ST. LOUIS COUNTY LIBRARY DISTRICT
REQUEST FOR PROPOSALS
DATE ISSUED: November 4, 2022

The Board of Trustees of the St. Louis County Library District ("Library District") is accepting proposals ("Proposal" or "Proposals") pursuant to this Request for Proposals from qualified Proposers for providing Manufacturing Services for Mobile Outreach Vehicles (the "Project").

All Proposals are due no later than 2:00 P.M. C.D.T., on December 8, 2022.

Proposers shall complete the Proposal as required in this Request for Proposals and deliver the completed Proposal by email only to Eric Button, ebutton@slcl.org. The email subject line should be “Request for Proposals – Manufacturing Services for Mobile Outreach Vehicles.”

To protect the integrity of the Proposal selection process, any questions concerning this Request for Proposals, the Proposal process or Proposal specifications shall be emailed only to Eric Button at ebutton@slcl.org in accordance with this Request for Proposals.

It is anticipated that the Proposals will be considered by the Library District's Board of Trustees at the December 19, 2022 meeting after consideration by the Selection Committee and recommendation to the Director.

The Library District reserves the right to reject any and all Proposals and to waive formalities in the best interests of the Library District.
BACKGROUND

The Library District is a political subdivision of the State of Missouri. The Board of Trustees ("Board of Trustees") of the Library District is a body corporate with all the powers and rights of like or similar corporations serving more than 863,000 Library District residents. All management and control of the Library District is vested in a Board of Trustees consisting of five Trustees appointed by the County Executive of St. Louis County, Missouri. The Trustees serve staggered four-year terms.

The Board of Trustees appoints a qualified librarian who holds that office at the Board of Trustees' pleasure as the chief executive and administrative officer ("Director") of the Library District.

The Board of Trustees has the power to purchase grounds, erect appropriate buildings and improve existing buildings for the use of the Library District and its branches out of funds available or through the issuance of bonds or otherwise.

This Request for Proposals is for the provision of Manufacturing Services for the Project.
GENERAL REQUIREMENTS

The Project is subject to all applicable laws of the State of Missouri governing the Library District including but not limited to the following:

- Missouri law prohibits all employers from employing aliens unlawfully present in the United States to perform work within the State of Missouri, including the Project and Proposers must comply with the provisions relating thereto in Section 285.530 RSMo, as amended.

- All Proposers on Library District contracts for services in excess of $5000 must provide the Library District with documentation and a sworn affidavit, with respect to employees working in connection with the contracted services, affirming enrollment in a Federal Work Authorization Program ("FWAP"). The affidavit shall also provide that the Proposer does not knowingly employ any person in connection with the contracted services who is an unauthorized alien. Such affidavits must be provided with the Proposal.

- In the event that the contract for the services described in this Request for Proposals is for $100,000 or more, and the successful Proposer employs ten (10) or more employees, the contract shall include a written certification that the Proposer is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel; companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel; or persons or entities doing business in the State of Israel.

- Every transient employer must comply with Sections 285.230 through 285.234 RSMo, as amended, when applicable.

- Pursuant to Sections 34.070 and 34.073 RSMo, the Library District prefers to purchase those materials, products and supplies which are produced, manufactured, compounded, made or grown, within the State of Missouri when they are found in marketable quantities and are a quality suited to the purpose intended, and can be secured without additional cost over out-of-state products. Quality and fitness of articles will be considered in making purchases or letting contracts. Similarly, in letting contracts for the performance of any job or services, the Library District prefers Missouri firms, corporations or individuals, or firms, corporations or individuals which maintain Missouri offices, when the quality of performance promised is equal and the price quoted is the same or less.

In addition to the general requirements listed above, the successful Proposer shall comply with all laws, ordinances, regulations and orders of federal, state, county, and local governing authorities pertaining and applicable to the successful Proposer and/or the Library District.

Applicable insurance coverage must be provided by the successful Proposer before any work can be started on the Project.

The Library District will make every effort to target and utilize Minority/Women Business Enterprises (MBE/WBE) by using the Missouri
Minority/Women Business Enterprise Program Directory as a source of identification of potential proposers. The Library District Policy provides that MBE/WBEs must be certified by the Office of Supplier and Workforce Diversity (OSWD), State of Missouri, and that such entities will be provided an equitable and fair opportunity to submit proposals.

These General Requirements, this Request for Proposals, the Proposal and the specifications and instructions of the Project shall be incorporated in the contract and/or purchase order signed by the parties should the Proposer be awarded a contract under this Request for Proposals.
SCOPE OF WORK

The following Scope of Work provides an overview of the terms and conditions being sought by the Library District for the Project:

1. GENERAL SPECIFICATIONS

1.1 Scope

1.1.1. The intent of this specification is to describe the construction of two (2) 34-foot (approximate) long front-engine forward control cab chassis style trucks into Mobile Outreach Vehicles ("Vehicles") for use by the St. Louis County Library District. The units shall be built on a 25,900 lb. GVWR (approximate) chassis for adequate support of the van body, conversion, and diversified collection of approximately 3,000 items.

1.1.2. The Vehicles described herein is intended to provide contemporary mobile library and literacy services to patrons of all ages in an operationally efficient manner. The units will operate within an urban environment in Missouri and shall be designed and equipped to safely operate in an environment of flat paved roadways. The units will be kept outside the Library District when not in service.

1.1.3. It is the Library District's utmost goal to ensure that the outreach Vehicles are well-equipped to operate efficiently and safely in this environment.

1.1.4. Weight loading shall be of significant concern during the conversion of these Vehicles for efficiency reasons. Substantial effort has been put into the interior design with this factor in mind. Proposer is cautioned to use the lightest materials and construction methods available that will meet all specifications as described herein and make recommendations as appropriate for lightening the static load of the conversion.

1.1.5. Renewable and/or recycled materials shall be used as practical during the conversion of these Vehicles.

1.1.6. The successful Proposer shall furnish all materials not specifically denoted as "customer supplied", as well as the labor to complete the conversion of the outreach Vehicles specified herein, as shown on the attached drawings, or as required to complete and/or exceed the general intent of these specifications.

1.1.7. These specifications have been developed by Specialty Vehicle Services, LLC. ("SVS") under contract with the Library District.

1.1.8. Any reference to a specific manufacturer or make or model of product not followed by "or equivalent" or "or equal" may not be substituted. The Library District and/or its authorized agents shall be the sole judge of whether a manufacturer’s offerings are deemed equivalent for the purpose of this project, and all proposed "equivalent" or "equal" substitutes shall be expressly accepted prior to installation.
1.2. Manuals and Documentation

1.2.1. The following shall be provided for each unit at the time the equipment is delivered (unless otherwise noted):

1.2.1.1. One (1) line set for chassis.
1.2.1.2. One (1) certified MO weight ticket listing front axle, rear axle and total weights.
1.2.1.3. Three (3) complete key sets (ignition, doors, auxiliary locks, compartments, fuel); maximum keys per set shall be five (5).
1.2.1.4. Two (2) complete dimensional layout drawing of exterior and interior front, rear, and both sides.
1.2.1.5. “As built” electrical schematics accurately detailing AC and DC electrical systems used in the upfitting.
1.2.1.6. Drawings and schematics shall also be provided in a digital format.

1.3. New Equipment

1.3.1. Equipment shall be new (unused), and of manufacturer’s current model year production and shall comply with all applicable Federal environmental, motor vehicle, and safety regulations. The conversion shall be equipped with all features and accessories considered standard for the make and model vehicle/equipment provided as well as those specifically detailed within this specification.

1.4. Quality & Standards

1.4.1. Brand names and model numbers are used throughout this document to convey desired quality levels, with the option for equivalents. The Library District and/or its authorized agents shall be the sole judge of whether a manufacturer’s offerings are deemed equivalent for the purpose of this project, and all proposed “equivalent” or “equal” substitutes shall be expressly accepted prior to installation.

1.4.2. Conversion accessories shall be built and assembled in accordance with the specifications and shall conform to the best standard practices in the industry at the time of construction. All dimensions, weight, and performance values shall be in accordance to SAE J732c and J742b, as last revised. The Proposer will provide all systems integration and testing. All electronics will be installed, fully operational, and tested by the Proposer. The Vehicle shall be equipped with all features and accessories considered standard for the make and model vehicle/equipment provided.

