistant external speaker. External speaker shall have a separate on/off switch.

5.7 KEYS: Shall provide a minimum of two (2) vehicle keys.

5.8 LICENSE PLATE BRACKETS: Front and rear.

5.9 MANUAL: Shall provide an "as built" service manual in an electronic form on a CD that shall be in MS Word or Adobe format.

5.10 DESTINATION SIGNS: A front and side digital destination sign shall be provided. A lightweight all LED sign that provides a wide viewing angle for visibility at day or night with automatic brightness adjustment. The signs must come with all accessories in order for the transit system to be able to change the routes daily if needed. The signs must meet all ADA standards.

SECTION 6 – FLOOR PLAN