



REQUEST FOR PROPOSAL

SUBJECT: CHARLOTTE TROLLEY CAR W/ OPTIONAL W2 TROLLEY CAR REHABILITATION

DATE: Friday, March 1, 2024

PROPOSAL NO.: 24-03

PROPOSAL DUE: MAY 1, 2024 **TIME:** 11:00 a.m. C.T.

The Memphis Area Transit Authority invites proposals for supplies and/or services set forth above in accordance with the specifications enclosed herewith.

Proposals **MUST** be received at MATA by the date and time set forth above.

Sincerely,

A handwritten signature in black ink that reads "Ashley Best".

Ashley Best
Sr. Contract Administrator

COMMON PROBLEMS WITH RFP SUBMITTAL

- Missing or unsigned copies of certain forms and certifications. The following must be included in the RFP:
 - Addenda Acknowledgement Form
 - Affidavit of Non-Collusion (Exhibit I)
 - Buy America (Exhibit II)
 - Federal Tax Liability And Recent Felony Conviction
 - Certification of Primary Participation Regarding Debarment, Suspension, and Other Responsibility Matters (Exhibit III)
 - Certification of Lower-Tier Participants (Subcontractors), Debarment, Suspension, Ineligibility and Voluntary Exclusion (Exhibit III)
 - Certification of Restrictions on Lobbying (Exhibit IV)
 - Certification of Utilization of Disadvantaged Business Enterprises
 - National Defense Authorization Act Telecommunications
 - Letter Of Intent To Perform As A DBE Contractor Or Subcontractor
 - Schedule of DBE Participation
 - Explanation of "No Response"

- Incomplete or outdated information on client references and/or sufficient number of references provided.

- Failure to include adequate documentation about the role of subcontractors in the project.

- Submittal of too few copies. The RFP specifies the number of originals and number of copies of the RFP to be provided.

- Failure to properly label the RFP package with RFP label.

- RFP received late. All RFPs must be in MATA's possession by the deadline shown in the RFP. All RFPs received after the deadline will be returned unopened.

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MEMPHIS AREA TRANSIT AUTHORITY

LEGAL NOTICE TO PROPOSERS

Proposals will be received by the Memphis Area Transit Authority (MATA) at its Purchasing offices, 40 S. Main Street, Suite 1200, Memphis, TN, 38103, **until 11:00 a.m. local time, on Wednesday, May 1, 2024**, for furnishing the following:

CHARLOTTE TROLLEY CAR W/ OPTIONAL W2 TROLLEY CAR REHABILITATION

A pre-proposal conference call will take place on Monday, March 11, 2024, at 10:00 A.M at MATA's Trolley location 547 N. Main St. 38105. While attendance is not mandatory, it is strongly suggested. To attend the meeting via Microsoft Teams, Meeting ID: 262 799 433 473, Passcode: a2ViRP Or call in (audio only) +1 901-614-1074, 66600101# United States, Memphis; Phone Conference ID: 666 001 01#.

Proposers must submit their proposal with the enclosed label attached to the envelope.

MATA hereby notifies all proposers that in regard to any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit proposals in response to this advertisement and will not be discriminated against on the grounds of race, color, sex, religion, political affiliation or national origin in consideration of an award.

Any name appearing on the Comptroller General's list of ineligible contractors is not an eligible proposer. The contractor will be required to comply with all applicable Equal Employment Laws and Regulations.

Further information and proposal requirements may be obtained by contacting Ashley Best, Contract Administrator at (901) 722-7182 or via email: abest@matatransit.com.

Award of the contract will be made on the basis of the Lowest Responsive and Responsible proposer as selected by the Authority, provided it is in their best interest to do so.

MATA reserves the right to reject any and all proposals, and to waive any informality in proposing.

March 1, 2024 & April 23-24, 2024

Bacarra Mauldin
Interim Chief Executive Officer

PART I

INSTRUCTION TO PROPOSERS

**PART I
INSTRUCTIONS TO PROPOSERS**

1.0 GENERAL

- 1.1 The Memphis Area Transit Authority (hereinafter referred to as MATA) seeks Proposals for professional services from qualified vendors capable of providing the scope of services described in Part II. These instructions provide detailed legal and technical requirements for the acquisition of this product. This Request for Proposals (RFP) will become part of the contract.

MATA will enter into a contract with the successful proposer for professional services relative to the Project. This Project is more particularly described in Part II – Technical Specifications. General Contract Provisions are included in Attachment 1. Where there are conflicts between the General Contract Provisions and Part I, the provisions of Part I shall apply.

MATA is a public agency responsible for providing public transportation services within the city of Memphis and surrounding communities.

