Transit Vehicle Specification Development in Mississippi – Final Report

Drew Gaskins, Kaysie Salvatore, and Randy Battey
Gresham Smith

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16. Abstract

The Mississippi Department of Transportation's (MDOT) Public Transit Division is evaluating its current transit vehicle specification process. The specifications are developed by MDOT in order to solicit bids for transit vehicles for subrecipients throughout the State of Mississippi. This report summarizes the study's key findings, specifically MDOT's existing processes and procedures for specification development, best practices and example specifications identified in existing literature, opportunities and challenges identified by subrecipients throughout the state, and current processes and procedures of peer state Departments of Transportation (DOT). The report concludes with updated model vehicle specifications and process recommendations to improve the existing procurement procedures.

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Mission Statements

The Mississippi Department of Transportation (MDOT)

MDOT is responsible for providing a safe intermodal transportation network that is planned, designed, constructed and maintained in an effective, cost efficient and environmentally sensitive manner.

The Public Transit Division

The Public Transit Division is responsible for the development and administration of general public and specialized transportation program grants and contracts. These programs include service delivery, technical assistance, and training components.

The Research Division

MDOT Research Division supports MDOT's mission by administering Mississippi's State Planning and Research (SP&R) Part II funds in an innovative, ethical, accountable, and efficient manner, including selecting and monitoring research projects that solve agency problems, move MDOT forward, and improve the network for the traveling public.

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List of Abbreviations

American Public Transportation Association (APTA)

Department of Transportation (D0T)

Federal Transit Administration (FTA)

Invitation for Bid (IFB)

Mississippi Department of Finance and Administration (MDFA)

Mississippi Department of Transportation (MDOT)

Request for Information (RFI)

Executive Summary

The Mississippi Department of Transportation's (MDOT) Public Transit Division is evaluating its current transit vehicle specification process. The specifications are developed by MDOT in order to solicit bids for transit vehicles for subrecipients throughout the State of Mississippi. This report summarizes key findings to date, specifically MDOT's existing processes and procedures for specification development, best practices and example specifications identified in existing literature, opportunities and challenges identified by subrecipients throughout the state, and current processes and procedures of peer state Departments of Transportation (DOT). The report concludes with a discussion of the updated model specifications and process recommendations.

Existing MDOT processes and procedures rely on limited staff capacity to develop and/or update transit vehicle specifications, which, when combined with required review cycles by other participating state divisions, can result in undesirably long development periods. The use of options in vehicle specifications, while not expressly prohibited by state regulations, have not been utilized in the procurement process in several years. The recent state legislation including a reverse auction process in state procurement has resulted in additional obstacles to an efficient procurement process that adequately meets the needs of the state's subrecipients.

A review of existing literature emphasizes the roles of subrecipients and vendors in the vehicle specification development process. Specifically, subrecipients should be provided with both formal and informal avenues of input prior to and during the specification development process. Additional subrecipient engagement, conducted on a regular basis, should focus on "customer satisfaction" issues, such as changing local needs, key changes in vehicle technology, and satisfaction with the existing rolling stock and its associated vendors. Vendor participation in specification development, such as a Request for Information (RFI) prior to publishing bid packages, can allow for clarification of certain aspects of the package prior to the bidding process.

Subrecipients in the State of Mississippi identified several key opportunities and challenges with the current vehicle specification development process. Respondents expressed a preference for improved coordination and communication with MDOT, beyond the current formal and informal engagement avenues. Subrecipients also identified a need to better keep up with changes in vehicle technology and to provide more flexibility in terms of available vehicle types, including the possible inclusion of options in the specifications.

Other state DOTs have similar specification development practices as MDOT, though most devote more staff capacity to the process. A key difference is that all states surveyed include some form of options in their respective specification packages, either through base vehicle options or a list of published options.

The report concludes with an introduction to the updated model vehicle specifications, which have been modified for consistency with the model specifications of peer states. Process recommendations are also provided for MDOT's consideration, with a particular emphasis on improving coordination among MDOT, subrecipients, and vendors.

1.0 Introduction

The Mississippi Department of Transportation's (MDOT) Public Transit Division (heretofore referred to as "the Division") is tasked with overseeing the procurement of transit vehicles for subrecipients throughout Mississippi. Subrecipients include local and regional transit agencies, institutions that provide transit services on campus or within campus environs, and human resource agencies. Building on the findings of *MDOT State Study 274 – Improving FTA Vehicle Procurement in Mississippi*, the Division is undertaking a Transit Vehicle Specification Development Study **to review and refine the vehicle specification portion of the procurement process.**

The study has two primary goals. First, the existing specification development process will be reviewed and evaluated. And, **second, model vehicle specifications will be developed**, building on the existing specifications developed by the Division. Incorporating national best practices and the experiences of peer state DOTs, process and procedure recommendations and the model vehicle specifications will focus on streamlining the process for MDOT staff while ensuring that the needs of subrecipients are met to the highest extent possible.

The study consists of two phases: 1) a review of existing processes, and 2) final recommendations. This report summarizes the review of existing processes and provides final recommendations. **The updated model vehicle specifications are included as a stand-alone appendix to this report.**

2.0 Existing Division Processes and Procedures

Transit agencies in Mississippi purchase vehicles using a contract that results from a centralized state procurement process led by MDOT's Public Transit Division, MDOT's Asset Management Division, MDOT's Procurement Division, and the Mississippi Department of Finance and Administration (MDFA).

MDOT's Public Transit Division develops vehicle specifications for use in state procurement contracts for buses and vans in conjunction with the Asset Management Division, which is responsible for ensuring the specifications meet state requirements.

Existing Vehicle Specification Development Process

The current process for vehicle specification development largely occurs on an as-needed basis when a single subrecipient's rolling stock needs to be replaced or when a new vehicle type is needed in response to changing local needs. As outlined by the Division, the existing process includes the following key steps:

1) Define the vehicle that is needed – working with the subrecipient, the Division identifies the specific vehicle type that is needed, based on the specific services or needs outlined by the subrecipient;
2) Identify the budget available for the vehicle – the Division identifies the state and federal funding programs to be used, as well as the local match that will be provided by the subrecipient;
3) Research the available vehicle types – the Division researches what types of vehicles are available on the market that will meet the needs of the subrecipient, and decides whether a purpose-built, modified, or body-on-chassis vehicle will be purchased;
4) Review state and federal compliance requirements – the Division reviews state and federal compliance requirements to ensure new or modified requirements are satisfied;

5) Begin the development of vehicle specifications – the Division drafts a vehicle specification package; and
6) Complete the state review – the specification package is transmitted to the Asset Management Division for review.

The amount of time for each specification package to be developed and included in an Invitation for Bid (IFB) varies. Generally, a single specification package takes approximately three weeks to be drafted, though this varies depending on the level of research needed. Previously used specifications requiring relatively minor updates generally take less time, while vehicles for which specifications have not previously been developed generally take more time. It is important to note that the amount of time required for each specification package does not assume continuous effort over the development period; specifications are developed by the Transit Specialist in addition to all other responsibilities required by the position.

Once specifications are drafted, review time by the Asset Management Division typically takes between 30 and 40 hours. It is important to note that this is the amount of time required once the review process begins; in some cases the specification package may be in the review queue for varying lengths of time prior to the commencement of the review process.

Current Vehicle Types

The Division currently has active specification packages for 12 vehicle types, including:

- Mini Van 7 Passenger;
- Mini Van 6 Passenger;
- Bus Low Floor Class A Transit 14 Passenger (ADA);
- Bus Low Floor Class A Transit 16 Passenger (ADA);
- Bus Class A Transit 17 Passenger (Basic);
- Bus Class A Transit 17 Passenger (ADA);
- Bus Low Floor Class A Transit 22 Passenger (ADA);
- Bus Class A Transit 24 Passenger (Basic);
- Bus Class A Transit 24 Passenger (ADA);
- Bus Class A Transit 27 Passenger (ADA);
- Bus Class A Transit 32 Passenger (ADA); and
- Bus Class C 32 Passenger.

Each specification package is narrowly tailored to the specific needs of the subrecipient(s) making the request. Some of the vehicle types are nearly identical in terms of all design and operational functions, with only minor differences in one or two specification categories. For example, the specification packages for Bus Class A Transit 24 Passenger (Basic) and Bus Class A Transit 24 Passenger (ADA) are identical, with the exception of seating configuration and ADA-compliant features. This suggests that efficiencies in specification development could be realized through modifications in both the development process, such as the inclusion of published options, and the template used for specification development.

Current MDFA Policies

Transit vehicle procurement, like all state procurement activities, is governed by MDFA's *Mississippi Procurement Manual* (heretofore referred to as "the Manual"). Key among the provisions in the Manual is the directive that competitive sealed bids are the preferred method of source selection. It is not anticipated that the method of source selection will change in the foreseeable future.

In addition to the overall method of source selection, in 2018 the State of Mississippi became the first state to employ a reverse auction for state procurement. As outlined in Section 3.106.22 of the Manual, reverse auctions are considered the primary method for receiving bids during the bidding process. Reverse auctions allow vendors to view the bid amounts for all participating vendors and reduce their original bid price in order to secure the contract. The Manual directs that procurements for highly technical and complex goods that have a single or few suppliers may be exempt from the reverse auction process, though transit vehicle procurement is not identified as an exempt activity (Section 3.106.22.6).

Section 4.104 of the Manual outlines procedures for the development of specifications for any state-procured good or service. There are two provisions of particular interest to the development of transit vehicle specifications. The Manual directs that if a common or general use item, which would include transit vehicles, has previously-developed specifications, the existing specifications should be used as the basis for future revisions or new specifications. In practice, transit vehicle specifications should be based on previous specifications for the same or similar vehicle types to the extent practical, with exceptions for changes in vehicle technology or new or modified local needs.

Additionally, brand name designations may be used for illustrative or descriptive purposes, provided that the specifications are still written in a sufficiently generic manner to solicit the widest possible number of bidders, and that they explicitly state that no advantage or favor will be granted to the brand name(s) designated in the specification.

3.0 Literature Review

A literature review of state and national organizations was conducted to better understand the state of the practice with respect to transit vehicle specification development. The key findings, discussed below, will be used to inform the specification development process recommendations and model vehicle specifications.

Federal Transit Administration (FTA) Best Practices Procurement and Lessons Learned Manual (2016)

The *FTA Best Practices Procurement and Lessons Learned Manual* provides examples of procurement practices and lessons learned from a variety of third party procurements. The manual covers the four primary categories of the overall procurement process: Planning, Contract Method Selection, Evaluation of Proposals and Contract Award, and Contract Administration. The Planning section of the manual includes several items of note regarding transit vehicle specification development.

Joint procurement, the procurement model currently employed by MDOT, is identified as the most effective procurement model for agencies serving smaller subrecipients. This model allows for more state management of federal procurement regulations and ultimately provides better pricing and purchasing power. Key to this model is close coordination between the procurement agent, subrecipients, and, to a lesser degree, industry representatives or vendors.

Subrecipients should be engaged regularly, both in a general sense and throughout the procurement process. The overall emphasis should be on continuing and comprehensive communication between procurement staff and subrecipients. Some specific recommendations for subrecipient involvement include:

- Communication between procurement staff and subrecipients on vehicle type needs, including specific local needs to be met by transit vehicle or specific vendors or features that are desired;
- Meetings of procurement staff and subrecipients on a regular basis, occurring at least once annually; and
- Survey of subrecipients to identify key issues and opportunities with local needs and the procurement process, occurring at least once annually.

Industry representative or vendor involvement in the specification development may be helpful in some situations. Draft specifications can be shared with vendors ahead of the IFB, allowing vendors to comment on specific specifications or categories where additional clarification may be needed. This also allows potential vendors to pose questions before deciding to respond to the IFB. However, all communication with vendors should be limited to the central procurement staff; subrecipients should not have direct contact with vendors before or during the IFB process.

American Public Transportation Association (APTA) Standard Bus Procurement Guidelines (2013)

The *APTA Standard Bus Procurement Guidelines* outline a request for proposals (RFP) for a bus procurement contract. A key objective of the guidelines is to promote the use of standard formats for commonly-used procurement contracts, thereby improving the ability of industry participants to prepare contracts that contain all necessary provisions and facilitate the incorporation of national best practices.

While the RFP method is not, nor is it anticipated to be, used in the State of Mississippi, the vehicle specifications for a heavy bus vehicle are a useful reference for model transit vehicle specifications, specifically with respect to vehicle specification categories (e.g., engine, cooling system, suspension) and which specification(s) are included therein. Additionally, the guidelines include state-of-the-practice templates for non-technical specifications, such as federal requirements, warranty requirements, and quality assurance. These guidelines will serve as a key best practices resource for the model transit vehicle specifications.

Michigan DOT Synthesis of Methods for Procurement and Developing Transit Vehicle Specifications (2014)

The Michigan DOT commissioned a report to thoroughly assess its transit vehicle specification and procurement program in order to compare best practices from peer states and identify recommendations for improved efficiency. Specific recommendations for transit vehicle specification development emphasize the roles of subrecipients and vendors in the process.

At the time of the report, Michigan DOT solicited subrecipient participation through an ad hoc committee that would meet prior to new contract cycles. While successful with the participating subrecipients, the committee struggled to attract a wide range of agency types. The report recommended additional, proactive engagement measures to gather feedback from local agencies, including:

- Low-cost online survey tools such as SurveyMonkey for the distribution of quick surveys to local agencies statewide; and

- Industry events (such as an annual state conference) as an opportunity to gather direct feedback from a wide array of local agencies that are already in the same place.

The report recommended periodic "customer satisfaction" engagement as well, through which subrecipients could express opinions of the overall procurement process and identify opportunities for improvement. Additionally, some topic areas may not be recurring but could feed directly into the agencies' strategic planning for the year (e.g., sufficiency of the types of vehicles offered).

The report reinforced Michigan DOT's existing approach to vendor participation, specifically vendor input in the specification development process by way of a Request for Information (RFI). Comments from vendors are reviewed prior to the solicitation of bids.

4.0. Subrecipient Opportunities and Challenges

A meeting with subrecipients was held on December 5, 2019, to introduce the study and discuss existing processes for development transit vehicle specifications. The meeting provided attendees with a brief overview of the study and a discussion of the current study objectives. Subrecipients were asked to identify strengths and opportunities in the existing process. Key feedback received is included below and will be incorporated into the study recommendations.

- Improve coordination and communication among MDOT and subrecipients
    - Deploy periodic surveys to monitor rolling stock issues
    - Examine warranty and quality of service issues
- Capture changes in vehicle technology when updating vehicle specifications
- Expand the vehicle types available for subrecipients
    - Include options in vehicle specifications, allowing subrecipients to pay with local funds
    - Ensure unique local needs are accounted for in specification development

5.0. Other State DOT Policies and Procedures

To better understand how MDOT's policies and procedures compare to those of its peer states, a survey was deployed to collect relevant data and identify common processes and best practices that MDOT may want to consider. It should be noted that each state has a unique procurement approach, so what works well in one state may not work well in another. State DOTs in Alabama, Arkansas, Florida, Indiana, and Louisiana provided responses to the survey, which are summarized in Table 1. Surveys were also sent to Georgia, New Mexico, North Carolina, and West Virginia, but not completed.

A series of follow up interviews were conducted with representatives from the Indiana, Arkansas, Louisiana and Alabama Departments of Transportation in late 2020 to obtain additional insight into the development and content of their respective vehicle specifications as well as each state's supporting processes and policies.

General Agency Information

Responding agencies vary in size and scope with respect to the number of FTA programs administered and the annual amount of state and federal funds expended. These range from three to six FA programs and between $5 and $25 million in annual expenditures. By comparison, MDOT currently administers

four FTA programs and expended approximately $30 million in 2019. Total transit agency staff varied between six and 13 employees, with some DOTs employing in-house consultants; MDOT currently has 14 total staff in the Public Transit Division.

Table 1. State Survey Comparison

Category	Respondents					
	Alabama	Arkansas	Florida	Indiana	Louisiana	Mississippi
FTA Programs Administered	5	5	4	3	6	4
Annual Amount of Funds Expended	$25 M	$10 M	No response	$7 M	$5 M	$30 M
Total Staff in Transit Division	6	13	9	7	12	14
Selection Method Employed	Sealed Bids	Sealed Bids	RFP	Sealed Bids	Sealed Bids	Sealed Bids
No. of Contracts Issued	3	4	4	1	1	1
Period of Performance	1 year, renewable up to 5	1 - 3 years	1 year + 4 extensions	2 years + 2 extensions	1 year + 3 extensions	2 years + 3 extensions
Transit Staff Involved in Spec Development	4	3	6	1	2	1
Third Party Involvement	1 Consultant	No	USF administers contracts	No	No	No
Subrecipient/Vendor Involvement	Transportation Advisory Committee	Vendors provided with specs prior to IFB	Transportation Advisory Committee	RFI	Specification Meetings	Specification Meetings
Time Required for Spec Development	< 1 month	1 month	3 months	6 months	< 1 month	< 1 month
Specifications Updated	Annually	Annually	As Needed	4 Years	3 Years	As Needed

Methods of Solicitation and Selection

Four out of five respondents indicated they use an IFB as the procurement method. Varying levels of subrecipient and vendor involvement were reported, ranging from largely informal pre-contract

coordination to formal advisory committee and RFIs. States employed a varying number of contracts, ranging from a single statewide contract to up to four.

Specification Development

The time required for specification development ranges from less than two weeks to up to six months. While this places MDOT squarely within the timeframes of peer states, all but one of the responding agencies had more than one staff member with responsibility for specification development. All contracts have multi-year terms, whether by original contract term or through extensions, resulting in specifications being updated less frequently.

One notable area of difference between the states surveyed and MDOT is the inclusion of options in the vehicle specifications. All five states surveyed employed some form of options. MDOT previously incorporated options in its procurement process but no longer does so. Representatives from MDOT have expressed interest in resuming the inclusion of options in vehicle specifications.

The options included generally take two forms: "base" options and "published" options. Base options are those that allow variability with a major specification feature, often the configuration of seating or the inclusion of wheelchair stalls and restraints. These features allow for multiple seating configurations to be included in a single specification package, generally with all other major chassis and body features remaining constant. Published options generally include more minor alterations to the vehicle, specifically body or accessory alterations. Examples of published options include stop request systems, decals, luggage racks, and heating or cooling upgrades. Some chassis features, such as liquefied petroleum gas (LPG) fuel systems, may also be included in published options.

Base options are generally included in vehicle specifications in two forms. The first is a bid option list. The bid option list may designate multiple base options for a specific vehicle type. For example, a 17-passenger cutaway chassis bus may include multiple seating charts, allowing for varying wheelchair capacities within an otherwise static vehicle specification package. The second form of base options may be a required option within a specification category. For example, a specification package may mandate the inclusion of a fold away seat, to be requested by the subrecipient as needed, in addition to the base seating plan. These required options are most appropriate for more minor alterations to the vehicle.

Published options are more straightforward. These are vehicle alterations that are generally negotiated after the contract is awarded to the winning bidders. Subrecipients can then choose which options they would like to see included with the final vehicle delivery. While there could be some overlap between required base options and published options, it is assumed that published options are not necessarily required to be provided by the vendor, but rather are identified and prices negotiated after, rather than prior to, the contract award.