1.4.3. All equipment and construction methods shall meet all applicable regulations of the Occupational Safety and Health Act (OSHA), Federal Motor Vehicle Safety Standards (FMVSS), Department of Transportation (DOT), National Electrical Code (NEC), Federal and State noise and pollution control restrictions, and all other applicable local, state and/or federal regulations in effect at the time of execution.
1.4.4. All workmanship, welding, and construction shall be in the best manner of the trade. Workmanship shall be subject to inspection and approval by the Library District and/or its authorized representatives.

1.4.5. Welding fillets shall have good penetration, good fusion, good appearance, and shall show no cracks or undercutting.

1.5. Guarantee

1.5.1. The successful Proposer shall furnish a warranty stating that the equipment is suitable for the service intended in accordance with the specifications. The Proposer shall also furnish the Library District with a minimum **FULL ONE (1) YEAR BUMPER-TO-BUMPER WARRANTY** and shall agree to replace and install without charge, within the warranty, any defective part, or parts not suitable for the service intended or found to be defective due to poor workmanship. The proposal will be weighted toward longer warranties and Proposer is encouraged to offer, as an option, any available extended warranties with related literature and their costs. Warranty period shall start on the date the unit is put into service by the Library District.

1.5.2. All warranty work shall be completed by the Proposer within a reasonable time or repaired by the Proposer at the Library District facility. The Library District reserves the right to schedule and complete warranty work at a local facility of its choice if requests for resolution are not satisfied in a reasonable time frame. Proposer shall be given proper notice of such intent prior to execution and an invoice shall be forwarded to the Proposer for payment.

1.5.3. That the Library District may be assured of being able to maintain and repair equipment purchased, there shall be a local service facility with a stock of repair parts identified with the Proposer’s proposal. These specifications also require that common wear parts such as filters and hoses be available within 24 hours and all other parts within 48 hours, for a minimum of 5 years post-delivery.

1.5.4. Proposal shall list names, locations, and contact information for the nearest authorized service, parts, and warranty facilities. This list shall include facilities related to chassis, body, body electrical, generator, conversion, etc.

1.5.5. All extended warranty options applicable to this Vehicle and its components shall be listed within Proposer’s Proposal with associated costs.

1.6. Inspections

1.6.1. Equipment/Vehicles may be inspected at Proposer’s place of business at any time during the conversion process by authorized representatives of the Library District. The cost of these trips shall be the responsibility of the Library District.

1.6.2. If the Vehicles are inspected after delivery and rejected because of deficiencies, it shall be the Proposer’s responsibility to make the necessary corrections and re-deliver the Vehicle for inspection and acceptance. Payment and/or the commencement of a discount period (if applicable) will not be made until the defects are corrected.
1.6.3. Library District will make every endeavor to note deficiencies. However, if a variation or an omission between the Vehicle and the written specifications is discovered, the contract's written specifications will prevail.

1.6.4. Vehicles will be inspected at Proposer's place of business at least once before delivery by an authorized representative of SVS for workmanship, appearance, proper functioning of all equipment and systems, and conformance to all other requirements of this specification. The costs of these trip(s) shall be the responsibility of SVS. If deficiencies are detected, the Vehicles may be rejected, and the Proposer will be required to make the necessary repairs, adjustments, or replacements.

1.6.4.1. Dependent on the severity of inspection discrepancies and/or the Vehicles are not deemed adequately complete at the time of final (pre-delivery) inspection; Proposer shall be responsible for all SVS costs and fees related to a re-inspection. The Library District shall have the final decision regarding the need for a re-inspection.

1.7. Training

1.7.1. Proposer shall provide in service training and familiarization at the time of delivery. Training shall be conducted by factory-trained personnel and shall be comprehensive enough to allow Library District staff to operate and maintain the equipment provided with maximum safety and design efficiencies.

1.7.1.1. Both trainings shall occur at the time of delivery and last a total of approximately 6 hours.

2. VEHICLE SPECIFICATIONS

2.1. Intent

2.1.1. It is the intent of the following section to describe the type of vehicle that shall be used for the bookmobile. Accessories and construction techniques not specifically mentioned herein, but necessary to furnish a complete unit ready for immediate use shall also be included.

2.2. Type

2.2.1. The cab chassis shall be a 2023 or current model year Freightliner M2 106 class 6 low-profile day cab or equivalent, equipped with a 24' long aluminum dry freight van body. The cab chassis, body and accessories shall be built and assembled in accordance with the specifications and shall conform to the best standard practices in the industry at the time of construction.

2.3. Capacities/Dimensions

2.3.1. Overall exterior length: 34.0' (approximate)
2.3.2. Overall exterior width: 102' (excluding mirrors)
2.3.3. Overall exterior height: 12' (approximate)
2.3.4. Interior length: 305” (load space)
2.3.5. Interior height: 84”
2.3.6. Floor height from ground: 39” (approximate)
2.3.7. Interior width: 98”
2.3.8. Wheelbase: 252” (approximate)
2.3.9. Ground Clearance: 12”
2.3.10. Fuel tank capacity: 40.00 gallons
2.3.11. GVWR: 25,900 lbs. (no CDL required)

2.4. Cab Chassis

2.4.1. Freightliner M2 106 low profile day cab chassis with setback axle and straight truck provisions, LH primary steering location, and low-profile wheels and tires.

2.4.2. Engine

2.4.2.1. Cummins B6.7 diesel or equivalent, 325-hp minimum with 750 lb-ft torque @ 1,800 RPM

2.4.2.2. Engine shall be capable of running on ultra-low sulfur diesel or bio-diesel fuel (B20) at user's discretion with no modifications.

2.4.2.3. Current model year EPA emission certification

2.4.2.4. Engine after treatment device, automatic over the road regeneration and dash-mounted regeneration switch Engine idle shutdown system.

2.4.2.5. Exhaust tail pipe exit located on street side, just forward of the rear axle.

2.4.2.6. Engine oil drain plug, magnetic

2.4.2.7. Engine shutdown electric, key operated

2.4.2.8. Fuel/water separator with thermostatic fuel temperature controlled electric heater and filter restriction/change indicator. Shall include equipment water-in-fuel sensor.

2.4.2.9. Electronic road speed governor; set to 75MPH max.

2.4.2.10. Engine oil filter, spin-on type

2.4.2.11. Direct drive type fan drive, 2-speed with residual torque device for disengaged fan speed

2.4.2.12. Aluminum radiator; 2-row, cross flow, over under system with charge air cooler. Includes low coolant visual alarm

2.4.2.13. Single element air cleaner

2.4.2.14. Starting motor without thermal over crank protection.

2.4.2.15. Gates Blue Stripe or equivalent hoses with constant-torque stainless steel hose clamps.

2.4.2.16. Switchback horizontal after-treatment device, frame-mounted under cab. Shall include horizontal tailpipe exiting forward of the LH rear tire.
2.4.3. Transmission and Equipment
  2.4.3.1. Allison 2500 series or equivalent automatic transmission with oil level sensor.
  2.4.3.2. 6-speed, non-fire emergency, with overdrive
  2.4.3.3. No PTO provisions
  2.4.3.4. Synthetic transmission oil
  2.4.3.5. Transmission-mounted oil filter and magnet in oil pan
  2.4.3.6. T-handle type shift control, dash-mounted

2.4.4. Front Axle, Suspension and Equipment
  2.4.4.1. 10,000lb capacity minimum single front axle, non-driving
  2.4.4.2. Taper leaf, parabolic spring front suspension, 10,000lb. minimum capacity
  2.4.4.3. Spring pins with rubber bushings, maintenance free
  2.4.4.4. Two (2) front shock absorbers.
  2.4.4.5. Tilt and telescoping steering column
  2.4.4.6. 4-spoke, 18” diameter, black steering wheel
  2.4.4.7. Power steering gear

2.4.5. Rear Axle, Suspension and Equipment
  2.4.5.1. Single reduction rear axle, 18,000lb. minimum capacity
  2.4.5.2. Freightliner AirLiner or equivalent air suspension; 18,000lb. (approximate) capacity, set to “mid” ride-height, with shock absorbers
    2.4.5.2.1. Ignition controlled electric dump switch with autofill override valve
    2.4.5.2.2. Dump valve with autofill for ignition off and >5MPH, including override control and buzzer on dump valve switch
  2.4.5.2.3. Dual leveling valves
  2.4.5.3. Gear ratio to meet performance requirements.
  2.4.5.4. Rear axle drain plug; magnetic
  2.4.5.5. Synthetic rear axle lube
  2.4.5.6. Heavy-duty driveshaft