- 1.2 Purchaser” or “Grantee” or “Authority” means MATA. The words “request for proposal”, “RFP”, and “solicitation” are synonymous. The words “proposal”, “bid” and “offer” are also synonymous and it is understood that once MATA accepts same, the document will constitute a portion of the contract contemplated by these instructions. The words “proposer”, “bidder” and “offerer” are also synonymous.
- 1.3 The terms "Trolley", "Vintage Trolley", "Streetcar", "Car" or "Vehicle" are synonymous.
- 1.4 A pre-proposal conference call will take place on Monday, March 11, 2024, at 10:00 A.M at MATA's Trolley location 547 N. Main St. 38105. While attendance is not mandatory, it is strongly suggested. To attend the meeting via Microsoft Teams, Meeting ID: 262 799 433 473, Passcode: a2ViRP Or call in (audio only) +1 901-614-1074, 66600101# United States, Memphis; Phone Conference ID: 666 001 01#.
- 1.5 This Request For Proposals (RFP) does not commit MATA to award a contract or pay any costs incurred in preparation of Proposals in response to the RFP or to procure or contract for services. Proposers shall be responsible for all costs incurred as part of their participation in the pre-award process.
- 1.6 Proposals will be received by MATA at its Purchasing offices located at 40 S. Main Street, Suite 1200, Memphis, TN 38103, **until 11:00 AM, local time on, Wednesday, May 1, 2024.**

All Proposals shall be deemed received at the above address. Proposers are solely responsible for ensuring that his/her Proposals are delivered in a timely manner. Proposers who rely on overnight delivery services, the United States mail, private mail services, local couriers, or delivery services remain solely responsible for timely delivery of the RFP and assume all risk of late delivery, miss-delivery, and non-delivery. All Proposals will be date/time stamped, logged, and deposited by MATA Staff.

Proposers are reminded that all RFPs must be securely sealed, have the enclosed label attached, and be clearly marked “Proposal”.

MATA's normal business hours are 8:00 a.m. to 4:30 p.m. Monday through Friday. After normal business hours, Proposals will be accepted at the MATA dispatcher's office, 1370 Levee Road, Memphis, TN 38108; however, Proposers are reminded of their sole responsibility for ensuring that

their RFP is deposited in the Purchasing Department.

Proposers may verify receipt of RFPs by contacting Ashley Best at (901) 722-7182 or email: abest@matatransit.com. Proposer must submit an up to date W-9 form with the proposal.

- 1.7 All correspondence, communication, and/or contact in regard to any aspect of this solicitation or offers shall be with Ashley Best, Sr. Contract Administrator. Offerors and their representatives shall not make any contact with or communicate with any members of MATA, or its employees and consultants, other than Ms. Best in regard to any aspect of this solicitation or offers. At any time during this procurement up to the time specified below, Offerors may request, in writing, a clarification or interpretation of any aspect, or a change to any requirement of the RFP or any addenda to the RFP as described in Section 4.3.
- 1.8 All Proposals and related documents shall be based on the conditions of a financial assistance contract between MATA, the State of Tennessee and the United States Department of Transportation, under the Federal Transit Act, as amended. Terms and conditions established under the Act and the regulations implementing the Act will apply. Compensation for travel, meals, and/or lodging shall be in the amount of actual cost to the contractor subject to the maximum amounts and limitations specified in the State Comprehensive Travel Regulations.

2.0 PROPOSAL REQUIREMENTS

- 2.1 Proposals must concisely set forth full, accurate, and complete information required by this proposal including any attachments.
- 2.2 Proposers shall provide a proposal on the forms provided along with additional pages as necessary to be fully responsive to the proposal requirements described herein. All proposals shall give the proposed price and shall be signed by the proposer or his authorized representative. If the proposal is made by either: (1) the Contractor firm, partnership, or corporation, they shall provide their corporate name and post office address; (2) a corporation, the proposal shall show the title of the person who signs on behalf of the corporation.
- 2.3 The price to be quoted in any proposal shall include all labor, materials, tools, equipment, delivery and other costs necessary to fully complete the work as set forth in the Technical Specifications. Anything omitted from such specifications that are clearly necessary for completion of the work shall be considered a portion of such proposal. All parts shall be new and in no case will used, reconditioned, or obsolete parts be accepted unless allowed on the technical specifications or approved by MATA.
- 2.4 The intent of these specifications is to define top quality equipment, which is capable of delivering maximum performance with high reliability. Equipment shall be of design, manufacture, and proven reliability through previous application in similar daily transit service to that for which it is intended. Equipment shall be so designed and constructed that ready access for operations, maintenance, and renewal is provided.
- 2.5 MATA reserves the right to amend the RFP at any time. Any amendments to or interpretations of the RFP shall be described in written addenda. MATA shall provide copies of Addenda to all prospective Offerors known to have received the RFP. The addendum will be mailed or delivered to all such prospective Offerors officially known to have received the RFP and to the address provided by each prospective Offeror. Failure of any prospective Offeror to receive the notification or addendum shall not relieve the Offeror from any obligation under its proposal as submitted or under the RFP, as clarified, interpreted or modified. All addenda issued shall become Part of the RFP. Prospective Offerors shall acknowledge the receipt of each individual addendum and all prior addenda in their proposals. Failure to acknowledge in the proposals receipt of addenda may at MATA's sole option disqualify the proposal.