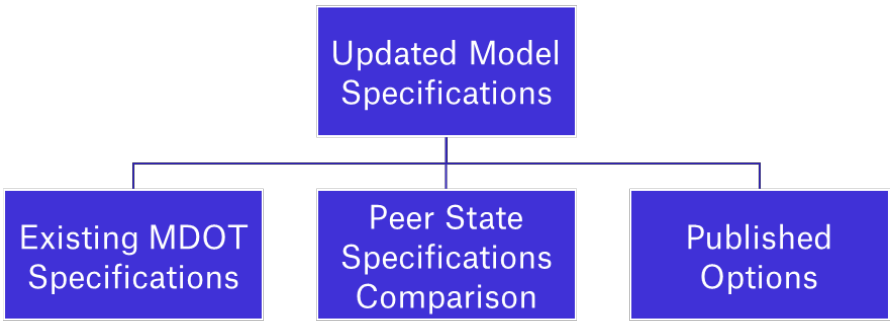
Coordination and Communication

Follow-up interviews were conducted with representatives from the States of Alabama, Arkansas, Indiana, and Louisiana. These interviews included discussions of the state DOT's existing approach to subrecipient and vendor coordination and communication. Respondents indicated that DOT staff expertise, in addition to both formal and informal communication with subrecipients and vendors, were used in the development of new or updated technical specifications. All peer states interviewed indicated that a specifications committee and annual transit summit or conference were used to facilitate ongoing communication with both vendors and subrecipients.

6.0. Model Vehicle Specifications

The updated model vehicle specifications reflect a multi-faceted approach in reviewing the existing specifications against those of peer states, identifying gaps or deficiencies in the vehicle specifications based on this review, and incorporating some optional flexibility in the final vehicle order for subrecipients (see Figure 1). It should be noted that a key finding of the review of peer state specifications was the recognition that MDOT's existing specifications were largely consistent with regional peers and reflected the provision of generally well-equipped vehicles to subrecipients.

Figure 1. Vehicle Specification Update Process



The modifications to the existing vehicle specifications largely adhere to three primary categories:

1) Specification addition or revision – these changes represent the addition or revision of a specification item. These represent the most substantive changes to the specification package and will have the greatest impact on the type of vehicle ultimately delivered to the subrecipient(s);

2) Regulatory compliance – these changes include new or updated references to federal legislation and are intended to further place the onus of compliance on the vendor(s); and

3) Minor language revisions – these changes include minor revisions to language or the addition of minor guidance.

In consultation with MDOT, published options were included in the updated vehicle specifications for transit buses to provide additional flexibility for subrecipients to modify the base vehicle to include, or in some cases omit, minor features. The options include vehicle features to better protect the health and safety of drivers and passengers (e.g. driver and passenger partitions) and features that have variable applicability to subrecipients (e.g. fare box).

The updated vehicle specifications will ensure that MDOT continues to provide well-equipped vehicles while allowing for additional flexibility to subrecipients. As discussed further in Section 7.0, it is recommended that MDOT monitor the performance of the updated model specifications with respect to subrecipient satisfaction. Regular updates to the specification categories and options lists should be provided in response to feedback from subrecipients, in addition to the regular updates required by changes in vehicle technology and state or federal regulations.

7.0. Process Recommendations

Based on the literature review, subrecipient feedback, and discussions with peer state representatives, **process recommendations for MDOT's existing transit vehicle procurement process largely center on improving communication and coordination among MDOT, the state's subrecipients, and potential vendors**. This section summarizes the key process recommendations, which themselves build upon the recommendations outlined in the 2017 report *Improving Federal Transit Administration Vehicle Procurement in Mississippi*.

Proactive Communication

Formal communication with subrecipients is currently limited to the annual statewide conference, during which an informal committee of subrecipients is engaged on issues and opportunities relevant to their respective agencies. While both subrecipients and MDOT representatives expressed positive opinions of the current meeting, more proactive communication between MDOT and local agencies could better address existing and emerging concerns while generally strengthening professional relationships among the subject state and local officials.

MDOT should consider the deployment of a biannual survey to subrecipients to monitor rolling stock issues. Existing low- or no-cost survey platforms, such as SurveyMonkey or Google Forms, could be used to host the survey and summarize responses from subrecipients. Additionally, at least one of the two biannual surveys should have a question or prompt addressing "customer service" concerns of local representatives, such as general issues or concerns with the overall procurement process or the sufficiency of vehicles offered under the state-administered program.

Furthermore, in both the existing annual meeting with subrecipients and potential biannual survey process, MDOT should also clearly communicate areas in which the agency is constrained in its ability to make changes to certain aspects of the vehicle procurement program. Any direct outreach or input gathering should include an educational component that ensures that local agencies understand the full context of the program and limitations that MDOT has in administering it.

Interagency Specifications Committee

Three of the four states that participated in the follow-up survey discussion indicated they used specifications committees to guide the development of new vehicle specifications or the modification of existing ones. These committees represent the most common method for developing or updating transit vehicle specifications nationwide. Such committees retain the centralized state procurement model by assigning the primary responsibility for convening and managing the committee to the DOT staff. in addition to the DOT, the technical committee could include transit agency staff, private consultants, university researchers, transit association staff, and, in some instances, vendors. The committee could be convened concurrently with other regularly-scheduled and well-attended events, such as statewide conferences.

Vendor Outreach and Engagement

A structured communication channel between vendors and MDOT staff could allow for improved understanding of the specific requirements of various vehicle specifications. Providing more information to vendors prior to the issuance of an IFB could also entice vendors that may have otherwise been wary

of entering the state marketplace. To collect vendor input on draft vehicle specifications, MDOT should consider issuing a Request for Information (RFI) before bid solicitation or conducting vendor-specific meeting to review and discuss the draft specifications. Any communication with vendors in the context of the bid process should be limited only to MDOT staff and must be open to all interested vendor. Advertisement for any meetings should be conducted in accordance with state law.

Finally, MDOT should consider inviting vendors to more informal events, such as the annual statewide conference, as exhibitioners. Peer states interviewed indicated that vendors often participate in statewide events with exhibition booths or product demonstrations. While specific vendors cannot be given preference based on these interactions, these events allow state and local officials to better understand the latest technology that is available, including components or features that may not have been previously considered.

8.0. Conclusion

The recommendations and actions reflect best practices nationally and among peer states, but most importantly, build on the specific strengths and opportunities identified in MDOT's existing transit specification development process. It is important to note that MDOT's current transit specification development process, including specification content, generally compares favorably with national best practices and other state DOT practices. The model specifications (see stand-alone appendix) and process recommendations presented here can improve the specification development process in the short-run while providing a framework for long-term success for both MDOT and local partners.

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Transit Vehicle Specification Development in Mississippi – Stand-Alone Appendix

Drew Gaskins, Kaysie Salvatore, and Randy Battey
Gresham Smith

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7 Passenger Mini-Van

Minivan, seven (7) passenger, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Van Proposed: Make: _____ Model: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard quality, performance and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are minimum requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in the SOQ.

SPECIFICATIONS

General: Passenger vans shall be furnished in the following categories: Mini- Vans and Passenger type Vans as classified in the most current Fuel Economy Guide as published by the EPA.

Gross Vehicle Weight Rating (GVWR):	5,900 lb. minimum
Wheelbase:	119 inches minimum
Overall Length:	200 inches minimum
Overall Width:	70 inches minimum
Overall Height:	64 inches minimum
Width of Interior: (at seated shoulder height)	57 inches minimum
Interior Height:	56 inches minimum
Payload:	1,000 lb. minimum

Comply Yes/No: _____

Engine: Six (6) cylinder gasoline engine with a minimum displacement of 3.3 liters
Size compatible with specified passenger capacity and transmission

Comply Yes/No: _____

Transmission: 6 speed with overdrive automatic transmission

Comply Yes/No: _____

Electrical: 130 amp alternator
12 volt maintenance free battery
12 volt power outlet
Total battery capacity of at least 730 CCA at zero degrees Fahrenheit

All wiring shall be color coded or number coded. All wiring shall be properly insulated and, as necessary, shall be held in place with insulated clamps at a maximum of two-foot intervals. There shall be no exposed or loose wiring in the driver or passenger compartment of the vehicle.

Comply Yes/No: _____

Front Axle: 2400 lb. minimum capacity

Comply Yes/No: _____

Rear Axle: 2600 lb. minimum capacity

Comply Yes/No: _____

Brakes: Power, Front/Rear HD Disk
Factory Anti-Lock Brake System (ABS)

Comply Yes/No: _____

Steering: Power Steering including a tilt steering wheel and cruise control

Comply Yes/No: _____

Tires: Tire size must be compatible with each vehicle and each vehicle's GVWR. Tires shall be steel-belted radial all season type tires (must be approved and identified for use as mud and snow tires). A full size spare wheel and tire mounted on each vehicle at an accessible location. Conventional spare.

All tires and wheels shall be of the same size and type and shall be interchangeable.

Tires and wheels shall be properly aligned.

Tire changing equipment, as provided by the OEM, shall include a jack of sufficient strength/capacity, and other tools necessary for changing the mounted tires, shall be stored in a compartment/container within the vehicle.

Comply Yes/No: _____

Fuel System: Total fuel tank capacity shall be a minimum of 20 U.S. gallons.

Comply Yes/No: _____

Body Structure: The entire body-frame under-structure of each vehicle is to be fully undercoated with a rust inhibiting coating, such as an epoxy primer base. Undercoating shall comply with current Federal and State flammability standards.

The floor and other modifications to the vehicle shall be done in a manner such that the structural integrity of the vehicle is not degraded. The body including the roof shall be of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side if overturned.

Roof gutters shall be installed over all windows and doors, per OEM design.

In the event the tires extend beyond the side of each vehicle, splash aprons and fenders shall be provided.

Front and rear bumpers shall be provided.

Comply Yes/No: _____

Modifications: All welds shall be made in a workmanlike manner, properly fused of ample penetration, and shall, on all exposed surfaces where practicable, be smoothly finished. Intermittent or spot welds shall be so spaced and proportioned as to provide ample strength for the purpose. All welded joints shall be cleaned and primed. All welds shall be relatively free of slag inclusions, undercut, roll, blowholes, unfilled craters,

improper fit-up and porosity. Fillet weld sizes shall be a least equal to the thickness of the least of the joined plates.

All windows shall be free of any defects due to welding slag or assembly damage.

Any wiring spliced into the factory wiring harness must have soldered connections and be fully insulated. No butt connectors shall be used in any of the factory spliced wiring.

Comply Yes/No: _____

Floor: The floor shall be made of metal, properly insulated, securely welded to steel chassis or body and covered with commercial heavy-duty transit flooring. All edges shall be properly sealed to prevent entrance of moisture that could cause bulging, material failure.

All joints shall be the butt type. Floor covering shall be cemented and rolled to the floor to prevent bubbles or blisters which could create a safety hazard.

Manufacturer shall ensure that all components attached to the undercarriage (or other major components) under the vehicle are securely attached and have a minimum of five (5) inches of ground clearance from the roadway when loaded with 1100lbs. maximum. If the exhaust system has been relocated, it shall be properly attached and not under tension. A heat shield shall be installed in any area where the exhaust pipe is within six (6) inches or less of the gasoline tank.

The floor shall be covered with a slip retardant sheet flooring. It shall be permanently bonded to the floor with adhesive of waterproof type. All edges of the floor covering are to be properly sealed to prevent entrance of moisture that could cause bulging, ply separation, and/or material failure.

All portions of the floor covering shall be of the same material and color including the floor area under and adjacent to the driver's seat.

Comply Yes/No: _____

Windshield Wipers: Two heavy duty electric two-speed windshield wipers with intermittent feature controlled by a switch shall be furnished. Windshield washer is to be included, with a reservoir easily accessible for filling.

Windshield washer is to be included, with a reservoir easily accessible for filling.

Comply Yes/No: _____

Seating: Passenger seats, fully padded construction and color coordinated interior and exterior colors.

Seat covering and padding material shall meet the burn resistance requirements of FMVSS 302.

Each passenger, including the driver shall be provided with an individual seat belt with shoulder harness. Seat belts shall comply with FMVSS 209. Belts will be of sufficient length to accommodate adult passenger.

Seat anchorage shall comply with FMVSS 207.

All seat backs and cushions shall be of the same color and pattern, shall be color-keyed to the vehicle's exterior color, and shall harmonize with the vehicle's interior color.

Comply Yes/No: _____

Doors: Each vehicle shall be equipped with a manually operated conventional rear or side entrance door. The door shall be an OEM factory door or "hatch" equipped with a window.

When door is fully opened, the door shall be firmly held in the open position by the OEM factory door props to prevent unexpected door closure.

Door shall be equipped with a heavy-duty lock and shall not rattle in the closed position and shall have durable, firmly installed weather seals to prevent the entrance of air, water and other elements.

Comply Yes/No: _____

Grab Handles: At least one grab handle, preferably located on the right side of the door shall be provided at the passenger doors.

Comply Yes/No: _____

Fire, First Aid & Emergency Equipment: A wall mounted first aid kit, five-pound dry chemical type A-B-C fire extinguisher, disabled vehicle warning device, three (3) portable warning reflectors (mounted on stands) stored in a latched box, and an OSHA-approved Body Fluids Clean-up Kit shall be provided. These items shall be securely stowed in each vehicle interior.

All equipment listed above, including the road flares and reflectors, shall be firmly secured inside the vehicle to prevent any movement by them while the vehicle is in motion. The mounted location of any of the above equipment shall not interfere with the driver's or passenger's limbs or placement of feet or interfere with the movement of passengers and/or mobility aids within the vehicle. Also, none of the equipment shall be mounted on the door.

Comply Yes/No: _____

Exterior/Interior Paint: All exposed metal surfaces, except galvanized and stainless steel, must be powder coated.

The vendor shall contact the purchaser for selection of an exterior color from standard factory color chart at the time of order.

All interior surfaces which require painting shall be painted the same color. This includes the exposed interior metal surfaces, if any, of the side and rear doors. The interior color shall be color keyed to each vehicle's exterior color and shall harmonize with the color of the roof liner and any side paneling or other covering.

All painted exterior surfaces shall match the exterior paint color of the basic van.

Comply Yes/No: _____

Air Conditioning/ Heater with Defroster: Heaviest Duty Original Equipment Manufacturer (OEM) dash mounted unit air conditioning with a comparable rear air conditioning system. A front and rear defroster shall be provided.

High output front heater.

Comply Yes/No: _____

Lighting: The interior of the vehicle shall be adequately illuminated, and overhead lighting fixtures shall be arranged in such a manner that adequate lighting is provided at the reading plane of the passengers.

The vehicle doorways shall have outside light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the

bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

Comply Yes/No: _____

Windows: Windows all around the vehicle (i.e., all factory available windows in body side, side doors and rear).

Tinted glass in windshield and all windows.

Comply Yes/No: _____

Insulation: Insulated headliner for the full length of the driver and passenger compartments.

Insulated sidewalls finished with the minivan manufacturer's standard, or equivalent, covering. Interior of all doors shall be covered by manufacturer's standard, or equivalent trim panels and insulated. Also, factory standard, or equivalent, window moldings shall be provided.

The vehicle shall contain OEM standard insultation in the roof and all body panels to deaden sound, and reduce vibrations and heat transfers.

Comply Yes/No: _____

Projections: The interior of the vehicle shall be free of all projections. All sharp edges, protruding fasteners and brackets that could cause injury to passengers or catch hold of clothing shall be covered. The interior of the vehicle shall be completely finished and shall be vinyl or melamine covered.

Comply Yes/No: _____

Keys: Four (4) complete sets of spare keys shall be provided with the vehicle.

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Van is to be delivered to a licensed Mississippi dealer fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after the welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All materials used in conversion of the van shall be new and unused; used, reconditioned, or obsolete components will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vans procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer **shall certify** that the vehicle complies with all U.S. Department of Transportation safety standards for vehicle and Interstate Commerce requirements for vehicles operated in interstate commerce that are applicable as of the date of manufacture.

The vehicle shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the vehicle conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing:

The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Drivetrain warranty shall be minimum of 5 years or 60,000 miles. Body structure warranty shall be a minimum of 5 years or 100,000 miles. The electrical system shall be warranted for a minimum of 3 years or 36,000 miles (parts and labor).

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanism, power units and controls) needed due to defect in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety days after acceptance of vehicle.

The manufacturer will provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate. A vendor shall be present at the time of MDOT pre-delivery and post-delivery inspections.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided "as built" for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

Operator's manual
Service/maintenance manual
Parts book
Parts interchange manual
Wiring schematic diagram
Schematics/drawings for all accessories and equipment not listed in operator's manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:

Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

6 Passenger ADA Accessible Mini-Van

ADA accessible mini-van, 6 passenger, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Van Proposed: Make: _____ Model: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard quality, performance and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are minimum requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance, the unit(s) will be rejected,

Descriptive literature shall be furnished to substantiate the details in the SOQ.

SPECIFICATIONS

General:

Mini-van shall be capable of seating a minimum of 6 ambulatory passengers (4 fixed seats and 1 double foldout or flip seat). Mini-van shall be equipped to accommodate 2 wheelchair positions. The driver is considered as 1 ambulatory passenger. A ramp shall be included to provide accessibility to wheelchair passengers.

Gross Vehicle Weight Rating (GVWR):	5,900 lb. minimum
Wheelbase:	119 inches minimum
Overall Length:	200 inches minimum
Overall Width:	70 inches minimum
Overall Height:	64 inches minimum
Width of Interior: (at seated shoulder height)	57 inches minimum
Interior Height:	56 inches minimum
Payload:	1,000 lb. minimum
Wheelchair entrance distance from ground to lowered floor:	8 inches minimum

Comply Yes/No: _____

Engine: Six (6) cylinder gasoline engine with a minimum displacement of 3.3 liters
Size compatible with specified passenger capacity and transmission

Comply Yes/No: _____

Transmission: 6 speed with overdrive automatic transmission

Comply Yes/No: _____

Electrical: 160 amp alternator
12 volt maintenance free battery
12 volt power outlet
Total battery capacity of at least 730 CCA at zero degrees Fahrenheit

All wiring shall be color coded or number coded. All wiring shall be properly insulated and, as necessary, shall be held in place with insulated clamps at a maximum of two-foot intervals. There shall be no exposed or loose wiring in the driver or passenger compartment of the vehicle.

Comply Yes/No: _____

Front Axle: 2400 lb. minimum capacity

Comply Yes/No: _____

Rear Axle: 2600 lb. minimum capacity

Comply Yes/No: _____

Brakes: Power, Front/Rear HD Disk
Factory Anti-Lock Brake System (ABS)

Comply Yes/No: _____

Steering: Power Steering including a tilt steering wheel and cruise control

Comply Yes/No: _____

Tires: Tire size must be compatible with each vehicle and each vehicle's GVWR. Tires shall be steel-belted radial all season type tires (must be approved and identified for use as mud and snow tires). A full size spare wheel and tire mounted on each vehicle at an accessible location. Conventional spare.

All tired and wheels shall be of the same size and type and shall be interchangeable.