2.4.6. Brake System
  2.4.6.1. Dual air system, with automatic slack adjustment and four channel ABS
  2.4.6.2. Front – Air cam S-cam, including 20 sq. in. long stroke brake chambers
  2.4.6.3. Rear – Air cam S-cam, including 24/30 spring long stroke brake chambers and spring actuated parking brake
  2.4.6.4. Bendix AD-9 or equivalent air dryer

2.4.7. Frame and Equipment
2.4.7.1. High strength low alloy steel frame rails (80,000 PSI yield)
2.4.7.2. Maximum OAL; for LP chassis
2.4.7.3. 33.1" calculated frame height
2.4.7.4. Rear cross member, AF
2.4.7.5. Full width aerodynamic painted front bumper, with license plate mount
2.4.7.6. Rear tow hooks, frame-mounted
2.4.7.7. Rear ICC bumper (concealed behind rear body skirting)

2.4.8. Fuel Tank and Equipment
2.4.8.1. 40-gallon (minimum), aluminum construction
2.4.8.2. Fuel filter/water separator with temperature controlled electric heater and filter restriction/change indicator
2.4.8.3. Reinforced nylon fuel hose throughout
2.4.8.4. DEF tank, frame mounted, 6-gallon (approximate)

2.4.9. Front Tires, Hubs & Wheels
2.4.9.1. Two (2) 19.5" painted steel, hub-piloted 7.50DC rims
2.4.9.2. Two (2) low-profile 19.5" Michelin or equivalent steer tread tires, load capacity matched to GVWR
2.4.9.3. Oil-lubricated wheel bearings and seals.
2.4.9.4. 50W synthetic front lube oil

2.4.10. Rear Tires, Hubs & Wheels
2.4.10.1. 19.5" painted steel outer wheels and 7.50DC rim and steel inner wheel with 7.50DC rim, hub-piloted.
2.4.10.2. Four (4) low-profile 19.5" Michelin or equivalent mud and snow tread, load capacity matched to GVWR
2.4.10.3. Oil lubricated rear seals and wheel bearings.

2.4.11. Electrical System
2.4.11.1. 12-volt, negative grounded
2.4.11.2. 240A minimum, self-excited, pad mounted alternator
2.4.11.3. Two (2) maintenance free 12-volt batteries, 1300 CCA approximate
2.4.11.4. Battery box, with plastic cover, mounted below cab
2.4.11.5. Data link connector for vehicle programming and diagnostics in cab
2.4.11.6. SAE blade type electrical fuses
2.4.11.7. Headlight dimmer switch integral with turn signal switch
2.4.11.8. Single electric horn
2.4.11.9. Air horn, single trumpet, air solenoid operated, mounted below cab
2.4.11.10. Master battery shutoff switch mounted outside battery box
2.4.11.11. LED headlights, composite aero design for two-light system, including daytime running lights
2.4.11.12. Electric starter switch, key-operated
2.4.11.13. LED chassis lighting to meet FMVSS regulations
2.4.11.14. Five (5) amber LED lights mounted on cab roof
2.4.11.15. Dome light, door activated with timed dimming
2.4.11.16. Self-cancelling turn signal switch with headlight dimmer
2.4.11.17. 2-speed windshield wiper switch with wash and intermittent feature, integral to turn signal switch
2.4.11.18. Single motor windshield wipers, cowl mounted
2.4.11.19. One (1) 12V power receptacle
2.4.11.20. Back up alarm, electric, 102 dBA
2.4.11.21. Body builder wiring, including sealed connectors for tail, turn, backup, accessory power, and ground
2.4.11.22. Manual reset SAE type III circuit breakers with trip indicators
2.4.11.23. Chassis wiring shall be color coded and continuously numbered

2.4.12. Cab Exterior

2.4.12.1. Day cab
2.4.12.2. Argent silver grill
2.4.12.3. Under hood insulation for sound abatement
2.4.12.4. Splash panel insulation for sound abatement
2.4.12.5. Fiberglass hood, tilting front end
2.4.12.6. Painted front bumper with 3-piece construction
2.4.12.7. Dual, motorized, heated, side-mounted, chrome West-Coast style rearview mirrors with integral convex spot mirrors
2.4.12.8. Composite exterior sun visor
2.4.12.9. Door glass LH & RH
2.4.12.10. Windshield
2.4.12.11. Eight (8) liter windshield washer reservoir
2.4.12.12. Air-ride cab suspension

2.4.13. Cab Interior

2.4.13.1. Interior trim package.
2.4.13.2. Two (2) molded armrests, on each door
2.4.13.3. "A" pillar molded plastic cover
2.4.13.4. Interior grab handles, pillar mounted, one each side
2.4.13.5. Interior trim panels, molded plastic, full height; all interior sheet metal covered
2.4.13.6. Overhead console with dual storage pockets
2.4.13.7. Interior door trim panels, molded plastic, driver, and passenger doors
2.4.13.8. Driver door map pocket
2.4.13.9. Cloth headliner
2.4.13.10. Rubber floor covering with insulation
2.4.13.11. Instrument panel trim, molded plastic with center section
2.4.13.12. Two (2) cup holders shall be provided
2.4.13.13. Two (2) padded vinyl sun visors, integral to console
2.4.13.14. Interior color scheme to be determined
2.4.13.15. Air conditioning with integral heater and defroster, HFC-134A hydrofluorocarbon refrigerant
2.4.13.16. Triangular reflectors without flares
2.4.13.17. 5lb. ABC fire extinguisher with mount
2.4.13.18. Full width vinyl bench seat with three (3) seatbelts
2.4.13.19. Power window and door locks
2.4.13.20. Driver and passenger air-bag safety system(s) as available

2.4.14. Instruments and Controls
2.4.14.1. Key switch ignition keyed alike to cab door locks (with 3 sets of keys)
2.4.14.2. Gauge cluster (English)
2.4.14.3. Electronic speedometer
2.4.14.4. Electronic engine oil pressure
2.4.14.5. Electronic water temperature
2.4.14.6. Electronic fuel
2.4.14.7. Electronic tachometer
2.4.14.8. Voltmeter
2.4.14.9. Odometer display; miles, trip miles, engine hours, trip hours, fault code readout
2.4.14.10. Warning system; low fuel, low oil pressure, high engine coolant temperature, low battery voltage
2.4.14.11. Allison transmission oil temperature gauge
2.4.14.12. Air cleaner restriction indicator, with black bezel mounted in instrument panel.
2.4.14.13. DEF fluid level gauge.
2.4.14.14. On-board diagnostics display of fault coded in gauge cluster
2.4.14.15. AM/FM/NB radio with auxiliary and USB inputs, and Bluetooth capabilities
  2.4.14.15.1. Radio shall include two (2) deluxe commercial quality coaxial radio speakers in the cab.

2.4.15. Color
2.4.15.1. Cab color: chosen by Library District from OEM palette prior to chassis order

2.4.15.1.1. Base coat/clear coat type, 1 tone.

2.4.15.2. Interior color: Gray

2.5. Body

2.5.1. 24' trade length aluminum dry freight truck body, 102" exterior width with 84" interior height and 30" cab-over section.

2.5.2. 3/4" (minimum) exterior plywood or approved equivalent floor

2.5.3. No wheel wells; flat floor.

2.5.3.1. Long sill height shall be selected to provide minimum allowable manufacturer specified "jounce" dimension over rear tires.