Tires and wheels shall be properly aligned.

Tire changing equipment, as provided by the OEM, shall include a jack of sufficient strength/capacity, and other tools necessary for changing the mounted tires, shall be stored in a compartment/container within the vehicle.

Comply Yes/No: _____

Fuel System: Total fuel tank capacity shall be a minimum of 20 U.S. gallons.

Comply Yes/No: _____

Body Structure: The entire body-frame under-structure of each vehicle is to be fully undercoated with rust inhibiting coating, such as an epoxy primer base. Undercoating shall comply with current Federal and State flammability standards.

The floor and other modifications to the vehicle shall be done in a manner such that the structural integrity of the vehicle is not degraded. The body including the roof shall be of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side if overturned.

Roof gutters shall be installed over all windows and doors, per OEM design.

In the event the tires extend beyond the side of each vehicle, splash aprons and fenders shall be provided.

Front and rear bumpers shall be provided.

At locations where the lowered floor is installed, it shall be properly braced and reinforced to allow the structural integrity of the vehicle to remain intact.

Comply Yes/No: _____

Modifications:

All welds shall be made in a workmanlike manner, properly fused of ample penetration, and shall, on all exposed surfaces where practicable, be smoothly finished. Intermittent or spot welds shall be so spaced and proportioned as to provide ample strength for the purpose. All welded joints shall be cleaned and primed. All welds shall be relatively free of slag inclusions, undercut, roll, blowholes, unfilled craters, improper fit-up and porosity. Fillet weld sizes shall be a least equal to the thickness of the least of the joined plates.

All windows shall be free of any defects due to welding slag or assembly damage.

Any wiring spliced into the factory wiring harness must have soldered connections and be fully insulated. No butt connectors shall be used in any of the factory sliced wiring.

The lowered floor and lowered floor frame attachment to the vehicle shall be made by welds only. No riveting or bolting of the lowered floor or any of the structural members to the vehicle shall be deemed adequate. Lowered floor frame members shall be designed and engineered for strength and safety of wheelchair occupants.

If a lowered floor is provided on each vehicle, it shall be designed to the highest possible quality of construction. Each vehicle shall be reinforced such that the structural integrity of the basic van is not degraded. Ground clearance shall be no less than 5 inches.

Any wiring spliced into the factory wiring harness must have soldered connections and be fully insulated. No butt connectors shall be used in any of the factory spliced wiring.

Comply Yes/No: _____

Floor:

The floor shall be made of metal, properly insulated, securely welded to steel chassis or body and covered with commercial heavy duty transit flooring. All edges shall be properly sealed to prevent entrance of moisture that could cause bulging, material failure.

Floor covering shall be OEM spec carpet smooth and at least 1/8 inch thick in all non-wheelchair areas. A non-skid 1/8 inch thick commercial grade flooring shall be used in the lowered floor wheelchair areas. All step edges, thresholds and the boarding edge of ramps or lift platforms shall have a band of color(s) running the full width of the step or edge which contrasts from the step tread and riser, or lift or ramp surface, either light-on-dark or dark-on-light.

All joints shall be the butt type. Floor covering shall be cemented and rolled to the floor to prevent bubbles or blisters which could create a safety hazard.

Manufacturer shall ensure that all components attached to the undercarriage (or other major components) under the vehicle are securely attached and have a minimum of five (5) inches of ground clearance from the roadway when loaded with 1100lbs. maximum. If the exhaust system has been relocated, it shall be properly attached and not under tension. A heat shield shall be installed in any area where the exhaust pipe is within six (6) inches or less of the gasoline tank.

The floor shall be covered with a slip retardant sheet flooring. It shall be permanently bonded to the floor with adhesive of waterproof type. All edges of the floor covering are to be properly

sealed to prevent entrance of moisture that could cause bulging, ply separation, and/or material failure.

All portions of the floor covering shall be of the same material and color including the floor area under and adjacent to the driver's seat.

Comply Yes/No: _____

Windshield Wipers: Two heavy duty electric two-speed windshield wipers with intermittent feature controlled by a switch shall be furnished.

Windshield washer is to be included, with a reservoir easily accessible for filling.

Comply Yes/No: _____

Seating: Passenger seats shall be covered with heavy-duty vinyl, fully padded construction and color coordinated interior and exterior colors.

Seat covering and padding material shall meet the burn resistance requirements of FMVSS 302.

Each passenger, including the driver and any wheelchair passengers, shall be provided with an individual seat belt with shoulder harness. Seat belts shall comply with FMVSS 209. Belts will be of sufficient length to accommodate adult passenger.

Seat anchorage shall comply with FMVSS 207

All seats shall be mounted to facilitate the placement and usage of wheelchair locations.

All seat backs and cushions shall be of the same color and pattern, shall be color-keyed to the vehicle's exterior color, and shall harmonize with the vehicle's interior color.

Comply Yes/No: _____

Passenger Doors: Each vehicle shall be equipped with a manually operated conventional rear or side entrance door. The door shall be an OEM factory door or "hatch" equipped with a window.

For vehicles of 22 feet in length or less, the overhead clearance between the top of the door opening and the highest point of a ramp shall be a minimum of 56 inches. The lowered floor shall be a minimum of 31 inches wide.

When door is fully opened, the door shall be firmly held in the open position by the OEM factory door props to prevent unexpected door closure.

Door shall be equipped with a heavy-duty lock and shall not rattle in the closed position and shall have durable, firmly installed weather seals to prevent the entrance of air, water and other elements.

Comply Yes/No: _____

Grab Handles: At least one grab handle, preferably located on the right side of the door shall be provided at the passenger doors.

Comply Yes/No: _____

Wheelchair Restraint: Two wheelchair retractable tie-down device and three-point seat belt for wheelchair occupant to be installed. The tie-down shall be a Q-Straint Q-8100-A1-L or approved equal. When the wheelchair

space is not being used there shall be a replacement and/or fold down seat available for use by non-wheelchair occupant passengers. This seat should be of equal quality and structure of regular seating and have proper seat belts

COMPLY YES/NO: _____

Fire, First Aid & Emergency Equipment:

A wall mounted first aid kit, five-pound dry chemical type A-B-C fire extinguisher, disabled vehicle warning device, three (3) portable warning reflectors (mounted on stands) stored in a latched box, and an OSHA-approved Body Fluids Clean-up Kit shall be provided. These items shall be securely stowed in each vehicle interior.

All equipment listed above, including the road flares and reflectors, shall be firmly secured inside the vehicle to prevent any movement by them while the vehicle is in motion. The mounted location of any of the above equipment shall not interfere with the driver's or passenger's limbs or placement of feet or interfere with the movement of passengers and/or mobility aids within the vehicle. Also, none of the equipment shall be mounted on the door.

Comply YES/NO: _____

Exterior/Interior Paint:

All exposed metal surfaces, except galvanized and stainless steel, must be powder coated.

The vendor shall contact the purchaser for selection of an exterior color from standard factory color chart at the time of order.

All interior surfaces which require painting shall be painted the same color. This includes the exposed interior metal surfaces, if any, of the side and rear doors. The interior color shall be color keyed to each vehicle's exterior color and shall harmonize with the color of the roof liner and any side paneling or other covering.

All painted exterior surfaces shall match the exterior paint color of the basic van.

Comply Yes/No: _____

Wheelchair Ramp:

The wheelchair ramp shall be a fold down type, permanently attached to the lowered floor with hinges to facilitate easy deployment. The ramp shall not obscure any part of the window or impede visibility in any other way.

The ramp shall provide a smooth and straight inclined surface from the ground to the van floor level. The ramp shall allow a wheelchair containing a handicapped person to be pushed from the ground level into each van or rolled out of each van down to ground level. Protective edge flanges shall be provided on the ramp to prevent the wheels of a wheelchair from rolling off the edge of the ramp. No center steps or toe-cleats will be allowed. The ramp shall be continuous and slip resistant; shall not have protrusions from the surface greater than ¼ inch high; shall have a clear width of 30 inches; and shall accommodate both four-wheel and three-wheel mobility aids.

The ramp shall be constructed of diamond plate aluminum or aluminum and covered with non-slip flooring. Ramps 30 inches or longer shall support a load of 600 pounds, placed at the center of the ramp distributed over an area of 26 inches by 26 inches, with safety factor of at least 3 based on the ultimate strength of the material.

The transition from roadway or sidewalk and the transition from vehicle floor to the ramp may be vertical without edge treatment up to ¼ inch. Changes in level between ¼ inch and ½ inch shall be beveled with a slope no greater than 1:2.

Each side of the ramp will have barriers at least 2 inches high to prevent mobility aid wheels from slipping off.

When in use for boarding or alighting, a ramp shall be firmly attached to each vehicle so that it is not subject to displacement when loading or unloading a heavy power mobility aid and that no gap between vehicle and ramp exceeds 5/8 inch.

Comply Yes/No: _____

Air Conditioning/ Heater with Defroster: Heaviest Duty Original Equipment Manufacturer (OEM) dash mounted unit air conditioning with a comparable rear air conditioning system. A front and rear defroster shall be provided. However, if rear cargo doors are provided, rear defroster(s) are not required.

High output front heater.

Comply Yes/No: _____

Lighting: The interior of the vehicle shall be adequately illuminated, and overhead lighting fixtures shall be arranged in such a manner that adequate lighting is provided at the reading plane of the passengers.

The vehicle doorway shall have outside light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

Comply Yes/No: _____

Windows: Windows all around the vehicle (i.e., all factory available windows in body side, side doors, and rear).

Tinted glass in windshield and all windows.

Comply Yes/No: _____

Insulation: Insulated headliner for the full length of the driver and passenger compartments.

Insulated sidewalls finished with the minivan manufacturer's standard, or equivalent, covering. Interior of all doors shall be covered by manufacturer's standard, or equivalent trim panels and insulated. Also, factory standard, or equivalent, window moldings shall be provided.

The vehicle shall contain OEM standard insulation in the roof and all body panels to deaden sound, and reduce vibrations and heat transfers.

Projections: The interior of the vehicle shall be free of all projections. All sharp edges, protruding fasteners and brackets that could cause injury to passengers or catch hold of clothing shall be covered. The interior of the vehicle shall be completely finished and shall be vinyl or melamine covered.

Comply Yes/No: _____

Wheelchair Accessibility Symbol: A wheelchair accessibility symbol (The international wheelchair accessibility symbol depicted on sign D9-6 in the "Manual of Uniform Traffic Control Devices" published by the Federal Highway Administration) shall be affixed to the outside of each vehicle body on either one of the doors to the ramp entryway or immediately next to one of the doors. The symbol shall be between 3" and 4" in overall height.

Comply Yes/No: _____

Backup Warning Device: Each vehicle shall be equipped with a back-up warning device that is readily audible outside each vehicle when the transmission is in reverse.

Comply Yes/No: _____

Stepwell/Doorway Illumination: Any step-well or doorway immediately adjacent to the driver shall have when the door is open, at least 2 foot-candles of illumination measured on the step tread or lift platform.

Other step-wells and doorways, including doorways in which lifts or ramps are installed, shall have, at all times, 2 foot-candles of illumination measured on the step tread, or lift or ramp, when deployed at the vehicle floor level.

The vehicle doorways, including doorways in which lifts or ramps are installed, shall have outside light(s) which, when the door is open, provide at least 1 foot-candle of illumination on the street for a distance of 3 feet perpendicular to all points on the bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

Comply Yes/No: _____

Keys: Two (2) extra complete sets of spare keys shall be provided with the vehicle.

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Van is to be delivered to a licensed Mississippi dealer fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The

design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after the welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All materials used in conversion of the van shall be new and unused; used, reconditioned, or obsolete components will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vans procured through this contract shall be exact duplicates in design, manufacture, and construction.

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Motor Vehicle Standards: The manufacturer **shall certify** that the vehicle complies with all U.S. Department of Transportation safety standards for vehicles and Interstate Commerce requirements for vehicles operated in interstate commerce that are applicable as of the date of manufacture.

The vehicle shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the vehicle conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Drivetrain warranty shall be minimum of 5 years or 60,000 miles. Body structure warranty shall be a minimum of 5 years or 100,000 miles. The electrical system shall be warranted for a minimum of 3 years or 36,000 miles (parts and labor).

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanism, power units and controls) needed due to defect in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety days after acceptance of vehicle.

The manufacturer will provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Inspection:

MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Delivery:

Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

FOB Point:

For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate. A vendor shall be present at the time of MDOT pre-delivery and post-delivery inspections.

Documents:

Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Literature:

Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

- Operator’s manual
- Service/maintenance manual
- Parts book
- Parts interchange manual

Wiring schematic diagram
Schematics/drawings for all accessories and equipment not listed in operator's manual

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Bus, Small Transit, Basic, Non-ADA

Bus, basic, minimum seventeen (17) passenger, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity (*exclusive of driver*): _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth minimum requirements for a commercially produced small bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of seventeen (17) ambulatory forward-facing passengers, with a minimum GVWR (Gross Vehicle Weight Rating) of 10,000 pounds. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on the date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis

Wheelbase: 125" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, an eight-cylinder forward mounted, gasoline fueled, 2V or 4V system capable of delivering a minimum of 190

net SAE horsepower when rated in accordance with SAE J-245. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or gasoline.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be a fully automatic, American manufactured model, with an auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Transmission shall be four (4) forward speeds minimum. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers, both seated and standing, that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 3,800 lbs. (minimum)
b. Rear axle rating – 7,200 lbs. (minimum)
c. GVWR weight – 10,000 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of thirty-three (33) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out drawer located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must

have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap is **not acceptable**. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amp rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions:
Overall width – 96” maximum
Overall height – 117” maximum (with air conditioner)
Ground to first step – 12” maximum
Step depth – 8.5” minimum
Individual riser height – 9.5” maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions:
Passenger Compartment of Body:
Height – 72” minimum
Center aisle width – 13” minimum
Hip-to-knee space – 26” minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing

and Stepwell: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the wheel to the rear of the driver's door. The minimum useable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall be designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11-gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-vale of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-vale of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/

Step Covering:

Subfloor shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall, and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16" thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver's seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling,
Dash and Instrument
Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door may be inward bi-folding to the rear or two-leaf outward opening doors built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 24" and must be manually operated, unless door is removed from driver's area. If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (65,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heathers and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 52,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) EM-1 evaporator, one (1) CM-3 condenser, and one (1) TM-16 compressor. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting:

The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread or lift.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting:

All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type

c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats:

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of seventeen (17) forward facing fixed passenger seats shall be provided. Fixed passenger seats shall be comparable to Freedman Feather Weight. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4” thick at the front edge, tapering to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾”. Seat suspension shall be ‘no-sag’ or ‘flex-o-lator’ type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 27” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12” seat belt extensions shall be provided.

The driver’s seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors: Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment: All standard equipment including, but not limited to:

Four complete sets of keys

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wiper/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 16-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.**

Comply Yes/No: _____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in an **ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs, and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchion s and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be or a refillable type or use ready accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer

representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer:

Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Acknowledge Yes/No: _____

Workmanship:

Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts:

A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards:

The manufacturer shall certify that the vehicle complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer shall certify that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following shall be provided upon delivery for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Small Transit, Accessible, 17 Passenger, ADA Fixed Route

Bus, accessible, seventeen (17) passenger, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair(s) *(exclusive of driver)*: _____

Ambulatory seating capacity **with** one wheelchair *(exclusive of driver)*: _____

Ambulatory seating capacity **with** two wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced small bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of fourteen (14) ambulatory forward-facing passengers (twelve (12) fixed seats and two (2) single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of thirteen thousand (13,000) pounds. Vehicle shall be equipped to accommodate two (2) wheel chair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on the date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis:

Wheelbase: 150" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, an eight-cylinder forward mounted, V-type gasoline fueled, 2V or 4V system capable of delivering a minimum of 300 net SAE horsepower when rated in accordance with SAE J-245. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded gasoline.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be fully automatic. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Transmission shall be Ten (10) forward speeds minimum. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axle/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers, both seated and standing, that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 4,600 lbs. (minimum)
b. Rear axle rating – 8,500 lbs. (minimum)
c. GVWR weight – 13,000 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing **may not** be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out drawer located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery system cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outline in 49 CFR §

393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and conditions of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap is not acceptable. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in case of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System, shall comply with the latest motor vehicle standards in effect. Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in Park, and parking brake set, fast idle will automatically increase RPMs to a pre-set level when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width – 96" maximum
Overall height – 117" maximum (with air conditioner)
Ground to first step – 12" maximum
Step depth – 8.5" minimum
Individual riser height – 9.5" maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment of Body:
Height – 72" minimum
Center aisle width – 13" minimum
Hip-to-knee space – 27" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing and Stepwell: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum usable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted, or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mountings of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11 gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on is top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels to deaden sound and reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8” marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16” thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver’s seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door may be inward bi-folding to the rear or two-leaf outward opening doors built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 24" and must be manually operated, unless door is removed from driver's area. If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows: Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safety type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with a power electric window on the left side. The driver's side window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (65,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices, and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 60,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) EM-1 evaporator, one (1) CM-3 condenser, and one (1) TM-16 compressor. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning:

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats: Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of Twelve (12) forward facing fixed passenger seats shall be provided. Two (2) forward facing single foldout seats with seatbelts shall be provided in the wheelchair securement area. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware. Fixed passenger seats shall be comparable to Freedman Feather Weight. Single foldout seats shall be comparable to Freedman mid back three step folding seat.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4" thick at the front edge, tapering to a minimum of 3" at the rear of the cushion. The seat back foam will be a minimum of 2" thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35" wide, single seats shall not be less than 17.5" wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾". Seat suspension shall be 'no-sag' or 'flex-o-lator' type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10" inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer's recommendation.

All passenger seats shall be mounted with a minimum of 27" hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed Passenger Seats:

Manufacturer: _____

Size: _____

Arrangement **(must attach diagram or photo):** _____

Single Foldout Seats:

Manufacturer: _____

Size: _____

Arrangement **(must attach diagram or photo):** _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four complete sets of keys

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wiper/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 16-unit first aid kit
d. Three triangle safety reflectors
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes
g. Six 30-minute road flares and three portable warning reflectors mountable on stands

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock-resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and protected from water and road spray.

Alarm Volume (db): _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color:

Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall include all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38

Comply Yes/No: _____

Wheelchair Lift: Lift must be ADA approved and comply with FMVSS 403 and 404. Lift shall be located on right side of vehicle, and be fully automatic with backup pump and rails. Lift doors shall be same material and thickness as body sidewalls. Lift doors shall have a t-latch system for holding the door open while in use. Lift shall include a fully automated lift interlock system.

Lift shall have a minimum lift capacity of 1,000 lbs. and a minimum platform width of 34".

Wheelchair Lift:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Q'Straint Q-8100-A1-L; Sure-Lok Retractor System for L track; or approved equal. When the wheelchair spaces are not being used, there shall be two (2) forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one outside speakers

Comply Yes/No: _____

Destination Sign(s): Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign,

Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in **an ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA and other applicable safety regulations.

1. Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver, shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. The driver barrier can be made from transit grade acrylic, polycarbonate, or vinyl paneling in a sufficient thickness, minimum of a ¼", to provide structural integrity, in a fixed rigid position (should not "flop" around) when in place. Design intent is to shield driver from airborne particulates (breath's, coughs and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen, the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section on Page 8.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

2. Passenger Partition: A passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers The partitions/sneeze guards can be made from plexi-glass, polycarbonate, or vinyl. Passenger partition shall be of sufficient thickness, minimum of a ¼", to provide structural integrity, in a fixed rigid position (should not "flop" around) when in place. Design intent is to shield passengers from airborne particulates (breath's, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

3. Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

4. C.L.A.S.S. Suspension: Compressible Liquid Adaptive Suspension System (C.L.A.S.S.) smart suspension system, utilizing a compressible liquid contained in struts and secondary volumes. The liquid within the struts, and in conjunction with the secondary volumes, provide the spring and damping forces. Valving, in conjunction with an electronic control unit (ECU), shall be configured to control the spring rates and damping. A hydraulic pump, coupled to a motor and controlled by the ECU, shall regulate vehicle height. The ECU will also provide automatic load leveling regardless of weight distribution across system. The ECU shall process and utilize data derived from the speed sensor, brake sensor, height sensors, and steering position sensor, etc. to automatically control vehicle for a smooth/ efficient ride regardless of the terrain. System shall automatically adjust valving/damping on the fly, at each wheel, independent of driver input, to minimize body roll/lean as the speed/terrain/etc. changes. These specifications are intended to describe a complete working unit with the ability to replace a mechanically sprung suspension. All components, parts and hardware needed for a complete and fully operational C.L.A.S.S. unit shall be included whether described herein or not when this option is requested. This system shall be designed for the same minimum weight standards as stated above in the "Axles and Suspension" section.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

5. Fare Box: A transit-type fare box shall be installed, and shall readily handle paper currency as well as coins. Fare box shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer shall certify that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.
The manufacturer shall certify that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power unit and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection:

MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer’s License Number: _____

MMVC Manufacturer’s License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or
Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:
Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, Low Floor, Mid-Size, Gasoline, ADA Fixed Route

Bus, accessible, fourteen (14) passenger, gasoline-fueled, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair *(exclusive of driver)*: _____

Ambulatory seating capacity **with two (2)** wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in the SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A, steel cage, low floor, commercial bus designed for use in transit applications, meeting FTA (Federal Transit Administration) and ADA (Americans with Disabilities Act) standards and regulations, capable of seating a minimum of 10 ambulatory forward-facing passengers (6 fixed seats and four (4) single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 14,200 pounds. Vehicle shall be equipped to accommodate two (2) wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable FMVSS (Federal Motor Vehicle Safety Standards) as established by the U.S. Department of Transportation.

SPECIFICATIONS

Van Cut-Away Chassis

Wheelbase: 165" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, a 6.0L, gasoline fueled, electric fuel injection engine. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or gasoline.

Horsepower – 342 at 5,400 RPM, minimum
Torque – 373 at 4,400 RPM, minimum

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission shall be heavy-duty 6-speed automatic, American manufactured model, with auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 4,600 lbs. (minimum)
b. Rear axle rating – 9,600 lbs. (minimum)
c. GVWR weight – 14,200 lbs. (minimum)
d. Standard axle ratio – 4.10 (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be heavy duty, leak proof, and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler. Exhaust system must meet or exceed FMVSS and EPA (Environmental Protection Agency) noise level and exhaust emission requirements.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

Exhaust hangers shall be OEM standard equipment and welded to the frame. Exhaust U-bolts shall be used in connections with thread orientation directed upward. The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy-gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a heavy-duty 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit

type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out tray located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SXL/GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers. Entire harness system and mating electrical components shall be plug- connected with lock tab connectors; all terminals are machine crimped; all harnesses shall be covered in high temp conduit and all exterior under body/under hood connectors are IP67 rated sealed connectors.

All body wiring shall be run inside the body in a protected area. All wiring shall be in a loom and secured for maximum protection. Clamps shall be rubber or plastic coated to prevent them from cutting the wiring insulation.

When routing wiring under vehicle all wiring shall be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and shall not be bundled with hoses. The harness shall run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension shall be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.

All fuses and relays (other than chassis OEM) shall be placed in an Electrical Panel. The panel shall be accessible through a non-locking door. Connection to OEM electrical system shall be accomplished through connectors supplied by chassis manufacturer using locking mating connectors.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap **is not acceptable**. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

The vehicle shall be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering:

Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes:

The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires:

Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load

rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width (excluding mirrors) – 95” minimum, 102” maximum
Overall height – 115” maximum (excluding roof hatch and/or roof-mounted air conditioning units)
Rear overhang – less than 33% of the overall bus length

Length: _____ Width: _____ Height: _____

Rear overhang: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment:
Width – 90" minimum
Height – 72" minimum
Center aisle width – 15" minimum
Hip-to-knee space – 26" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing: Wheel housing shall be constructed of 16-gauge (minimum) one-piece steel, adequately reinforced to prevent deflection. Wheel housing construction shall provide ample clearance of front wheels while steering, and of all tires under full load, whether operating on smooth or rough terrain. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion and sound with undercoating.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted and shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction. The passenger compartment shall be a full steel cage structure. The proposed vehicle shall have met both, FMVSS 214 Side Impact Crash Testing and FMVSS 301 Fuel System Integrity Crash Testing.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

Structure shall include the following or engineer-certified equivalent:

- One (1) 1 ½" x 2 ½" horizontal 16-gauge steel tube at the top forming the edge of wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube below window line
- One (1) row of 1 ½" x 2 ½" horizontal 16-gauge steel tube at floor level
- One (1) row of 14-gauge c-channel at top of side wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube at bottom forming edge of wall
- Vertical steel ribs shall consist of 1 ½" x 2" 16-gauge steel tubes located at sides of each window
- One (1) 1 ½" x 1 ½" 16-gauge steel tube shall be welded vertically at the midpoint of each window with a width greater than 24", connecting the horizontal tubes below window and the horizontal tube welded at the floor line

- Two (2) 1 ½" x 1 ½" 16-gauge steel tubes at the front of the sidewall to form the front and rear of the door opening
- Rear walls shall have 14-gauge plates with holes to allow the wall to be fastened to the sidewalls
- Roof bows shall be 1 ½" x 1 ½" 16-gauge tubes, bent to the radius of the roof. Traditional roof bows with or without capped top covers are not acceptable.
- Two (2) roof bows welded together at front of roof structure
- All roof cross members shall be a minimum of 16-gauge steel
- One (1) row of 1 ½" x 1 ½" 16-gauge steel tubing shall be installed to form the center longitudinal members, front-to-rear of roof structure
- One (1) 1 ½" x 1 ½" 16-gauge steel tube installed at bottom of roof bow on each side of roof structure

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or a single-piece FRP skin laminated to the substrate and roof steel with urethane adhesive. The bus body shall be constructed of welded walls, subfloors, roof framing and rear steel structure, forming an integrated steel cage around the passenger compartment.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. Exterior FRP composite of roof shall be secured to side walls with seam being covered by a rain gutter. Exterior seams are allowed only at the junction of the front cap and rear cap. Other seams on the exterior of the roof are not acceptable. The body and roof shall be thoroughly water-tested and made tight to prevent leakage.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of FMVSS 220 roll over protection test results shall be available if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Buses built with honeycomb composite construction will not be considered for this RFQF.

Comply Yes/No: _____

Floor Structure and Floor/ Ramp Covering: Steel subfloor structure shall be isolated from chassis with OEM rubber isolation mounts and bolted through these mounts to chassis frame rails. Steel sub floor cross members shall be 2" x 2" 14-gauge steel tubing. Sides of subfloor shall be 14-gauge c-channel that will overlap the 1.5" x 2.5" 16-gauge floor line tubing in the side walls. Floor decking shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Underside of floor decking shall be sprayed with an undercoating prior to installation to the subfloors. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housing. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Cab flooring shall be OEM insulated floor covering.

Ramp area, interior flooring, and lower walls shall be seamless, sprayed with protective coating. A sealant shall be used in body-to-floor corners to provide a water-resistant seal. All interior floor coverings, ceilings, and walls shall be color coordinated with the interior color scheme.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

Stanchions and grab rails shall be 1.25” diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver’s seat with a horizontal guard also being provided.

Vertical stanchion shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of entry ramp with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver’s seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Chassis shall include driver door, but passenger door shall be omitted. Passenger compartment shall include front entry door on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door shall have a minimum horizontal opening of 39”, a minimum height of 56” from highest point of entry ramp to top of door opening, and must be operated through the use of an electric door mechanism. Clear horizontal opening with handles shall be a minimum of 35”. If removed from driver’s area, door will be electro-mechanical. Pneumatic is not acceptable. All doors

shall be equipped with a locking device when closed. For emergency situations, a manual door release control shall be provided over the top of the door, and shall be designed to permit simple operations to override the electric door operator.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the entry ramp. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door

Horizontal opening width: _____

Vertical opening width: _____

Clear horizontal opening width (with handles): _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FLVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided the driver's side window shall be mounted in the driver entrance door.

Passenger side windows shall be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window shall be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 660 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition window shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (35,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 85,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fan, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: Standard OEM lighting shall be provided in the instrument panels and overhead in the driver's area.

The entry ramp shall be adequately illuminated by an overhead door light and lights along each side of the ramp to illuminate the entry floor/ramp according to ADA standards. The entry lighting should automatically engage when entrance doors are opened and turned off when doors are closed.

Adequate lighting shall be provided to illuminate the center aisle. Interior lighting shall activate when entrance doors are opened and turned off when doors are closed. Controls shall be provided in the operator area for manual activation of interior lights with or without ignition activation.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seating:

Driver-only seating in the cab portion of the chassis. All passenger seating is to be within the passenger compartment.

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of twelve (12) forward facing fixed passenger seats shall be provided. Two (2) single foldout seat with seatbelt shall be provided as additional ambulatory passenger seating in the wheelchair securement area. Seating shall be mid-back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4" thick at the front edge, tapering to a minimum of 3" at the rear of the cushion. The seat back foam will be a minimum of 2" thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35" wide, single seats shall not be less than 17.5" wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾". Seat suspension shall be 'no-sag' or 'flex-o-lator' type system.

Seats shall be track mounted with the track welded to the vehicle frame, or bolted directly to the floor/steel structure to provide clean floor surfaces without breaks in floor seal. Seat pedestal shall be offset a minimum of 10" inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer's recommendation.

All passenger seats shall be mounted with a minimum of 26" hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12" seat belt extensions shall be provided.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single foldout seat:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable exterior rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable

frame designed to prevent damage by vehicle washing equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on type mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

12-volt DC power receptacles, minimum of two (2)

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 25-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall comply with all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38.

Comply Yes/No: _____

Passenger Entry Ramp: Passenger entry ramp shall be a power ramp that is designed for use by both wheelchair and ambulatory passengers. Entry steps are not to be installed on this vehicle. Ramp surface shall be continuous and slip resistant with a contrasting band of color running along the full perimeter of the ramp. The ramp shall have side barriers at least 2" high. Ramp shall have a minimum load capacity of 600 lbs. and a minimum clear width of 30". Ramp angle shall meet ADA slope regulation of 1:6.

During transit, ramp must be stowed in such a way as to not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop or jolt.

Passenger Entry Ramp:

Manufacturer: _____ Model: _____

Description: _____

Length: _____ Width: _____

Capacity: _____ Slope: _____

Comply Yes/No: _____

Wheelchair/Restraint

System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Retractable Type with L track; or approved equal. Storage shall be provided when wheelchair securement/occupant restraint systems are not in use. When the wheelchair spaces are not being used, there shall be forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two (2) inside and one (1) outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined in an **ALL, NONE or SOME manner in any combination.** The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issues by FMVSS, FTA, FHWA, and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield the driver from airborne particulates (breaths, coughs, and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of refillable type of use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

Acknowledge Yes/No: _____

Workmanship:

Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts:

A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards:

The manufacturer shall certify that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing:

The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, Low Floor, Mid-Size, Gas, ADA Fixed Route

Bus, accessible, sixteen (16) passenger, gasoline-fueled, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair *(exclusive of driver)*: _____

Ambulatory seating capacity **with five (5)** wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in the SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A, steel cage, low floor, commercial bus designed for use in transit applications, meeting FTA (Federal Transit Administration) and ADA (Americans with Disabilities Act) standards and regulations, capable of seating a minimum of 16 ambulatory forward-facing passengers (minimum four (4) fixed seats and twelve (12) single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 14,200 pounds. Vehicle shall be equipped to accommodate five (5) wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable FMVSS (Federal Motor Vehicle Safety Standards) as established by the U.S. Department of Transportation.

SPECIFICATIONS

Van Cut-Away Chassis

Wheelbase: 191" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, a 6.0L, gasoline fueled, electric fuel injection engine. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element fill flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or gasoline.

Horsepower – 342 at 5,400 RPM, minimum
Torque – 373 at 4,400 RPM, minimum

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission shall be heavy-duty 6-speed automatic, American manufactured model, with auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front-end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 4,600 lbs. (minimum)
b. Rear axle rating – 9,600 lbs. (minimum)
c. GVWR weight – 14,200 lbs. (minimum)
d. Standard axle ratio – 4.10 (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be heavy-duty, leak proof, and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler. Exhaust system must meet or exceed FMVSS and EPA (Environmental Protection Agency) noise level and exhaust emission requirements.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

Exhaust hangers shall be OEM standard equipment and welded to the frame. Exhaust U-bolts shall be used in connections with thread orientation directed upward. The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy-gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System:

The electrical system shall be a heavy-duty 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out tray located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SXL/GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers. Entire harness system and mating electrical components shall be plug- connected with lock tab connectors; all terminals are machine crimped; all harnesses shall be covered in high temp conduit and all exterior under body/under hood connectors are IP67 rated sealed connectors.

All body wiring shall be run inside the body in a protected area. All wiring shall be in a loom and secured for maximum protection. Clamps shall be rubber or plastic coated to prevent them from cutting the wiring insulation.

When routing wiring under vehicle all wiring shall be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and shall not be bundled with hoses. The harness shall run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension shall be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.

All fuses and relays (other than chassis OEM) shall be placed in an Electrical Panel. The panel shall be accessible through a non-locking door. Connection to OEM electrical system shall be accomplished through connectors supplied by chassis manufacturer using locking mating connectors.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A scematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap **is not acceptable**. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

The vehicle shall be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering:

Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes:

The service brakes shall be heavy-duty power hydraulic disc-type with electronic Ani-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires:

Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load

rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, a parking brake set, fast idle will automatically increase RPMs to pre-set levels when a voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width (excluding mirrors) – 95” minimum, 102” maximum
Overall height – 115” maximum (excluding roof hatch and/or roof-mounted air conditioning units)
Rear overhang – less than 33% of the overall bus length

Length: _____ Width: _____ Height: _____

Rear overhang: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment:
Width – 90” minimum
Height – 72” minimum
Center aisle width – 15” minimum
Hip-to-knee space – 26” minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing: Wheel housing shall be constructed of 16-gauge (minimum) one-piece steel, adequately reinforced to prevent deflection. Wheel housing construction shall provide ample clearance of front wheels while steering, and of all tires under full load, whether operating on smooth or rough terrain. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion and sound with undercoating.

Comply Yes/No: _____

Bumper and Tow Hooks:

Front bumpers are to be provided. Bumpers shall be of one-piece construction and of heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted and shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood:

Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure:

Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction. The passenger compartment shall be a full steel cage structure. The proposed vehicle shall have met both, FMVSS 214 Side Impact Crash Testing and FMVSS 301 Fuel System Integrity Crash Testing.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

Structure shall include the following or engineer-certified equivalent:

- One (1) 1 ½" x 2 ½" horizontal 16-gauge steel tube at the top forming the edge of wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube below window line
- One (1) row of 1 ½" x 2 ½" horizontal 16-gauge steel tube at floor level
- One (1) row of 14-gauge c-channel at top of side wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube at bottom forming edge of wall
- Vertical steel ribs shall consist of 1 ½" x 2" 16-gauge steel tubes located at sides of each window
- One (1) 1 ½" x 1 ½" 16-gauge steel tube shall be welded vertically at the midpoint of each window with a width greater than 24", connecting the horizontal tubes below window and the horizontal tube welded at the floor line
- Two (2) 1 ½" x 1 ½" 16-gauge steel tubes at the front of the sidewall to form the front and rear of the door opening
- Rear walls shall have 14-gauge plates with holes to allow the wall to be fastened to the sidewalls
- Roof bows shall be 1 ½" x 1 ½" 16-gauge tubes, bent to the radius of the roof. Traditional roof bows with or without capped top covers are not acceptable.
- Two (2) roof bows welded together at front of roof structure
- All roof cross members shall be a minimum of 16-gauge steel
- One (1) row of 1 ½" x 1 ½" 16-gauge steel tubing shall be installed to form the center longitudinal members, front-to-rear of roof structure
- One (1) 1 ½" x 1 ½" 16-gauge steel tube installed at bottom of roof bow on each side of roof structure

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or a single-piece FRP skin laminated to the substrate and roof steel with urethane adhesive. The bus body shall be constructed of welded walls, subfloors, roof framing and rear steel structure, forming an integrated steel cage around the passenger compartment.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. Exterior FRP composite of roof shall be secured to side walls with seam being covered by a rain gutter. Exterior seams are allowed only at the junction of the front cap and rear cap. Other seams on the exterior of the roof are not acceptable. The body and roof shall be thoroughly water-tested and made tight to prevent leakage.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if over turned. A copy of FMVSS 220 roll over protection test results shall be available if requested.

The vehicle body shall be fully insulated on the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Buses built with honeycomb composite construction will not be considered for this RFQF.

Comply Yes/No: _____

Floor Structure and Floor/ Ramp Covering: Steel subfloor structure shall be isolated from chassis with OEM rubber isolation mounts and bolted through these mounts to chassis frame rails. Steel sub floor cross members shall be 2” x 2” 14-gauge steel tubing. Sides of subfloor shall be 14-gauge c-channel that will overlap the 1.5” x 2.5” 16-gauge floor line tubing in the side walls. Floor decking shall be constructed of minimum 5/8” marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Underside of floor decking shall be sprayed with an undercoating prior to installation to the subfloors. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housing. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Cab flooring shall be OEM insulated floor covering.

Ramp area, interior flooring, and lower walls shall be seamless, sprayed with protective coating. A sealant shall be used in body-to-floor corners to provide a water-resistant seal. All interior floor coverings, ceilings, and walls shall be color coordinated with the interior color scheme.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle

Comply Yes/No: _____

Stanchions and Grab Rails:

Stanchions and grab rails shall be 1.25” diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver’s seat with a horizontal guard also being provided.

Vertical stanchion shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of entry ramp with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver’s seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Chassis shall include driver door, but passenger door shall be omitted. Passenger compartment shall include front entry door on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door shall have a minimum horizontal opening of 39", a minimum height of 56" from highest point of entry ramp to top of door opening, and must be operated through the use of an electric door mechanism. Clear horizontal opening with handles shall be a minimum of 35". If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed. For emergency situations, a manual door release control shall be provided over the top of the door, and shall be designed to permit simple operations to override the electric door operator.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the entry ramp. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door

Horizontal opening width: _____

Vertical opening width: _____

Clear horizontal opening width (with handles): _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FLVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided the driver's side window shall be mounted in the driver entrance door.