2.5.3.2. Finished floor height shall be approximately 39" as measured from ground

2.5.4. 3" (maximum) I-beam cross-members; 12" OC

2.5.4.1. Spacing exception may be allowed over the rear wheels, if necessary, to obtain required floor height. Heavy gauge plate steel is one possible solution in these areas

2.5.5. Side wall posts; 16" OC

2.5.6. .040" (minimum) pre-painted aluminum side sheeting

2.5.7. .080" (minimum) aluminum side deep skirting

2.5.8. Skirting shall be full perimeter of body with 12" minimum ground clearance

2.5.8.1. Rear ICC bumper shall be concealed behind the rear skirting.

2.5.8.2. Rear skirting shall include provisions for mounting license plate.

2.5.9. One-piece .032" (minimum) aluminum roof

2.5.10. Roof bows; 16" OC with reinforcements for A/C units

2.5.11. FMVSS 108 lights and reflectors, LED at all locations

2.5.11.1. Rear lighting shall be flush mounted below floor line, in the aluminum skirting.

2.5.12. Aluminum or stainless-steel rear structure

2.5.13. Rear mud flaps; no logos or advertising

2.5.14. Body color: OEM White

2.5.15. Two (2) 32" x 80" (approximate) passenger side "sedan type" mid entry (patron) doors placed per drawings. Doors shall be of double-wall commercial quality aluminum construction and internally insulated between inner and outer skins.

2.5.15.1. Doors shall have a dark tinted high-quality opening window with screen in the upper area and a dark tinted high-quality fixed window in the lower area, sized as large as feasible.
2.5.15.2. Step wells shall be a three-step configuration with 10" - 12" deep treads and 7" - 9" high risers. Each step shall incorporate heavy-duty, slip resistant commercial rubber or fiberglass step tread reinforced with aluminum back. The front edge of each tread shall incorporate a 2" safety yellow or white edge. Step wells shall contain 12VDC LED lighting to assist with entry/egress.

2.5.15.3. Door shall utilize continuous stainless steel, aluminum, or similar non-corrosive type vertically mounted, recess-mounted hinges, adequately sized for the anticipated weight and duty cycle of this door.

2.5.15.4. Door shall include an exterior stainless-steel or aluminum drip rail mounted above the door.

2.5.16. One (1) of 42" x 80" (approximate) single door mounted in the rear wall per preliminary drawing. Door shall be of double-wall commercial quality aluminum construction and internally insulated between inner and outer skins.

2.5.16.1. Door shall be set at floor height (no step well).

2.5.16.2. Door shall have dark tinted high-quality safety glass upper fixed-pane window and dark tinted safety lower fixed-pane window, as large as feasible.

2.5.16.3. Door shall utilize stainless steel, aluminum, or similar non-corrosive type vertically mounted hinges, adequately sized for the anticipated weight and duty cycle of these doors.

2.5.16.4. Doors shall include an exterior stainless-steel or aluminum drip rail mounted above the door.

3. CONVERSION SPECIFICATIONS

3.1. Exterior

3.1.1. Each 32" patron door shall be configured with the following:

3.1.1.1. One (1) Yale or equivalent door closer, with hold open, each to control the movement of the door.

3.1.1.2. One (1) heavy-duty, cast aluminum, positive hold-open device. Device shall be attached to the Vehicles in a manner consistent with the intended use and lifetime of the Vehicles and hold the door at approximately 90 degrees.

3.1.1.3. One (1) interior pull handle to assist in closing the door.

3.1.1.4. One (1) Yale push-bar “classroom” or equivalent entrance latch shall be installed. Latch shall include provisions to temporarily compress the bar for "free swing" (non-latching) operation at stops.

3.1.1.5. One (1) Yale 112 series or equivalent heavy-duty "deadbolt" latch shall be installed, in addition to the main latch, keyed alike to the entrance latch.

3.1.1.6. Four (4) 1.25" diameter stainless steel handrails each to provide solid entry/egress assistance.
3.1.1.6.1. One (1) 36" approximate length handrail shall be installed vertically on the exterior, just aft of the door.

3.1.1.6.2. Two (2) angle-mounted handrails shall be installed one (1) each side of the step well.

3.1.1.6.2.1. Several bright colored plastic rock climbing hand holds shall be mounted below the handrails on each side to assist children in entry/egress.

3.1.1.6.3. One (1) angle-mounted handrail shall be installed to the interior of each the doors below the upper window.

3.1.1.6.3.1. Several bright colored plastic rock climbing hand holds shall be mounted below the handrail to assist children in entry/egress.

3.1.1.7. One (1) premium quality, electric-operated single auxiliary step or approved equal shall be installed beneath the step well. Step shall be finished with a non-skid surface.

3.1.1.7.1. Height of deployed step shall be consistent with the overall staircase run - for smooth patron entry/egress.

3.1.1.7.2. Height of retracted steps shall not impede clearance requirements of section 2.3.9.

3.1.1.7.3. Step shall be finished with a non-skid surface and a safety yellow, non-skid front strip.

3.1.1.7.4. Step shall operate with the condition of the door and include a local switch to allow the unit to be kept extended, but still retract when the Vehicles engine is started.

3.1.1.7.5. Step shall be installed to allow for ease of frequent replacement without special tools or equipment.

3.1.2. The 42" rear door shall be configured with the following:

3.1.2.1. Door shall be equipped with one (1) heavy-duty, cast aluminum, positive hold-open device.

3.1.2.2. One (1) standard entrance latch with interior handle shall be installed.

3.1.2.3. One (1) Yale 112 series or equivalent heavy-duty "deadbolt" latch shall be installed, in addition to the main latch, keyed alike to patron door.

3.1.3. Three (3) 14" x 22" single dome translucent white acrylic skylights shall be installed with white PVC interior trim.

3.1.3.1. Skylights and installation shall be consistent with the intended lifecycle of the Vehicles and be warranted against leaking for a minimum of 5 years.

3.1.4. One (1) generator compartment shall be installed street side to mount and enclose the generator. Generator mounting shall be configured to allow easy access to the unit for service, as well as easy removal of the unit for overhauls. This compartment shall be located on the driver's side, fully beneath the floor (no interior protrusion).

3.1.4.1. This compartment MUST maintain a minimum 12" ground clearance but shall not protrude through the cabin floor.
3.1.4.2. Compartment structure shall be designed of adequate strength to hold the weight of the generator and have superior corrosion protection for longevity.

3.1.4.3. Door(s) shall be constructed of aluminum and hinged with ¼” pin stainless steel continuous hinges.

3.1.4.4. Doors shall have positive “compression” style, “slam latch”, or approved equal latches and a door hold-back device.

3.1.4.5. Doors shall be keyed-alike with other exterior compartments.

3.1.4.6. Compartment shall be insulated with Glacier Bay Barrier Ultra dB Flex and Panel or equivalent acoustical insulation.

3.1.4.7. Compartment shall be ventilated to allow ambient heat escape, but adequately sealed to protect the generator from road debris and dust.

3.1.5. One (1) auxiliary battery compartment shall be installed curbside to house the auxiliary battery bank. Compartment shall contain a slide tray with positive latch and hold downs for ease of battery maintenance. Tray shall be lined with an isolation material to help prevent battery corrosion.

3.1.5.1. Compartment shall be constructed of aluminum or equivalent materials.

3.1.5.2. Door shall be constructed of aluminum and vertically hinged with ¼” pin stainless steel continuous hinges.

3.1.5.3. Door shall have positive “compression” style, “slam latch”, or equivalent latches

3.1.5.4. This compartment shall be sealed to prevent moisture penetration.

3.1.6. Three (3) 26”T x 26”W (approximate) high-quality windows shall be installed in the side walls as depicted in the preliminary drawing.

3.1.6.1. Windows shall be a “half-slide” configuration with fiberglass screens.

3.1.6.2. Windows shall be dark tinted.

3.1.6.3. Windows shall be emergency egress type.


3.1.7. Compartments, doors, and appropriate added components shall be finished to match the OEM body exterior color.

3.1.7.1. Additionally, where the Vehicles are cut or modified, or additional fabricated components are added to the exterior, exposed metal shall be properly prepared and painted to match Vehicles exterior color.

3.1.7.2. Panels shall be properly cleaned and prepared for paint application in accordance with standard commercial practice and to requirements of the construction materials involved. Surfaces
shall be properly cleaned and inspected before cover materials are applied.

3.1.7.3. The prepared surfaces shall be spray primed with synthetic base primer, which contains corrosion resistant pigments and resins. Extra coats shall be applied around moisture catching moldings, etc. All hidden areas such as overlapping metal, underside of moldings, underside or rubber extrusions at windows shall be cleaned and primed and where necessary and caulked with sealing compound during construction.

3.1.7.4. DuPont or equivalent paint shall be applied to all areas of the metal. Each coat shall be properly dried and evenly sanded before the following coat is applied. "Orange peel" surfacing will not be acceptable.