Passenger side windows shall be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window shall be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 660 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition window shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum if 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (35,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 85,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the

following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fan, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable or providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: Standard OEM lighting shall be provided in the instrument panels and overhead in the driver's area.

The entry ramp shall be adequately illuminated by an overhead door light and lights along each side of the ramp to illuminate the entry floor/ramp according to ADA standards. The entry lighting should automatically engage when entrance doors are opened and turned off when doors are closed.

Adequate lighting shall be provided to illuminate the center aisle. Interior lighting shall activate when entrance doors are opened and turned off when doors are closed. Controls shall be provided in the operator area for manual activation of interior lights with or without ignition activation.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights

h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seating:

Driver-only seating in the cab portion of the chassis. All passenger seating is to be within the passenger compartment.

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of four (4) forward facing fixed passenger seats shall be provided. A minimum of twelve (12) single foldout seats with seatbelt shall be provided as additional ambulatory passenger seating in the wheelchair securement area. Seating shall be mid-back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat botton foam cushion shall be a minimum of 4” thick at the front edge, taper to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foal shall be fire retardant and low toxicity meeting minimum requirements of FNVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 3/4 “. Seat suspension shall be ‘no sag’ of ‘flex-o-lator’ type system.

Seats shall be track mounted with the track welded to the vehicle frame, or bolted directly to the floor/steel structure to provide clean floor surfaces without breaks in floor seal. Seat pedestal shall be offset a minimum of 10” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 26” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12” seat belt extensions shall be provided.

The driver’s seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single foldout seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors: Heated, remote controlled, fully adjustable exterior rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by vehicle washing equipment. The vehicle shall have a minimum of one 6” x 9” (minimum) flat mirror and one convex mirror per side. Stick-on type mirrors are not acceptable.

A 4” x 16” (minimum) rectangular inside rear mirror shall be installed for the driver’s view of the bus interior.

An internal rear view mirror, 6” in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

12-volt DC power receptacles, minimum of two (2)

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 25-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall comply with all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38.

Comply Yes/No: _____

Passenger Entry Ramp: Passenger entry ramp shall be a power ramp that is designed for use by both wheelchair and ambulatory passengers. Entry steps are not to be installed on this vehicle. Ramp surface shall be continuous and slip resistant with a contrasting band of color running along the full perimeter of the ramp. The ramp shall have side barriers at least 2" high. Ramp shall have a minimum load capacity of 600 lbs. and a minimum clear width of 30". Ramp angle shall meet ADA slope regulation of 1:6.

During transit, ramp must be stowed in such a way as to not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop or jolt.

Passenger Entry Ramp:

Manufacturer: _____ Model: _____

Description: _____

Length: _____ Width: _____

Capacity: _____ Slope: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with five (5) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Retractable Systems with L track. Storage shall be provided when wheelchair securement/occupant restraint systems are not in use. When the wheelchair spaces are not being used, there shall be forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section".

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two (2) inside and one (1) outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outline in an **ALL, NONE, or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issues by FMVSS, FTA, FHWA and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield the driver from airborne particulates (breaths, coughs, and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs, and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of refillable type of use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

Acknowledge Yes/No: _____

Workmanship:

Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts:

A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards:

The manufacturer **shall certify** that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing:

The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer’s License Number: _____

MMVC Manufacturer’s License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or
Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, Low Floor, Mid-Size, Gas, ADA Fixed Route

Bus, accessible, twenty-two (22) passenger, gasoline-fueled, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair *(exclusive of driver)*: _____

Ambulatory seating capacity **with two** (2) wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in the SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A, steel cage, low floor, commercial bus designed for use in transit applications, meeting FTA (Federal Transit Administration) and ADA (Americans with Disabilities Act) standards and regulations, capable of seating a minimum of 22 ambulatory forward-facing passengers (minimum 16 fixed seats and six (6) single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 14,200 pounds. Vehicle shall be equipped to accommodate two wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environment protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable FMVSS (Federal Motor Vehicle Safety Standards) as established by the U.S. Department of Transportation.

SPECIFICATIONS

Van Cut-Away Chassis

Wheelbase: 191" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, a 6.0L, gasoline fueled, electric fuel injection engine. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or gasoline.

Horsepower – 342 at 5,400 RPM, minimum
Torque – 373 at 4,400 RPM, minimum

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission shall be heavy-duty 6-speed automatic, American manufactured model, with auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspensions: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if appliable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the proper manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 4,600 lbs. (minimum)
b. Rear axle rating – 9,600 lbs. (minimum)
c. GVWR weight – 14,200 lbs. (minimum)
d. Standard axle ratio – 4.10 (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be heavy duty, leak proof, and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler. Exhaust system must meet or exceed FMVSS and EPA (Environmental Protection Agency) noise level and exhaust emission requirements.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

Exhaust hangers shall be OEM standard equipment and welded to the frame. Exhaust U-bolts shall be used in connections with thread orientation directed upward. The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy-gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a heavy-duty 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit

type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out tray located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SXL/GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers. Entire harness system and mating electrical components shall be plug- connected with lock tab connectors; all terminals are machine crimped; all harnesses shall be covered in high temp conduit and all exterior under body/under hood connectors are IP67 rated sealed connectors.

All body wiring shall be run inside the body in a protected area. All wiring shall be in a loom and secured for maximum protection. Clamps shall be rubber or plastic coated to prevent them from cutting the wiring insulation.

When routing wiring under vehicle all wiring shall be encased in a loom and attached to the frame and sub-floor structure with proper fasteners and shall not be bundled with hoses. The harness shall run in straight lines as close to chassis frame rails as possible. Any harness that goes over the rear suspension shall be encased in a conduit fixture securely fastened to the sub-floor rails or routed inside the frame rails.

All fuses and relays (other than chassis OEM) shall be placed in an Electrical Panel. The panel shall be accessible through a non-locking door. Connection to OEM electrical system shall be accomplished through connectors supplied by chassis manufacturer using locking mating connectors.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap **is not acceptable.** Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

The vehicle shall be equipped with a disconnect switch that removes 12V battery power from all bodybuilder loads while not interfering with OEM chassis electrical circuits.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering:

Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes:

The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires:

Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load

rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width (excluding mirrors) – 95” minimum, 102” maximum
Overall height – 115” maximum (excluding roof hatch and/or roof-mounted air conditioning units)
Rear overhang – less than 33% of the overall bus length

Length: _____ Width: _____ Height: _____

Rear overhang: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment:
Width – 90" minimum
Height – 72" minimum
Center aisle width – 15" minimum
Hip-to-knee space – 26" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing: Wheel housing shall be constructed of 16-gauge (minimum) one-piece steel, adequately reinforced to prevent deflection. Wheel housing construction shall provide ample clearance of front wheels while steering, and of all tires under full load, whether operating on smooth or rough terrain. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion and sound with undercoating.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted and shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction. The passenger compartment shall be a full steel cage structure. The proposed vehicle shall have met both, FMVSS 214 Side Impact Crash Testing and FMVSS 301 Fuel System Integrity Crash Testing.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

Structure shall include the following or engineer-certified equivalent:

- One (1) 1 ½" x 2 ½" horizontal 16-gauge steel tube at the top forming the edge of wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube below window line
- One (1) row of 1 ½" x 2 ½" horizontal 16-gauge steel tube at floor level
- One (1) row of 14-gauge c-channel at top of side wall
- One (1) row of 1 ½" x 1 ½" horizontal 16-gauge steel tube at bottom forming edge of wall
- Vertical steel ribs shall consist of 1 ½" x 2" 16-gauge steel tubes located at sides of each window
- One (1) 1 ½" x 1 ½" 16-gauge steel tube shall be welded vertically at the midpoint of each window with a width greater than 24", connecting the horizontal tubes below window and the horizontal tube welded at the floor line

- Two (2) 1 ½" x 1 ½" 16-gauge steel tubes at the front of the sidewall to form the front and rear of the door opening
- Rear walls shall have 14-gauge plates with holes to allow the wall to be fastened to the sidewalls
- Roof bows shall be 1 ½" x 1 ½" 16-gauge tubes, bent to the radius of the roof. Traditional roof bows with or without capped top covers are not acceptable.
- Two (2) roof bows welded together at front of roof structure
- All roof cross members shall be a minimum of 16-gauge steel
- One (1) row of 1 ½" x 1 ½" 16-gauge steel tubing shall be installed to form the center longitudinal members, front-to-rear of roof structure
- One (1) 1 ½" x 1 ½" 16-gauge steel tube installed at bottom of roof bow on each side of roof structure

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or a single-piece FRP skin laminated to the substrate and roof steel with urethane adhesive. The bus body shall be constructed of welded walls, subfloors, roof framing and rear steel structure, forming an integrated steel cage around the passenger compartment.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. Exterior FRP composite of roof shall be secured to side walls with seam being covered by a rain gutter. Exterior seams are allowed only at the junction of the front cap and rear cap. Other seams on the exterior of the roof are not acceptable. The body and roof shall be thoroughly water-tested and made tight to prevent leakage.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of FMVSS 220 roll over protection test results shall be available if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Buses built with honeycomb composite construction will not be considered for this RFQF.

Comply Yes/No: _____

Floor Structure and Floor/ Ramp Covering: Steel subfloor structure shall be isolated from chassis with OEM rubber isolation mounts and bolted through these mounts to chassis frame rails. Steel sub floor cross members shall be 2" x 2" 14-gauge steel tubing. Sides of subfloor shall be 14-gauge c-channel that will overlap the 1.5" x 2.5" 16-gauge floor line tubing in the side walls. Floor decking shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Underside of floor decking shall be sprayed with an undercoating prior to installation to the subfloors. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housing. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Cab flooring shall be OEM insulated floor covering.

Ramp area, interior flooring, and lower walls shall be seamless, sprayed with protective coating. A sealant shall be used in body-to-floor corners to provide a water-resistant seal. All interior floor coverings, ceilings, and walls shall be color coordinated with the interior color scheme.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

Stanchions and grab rails shall be 1.25” diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends ae to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver’s seat with a horizontal guard also being provided.

Vertical stanchion shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of entry ramp with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver’s seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Chassis shall include driver door, but passenger door shall be omitted. Passenger compartment shall include front entry door on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door shall have a minimum horizontal opening of 39”, a minimum height of 56” from highest point of entry ramp to top of door opening, and must be operated through the use of an electric door mechanism. Clear horizontal opening with handles shall be a minimum of 35”. If removed from driver’s area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed. For emergency situations, a manual door

release control shall be provided over the top of the door, and shall be designed to permit simple operations to override the electric door operator.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the entry ramp. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door

Horizontal opening width: _____

Vertical opening width: _____

Clear horizontal opening width (with handles): _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FLVSS 205.

The driver shall be provided with an openable widow on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided the driver's side window shall be mounted in the driver entrance door.

Passenger side windows shall be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window shall be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 660 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition window shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (35,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 85,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fan, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and accelerator pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: Standard OEM lighting shall be provided in the instrument panels and overhead in the driver's area.

The entry ramp shall be adequately illuminated by an overhead door light and lights along each side of the ramp to illuminate the entry floor/ramp according to ADA standards. The entry lighting should automatically engage when entrance doors are opened and turned off when doors are closed.

Adequate lighting shall be provided to illuminate the center aisle. Interior lighting shall activate when entrance doors are opened and turned off when doors are closed. Controls shall be provided in the operator area for manual activation of interior lights with or without ignition activation.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seating:

Driver-only seating in the cab portion of the chassis. All passenger seating is to be within the passenger compartment.

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of sixteen (16) forward facing fixed passenger seats shall be provided. A minimum of six (6) single foldout seats with seatbelt shall be provided as additional ambulatory passenger seating in the wheelchair securement area. Seating shall be mid-back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware

Seats shall be track mounted with the track welded to the vehicle frame, or bolted directly to the floor/steel structure to provide clean floor surfaces without breaks in floor seal. Seat pedestal shall be offset a minimum of 10" inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer's recommendation.

All passenger seats shall be mounted with a minimum of 26" hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12" seat belt extensions shall be provided.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single foldout seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable exterior rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by vehicle washing equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on type mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment: All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

12-volt DC power receptacles, minimum of two (2)

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 25-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. Th back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall comply with all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38.

Comply Yes/No: _____

Passenger Entry Ramp: Passenger entry ramp shall be a power ramp that is designed for use by both wheelchair and ambulatory passengers. Entry steps are not to be installed on this vehicle. Ramp surface shall be continuous and slip resistant with a contrasting band of color running along the full perimeter of the ramp. The ramp shall have side barriers at least 2" high. Ramp shall have a minimum load capacity of 600 lbs. and a minimum clear width of 30". Ramp angle shall meet ADA slope regulation of 1:6.

During transit, ramp must be stowed in such a way as to not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers in the event of a sudden stop or jolt.

Passenger Entry Ramp:

Manufacturer: _____ Model: _____

Description: _____

Length: _____ Width: _____

Capacity: _____ Slope: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Retractable Systems with L track. Storage shall be provided when wheelchair securement/occupant restraint systems are not in use. When the wheelchair spaces are not being used, there shall be forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two (2) inside and one (1) outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined in an **ALL, NONE or SOME manner in any combination.** The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issues by FMVSS, FTA, FHWA, and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield the driver from airborne particulates (breaths, coughs, and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of refillable type of use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer **shall certify** that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer’s License Number: _____

MMVC Manufacturer’s License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or
Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, 24 Passenger (Minimum), Basic, Non-ADA

Bus, basic, minimum twenty-four (24) passenger, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity (*exclusive of driver*): _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection an item is found not to be in compliance the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced non-accessible Class A type bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of twenty-four (24) ambulatory forward-facing passengers, with a minimum GVWR (Gross Vehicle Weight Rating) of 14,000 pounds. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis

Wheelbase: 176" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, an eight-cylinder forward mounted, gasoline fueled, 410 CID minimum. The engine shall be equipped with oil

bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or gasoline.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be a fully automatic, American manufactured model, with an auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Transmission shall be six (6) forward speeds minimum. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 5,000 lbs. (minimum)
b. Rear axle rating – 9,500 lbs. (minimum)
c. GVWR weight – 14,200 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out drawer located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electric wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic

moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap **is not acceptable**. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RMPs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions:
Overall width – 96” maximum
Overall height – 127” maximum (with air conditioner)
Ground to first step – 12” maximum
Step depth – 8.5” minimum
Individual riser height – 9.5” maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions:
Passenger Compartment of Body:
Height – 72” minimum
Center aisle width – 13” minimum
Hip-to-knee space – 26” minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing

and Stepwell: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum useable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall be designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11-gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall, and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16" thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver's seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling,
Dash and Instrument
Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and
Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 28" with minimum height of 78" from top of first step to door header, and must be manually operated, unless door is removed from driver's area. If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device in the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

All operable windows shall open and close freely with a tight fit when closed.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (65,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 90,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candle of illumination measured on the step tread or lift.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats: Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of twenty-four (24) forward facing fixed passenger seats shall be provided. Fixed passenger seats shall be comparable to Freedman Feather Weight. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4” thick at the front edge, tapering to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾”. Seat suspension shall be ‘no-sag’ or ‘flex-o-lator’ type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 27” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12” seat belt extensions shall be provided.

The driver’s seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors: Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment: All standard equipment including, but not limited to:

- Four (4) complete sets of keys shall be provided

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 25-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum) , one (1) heavy-duty CCD 130°

angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.**

Comply Yes/No: _____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in an **ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issues by FMVSS, FTA, FHWA and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily hand paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular

reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer **shall certify** that the vehicle complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided "as built" for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator's manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator's manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, 24 Passenger, ADA Fixed Route

Bus, accessible, twenty-four (24) passenger, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair(s) *(exclusive of driver)*: _____

Ambulatory seating capacity **with** one wheelchair *(exclusive of driver)*: _____

Ambulatory seating capacity **with** two wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A type bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of 18 ambulatory forward-facing passengers (16 fixed seats and two (2) single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 14,000 pounds. Vehicle shall be equipped to accommodate two (2) wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environment protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis:

Wheelbase: 176" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, an eight-cylinder forward mounted, gasoline fueled, 6.8 Liter minimum, delivering a minimum of 350 net SAE horsepower when rated in accordance with SAE J-245. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded or low lead gasoline.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be fully automatic, American manufactured model. The transmission shall be the heaviest duty model provided by the manufacturer valued to the engine horsepower and GVWR of the vehicle. Transmission shall be six (6) forward speeds with overdrive minimum, with auxiliary cooler. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface (mechanical governor not acceptable). Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 5,000 lbs. (minimum)
b. Rear axle rating – 9,600 lbs. (minimum)
c. GVWR weight – 14,000 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of fifty-five (55) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 240 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size and capacity (750 CCA minimum), having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out drawer located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery system cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outline in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 240 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and conditions of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap is not acceptable. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in case of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System, shall comply with the latest motor vehicle standards in effect. Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted (if possible) to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in Park, and parking brake set, fast idle will automatically increase RPMs to a pre-set level when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width – 96” maximum
Overall height – 127” maximum
Ground to first step – 12” maximum
Step depth – 8.5” minimum

Individual riser height – 9.5" maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment of Body:
Height – 72" minimum
Center aisle width – 13" minimum
Hip-to-knee space – 27" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing and Stepwell: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum usable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted, or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mountings of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure:

Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11 gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on is top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels to deaden sound and reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16" thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver's seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling,
Dash and Instrument
Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 28" with minimum height of 78" from top of first step to door header, and must be manually operated, unless door is removed from driver's area. If removed from driver's area, door will be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safety type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with a power electric openable window on the left side. The driver's side window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area, and one rear unit (65,000 BTU minimum) so located as to uniformly heat the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices, and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 90,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting:

The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step light should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting:

All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats:

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of sixteen (16) forward facing fixed passenger seats shall be provided. Two (2) forward facing single foldout seats with seatbelts shall be provided in the wheelchair securement area. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware. Fixed passenger seats shall be comparable to Freedman Feather Weight. Double foldout seat shall be comparable to Freedman mid back three step folding seat.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4” thick at the front edge, tapering to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾”. Seat suspension shall be ‘no-sag’ or ‘flex-o-lator’ type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 5” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 27” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transportation grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed Passenger Seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single Foldout Seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four (4) complete sets of keys

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wiper/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 16-unit first aid kit
d. Three triangle safety reflectors
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes
g. Six 30-minute road flares and three portable warning reflectors mountable on stands

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock-resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and protected from water and road spray.

Alarm Volume (db): _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall include all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38

Comply Yes/No: _____

Wheelchair Lift: Lift must be ADA approved and comply with FMVSS 403 and 404. Lift shall be located on right side of vehicle, and be fully automatic with backup pump and rails. Lift doors shall be same material and thickness as body sidewalls. Lift doors shall have a t-latch system for holding the door open while in use. Lift shall include a fully automated lift interlock system.

Lift shall have a minimum lift capacity of 1,000 lbs. and a minimum platform width of 34".

Wheelchair Lift:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Q'Straint Q-8100-A1-L; Sure-Lok Retractor System for L track; or approved equal. When the wheelchair space(s) is not being used, there shall be two (2) forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in **an ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA and other applicable safety regulations.

1. Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver, shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs and sneezes) as passengers board/de-board the bus.

   Note: When this option is chosen, the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section on Page 8.

   Barrier Material: _____ Barrier Thickness: _____

   Comply Yes/No: _____

2. Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

   Partition Material: _____ Partition Thickness: _____

   Comply Yes/No: _____

3. Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

   Comply Yes/No: _____

4. Fare Box: A transit-type fare box shall be installed, and shall readily handle paper currency as well as coins. Fare box shall include an extra vault.

   Manufacturer: _____ Model: _____

   Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer shall certify that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer shall certify that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power unit and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes Formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer’s License Number: _____

MMVC Manufacturer’s License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or
Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, 27 Passenger, ADA Fixed Route

Bus, accessible, twenty-seven (27) passenger, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair(s) *(exclusive of driver)*: _____

Ambulatory seating capacity **with two** (2) wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must response to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A type bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of twenty-two (22) ambulatory forward-facing passengers (18-20 fixed seats and 2-4 single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 19,500 pounds. Vehicle shall be equipped to accommodate two (2) wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on the date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis

Wheelbase: 176" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, a ten-cylinder forward mounted, gasoline fueled, 415 CID minimum. The engine shall be equipped with oil bath or replaceable element dry type air cleaner and replacement element full flow oil filter. The engine shall meet the current Federal regulations and EPA emissions standards. It shall be the manufacturer's low compression type as recommended for operation on unleaded gasoline.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be a fully automatic, American manufactured model, with an auxiliary cooler. The transmission shall be the heaviest duty truck-type model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Transmission shall be six (6) forward speeds minimum. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspensions: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

No tag axles will be accepted.

Front axle shall be of standard heavy-duty design. The rear wheel bearings shall be oil lubricated.

Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the classis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 7,000 lbs. (minimum)
b. Rear axle rating – 14,500 lbs. (minimum)
c. GVWR weight – 19,500 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing **may not** be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. One or both batteries shall be mounted in a pull-out drawer located behind the passenger door. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning,

wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom, convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Wiring in body of bus shall be in a plastic loom from power source to the component or fixture, and shall be adequately protected against interference by passengers and the environment. Paper and cotton braid wrap **is not acceptable**. Wiring in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating. An automatic mechanical control device is to be installed to shut down the engine before overheating or low oil pressure causes damage.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width – 96" maximum
Overall height – 127" maximum (with air conditioner)
Ground to first step – 13" maximum
Step depth – 8.5" minimum
Individual riser height – 9.5" maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment of Body:
Height – 74" minimum
Center aisle width – 13" minimum
Hip-to-knee space – 26" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing and Step well: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Step wells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Step wells shall be lighted and shall have a first entry step no higher than 13" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum usable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and

Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type. Front bumper shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall be designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11-gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Must meet current FMVSS 220 regulations.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.
The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, except where prohibited by chassis manufacture guidelines, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8” marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewalk panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16” thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver’s seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

All stanchions and grab rails shall be 1.25” diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver’s seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver’s seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 28” with minimum height of 78” from top of first step to door header, and must be manually or electrically operated. If

removed from driver's area, door must be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

Windshield is to be fixed-type ¼" tinted, laminated safety plate glass (FMVSS 205-compliant) set in heavy rubber channels.

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

All operable windows shall open and close freely with a tight fit when closed.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 200 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of three (3) units; one front unit located in the driver's area, one center unit, and one rear unit. The center and rear units shall be a minimum 65,000 BTU total, and incorporate a circulating pump to maintain hot water/glycol in the cores. The rear unit is to be placed as close to the rear of the bus as possible.

The front unit shall have one (1) large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 90,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator, two (2) excel CM-2 condensers, and one (1) each OEM and TM-21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting: The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread or lift.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats: Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of eighteen (18) to twenty (20) forward facing fixed passenger seats shall be provided. Two (2) or four (4) forward facing single foldout seats with seatbelts shall be provided in the wheelchair securement area. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware. Fixed passenger seats shall be comparable to Freedman Feather Weight. Single foldout seats shall be comparable to Freedman mid back three step folding seats.

Certified test reports for the specific model of seat being used shall be submitted with the

SOQ.

The seat bottom foam cushion shall be a minimum of 4" thick at the front edge, tapering to a minimum of 3" at the rear of the cushion. The seat back foam will be a minimum of 2" thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35" wide, single seats shall not be less than 17.5" wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾". Seat suspension shall be 'no-sag' or 'flex-o-lator' type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10" inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer's recommendations.

All passenger seats shall be mounted with a minimum of 27" hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12" seat belt extensions shall be provided.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be OEM transit grade. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position.

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single foldout seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 30-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color:

Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure

recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall include all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38

Comply Yes/No: _____

Wheelchair Lift: Lift must be ADA approved and comply with FMVSS 403 and 404. Lift shall be located on right side of vehicle, and be fully automatic with backup pump and rails. Lift doors shall be same material and thickness as body sidewalls. Lift doors shall have a t-latch system for holding the door open while in use. Lift shall include a fully automated lift interlock system.

Lift shall have a minimum lift capacity of 1,000 lbs. and a minimum platform width of 34".

Wheelchair Lift:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Q'Straint Q-8100-A1-L; Sure-Lok Retractor System for L track; or approved equal. When the wheelchair spaces are not being used, there shall be two (2) to four (4) forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in **ALL, NONE, or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA, and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Farebox shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

Acknowledge Yes/No: _____

Workmanship:

Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts:

A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards:

The manufacturer **shall certify** that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing:

The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representative within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (all components) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection:

MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery:

Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class A Transit, Accessible, 32 Passenger, ADA Fixed Route

Bus, accessible, (thirty-two) 32 passenger, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair(s) *(exclusive of driver)*: _____

Ambulatory seating capacity **with two (2)** wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced accessible Class A type bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of (twenty-eight) 28 ambulatory forward-facing passengers (24 fixed seats and 4 single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 19,500 pounds. Vehicle shall be equipped to accommodate two wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environmental protection and safety in operations as are in effect on date of Request for Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis

Wheelbase: 190" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine furnished shall be of heavy-duty design and construction having, at minimum, 6.8L, 300HP, gasoline fueled. The engine shall meet the current Federal regulations and EPA emissions standards. A full-flow type oil filter will be mounted to the engine which incorporates a full-flow, screw-on type replacement. A dry-type air cleaner utilizing a replacement pleated paper element shall be provided. The engine air duct shall be shaped so as to minimize water entrance into the air induction system. Air cleaner will be mounted. Starting motor will be 12-volt, protected from exhaust manifold heat and of ample capacity to crank the engine. The area inside the power plant compartment adjacent to the bus interior shall be completely insulated so as to prevent smoke and fumes from entering the passenger compartment, which shall also be insulated against both heat and sound. Access panels shall be easily removable to permit access to all power plant component accessories.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be a fully automatic, American manufactured model with an auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Transmission shall be six (6) forward speeds minimum. Gear ratios shall provide "near even splits" for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers' weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

Heavy-duty shock absorbers shall be installed on both the front and rear of the chassis. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 7,000 lbs. (minimum)

b. Rear axle rating – 13,500 lbs. (minimum)
c. GVWR weight – 19,500 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall be positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for gasoline fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System: The electrical system shall be a 12-volt system with a 12-volt starting motor and have an alternator with a minimum rating of 225 amps. Minimum of two (2) full-size commercial transit type heavy-duty 12-volt batteries, of equal size (750 CCA minimum) and capacity, having a combined total minimum 1,500 CCA. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle, with a minimum alternator capacity of 225 amps.

The battery compartment(s) shall be large enough to accommodate the batteries and shall be sealed and vented to the outside. The battery compartment(s) shall be secured with a locking device. Batteries shall be mounted in compartment(s) on left side or under the hood.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be SAE J1128 type GXL wiring covered with split loom,

convoluted tubing to protect wiring from chaffing and other mechanical damage. Wiring shall be color and function coded. All wire connectors shall be OEM type (or equivalent) locking plastic moldings with brass or copper terminals. All circuits, including main power feed, shall be protected by manual reset circuit breakers.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Wiring in body of bus shall be in a plastic loom from power source to the component or fixture, and shall be adequately protected against interference by passengers and the environment. Paper and cotton braid wrap is not acceptable. Cable in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in the event of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity – each: _____ combined: _____

Comply Yes/No: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver and adequately lighted. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating. An automatic mechanical control device is to be installed to shut down the engine before overheating or low oil pressure causes damage.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect. Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width – 96” maximum
Overall height – 127” maximum (with air conditioner)
Ground to first step – 12” maximum
Step depth – 8.5” minimum
Individual riser height – 9.5” maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment of Body:
Height – 74" minimum
Center aisle width – 13" minimum
Hip-to-knee space – 26" minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing and Stepwell: Wheel housing shall be steel or aluminum construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12" above the ground. Individual risers shall not exceed 9.5". The steps shall have a minimum depth of 8.5" and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum usable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted or shall have an aluminum finish,

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall be designed to correspond with or exceed standard practice performance criteria for vehicle of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. **Note: Aluminum sheeting on the steel frame is not acceptable.**

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11-gauge structural angle iron welded 16" on centerand bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

Comply Yes/No: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8" marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and when housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16" thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver's seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling,
Dash and Instrument
Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and

Stachions and Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 28" with minimum height of 78" from top of first step to door header, and must be manually or electrically operated. If removed from driver's area, door must be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

Windshield can be one or two piece assembly, glazed with ¼" tinted, laminated safety glass (FMVSS 205-compliant) with a density of tint in accordance with ASA standards for tinted safety glass. The glass shall have a minimum of 3,200 square inches clear viewing area. If a cut-away chassis is used, the manufacturer's standard OEM windshield is acceptable.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Windows shall provide a view level extending from the bottom of the window at approximately 30" above the bus floor to the top of the window at approximately 66" above the bus floor. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side window dimensions shall be 720 square inches, minimum.

Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 90 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the passenger entry door. The window area shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of three (3) units; one front unit located in the driver's area, one center unit, and one rear unit. The center and rear units shall be a minimum 65,000 BTU and incorporate a circulating pump to maintain hot water/glycol in the cores. The rear unit is to be placed as close to the rear of the bus as possible.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet the applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 120,000 BTU air conditioning system shall be provided. The air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) GEN V EM-3 evaporator mounted in the rear of the bus, one (1) EM6 evaporator mounted in the front of the bus behind driver, two (2) CM-3 condensers, and one (1) each OEM and T21 compressor for a combined minimum displacement of 19 cubic inches. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort. Minimum three fan condenser with heavy duty evaporator and alternator.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting:

The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread or lift.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting:

All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, marker, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal.

Comply Yes/No: _____

Seats:

Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of twenty four (24) forward facing fixed seats shall be provided. Four (4) forward facing single foldout seats with seatbelts shall be provided in the wheelchair securement area. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware. Fixed passenger seats shall be comparable to Freedman Feather Weight. Single foldout seats shall be comparable to Freedman mid back three step folding seat.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4” thick at the front edge, tapering to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16 ¾”. Seat suspension shall be ‘no-sag’ or ‘flex-o-lator’ type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 27” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12" seat belt extensions shall be provided.

The driver's seat shall be of standard manufacture transportation quality with retractable seat belt and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Passenger Seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single Foldout Seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors:

Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6" x 9" (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4" x 16" (minimum) rectangular inside rear mirror shall be installed for the driver's view of the bus interior.

An internal rear view mirror, 6" in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment:

All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

Sun visor – manufacturer's standard, adjustable for the windshield in front of the driver and for the driver's side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter
c. One 36-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color:

Cab and body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo:

A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall include all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38

Comply Yes/No: _____

Wheelchair Lift: Lift must be ADA approved and comply with FMVSS 403 and 404. Lift shall be located on right side of vehicle, and be fully automatic with backup pump and rails. Lift doors shall be same material and thickness as body sidewalls. Lift doors shall have a t-latch system for holding the door open while in use. Lift shall include a fully automated lift interlock system.

Lift shall have a minimum lift capacity of 1,000 lbs. and a minimum platform width of 34".

Wheelchair Lift:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Q'Straint Q-8100-A1-L; Sure-Lok Retractor System for L track; or approved equal. When the wheelchair spaces are not being used, there shall be forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in an **ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must meet or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs, and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs, and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society of Testing Materials and the American Welding Society. All welds visible to the public shall be ground smooth after the welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle Standards: The manufacturer **shall certify** that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing: The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare

h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty: Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year of the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided "as built" for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator's manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator's manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____

Bus, Class C Transit, Accessible, 32 Passenger, ADA Fixed Route

Bus, accessible, thirty-two (32) passenger, Class C, meeting all Federal requirements for ADA Fixed Route, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Bus Proposed:

Manufacturer: _____ Model: _____

Class: _____ Total GVWR: _____

Ambulatory seating capacity **with no** wheelchair(s) *(exclusive of driver)*: _____

Ambulatory seating capacity **with two (2)** wheelchairs *(exclusive of driver)*: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met in order for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to be in compliance, the unit(s) will be rejected.

Descriptive literature shall be furnished to substantiate the details specified in SOQ.

Scope: The purpose of these specifications is to set forth **minimum** requirements for a commercially produced heavy duty straight frame, flat nose, all steel, accessible Class C type bus, meeting FTA (Federal Transit Administration) standards, capable of seating a minimum of twenty-eight (28) ambulatory forward-facing passengers (24 fixed seats and 4 single foldout seats), with a minimum GVWR (Gross Vehicle Weight Rating) of 25,500 pounds. Vehicle shall be equipped to accommodate two wheelchair positions. Vehicle shall be fully tested at the Pennsylvania State bus testing facility in Altoona, Pennsylvania according to the applicable FTA minimum service life requirement.

Federal, State, and Automobile Manufacturers' Association (AMA) laws, regulations, standards, and specifications concerning the production of utility vehicles or components thereof as related to environment protection and safety in operations as are in effect on date of Request For Quote Formal (RFQF) shall be construed to form a part of these specifications.

Vehicle components, assemblies, and accessories shall be standard production items, unless otherwise specified herein. The vehicles and all allied equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbance of other components or assemblies. The term "heavy-duty" is used to quantify quality or capacity that is normally supplied with the standard production item. All vehicles supplied under this specification shall be in full compliance with applicable Federal Motor Vehicle Safety Standards as established by the U.S. Department of Transportation.

SPECIFICATIONS

Chassis

Wheelbase: 236" minimum

Wheelbase: _____

Comply Yes/No: _____

Engine: The engine shall be of heavy-duty design and construction having, at minimum, a 6.7L, diesel fueled, 210-300 brake HP, 520-860 lb.-ft. torque, turbo-charged, after cooled, meeting all applicable EPA emission standards current at time of production. The engine shall be direct injected with a B10/B50 life of 300,000/450,000 miles. A full-flow type oil filter should be mounted to the engine, which incorporates a full-flow, screw-on type replacement. A dry-type air cleaner utilizing a replacement pleated paper element shall be provided. The engine air duct shall be shaped so as to minimize water entry into the air induction system. Air cleaner shall be mounted. The area inside the power plant compartment adjacent to the bus interior shall be thoroughly insulated so as to prevent smoke and fumes from entering the passenger compartment, and insulated against both heat and sound. Easily removable access panels shall be provided to permit access to all power plant components and accessories.

Manufacturer shall provide certification that the automatic engine shut-off switch has been activated.

Engine description and horsepower: _____

Comply Yes/No: _____

Transmission: Transmission is to be a fully automatic, American manufactured model, with an auxiliary cooler. The transmission shall be the heaviest duty model provided by the manufacturer matched to the engine horsepower and GVWR of the vehicle. Gear ratios shall provide “near even splits” for jerk-free operation and shall be ideally matched to the performance curve of the particular engine.

Transmission: _____

Comply Yes/No: _____

Axles/Suspension: Both the front and rear axles shall be load rated for design distribution so that they are capable of carrying the loads upon them during all conditions of transit operation, including anticipated loads and stresses. The vehicle shall be designed to carry a maximum transit load (GVWR) which shall include the curb weight of the bus, a full load of passengers, and the driver (calculation of passengers’ weight averaged at 150 pounds each). Bidder shall indicate a maximum number of passengers that the vehicle can carry.

Bidder shall furnish with Statement of Qualifications (SOQ) full signed certification along with supporting documentation on ability to meet the said specifications and shall indicate certified curb weight and GVWR load rating based on axles, suspension system, shock absorbers, and tires.

Front axle shall be of standard heavy duty design. The rear wheel bearings shall be oil lubricated.

Axle ratio shall be such as to provide at least 70 MPH road speed with full load on level surface. Drive shaft shall be capable of transmitting maximum torque generated by the engine and transmission to the rear axle. A guard for the shaft is required.

The front suspension shall be a parabolic taper leaf spring design with heavy-duty shock absorbers. Heavy-duty shock absorbers shall be installed on the rear of the chassis. Rear air ride system may be used with rear shock absorbers. The suspension shall be strengthened as needed to prevent any listing or leaning to the side of the vehicle on which the lift is located, if applicable.

All chassis are to be equipped with eccentric Castor/camber pinch bolt bushing kits to ensure proper front-end alignment after body mounting. Front end alignment will be required of the manufacturer after the bus is completed and prior to delivery to the customer. A report printed after the alignment has been complete shall be provided with the delivered vehicle.

The suspension system shall be designed to maximize control and roll, and prevent excessive body lean-in turns. Front stabilizer bar shall be furnished (if available from chassis manufacturer). Springs shall have the following capacities:

a. Front axle rating – 10,000 lbs. (minimum)
b. Rear axle rating – 15,000 lbs. (minimum)
c. GVWR weight – 25,500 lbs. (minimum)

Axle rating/capacity:

Front: _____ Rear: _____

Axle type:

Front: _____ Rear: _____

Gear ratio: _____

Road speed: _____

Comply Yes/No: _____

Cooling System: The radiator shall be heavy-duty and have sufficient capacity to properly cool the engine in heavy, rural-type transit service without the addition of coolant throughout a normal day's operation. Engine fan may be driven by gears from the engine camshaft.

The cooling system shall be of a pressurized type. Manufacturer's standard OEM hosing or approved equal shall be used throughout the cooling system. All-weather type coolant shall be utilized to protect to a minimum of -20°F.

Radiator or filler neck shall be equipped with a safety pressure release cap and shall positioned to readily permit checking and adding coolant from outside the vehicle.

Comply Yes/No: _____

Exhaust System: The exhaust system must be leak proof and designed and constructed to minimize fire hazard. All parts must be made of corrosion resistant materials. Flexible tubing may not be used between engine and muffler.