3.1.8. The Vehicles will have an exterior graphics package installed post delivery. Do not include an allowance in proposal.

3.1.9. Vehicles underbody shall be fully undercoated with rubberized spray to provide additional sound resonance dampening.

3.2. Interior

3.2.1. The Vehicles interior shall be designed to accommodate a collection of approximately 3,000 items, which includes but is not limited to: books of various sizes, DVDs, CDs, oversized materials of odd shapes, magazines, etc.

3.2.2. Since this unit is a mobile library and literacy vehicle, and a quiet environment is most important in the successful operation of any library, all interior finishes shall contribute to absorbing ambient sounds. Appropriate panels, ceiling and flooring shall have superior acoustic qualities in addition to durability and aesthetics. Sound control measures shall comply with the Occupational Safety and Health Act (OSHA) sound level (dBa) requirement in effect at time of award of contract, for an eight (8) hour maximum operator exposure time; measured at operator's ear with engine at governed RPM.

3.2.3. Completed unit shall utilize environmentally conscious "green" elements wherever practical, including, but not limited to energy efficient technologies, and recycled and/or sustainable construction materials.

3.2.4. Weight loading shall be of significant concern during the conversion of these Vehicles for efficiency reasons. Substantial effort has been put into the interior design with this factor in mind. Proposer is cautioned to use the lightest materials available that will meet all specifications as described herein and make recommendations as appropriate for lightening the static load of the conversion.

3.2.5. Vehicles ceiling and walls shall be insulated with 1.5" (minimum) nominal thickness rigid dense foam board insulation or approved equivalent.

3.2.5.1. Insulation board shall be carefully trimmed during installation to provide maximum insulation values.

3.2.6. Floor covering shall be commercial-grade vinyl.
3.2.6.1. Covering shall have a 10-year minimum wear warranty

3.2.6.2. Sub-flooring shall be properly prepared prior to installation of the floor covering.

3.2.6.3. Flooring shall be installed in a manner consistent with the manufacturer’s recommendations.

3.2.6.4. Any flooring remnants remaining from the installation shall be shipped loose with the completed Vehicles.

3.2.6.5. The Library District will select the exact color and pattern of the flooring from Proposer’s selections, to coordinate with other interior color choices.

3.2.7. Interior walls shall have a ½” plywood substrate adhered to the body structure and finished with materials selected by the Library District from manufacturer’s standard offerings.

3.2.7.1. Interior walls shall be covered with a 1/4” layer of cork, and then covered again with tight woven or Velcro friendly fabric. The finish of these panels shall be chosen by the Library District from manufacturer’s standard selections.

3.2.7.2. Wall structure shall allow for the widest interior aisle feasible when all components are installed.

3.2.8. Ceiling shall be finished with eco-friendly, soft, sound absorbing materials chosen by the Library District from manufacturer’s selections.

3.2.9. Fabric-covered cork bulletin boards shall be installed throughout the Vehicles where feasible, including, but not limited to, above the door(s) and all overhead cabinet doors. Number and size of bulletin boards furnished shall be determined by the exact configuration of interior. Bulletin boards shall be as large as possible and installed where space is available inside the coach. Fabric shall be chosen by the Library District from manufacturer’s standard selections.

3.2.10. The cab-over area of the body shall be configured to house mechanicals as appropriate, but retain as much space as feasible for storage.

3.2.10.1. Mechanical sections of cab-over shall be accessible via easy to remove access panels

3.2.10.2. Storage section of cab-over shall be accessible via cabinet doors

3.2.10.2.1. Storage areas shall include door-activated interior lighting.

3.2.11. One (1) floor-to-ceiling wood divider panel shall be installed just aft of the stepwells. Panels shall be constructed of wood veneer plywood with solid wood edging and finished to match the cabinets.

3.2.12. One (1) 3-tier brochure rack with clear Lexan face and removable dividers shall be installed on the floor-to-ceiling panel. Design of the rack shall be approved by the Library District prior to fabrication and/or installation.

3.2.13. An Acore Shelving & Products, Inc. aluminum shelving system shall be supplied and installed. Shelving components shall be powder coated after assembly where possible using coatings containing no lead or lead products. All components shall be constructed from superior grade lightweight materials and be built to withstand the unique stresses
imposed by a mobile environment. The shelving layout shall be designed to accommodate approximately 3,000 items, which includes but is not limited to: books of various sizes, DVDs, CDs, videos, books on CD, oversized materials of odd shapes, magazines, etc. All shelving running along the sidewalls of the Vehicles shall tilt back 15 degrees. The completed modular shelving system shall include the following components:

3.2.13.1. Sixteen (16) one-piece aluminum slotted shelving uprights, set at 36" centers (only).

3.2.13.1.1. Uprights shall be secured to sidewalls in a manner consistent with the anticipated stresses that will be imposed and expected lifecycle of the Vehicles.

3.2.13.1.2. Uprights shall be properly installed per manufacturer's instruction for smooth operation, including but not limited to ensuring centerlines are accurate (36° +/- 1/16" typical), uprights are plumb, and lateral alignment is true the entire length of each section.

3.2.13.2. Eighty (80) Acore 7" deep wall shelves with aluminum center and integral 15° slope.

3.2.13.3. One (1) Acore face-out shelf with retaining bar (see below).

3.2.13.4. Sixteen (16) Acore single-sided “wall hugger” book carts with three (3) shelves each.

3.2.13.5. One (1) Acore book return cart with locking door.

3.2.13.6. Nine (9) Acore “Wall Security Units”, to allow locking of wall hugger, worktop, and book return carts to the upright system.

3.2.13.7. Two (2) Acore folding worksurface

3.2.13.8. Two (2) modular bench seat modules shall be fabricated and provided with the completed Vehicles.

3.2.13.8.1. Seats shall include a minimum 2" thickness of foam, covered with durable fabric.

3.2.13.8.2. Fabric shall be selected by the Library District from manufacturer's selections.

3.2.13.8.3. Seat modules shall mount to the shelving uprights using heavy-duty folding brackets designed for this purpose.

3.2.13.9. Two (2) lightweight modular overhead cabinets shall be fabricated and installed per finalized plans.
3.2.13.9.1. Cabinets shall include lockable, top hinged whiteboard surface door, with mechanical stays, per final design.

3.2.13.9.2. Cabinets shall include one (1) interior adjustable shelf and cable grommets in the base panel for future wiring.

3.2.13.9.3. Cabinet shall mount to the shelving uprights using heavy-duty brackets designed for this purpose.

3.2.13.9.4. Cabinets shall be built using lightweight materials for ease of handling, but retain adequate structural strength.

3.2.13.10. Vehicles shall be configured as depicted in the finalized drawing upon delivery. Any remaining components (extras) of this system shall be shipped loose with each Vehicle.

3.2.13.11. System shall include two (2) full sets of shelf label color strips, colors to be determined.

3.2.13.12. System shall be powder coated for maximum durability; color to be chosen by the Library District from Proposer’s standard color selections.

3.2.14. Finish, cabinetry, and shelving installation shall provide an approximate 75” aisle width.

3.2.15. Final configuration of the interior shelving and cabinetry shall be subject to approval of the Library District prior to installation.

3.3. Electrical System – AC

3.3.1. System shall be a 120/240-volt, single-phase type system designed to provide and distribute electrical power at a level of performance that meets the requirements of all components and/or accessories utilizing such power throughout the Vehicles.

3.3.1.1. System furnished shall be designed and installed to meet all requirements of the National Electrical Code (NEC), with all system components, accessories, plugs, receptacles, switches and circuit breakers being Underwriter's Laboratories (UL) listed and approved.

3.3.1.2. System furnished shall also meet all applicable state code requirements and regulations pertaining to the design and installation of AC electrical systems.

3.3.2. All AC wiring shall be installed using multi-stranded, multi-conductor flexible armored, THHN (in non-metallic conduit), or boat rated cable; 600 volts rated, UL approved or equivalent. All wire shall be color-coded and grounded throughout the system. Aluminum wire is not acceptable due to its history of involvement in electrical system fires. Since the body and chassis of a motor vehicle is constantly flexing in torsion when in use, fixed type conduit is not acceptable due to the long-term potential electrical shorting and the resulting potential of fire hazard.