Exhaust tail pipe shall be installed as high as possible from the ground. Exhaust gases or waste heat shall be discharged to the rear of the bus and shall exit roadside (driver side of the vehicle). The exhaust tail pipe shall be adequately supported, extend to the back of the bus, and have a turndown at the end so that exhaust gases do not discolor any part of the vehicle body.

The system shall be securely fastened and routed to protect components from hazards. There shall be a galvanized steel heat shield between exhaust system and floor. System shall conform to the requirements of Federal Motor Carrier Safety Regulations.

Comply Yes/No: _____

Fuel System: The fuel tank(s) shall have a minimum capacity of forty (40) gallons for diesel fuel. The tank(s) shall be made of heavy gauge steel, treated to prevent rusting throughout the life of the vehicle. The tank(s) shall be mounted outside of the passenger compartment of the vehicle. The filler pipe or neck shall be free of any obstructions and meet industry standards.

The fuel system shall be internally baffled to prevent surging, and shall be rigidly supported and arranged for easy removal. The fuel system must meet Federal standards.

Capacity per tank: _____

Number of tanks: _____

Comply Yes/No: _____

Electrical System:

The electrical system shall be a 12-volt system with a 12-volt starting motor. The alternator shall be sized to meet the electrical load requirements and maintain a charged battery system. The alternator shall have a minimum rated output of 270 amps. Two (2) full-size commercial transit-type heavy-duty 12-volt batteries, of equal size (1,300 CCA minimum) and capacity, having a combined total minimum 2,600 CCA. Both batteries shall be located in the battery storage compartment with easy access for service. All material used in the electrical system shall be of the highest available quality. The battery system shall be adequate for all electrical loads and demands. Battery systems, cables, charging, service life, venting, storage, voltage drop, and installation shall follow SAE recommended practices as well as the criteria outlined in 49 CFR § 393.30. Alternator must have sufficient capacity to charge above the demand rate with full load, air conditioning, wheelchair lift, and other equipment operating when engine is at idle.

All electrical wiring in the vehicle shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be standard wire-type. All circuits, including main power feed, shall be protected by manual reset circuit breakers, in lieu of fuses, with the exception of 5 amp fuses.

All electrical components shall be designed to function effectively under both normal driving conditions and condition of high amperage at idle speeds.

A schematic shall be affixed inside the master panel, identifying which breaker controls which component or fixture (for bus body).

Paper and cotton braid wrap **is not acceptable.** Wiring in body of bus shall be in a plastic loom from power source to the component or fixture, and shall be adequately protected against interference by passengers and the environment. Cable in engine compartment shall be insulated to protect it from engine heat. Cables and wiring shall be held in place with rubber-covered clamps.

All cable and wiring diagrams are to be marked showing the codes used.

Two (2) heavy-duty, 12-volt electric horns shall be provided and installed in a location protected from wheel wash.

Electrical devices, switches, and gauges shall be located such that they will not create a fire hazard during normal operation or in case of failures. All electrical motors, with the exception of the starter, shall be readily accessible for service including directional lights, defroster, fan low center, and door buzzer.

A battery disconnect switch shall be located in either the driver's area or the battery compartment.

Vendor shall provide a 12-volt power outlet.

Alternator:

a. Manufacturer: _____

b. Amperage rating: _____

Battery size and capacity - each: _____ combined: _____

Instrument Panel and Control Switches:

A separate instrument panel shall be conveniently located in front of the driver. It shall include, at a minimum, the following instruments:

a. Reliable road speed indicator with odometer
b. Oil and brake system pressure gauge
c. Ammeter or voltmeter gauge
d. Fuel gauge
e. Headlights high beam indicator light
f. Engine temperature (hot engine) gauge
g. Left and right turn signal indicators

The chassis manufacturer shall provide and cover instrument panel with plastic covering or equivalent in order to provide protection from precipitation from time of manufacture until body is mounted.

Warning lights and buzzers shall be provided to indicate low oil pressure and engine overheating. An automatic mechanical control device is to be installed to shut down the engine before overheating or low oil pressure causes damage.

A control switch panel shall be located in the driver's compartment and shall be designed for simplification of electrical controls and shall be inclined for easy access to control switches. Separate switches shall control the front heater, rear heater(s), and defrosting motor.

Normal control of electrical units, except turn signals, hazard flasher, and horn, shall be through positioning of the main control switch, if applicable.

Comply Yes/No: _____

Steering: Steering mechanism shall be equipped with an integral power steering constructed to allow the operator to easily steer the bus and to minimize road shock and vibration. Steering wheel/column shall be tilting for operator comfort and safety and include speed (cruise) control.

Comply Yes/No: _____

Brakes: The service brakes shall be heavy-duty power hydraulic disc-type brakes with electronic Anti-lock Braking System (ABS) and shall comply with the latest motor vehicle standards in effect (FMVSS 105). Wearable brake parts shall be heavy-duty and shall be designed to be compatible with axles, tires, other suspension components, and GVWR requirements.

The parking brake may be either combined with the emergency spring braking system or mechanically operated by the driver. The system shall be adequate to hold a fully loaded bus on a 20% grade.

Bidder shall furnish with SOQ full information and specifications of braking system.

Comply Yes/No: _____

Wheels and Tires: Wheels and tires shall be sized according to OEM chassis specifications. Tires shall be all season, tubeless, steel-belted radial ply. There shall be single wheels on the front and dual wheels on the rear. All wheels and tires shall be interchangeable, of equal size and rating. The combined load rating of wheels and tires shall meet or exceed the minimum GVWR of the vehicle. One spare tire and rim shall be provided, mounted to the vehicle, and shall be identical in size and manufacture to other tires. A valve stem extender on the inner wheels shall be provided so the tire pressure can be easily checked and adjusted. Mud flaps shall be provided behind both sets of rear wheels. Tires and wheels shall be properly balanced and aligned.

Tire size (including load index and speed rating): _____

Comply Yes/No: _____

Lubrication: Full and complete lubrication as furnished in regular commercial production units shall be provided. High-pressure hydraulic fittings shall be provided where needed. Fittings shall be located to permit ease of access.

All exposed lubrication fittings shall be masked or otherwise protected at the time of painting and undercoating.

Comply Yes/No: _____

Fast Idle Solenoid: A fast idle solenoid or equivalent shall be installed on the vehicle. The system must permit higher engine RPMs while the vehicle is at rest without need of the driver to continuously depress the accelerator pedal. With transmission in park, and parking brake set, fast idle will automatically increase RPMs to pre-set levels when a low voltage condition is detected.

Comply Yes/No: _____

Body, Interior, and Accessories

General Dimensions: Overall width – 96” maximum
Overall height – 127” maximum (with air conditioner)
Ground to first step – 12” maximum
Step depth – 8.5” minimum
Individual riser height – 9.5” maximum

Length: _____ Width: _____ Height: _____

Ground to first step: _____ Step depth: _____

Individual riser height: _____

Comply Yes/No: _____

Interior Dimensions: Passenger Compartment of Body:
Height – 78” minimum
Center aisle width – 13” minimum
Hip-to-knee space – 26” minimum

Width: _____ Height: _____

Center aisle width: _____ Hip-to-knee space: _____

Comply Yes/No: _____

Wheel Housing and Stepwell: Wheel housing shall be galvanized steel construction providing ample clearance of front wheel while steering. Wheel housing and fenders must be constructed so as to permit removal of wheel hub assemblies as a unit. Wheel housing shall be protected against corrosion with undercoating.

Stepwells are to be of heavy-duty steel or aluminum construction with adequate reinforcement to prevent deflection. They shall be adequately fastened to and supported by the body. Steps and risers shall be in accordance with general dimensions as noted and shall conform to Federal regulations governing elderly and handicapped vehicles.

Stepwells shall be lighted and shall have a first entry step no higher than 12” above the ground. Individual risers shall not exceed 9.5”. The steps shall have a minimum depth of 8.5” and shall be continuous for the full width of the door opening.

Comply Yes/No: _____

Running Board: An aluminum running board shall be installed on the driver's side of the vehicle. The running board shall be of one-piece construction, rattle free, and extend from the rear of the front wheel to the rear of the driver's door. The minimum useable step depth shall be 8 inches.

Comply Yes/No: _____

Bumper and Tow Hooks: Front bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type. Front bumpers shall be of steel or steel-reinforced aluminum and shall be attached to the chassis frame. Bumpers shall be either chromed or painted or shall have an aluminum finish.

Rear bumpers are to be provided. Bumpers shall be of one-piece construction and of the heavy-duty type.

A minimum of two (2) rear tow hooks, with the hooks and their mounting of sufficient strength to tow the vehicle, shall be provided and securely attached to the vehicle's understructure. Tow hooks shall be located so that no damage occurs to the vehicle when in tow.

Comply Yes/No: _____

Hood: Shall have lock release from inside the vehicle, easily accessible to the driver. If tilt-type design, hood must have some form of external locking device.

Comply Yes/No: _____

Body Structure: Welded steel cage construction is required. Fiberglass reinforced plastic (FRP) may be used in combination with steel cage construction.

The steel cage construction shall be hot rolled low-carbon steel, tubular with steel roof rails welded to the body sidewall assemblies with a one-piece FRP or steel roof.

The frame shall be designed to correspond with or exceed standard practice performance criteria for vehicles of this type and for the vehicle weight and anticipated loads and stresses.

Sidewalls shall be constructed of FRP or galvanized steel panels, welded or bonded to the steel frame. Note: Aluminum sheeting on the steel frame is not acceptable.

The sidewall bottom rails shall be 16 gauge hot rolled carbon steel, tubular 'Z' configuration, welded to the sidewall studs at 16" on center and welded to the side pan 12" on center at assembly. Inner sidewall rail shall be 11-gauge structural angle iron welded 16" on center and bolted to frame at assembly using 7/16" hardened bolts with lock nuts.

Buses built with honeycomb composite construction will not be considered for this RFQF.

A detailed structural drawing of the cage construction shall be submitted with the SOQ. The drawing will include the size, gauge, and spacing of all structural components.

The body and under structure shall be built as a unit, adequately reinforced at all joints and corners where stress concentration may occur. Design shall be adequate to ensure safe and successful operation of the bus in a heavy traffic, stop-and-go, fully loaded operation.

The side and end framing shall be so designed and constructed that they will carry their proportion of the stresses. All posts in the body side and roof sections shall be durable channel or box construction securely fastened to the under-frame structure so that the entire frame shall be as one unit without any movement at the joints. The end post shall be designed to resist shear. Outside body construction shall consist of sectionalized lower body (skirt) panels with a rub rail at approximately the floor line. The panels shall be constructed of material designed to resist damages

from scrapes and impact, and shall be fastened to the frame in such a manner as to facilitate rapid and economic replacement.

Roof construction shall be of sufficient strength and stiffness to prevent vibration, drumming, or flexing in service, and shall be equivalent to the strength of the bus side wall. The roof shall be constructed of welded galvanized steel or one piece FRP design.

All exterior joints and seams shall be protected by an application of caulking compound of zinc-chromate type or similar material. The body and roof shall be thoroughly water-tested and made tight to prevent leakage. Outside body panels that are welded construction do not require caulking.

Before assembly, all metal body parts shall receive a thorough multiple state anti-corrosion treatment.

The vehicle body shall be attached to the chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

Interior surfaces of body pans and posts, if welded after prime painting and covered by trim materials, shall receive an additional coat of primer as added protection against corrosion. All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

The entire body frame understructure of the vehicle is to be fully undercoated, in compliance with EPA regulations, with nonflammable resin type polyolefin material or equivalent, applied at time of manufacture. Automotive quality undercoating is not satisfactory.

The body shall be of sufficient strength to support the entire weight of the fully-loaded vehicle on its top or side, if overturned. A copy of the FMVSS 220 roll over protection test results shall be available and submitted if requested.

The vehicle body shall be fully insulated in the roof and all body panels deaden sound to reduce vibrations and heat transfers.

The sidewalls of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 6.

The roof of the vehicle shall be fully insulated with fiberglass or other fire-resistant insulation material to a minimum R-value of 5.

Adequate insulation shall be provided throughout the roof and sidewall area together with engine heat riser for efficient management of heat and noise reduction. Insulation must be fire retardant.

Minimum .5” thick foam insulation shall be sprayed between the exterior skin and the interior panels. Insulation shall be moisture-proof and have excellent thermal and acoustic insulating characteristics.

Access door shall be provided in front, inside, or side of bus to service transmission, engine, radiator, batteries, and electrical compartment.

COMPLY YES/NO: _____

Floor and Floor/
Step Covering:

Subfloor shall be constructed of minimum 5/8” marine plywood, six ply, APA certified exterior grade AB, suitably treated with rot proofing and flame-retardant materials. Flooring shall be securely attached to frame members. All edges shall be properly sealed to prevent entrance of moisture.

A water-tight seal shall be provided at the junction of the floor covering with the sidewall panels and wheel housings; and shall be firmly attached to the floor and conform closely to the floor, sidewall

and wheel housings. Alternative methods to ensure a water-tight seal may be used with prior approval.

The entire wooden floor shall be properly prepared for application of rubber floor covering material having anti-skid properties. The entire area shall be covered with rubber cement before application of floor covering. Flooring material shall be transit-grade quality rubber covering. The color is to be coordinated with the interior color scheme.

Step treads shall be of matching, 3/16" thick ribbed treads of molded rubber. Integrally molded white nosings are to be furnished on all edges, including floor level. A white line shall be provided across the center aisle at the rear of the driver's seat.

A metal fuel tank access panel shall be provided in the floor over the fuel tank connections.

Composite thickness: _____

Flooring description,
including manufacturer(s): _____

Floor covering: _____

Comply Yes/No: _____

Interior Paneling, Dash and Instrument Panel, and Ceiling:

All interior walls and doors shall be paneled and covered with an easily maintained material. All panels shall be the same color and coordinated with the interior colors of the vehicle.

The dash and instrument panel shall be finished to coordinate with the interior color scheme of the vehicle.

Ceiling shall be covered with transit grade carpeting that coordinates with the interior color scheme of the vehicle.

Comply Yes/No: _____

Stanchions and Grab Rails:

All stanchions and grab rails shall be 1.25" diameter, stainless steel tubing. Fittings shall be constructed of stainless steel, cast aluminum, or approved equal corrosion resistant material. Fittings should be constructed in such a manner as to prevent rattling.

All stanchions and grab rails shall be attached to structural posts or cross members of the roof to ensure maximum strength and stability.

A continuous, full-length overhead grab rail shall be provided on both sides of the vehicle. The grab rail shall be located so that seated passengers are free from crowding by standees. The grab rail shall be securely attached to the ceiling. Grab rail end shall terminate at the ceiling connectors of elbows, and exposed ends are to be avoided.

A vertical stanchion shall be mounted from the floor and/or seat level to the ceiling grab rail at the right rear of the driver's seat with a horizontal guard also being provided.

Vertical stanchions shall be mounted from floor and/or seat level to the ceiling grab rail at the inside corner of each stepwell with a horizontal hand rail extended from the stanchion to the body side. A right-hand grab rail shall be provided forward of the entrance door and curved to form a horizontal handrail at the entrance and connected to a vertical stanchion.

A modesty panel shall be installed in front of the right passenger seat.

A floor to ceiling partition made of acrylic panel glass shall be installed behind the driver's seat.

All sharp edges, protruding fasteners, brackets, etc. that can cause injury or damage clothing must be eliminated.

Comply Yes/No: _____

Doors:

Front entry door will be provided on the right side of the vehicle. The door will be double-opening split entrance type built on a tubular steel or aluminum frame welded together with a full exterior facing of tinted safety glass. Door will have a minimum horizontal opening of 28" with minimum height of 78" from top of first step to door header, and must be manually or electrically operated. If removed from driver's area, door must be electro-mechanical. Pneumatic is not acceptable. All doors shall be equipped with a locking device when closed.

Door shall be pocket-type to provide optimal seal. A soft rubber cushion at least 2" in width shall be attached to the meeting edges. Assist handles shall be mounted on both sides of the stairwell. Doors, door wells, and seals are to be constructed to prevent drafts and entry of water, to the extent practical. Doors and door openings shall comply with current Federal regulations.

Emergency exits complying with FMVSS 217 shall be provided. These exits may be push-out windows, rear emergency door, and/or roof exit.

Front entry door – horizontal opening width: _____

Method of operation (manual, electro-mechanical): _____

Comply Yes/No: _____

Windows:

All windows, including emergency escape windows, shall be designed and installed in compliance with FMVSS 217.

Windshield shall be fixed-type, glazed with ¼" tinted, laminated safety glass (FMVSS 205-compliant) with a density of tint in accordance with ASA standards for tinted safety glass, set in heavy rubber channels.

All window glass shall be of the safest type and shall be tinted. All window glass shall conform to FMVSS 205.

The driver shall be provided with an openable window on the left side. The driver's window must be equipped with a locking device on the inside. If a driver entrance door is provided, the driver's side window shall be mounted in the driver entrance door.

Passenger side windows will be of transit design. School bus type windows will not be accepted. Vertical mullions between side windows, including trim, will not exceed 11". Passenger side window dimensions shall be 720 square inches, minimum.

Passenger side windows shall be sealed-type, with a top horizontal T-slide opening section. The opening section will be a minimum 6" in height and will provide a minimum opening area of 56 square inches. Positive locking latches will be provided. Each side window will be glazed with 1/8" minimum tempered safety glass.

All operable windows shall open and close freely with a tight fit when closed.

Side and rear windows (including emergency exit windows) shall be tinted a neutral color, complementary to the exterior color scheme. Maximum solar energy transmittance will not exceed 37%, as measured by ASTM E424, and luminous transmittance will be no more than 31%, as measured by ASTM D1003.

A minimum of two (2) hinged emergency escape windows shall be provided on each side of the bus. A rear emergency escape window shall be provided. Each emergency escape window shall be clearly labeled with 1" letters (minimum), be marked with a red light above the window, and have operating instructions clearly visible. Each emergency window shall have an audible alarm which will activate when the emergency latch is released.

Side window dimensions shall be 720 square inches, minimum.

Rear emergency escape window shall be 1,050 square inches, minimum.

Transition windows shall be provided in the area immediately in front of the passenger entry door. The window are shall be a minimum of 300 square inches.

Passenger side window dimensions: _____

Emergency escape side window dimensions: _____

Emergency escape rear window dimensions: _____

Comply Yes/No: _____

Heating and Defrosting System:

The heating system shall consist of a minimum of two (2) units; one front unit located in the driver's area and one rear unit. The rear unit shall be a minimum 65,000 BTU and located so as to provide uniform heating throughout the passenger compartment of the bus.

The front unit shall have one large heater core and two (2) heavy-duty blowers to provide sufficient heated air for defrosting of the windshield and for heating the bus. Circulation blowers shall be controlled by a three-position switch (off, low, high) on the driver's control panel.

An additional outlet shall be provided near the driver to allow heated air to the driver's area. A lever or knob shall control the distribution of heated air between the defroster plenum chamber and the bus heating outlet(s). The control shall be located conveniently for the driver.

The bus heating units shall be located per manufacturer's recommendations so as to provide 65°F inside temperature in an empty bus, evenly distributed, at 0°F ambient temperature. All controls should be located on the driver's control panel.

Combustion-type heaters shall not be permitted.