3.3.2.1. Wiring and harnesses shall be installed in easily accessible locations to aid long-term serviceability and maintain a minimum 2” air-insulated clearance from parallel low-voltage wiring harnesses per NEMA standards.
3.3.2.2. All wiring shall be sized using NEMA ratings to 125% of anticipated load.

3.3.3. One (1) Onan 8 HDKAU/41934, 8.0KW or equivalent, 120VAC quiet diesel generator set shall be installed. Unit shall be certified by the Environmental Protection Agency (EPA) to conform to Tier 4 emissions regulations and feature Advanced Control.

3.3.3.1. Unit shall contain integral shut-down protection system to protect against high engine temperature, low oil pressure, loss of coolant, over crank safety, over speed, over/under voltage, over/under frequency and auxiliary fault.

3.3.3.2. Unit shall draw its fuel from the main vehicle fuel tank through a separate tap that does not allow the generator to draw the fuel level below 1/8 tank.

3.3.3.3. Unit shall be capable of running on ultra-low sulfur B20 fuel in addition to ultra-low sulfur diesel with no modification necessary.

3.3.3.4. Unit shall utilize the auxiliary battery bank for starting/re-charging.

3.3.3.5. Unit exhaust shall exit on the driver's side. Exhaust shall be mounted as high as feasible and include a warning label reading "HOT" in large red font.

3.3.3.6. Installation shall include an interior-mounted remote-control panel, located in the cab-over mechanical area.

3.3.3.7. Unit shall be mounted in an underbody compartment with an exterior access, ventilated aluminum door. Generator mounting compartment shall maintain a minimum 12" ground clearance.

3.3.4. One (1) 25’ long, 125/250VAC, 50A rated, 3-pole 4-wire shore cord shall be hardwired into the street side underbody compartment to connect the Vehicles to shore power.

3.3.4.1. Cord shall be fitted with a NEMA 14-50 straight-blade connector.

3.3.4.2. Cord shall include one (1) 20-amp adaptor to allow use of one (1) air conditioner and battery charging from a limited power supply.

3.3.5. One (1) ATS3W50 or equivalent automatic transfer switch shall be installed to provide automatic switching between generator and shoreline power sources. Unit shall have a 24kW maximum rating and mechanical interlock to prevent any possibility of electrical feedback.

3.3.6. One (1) Xantrex Freedom SW 3012, 3000W inverter/charger shall be installed to back-up the onboard "orange" receptacles and recharge the auxiliary battery bank whenever there is shore or generator power available.

3.3.6.1. Unit shall feature pure sine wave output and battery over-voltage and under-voltage protection.

3.3.6.2. Unit shall include a 100A, 3-stage battery charger with manual equalize connected to the auxiliary battery bank.

3.3.6.3. Unit shall be controlled with a Xantrex Freedom SW 808-9002 (simplified) remote switch mounted near the front workstation, for daily, simplified use/control by Library District staff.
3.3.6.3.1. The 808-9002 remote switch trigger wire shall be connected to a power source that is only active when the master circuit breaker (ref. 3.4.7) is engaged.

3.3.6.4. System shall also include a Freedom SCP system control panel mounted in an accessible location within the cab-over mechanical area, for programming, monitoring and diagnostics as needed.

3.3.6.5. Unit shall be mounted in the cab-over mechanical area.

3.3.6.5.1. Length of battery cables shall be considered when calculating cable size per manufacturer's recommendations.

3.3.6.6. System shunt shall be wired to include all auxiliary power loads being drawn from the auxiliary batteries (not just the inverter) for accurate system monitoring.

3.3.7. Install one (1) Xantrex Freedom SW Xanbus 809-0915 automatic generator start module shall be mounted in the driver's side cabover mechanical area.

3.3.7.1. System shall automatically activate the generator upon low battery voltage, battery state of charge, over-current or air conditioner operation.

3.3.8. One (1) 100A (minimum) rated Square D or equivalent distribution panel(s) shall be installed in the cab-over mechanical area or lower front wall, per finalized design.

3.3.8.1. All AC electrical circuits shall be safety protected from short circuits and current overloading by UL approved resetting type circuit breakers, each properly capacity sized to the circuit they serve. A master circuit breaker that controls all AC electrical system circuits shall also be furnished.

3.3.8.2. Panel(s) shall be readily accessible, yet out of view of the general public.

3.3.9. A minimum of two (2) 15A-rated, UL listed, NEMA 5-15, three-hole grounded white duplex receptacles shall be furnished inside the Vehicles for general and specific uses. These shall be powered by the generator or shore power only.

3.3.10. A minimum of fifteen (15) additional 15A-rated, UL listed, NEMA 5-15, three-hole isolated ground orange duplex receptacles with high-power USB ports shall be furnished inside the Vehicles for electronics and sensitive equipment use. These shall be powered by the inverter when the generator or shore power is not being used.

3.3.10.1. One (1) of these orange receptacles shall be weatherproof and installed on the curbside exterior.

3.3.11. Two (2) 13,500 BTU low-profile air conditioners shall be installed per drawings.

3.3.11.1. Units shall provide 13,500 BTUs of cooling each.

3.3.11.2. Units shall include self-contained, low-profile ceiling assembly with local controls.

3.3.11.3. Unit shall stand a maximum of 10" above the roof and be included in the overall height measurement (reference 2.3.3).
3.4. Electrical System – DC/Other

3.4.1. Shall be a 12-volt, negative ground type system designed to provide and distribute electrical power at a level of performance that meets the requirements of all components and/or accessories utilizing such power throughout the Vehicles.

3.4.2. Design emphasis of system furnished shall be on both reliability and serviceability. System furnished shall be a modular type design, modular being defined as a system where major power train, chassis, body component assemblies, including lighting, wiring and switch harnesses, and heater harnesses are easily separable for purposes of repair or replacement, using either simple hand tool or automotive type plug-in connectors. Special emphasis shall be made on accessibility to all wiring harnesses in all locations. Wiring shall not be rendered un-accessible behind permanently installed panels or appointments.

3.4.3. The power source for all body electrical equipment furnished shall be taken from a single point on the power train specifically designed for this purpose.

3.4.4. The main ground wire grounding the body to the chassis shall be minimum 8-gauge size; all ground wires furnished for insulated-return type systems shall be equal in size to the feed wire in the respective circuit. Redundant grounds shall be used if required to attain a satisfactory level of system performance desired. For maximum system reliability, all serrated eyelets and screws or bolts utilized at points of ground shall be either coated or plated with an electrically conductive type material to improve their resistance to corrosion.

3.4.5. All electromagnetic type switches, relays and solenoids furnished shall be suppressed to protect the entire electrical system from major damage from the large negative voltage spikes these devices can produce.

3.4.6. All auxiliary electrical circuits shall be safety protected from current overloading by automatic resetting type heavy-duty automotive circuit breakers, each properly capacity sized to the circuit they serve.

3.4.7. System shall include an easy to use “master shutoff” switch located in a readily accessible area inside the main cabin. This switch shall remove battery power to all installed components (with the exception of memory circuits) for safe and total shutdown of the Vehicles when a shore connection is not available.

3.4.8. A master high-amp circuit breaker, minimum 150-amp shall also be furnished in an accessible area to allow a complete shutdown of 12VDC electrical systems for long-term storage.

3.4.9. All terminals and connectors furnished shall be designed and approved by their manufacturer for heavy-duty automotive vocational application; material shall be a corrosion-resistant type. To eliminate disconnects; all terminals furnished shall incorporate a positive locking, seated type design to assure terminal position. Socket (female side of connectors shall be wired to electrical source side of circuit and plug (male) side of
connector shall be wired to electrical load side of the circuit to help prevent a short circuit when disconnected. All connections made on the Vehicles underbody shall be adequately protected against moisture and corrosion with dielectric grease, heat shrink tubing, or other similar techniques.

3.4.10. All insulated cable furnished shall comply with SAE Standards J1127 and J1128. All wiring furnished in the engine compartment area, where extreme heat and fire are of concern, shall be multi-stranded, low voltage insulated automotive type cross-linked polyethylene fire-retardant SAE approved SXL type. All wiring furnished in the body portion of the coach shall be multi-stranded, low voltage insulated automotive type; either SAE approved SXL or GXL types are acceptable. All wiring in each circuit shall be of sufficient size, and with 125% capacity rating of anticipated load to transmit the electrical current load of the circuit. Sizing shall take into account the length of the circuit and the voltage drop occurring in the circuit. Voltage at the load shall be +/- 5% of rated voltage when measured in a normal operating state.

3.4.11. All wiring shall be routed meeting the following minimum requirements:

3.4.11.1. No contact with sharp or puncturing edges.

3.4.11.2. No tension or strain between fixed points.

3.4.11.3. Adequate and safe clearance of moving parts.

3.4.11.4. 5-inch clearance from radiant heat sources.

3.4.11.5. Adequately secured to prevent pinching.

3.4.11.6. Wiring to be color-coded and numbered, grease-, oil- and moisture-resistant and securely fastened.

3.4.12. All wiring furnished shall be routed in protective harnesses, either woven vinyl or corrugated vinyl or nylon types acceptable. When harnesses go through metal structure, rubber grommets shall be used to further protect the integrity of the harnesses.

3.4.13. Four (4) Trojan L16P-AC or equivalent, group 903, 6V deep-cycle, batteries shall be provided as an auxiliary battery bank for stationary 12VDC component power.

3.4.13.1. Each battery shall have 420 Ah capacity (@20hr), for a total bank capacity of 840Ah. Batteries shall be connected in a "series/parallel" manner to provide a 12VDC reference.

3.4.13.2. Batteries shall be installed within the underbody battery compartment with a positive hold-down system.

3.4.13.3. Batteries shall power installed auxiliary systems only.

3.4.13.4. The Vehicles engine alternator, inverter/charger, and (optional) solar panels shall charge these batteries.

3.4.14. One (1) Blue Sea ML-ACR or equivalent heavy-duty battery isolation/merge system shall be installed to allow charging of both the main and auxiliary battery banks from the Vehicles alternator, isolation during stationary operations, and merging of the battery banks for emergency starting.

3.4.14.1. System shall include dash-mounted control switch with indicator lights.
3.4.14.2. System shall include one (1) Blue Sea 7635B-BSS or equivalent low voltage disconnect.

3.4.14.3. Battery connection cables associated with this system shall be protected on both sides with a 150A minimum, high amp, resettable circuit breaker.

3.4.15. A 12VDC, LED main cabin lighting system shall be installed to provide interior lighting meeting library minimum stack ratings.

3.4.15.1. Lighting fixtures shall be alternately configured on two (2) switches to allow a "zig-zag" lighting option at the user’s discretion.

3.4.15.2. Lighting level should be 6 foot-candles (ft-c) minimum measured on the stack face (vertically) at a height of 12", and 35 ft-c maximum at any height to achieve no more than a 6-to-1 maximum-to-minimum ratio across the entire stack face.

3.4.15.3. Light output temperature shall be a “warm” white between 3800K – 4400K.

3.4.15.4. Lighting fixtures shall be of a rectangular design for a more linear light pattern.

3.4.15.5. Lighting system design shall be approved by the Library District prior to installation.

3.4.16. LED stepwell lighting (12VDC) shall be provided at the side entry.

3.4.16.1. Shall be wired to operate in conjunction with the condition of the door.

3.4.17. LED storage cavity lighting shall be installed in the cab-over storage area. Lighting shall activate with the condition of the access doors.

3.4.18. One (1) 12VDC “cigarette lighter” style power receptacle shall be provided in the cabover area for powering of a client supplied powered cooler.

3.4.19. One (1) Espar AIRTRONIC D5 Plus or equivalent diesel fueled air heater shall be installed to heat the main interior cabin.

3.4.19.1. Unit shall produce 16,450 btu/hr

3.4.19.2. Unit shall safely vent combustion air to the exterior of the body

3.4.19.3. Unit shall be fueled from the main vehicle diesel fuel tank.

3.4.19.4. System shall be installed in compliance with ANSI A-119.2 and NFPA regulations and all manufacturer specifications.

3.4.20. One (1) Braun, Ricon or equivalent, in-body platform hydraulic wheelchair lift shall be installed within the patron door stepwell per manufacturer specification.

3.4.20.1. Lift shall have a 31"W x 51"L platform.

3.4.20.2. Lift shall have an 800 lb. lifting capacity.

3.4.20.3. Installation shall include all vehicle interlocks and safety systems.

3.4.20.4. Lift shall be cycled a minimum of 20 times by the Proposer after installation to ensure all adjustments are properly made.
3.4.21. Two (2) Fantastic Vent 3350 or equivalent, 3-speed, reversible roof vents shall be installed. Vents shall include thermostatic control, automatic opening dome, and automatic rain sensors.

3.4.22. Proposer shall pre-wire for a surveillance camera system that will be installed by the Library District post-delivery. The Library District shall provide fine details to the Proposer during the engineering phase, but envisions up to seven (7) cameras, one (1) dash-mounted monitor, and one (1) DVR.

3.4.23. One (1) AM/FM/WB/XM/Bluetooth stereo with auxiliary input system and public address capabilities shall be installed in the rear area.

3.4.23.1. System shall include four (4) high-quality interior speakers mounted in the ceiling and two (2) high quality; flush-mounted exterior speakers mounted on the curbside of the Vehicles.

3.4.23.2. System shall include one (1) wireless microphone with dedicated holder.

3.4.24. One (1) rear view, color LCD system shall be installed. System shall include all components necessary for the intended application and be wired with all features enabled.

3.4.24.1. Shall include one (1) 7-inch (minimum) LCD color monitor mounted on (or in) the dash for easy view of the driver.

3.4.24.2. Shall include one (1) video camera with sun shields and built-in microphone mounted to rear exterior. Shall have a vibration and shock resistant mounting, waterproof, and a minimum viewing angle of 114 degrees horizontal and 90 degrees vertical.

3.4.25. One (1) 21-foot-long (approx.) Dometic WeatherPro or equivalent 12VDC power awning shall be installed on the exterior.

3.4.25.1. Awning shall utilize a metal wrapped weather shield and a woven acrylic fabric in a color/pattern chosen by the Library District from manufacturer selections.

3.4.25.2. Awning shall utilize a "knee action" design support system to allow the awning to flex in the wind.

3.4.25.3. Awning shall include a wind sensor to automatically close the awning in high sustained winds.

3.4.25.4. Awning shall include a hand-held remote control in addition to a wall mounted switch located just inside the entry door.

3.4.26. One (1) Cradlepoint IBR900 series or equivalent, wireless LTE advanced ruggedized modem shall be provided.

3.4.26.1. Modem shall be powered by the auxiliary 12VDC system.

3.4.26.2. Modem shall support LTE advanced 600Mbps and DC-HSPA with SIM-based auto-carrier selection.

3.4.26.3. Modem shall include 802.11 a/b/g/n/ac wave 2 MU-MIMO WiFi to provide a hotspot in and around the Vehicles.

3.4.26.4. Modem shall include the ability to configure a virtual private network (VPN).
3.4.26.5. Modem shall include two (2) Cradlepoint 170654-000 or equivalent 5-In-1 GPS, modem & WiFi antennas, mounted to the exterior roof of the Vehicles.

3.4.26.6. Unit shall be installed in the cab-over mechanical area.

3.4.26.7. Installation shall include one (1) CAT6 10/100 Mbps RJ-45 hardwire run to the primary workstation.

3.5. Miscellaneous Components

3.5.1. One (1) SkyScan or equivalent atomic clock shall be furnished, with a minimum 2-inch main character size. Unit shall include readouts for interior and exterior temperature (via wireless remote sensor), day and date, and receive its synchronization signal from NIST.

3.5.2. One (1) battery-operated Carbon Monoxide (CO) detector shall be installed on the interior ceiling.

3.5.3. One (1) battery-operated smoke detector shall be installed on the interior ceiling.

3.5.4. Two (2) 5 lb. ABC fire extinguishers shall be installed in the interior, one front and one rear.

3.5.5. One (1) CO State DOT approved first aid kit shall be supplied and installed within the completed Vehicles.

3.5.6. One (1) set of three (3) red emergency reflective triangles with dedicated ABS plastic enclosure shall be provided and installed.