The manufacturer shall add the required amount of permanent all-weather coolant after heaters have been connected to protect the cooling system to -20°F.

All heaters and associated hardware shall meet SAE standards and practices and shall meet applicable criteria of 49 CFR § 393.77.

Comply Yes/No: _____

Air Conditioning and Ventilation:

A complete air conditioning system shall be of a size capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The system must be capable of maintaining a 75°F interior temperature with a full load of passengers, with an ambient temperature of 95°F and 60% relative humidity. Vehicle must have factory installed front air conditioning system.

A minimum 120,000 BTU air conditioning system shall be provided. The front air conditioning system shall be the manufacturer's standard system. The rear air conditioning system shall be equal to or better than, in standard quality, design, and performance, a system consisting of the following: one (1) EM-3 evaporator mounted in the rear of the bus, one (1) EM6 evaporator mounted in the front of the bus behind driver, two (2) CM-3 condensers, and two (2) T21 compressors. Hose and hose fittings shall be in compliance with SAE standard J-2064.

Bus shall be equipped with an automatic fast idle system with manual override and time-out canceling.

Multiple cool air outlets shall be provided to evenly distribute cool air for passenger and operator comfort.

All controls for air conditioning shall be located on the driver's control panel.

Bidder shall furnish complete details of the air conditioning system proposed for this vehicle with the SOQ.

The condenser fans, if mounted under the chassis, shall have adequate mud/debris shields.

A ventilator in front of the driver, capable of providing ample direct ventilation for the brake and acceleration pedal area during summer operation shall be provided. The ventilator shall have a non-porous seal. It shall be an easy-to-operate control and accessible to the driver.

A driver's windshield fan shall be provided in the driver's area which is capable of providing forced air circulation to the driver. The fan shall be operated with an on-off switch, and the fan direction shall be adjustable.

Air Conditioning

BTU: _____

Front description: _____

Rear description: _____

Comply Yes/No: _____

Interior Lighting:

The instrument panel shall be indirectly lighted.

The stepwell(s) shall be adequately illuminated. The door step lighting should automatically engage when the door is opened. Door step lighting not engaging automatically, but turning on with outside lighting is acceptable. The stepwell and doorway immediately adjacent to the driver shall have at least 2-foot candles of illumination measured on the step tread or lift.

Adequate lighting shall be provided to illuminate the center aisle.

Comply Yes/No: _____

Exterior Lighting: All exterior lighting must comply with Federal and State regulations. Exterior lighting shall include the following, at a minimum:

a. Sealed beam headlights with high and low beam
b. Front and rear directional signals, operated by a lever on the left side of the steering column and of the self-canceling type
c. Two (2) white or clear backup lights in the rear of the vehicle
d. Rear-mounted red combination braking and tail lights
e. Rear center-mounted red brake light located on the center line of the bus below or above rear window
f. Single white rear license plate light
g. Front and rear clearance lights
h. Minimum of six (6) reflectors: two red on rear, one red near rear of each side, one amber near front of each side
i. Front and rear identification markers, amber front and red rear
j. All marker and clearance lights shall have armor or protective material

Brake, turn, tail, rear signal, and clearance lights shall be LED.

A switch shall be provided to operate all directional signals simultaneously as an emergency warning signal

Comply Yes/No: _____

Seats: Passenger seats and restraints shall meet or exceed all applicable Federal Motor Vehicle Safety Standards, including FMVSS 207, 209, and 210 requirements. A minimum of twenty four (24) forward facing fixed seats shall be provided. Four (4) forward facing single foldout seats with seatbelts shall be provided in the wheelchair securement area. Seating will be mid back, upholstered with Level III vinyl. Each seat shall have a steel frame construction with legs, seat belt anchorage, and attachment hardware. Fixed passenger seats shall be comparable to Freedman Feather Weight. Single foldout seats shall be comparable to Freedman mid back three step folding seat.

Certified test reports for the specific model of seat being used shall be submitted with the SOQ.

The seat bottom foam cushion shall be a minimum of 4” thick at the front edge, tapering to a minimum of 3” at the rear of the cushion. The seat back foam will be a minimum of 2” thick. All seat covering material and foam shall be fire retardant and low toxicity meeting minimum requirements of FMVSS 302. Double seats shall not be less than 35” wide, single seats shall not be less than 17.5” wide, and rear bench seat shall extend the full interior width of the vehicle. Seat cushion depth shall be a minimum of 16.75”. Seat suspension shall be ‘no-sag’ or ‘flex-o-lator’ type system.

Seats shall be track mounted, with the track welded to the vehicle frame. Seat pedestal shall be offset a minimum of 10” inboard of the seat aisle side edge to eliminate potential tripping hazard. The pedestal shall be anchored in accordance with the seat manufacturer’s recommendation.

All passenger seats shall be mounted with a minimum of 26” hip-to-knee spacing. School bus seats are not acceptable.

A seat belt shall be provided for each seated passenger. Two 12” seat belt extensions shall be provided.

The driver’s seat shall be of standard manufacture transportation quality with retractable seat belt

and full range of adjustments, without the use of tools. The seat cushion and back shall contain spring supports and foam padding. The seat shall be upholstered in OEM transit grade perforated vinyl. Seat frame and pedestal are to be covered with non-reflective paint. The seat must meet chassis manufacturer specifications for seating position (SRF – Seating Reference Point).

Fixed passenger seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Single foldout seats:

Manufacturer: _____

Size: _____

Arrangement (**must attach diagram or photo**): _____

Comply Yes/No: _____

Mirrors: Heated, remote controlled, fully adjustable outside rear view mirrors, complying with all FMVSS, shall be installed on each side of the vehicle. Each mirror shall be constructed with a retractable anodized aluminum frame and bracket frame designed to prevent damage by bus washer equipment. The unit shall have a minimum of one 6” x 9” (minimum) flat mirror and one convex mirror per side. Stick-on types of mirrors are not acceptable.

A 4” x 16” (minimum) rectangular inside rear mirror shall be installed for the driver’s view of the bus interior.

An internal rear view mirror, 6” in diameter minimum, shall be mounted at the right front of the bus at the windshield headliner. The mirror shall provide a minimum viewing area of 64 square inches.

All mirror mountings shall be sufficiently rigid to prevent distortion from vibration.

Exterior mirrors shall meet SAE recommended standards and 49 CFR § 393.80.

Comply Yes/No: _____

Accessories and Equipment: All standard equipment including, but not limited to:

Four (4) complete sets of keys shall be provided

Sun visor – manufacturer’s standard, adjustable for the windshield in front of the driver and for the driver’s side window

Windshield wipers/washer – two (2) heavy-duty, self-parking, electrically operated windshield wipers; windshield washers with a one gallon (minimum) reservoir; system located for easy inspection, maintenance, filling, and removal

Emergency equipment – manufacturer shall furnish a safety kit with the vehicle that includes, at a minimum, the following equipment:

a. One 5 lb. fire extinguisher
b. One seat belt cutter

c. One 25-unit first aid kit
d. Three triangle safety reflectors and six (6) 30-minute road flares
e. OSHA-approved body fluid clean-up kit
f. CPR kit to contain gloves, gown, eye shield, face mask, disposable bag, cleansing towelettes

All emergency equipment shall be mounted to the vehicle so that it is easily accessible by the driver, and will not interfere with passenger movement or comfort when not in use. None of the equipment shall be mounted on a door.

Backup and side view camera system – This system shall be a complete functional unit with a crystal clear color digital 7" TFT-LCD (thin-film-transistor liquid-crystal display) monitor (minimum) with distance grid lines and mirror image capability, two side CCD cameras with 120° viewing angle and 50' infra-red night vision (minimum), one (1) heavy-duty CCD 130° angle backup camera with 18 built-in infra-reds (minimum), and all wires, connectors, and mounts to make the system operational. The system shall be completely weather proof with an IP68 rating, shock resistant, a 20G impact rating, and a full one-year warranty (minimum).

Manufacturer: _____ Model: _____

Monitor Type: _____ Monitor Size: _____

Rear View Camera Field of View (feet and angle): _____

Side View Camera Field of View (feet and angle): _____

Backup warning alarm – smart alarm system which is activated upon reverse movement of the vehicle, is audible above normal outdoor sounds, and meets Federal requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle and be protected from water and road spray.

Alarm Volume: _____ Alarm Frequency (hrz): _____

Comply Yes/No: _____

Exterior Finish and Color: Body shall be manufacturer's standard white. After final assembly, all surfaces requiring paint shall be thoroughly cleaned and primed. Application shall be in accordance with the procedure recommended by the paint manufacturer. The finished surface shall be free of dirt, runs, and other imperfections.

Comply Yes/No: _____

Photo: **A photo of the vehicle shall be provided with the SOQ. A brochure is acceptable if the bus photo is identical to the bus being quoted.**

Comply Yes/No: _____

ADA Fixed Route Accessibility

100% ADA Fixed Route Accessibility: Bus shall include all ADA fixed route requirements as outlined by Federal Regulation CFR 49 Part 38

Comply Yes/No: _____

Wheelchair Lift: Lift must be ADA approved and comply with FMVSS 403 and 404. Lift shall be located on right side of vehicle, and be fully automatic with backup pump and rails. Lift doors shall be same material and

thickness as body sidewalls. Lift doors shall have a t-latch system for holding the door open while in use. Lift shall include a fully automated lift interlock system.

Lift shall have a minimum lift capacity of 1,000 lbs. and a minimum platform width of 34".

Wheelchair Lift:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Wheelchair/Restraint System Lock-Down: Vehicle shall be equipped with two (2) forward facing wheelchair securement and occupant restraint systems. The wheelchair lock-down securement/occupant restraint system shall be Q'Straint Q-8100-A1-L; Sure-Lok Retractor System for L track; or approved equal. When the wheelchair spaces are not being used, there shall be forward facing single foldout seats available for use by ambulatory passengers (see 'Seats' Section).

A storage box or pouch for the lock-down devices and seat belts, when not in use, shall be provided and mounted close to the wheelchair locations, but not in an area that would interfere with passenger traffic.

Wheelchair lock-down/restraint system:

Manufacturer: _____ Model: _____

Capacity: _____ Dimensions: _____

Comply Yes/No: _____

Chime System: Pull cord or touch strip

Comply Yes/No: _____

PA System: Public address system to include a minimum of two inside and one (1) outside speakers

Comply Yes/No: _____

Destination Signs: Front and boarding side destination signs will be electronic, LED, providing adequate daytime and nighttime visibility and easily programmable for multiple locations, such as Twin Vision, Transign, Hanover, or approved equal. The purchasing entity will furnish readings (6 Maximum) at time of order to be pre-programmed by the vendor. The manufacturer's name and model number must be shown and must meet ADA fixed route requirements.

Manufacturer: _____ Model: _____

Description: _____

Sign dimensions: _____

Comply Yes/No: _____

Additional ADA Fixed Route Equipment: List and describe additional equipment included to make the bus 100% ADA fixed route accessible:

_____

_____

_____

_____

_____

_____

_____

OPTIONAL EQUIPMENT

The **optional equipment** listed in this section may be selected **in addition to** the standard vehicle specification requirements outlined above in an **ALL, NONE or SOME manner in any combination**. The complete vehicle together with all standard and optional equipment chosen must mee or exceed any and all applicable State and Federal laws, rules, and regulations including those issued by FMVSS, FTA, FHWA and other applicable safety regulations.

Driver Barrier: A transparent floor to ceiling barrier behind, and to the right side of the driver shall separate the driver's area from the passenger compartment. The driver should have the ability to open and close the compartment door, to the right of the driver, to access passengers. Design intent is to shield driver from airborne particulates (breaths, coughs and sneezes) as passengers board/de-board the bus.

Note: When this option is chosen the driver barrier will replace the standard driver partition listed above in the "Stanchions and Grab Rails" section.

Barrier Material: _____ Barrier Thickness: _____

Comply Yes/No: _____

Passenger Partition: A transparent passenger partition/sneeze guard in a fixed, stationary position shall be installed on the back of each passenger seat/headrest separating each row of passengers. Design intent is to shield passengers from airborne particulates (breaths, coughs, and sneezes) to the front and back of them while in a seated position.

Partition Material: _____ Partition Thickness: _____

Comply Yes/No: _____

Hand Sanitizer Station: A touchless/automatic hand sanitizer dispenser shall be mounted at each passenger entry door for passengers to use upon entering and exiting the vehicle. The dispenser shall either be of a refillable type or use readily accessible off-the-shelf type replaceable sanitizer cartridges.

Comply Yes/No: _____

Farebox: A transit-type farebox shall be installed and shall readily handle paper currency as well as coins. Fareboxes shall include an extra vault.

Manufacturer: _____ Model: _____

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: Vehicle is to be delivered to a licensed Mississippi dealer (see note toward end of the Additional Requirements section) fully assembled and ready to operate. Factory or factory trained dealer representative is to check equipment on delivery and demonstrate to project personnel operational, service, and preventive maintenance requirements.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Authorized Local Dealer: Authorized dealer within the State of Mississippi (include dealer name, contact person, address, and telephone number):

_____

_____

_____

_____

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout the vehicle shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design of the body and equipment which the manufacturer proposes to furnish must provide a vehicle of substantial and durable construction in all respects.

Welding procedures, welding materials, and qualifications of operators shall be in accordance with standards of the American Society for Testing and Materials and the American Welding Society. All welds visible to the public shall be ground smooth after welding to present a smooth, workman-like appearance. Where metal is welded to metal, the contact surface shall be neatly finished.

All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished. All exposed bolts shall be covered or protected in some manner.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Manufacturer shall submit with the Statement of Qualifications (SOQ) a detailed description and specifications of the frame structure, roof structure, and side sheathing, with particular reference to materials used. All vehicles procured through this contract shall be exact duplicates in design, manufacture, and construction.

Acknowledge Yes/No: _____

Replacement Parts: A supply of replacement parts for the vehicles purchased must be guaranteed by the bidder for a minimum of five years from the date of purchase. Bidder shall keep parts books and manuals up-to-date for a minimum of five years from date of purchase by issuing revised pages or otherwise notifying the State of new or superseding parts and maintenance practices.

Acknowledge Yes/No: _____

Motor Vehicle

Standards:

The manufacturer **shall certify** that the bus complies with all U.S. Department of Transportation safety standards for buses and Interstate Commerce requirements for motor buses operated in interstate commerce that are applicable as of the date of manufacture.

The bus shall comply with all requirements of the laws of the State of Mississippi as to lighting equipment and all warning and safety devices.

The manufacturer **shall certify** that the bus conforms to the air pollution control standards set by the Federal Transit Administration for motor vehicles to be used on FTA projects.

Acknowledge Yes/No: _____

Tests and Testing:

The complete vehicle and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

The roof, windows, windshield, and compartment doors of all vehicles shall be water tested in an approved manner, and any leaks found shall be repaired in a workman like manner.

The manufacturer/vendor shall not attach any dealer identification, advertising, or similar material to the vehicle. Prior to acceptance of vehicle by MDOT, the manufacturer shall service and adjust vehicle for operation to include, as a minimum the following:

a. Focusing lights
b. Tuning engine
c. Adjusting accessories
d. Checking electrical, braking, and suspension systems
e. Charging battery(s)
f. Inflating tires
g. Balancing all wheels, including spare
h. Completely lubricating engine, chassis, and operating mechanisms with recommended grades of lubricants for the ambient temperature at point of delivery
i. Servicing cooling system with permanent type antifreeze and summer coolant for -20°F
j. Servicing windshield washer with fluid and approved additives
k. Filling of fuel tank upon delivery

Acknowledge Yes/No: _____

Warranty:

Chassis warranty shall be a minimum of 36 months or 36,000 miles on the mechanical components of the vehicles, and a minimum of 12 months warranty on the alternator. Body warranty shall be a minimum of 12 months or 12,000 miles.

Tires shall be covered with the warranty that is standard to the industry, at a minimum. The lift system (if applicable) shall be covered by a warranty providing that, at a minimum, all replacement parts and repairs to the lift system (including lift platform mechanisms, power units and controls) needed due to defects in material or workmanship shall be furnished and installed promptly without charge by authorized service representatives within the first year or the first 12,000 miles after final delivery of the vehicle.

Clearly stated terms and conditions of all manufacturer warranties shall be included with the SOQ. Any and all materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of any and all cost to the vehicle operator, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time period not to exceed thirty days. **The bidder shall provide written assurance with the SOQ regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety days after acceptance of vehicle.

The manufacturer shall provide, with the SOQ, a list of warranty service locations within the State of Mississippi for all components of the vehicle (A/C, body, chassis, electrical, wheelchair ramp, wheelchair tie downs, etc.) which may need warranty repair beyond the first ninety days.

Acknowledge Yes/No: _____

Inspection: MDOT reserves the right to inspect all material and workmanship at all times during the process of vehicle assembly.

Final inspection and acceptance of the vehicle(s) covered by these specifications shall be made by MDOT.

Acknowledge Yes/No: _____

Delivery: Based on reasonable production time and with due consideration to unforeseen circumstances, the State shall expect that delivery on initial unit(s) covered by these specifications will be made within one hundred twenty (120) days of placement of purchase order and the remainder of the units one hundred eighty (180) days, unless otherwise specified in the Request for Quotes formal (RFQF).

Acknowledge Yes/No: _____

FOB Point: For RFQF purposes, all vehicles shall be delivered FOB Mississippi dealer. “Caravan” or “driveway” deliveries straight from the manufacturer will not be accepted. A pre-delivery in-service inspection shall be performed by the vendor before delivery to MDOT. Each unit shall be delivered completely assembled and ready to operate.

Acknowledge Yes/No: _____

Documents: Each vehicle shall be delivered with completed Certificate of Origin, tag application, warranty, and any other necessary credentials.

Final vehicle assembly records and quality control assurances shall be supplied upon delivery.

Acknowledge Yes/No: _____

Literature: Technical manuals: The following **shall be provided upon delivery** for each vehicle delivered. These items shall be provided “as built” for each individual unit delivered. Each of these items shall be kept up-to-date for a minimum of five years.

a. Operator’s manual
b. Service/maintenance manual
c. Parts book
d. Parts interchange manual
e. Wiring schematic diagram
f. Schematics/drawings for all accessories and equipment not listed in operator’s manual

Acknowledge Yes/No: _____

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NOTE: Any company manufacturing, up-fitting, and/or selling a finished motor vehicle in the State of Mississippi must be in compliance with the rules and regulations of the Mississippi Motor Vehicle Commission (MMVC) prior to the SOQ review.

A copy of licenses as required by the MMVC should be supplied with SOQ. Licenses will be verified prior to award.

Mississippi Dealer's License Number: _____

MMVC Manufacturer's License Number (where applicable): _____

Application and contact information may be attained through the MMVC website: https://www.mmvc.ms.gov/

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin: To be assigned to the receiving project with applicable name and address

Lienholder: The following shall be listed as the **1st Lienholder on the Title Application**:

Mississippi Department of Transportation
Public Transit Division 6101
401 North West Street
Jackson, MS 39201-1010

To be mailed to:
Mississippi Department of Transportation
Public Transit Division, 6101
P.O. Box 1850
Jackson, MS 39215-1850

Acknowledge Yes/No: _____