4. OPTIONAL ITEMS (please quote these items separately)

4.1. Drop-down 32” monitor

4.1.1. One (1) 32” LED monitor shall be mounted above the wheelchair lift for information display.

4.1.1.1. Monitor shall be mounted on a drop-down mount to allow passage beneath when not in use.

4.1.1.2. Monitor shall include provisions for USB content play.

4.1.1.3. Monitor shall include an HDMI cable run to the passenger side staff desk.

4.1.1.4. Monitor shall be powered by an inverted circuit.

4.2. Proximity sensors

4.2.1. One (1) proximity sensor system with 4 front and 4 rear in-bumper sensors shall be installed. System shall detect obstacles using ultrasonic wave (sonar) echolocation technology and include a wired LED digital display with audible alert mounted in the dash area.

4.3. 360-degree video surveillance system

4.3.1. One (1) Seon 360 around vehicle monitoring or equivalent system shall be installed with all triggers/features connected. System shall be mounted in a location out of general view, but still readily accessible for staff. System shall include, but not be limited to the following components. Additional accessories (cables, power/sensor harness,
antennas, interconnects, etc.) may be necessary to fulfill the general intent of the system, and Proposer's are urged to consult with system manufacturer to complete system operability. System shall allow a 360-degree bird's eye view around the vehicle at the dash.

4.3.1.1. One (1) 9”-11” dash-mounted monitor.
   4.3.1.1.1. Monitor shall automatically show exterior rear (back-up) camera when the Vehicles are put in reverse.

4.3.1.2. One (1) Electronic Control Unit (ECU).

4.3.1.3. One (1) 6-channel Digital Video Recorder (DVR) with 1TB of storage.

4.3.1.4. Seven (7) cameras, appropriately selected for these locations: street side exterior, front exterior, curbside exterior, rear exterior, cab area, main cabin interior facing rear, main cabin interior facing forward.

4.3.1.5. System shall supersede back-up camera system (reference 3.4.24).

4.4. AED machine

4.4.1. Provide and install one (1) Zoll adult green EMS device with carrying case and supplies.

4.5. Hybrid driveline system

4.5.1. Install Odyne H2V7 or newer plug-in parallel hybrid system to assist with vehicle launch and braking.
   4.5.1.1. Liquid-cooled permanent magnet electric motor with 185 lb-ft torque, to provide launch assist and regenerative braking features.

4.5.1.2. 17 kWh 354V, maintenance free lithium-ion battery pack.
   4.5.1.2.1. Charge time shall be less than 8 hours with 220V supply.

4.5.1.2.2. Battery warranty shall be a minimum of 4 calendar years.

4.5.1.3. SAE J1772 compliant charging system, with cord receptacle mounted LH side in easily accessible location. Shall be compatible with Clipper Creek EV charger model LCS-25.

4.5.1.4. Exportable power via liquid-cooled inverter assembly (for conversion accessories), 120VAC, 6.0KW minimum and 12VDC, 100A minimum.

4.5.1.5. Dash-mounted LCD driver display screen.

4.5.1.6. System installation shall be fully completed by Odyne Systems, LLC in Pewaukee, WI.

4.5.2. System shall supersede or omit the following items within the base specification.
   4.5.2.1. Generator compartment and generator system.

4.5.2.2. Auxiliary battery compartment and auxiliary battery system.
4.5.2.3. Inverter and generator auto start system.
4.5.2.4. Shore cord compartment.

**PROPOSAL REQUIREMENTS**

1. The Proposal must be delivered and received not later than 2:00 P.M. C.D.T. on December 8, 2022. No Proposal will be accepted after this time and any Proposal arriving after this time will be returned unopened.

2. The Proposal must be emailed to:

   **Eric Button at ebutton@scl.org**

   The email subject line shall read as follows:

   “Request for Proposals – Manufacturing Services for Mobile Outreach Vehicles”

Each Proposer shall submit their Proposal as an electronic PDF. Blank pages and/or electronic PDF tabs may be used to delineate discrete sections. Each Proposer shall submit one (1) complete copy of the Proposal and one (1) “public/press” copy of the Proposal in which the Proposer should redact any information which it deems confidential or proprietary.

Notwithstanding the foregoing, the Library District must comply with the Missouri Sunshine Law; therefore, all Proposals and other documentation submitted to the Library District in response to this Request for Proposals (including fees) may be subject to disclosure pursuant to Missouri law and/or Library District policy.

3. Any Proposer desiring an explanation or interpretation of this Request for Proposals must request it in writing no later than 1:00 P.M. C.D.T. on November 11, 2022, and such request shall be emailed only to ebutton@scl.org. Oral explanations or instructions given before the award of the contract will not be binding. Any information given to a Proposer concerning a solicitation will be furnished promptly to all other Proposers as an amendment of this Request for Proposals, if that information is necessary in submitting Proposals or if the lack of it would be prejudicial to any other prospective Proposers.

4. If this Request for Proposals is amended, then all terms and conditions, which are not modified, remain unchanged. Proposers shall acknowledge receipt of any amendments to this Request for Proposals by: (i) signing and returning the amendment; and (ii) identifying the amendment number and date in the space provided for this purpose. The Library District must receive the acknowledgement by the time specified for receipt of the Proposal.

5. No Proposal shall be withdrawn for a period of 90 days subsequent to the opening of the Proposal without prior written consent of the Library District.
6. Each Proposal must include a **COVER LETTER** which must indicate that the signer is authorized to bind the Proposer contractually and must identify the title or position of the signer. The COVER LETTER shall also contain the following:

(i) The name of the Proposer, address, telephone number and email address;

(ii) A statement that (a) the Proposer is willing and able to provide the goods and services required for a successful engagement; (b) the Proposer has read and understands the Request for Proposals; and (c) the Proposal is made in accordance with the Request for Proposals and is based upon the materials, products, systems and equipment required by the Request for Proposals.

(iii) The name of the individual within the Proposer, who will be the primary contact concerning this engagement;

(iv) Copies of all license(s) from applicable governing authority to do business in the State of Missouri and certificate of good standing for the State of Missouri, as applicable;

(v) Documentation and sworn affidavit with respect to employees working in connection with the Proposal, affirming enrollment in a Federal Work Authorization Program.

(vi) The Proposer's qualifications to provide and implement the Project, and its experience in the provision and completion of similar projects, including such projects for public or governmental entities, within the last five years.

10. An unsigned submission shall be rejected.

11. The Library District is not liable for any cost incurred by the Proposer prior to issuance of a legally executed contract by the Library District and/or purchase order authorized by the Library District.
SELECTION PROCEDURES

1. Proposals shall be referred to and reviewed by a Selection Committee composed of members selected by the Director.

2. Proposals that fail to adhere to the requirements of this Request for Proposals may result in the Proposal being disqualified as non-responsive.

3. The Proposal will be used to measure the lowest and best proposal. In determining the best Proposal, among other factors, the Library District may consider all factors in this Request for Proposals including, but not limited to, the proposed costs, the location of the proposer, MBE/WBE participation/interest in the business, and prior performance.

4. The Selection Committee will make a recommendation to the Director who will make a recommendation to the Board of Trustees.
AWARD

1. The right is reserved by the Board of Trustees to cancel this Request for Proposals, to reject any and all Proposals, and to waive formalities in the best interests of the Library District.

2. The Board of Trustees reserves the right to split awards, make multiple awards and to reject any and all Proposals.

3. Subject to the rights reserved by the Library District, an award will be made by the Board of Trustees to the Proposer determined to be the lowest and best Proposal.

4. All Proposers will be notified of the Library District’s selection as soon as possible.

5. The successful Proposer will be issued a Notice of Award. Within five (5) business days, the successful Proposer shall provide the following minimum documentation:

   (a) Proof of the appropriate insurance coverage:
        
        (i) Worker’s Compensation & Employers Liability Statutory Amount (Mandatory);
        
        (ii) Comprehensive Automobile Liability for Vehicles used $1,000,000;
        
        (iii) Comprehensive General Liability $1,000,000; and
        
        (iv) Other insurance (as appropriate for the Project) $1,000,000.

   (b) Federal Tax Payer Identification Number.

   (c) Evidence that the Proposer is authorized to do business in Missouri.
Exhibit A

Mobile Outreach Vehicle Floorplan
FLOOR PLAN

PRELIMINARY ONLY - NOT INTENDED FOR CONSTRUCTION

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