2.6 Proposals shall be valid for a minimum period of ninety (90) days subsequent to the closing date. Proposals offering less than ninety (90) days for acceptance by MATA from the closing date will be considered non-responsive.

3.0 PROPOSAL FORMAT

3.1 Proposals shall be submitted in a sealed package clearly marked to reflect the contents. One (1) original and one (1) electronic copy (flash drive) shall be submitted. The price proposal form shall be submitted in a separate sealed envelope.

3.1.1 Technical Proposal - A technical proposal shall provide the following information as a minimum:

- A. A listing of properties in the United States to which proposers completed delivery of similar trolley(s). Such listings shall cover a period of no less than the most recent 5-years of production. As a minimum the listing shall indicate the number of units in the delivery, the date of the contract, the date of delivery, the date of acceptance, description of the major components and systems as well as ancillary equipment (i.e., wheelchair ramps, fareboxes, radios, public address systems), and client reference to include contact person, position title, daytime telephone number and email address.
- B. A complete description of the proposed vehicle in sufficient detail to permit MATA to determine conformance with the specifications including drawings and technical specifications for the vehicle body and all major components, including wiring layout and circuit breaker specifications. (See Part III)
- C. A proposed interior seating layout showing all seating positions, dimensions, locations and aisle widths, including a summary indicating the number of seating positions (excluding the driver position) and standing capacity.
- D. A report indicating financial stability and capability of the company to obtain resources to fully perform the contract.
- E. A description of the manufacturing facilities to be used to manufacture the vehicles, including location, square footage, and special tooling available to construct the vehicles in a timely manner.
- F. A description of support for the proposed vehicles and all major components, including parts support and technical assistance.
- G. The recommended preventative maintenance schedule for the trolleys.
- H. Required Forms and Certifications
 - Addenda Acknowledgement Form
 - Affidavit of Non-Collusion (Exhibit I)
 - Buy America (Exhibit II)
 - Federal Tax Liability and Recent Felony Conviction
 - Certification of Primary Participation Regarding Debarment, Suspension, and Other Responsibility Matters (Exhibit III)
 - Certification of Lower-Tier Participants (Subcontractors), Debarment, Suspension, Ineligibility and Voluntary Exclusion (Exhibit III)
 - Certification of Restrictions on Lobbying (Exhibit IV)
 - Certification of Utilization of Disadvantaged Business Enterprises
 - National Defense Authorization Act Telecommunications
 - Letter Of Intent to Perform As A DBE Contractor or Subcontractor
 - Schedule of DBE Participation

- Explanation of "No Response" I. Contractor shall submit a proposed delivery schedule, and provide schedule milestones.
 - J. Time of Completion – A project management timeline shall be submitted with the proposal. The work shall begin immediately upon date indicated on the Notice to Proceed.
 - K. Contractor shall submit a comprehensive test plan that will cover testing of all major components, system and vehicle level at Contractor's plant and a test report provided before acceptance of the first vehicle by MATA.
 - L. Contractor shall submit a Rehabilitation Plan as part of its proposal to MATA to include the proposer's expertise, relevant experience, approach, and best schedule for completing the work described herein. The Plan is explained in detail in Part II of this procurement.
- 3.1.2 Price Proposal - The price proposal shall include all elements of cost for providing the proposed vehicles and shall include the following:

A. Price Proposal Form

- 3.2 Information contained in the proposals will not be released by MATA prior to contract award in order to protect the integrity of the procurement process. Submission of information relative to this RFP subsequent to the proposal opening date shall not be released by MATA during the evaluation process or prior to contract award unless required by applicable laws. Proposers are further advised that MATA may be required to release proposal information after contract award.

If a Proposer feels that any information is confidential or proprietary in nature, the Proposer must submit all such information in a separately sealed envelope prominently marked with the Proposer's name and "PROPRIETARY INFORMATION". MATA shall not release or divulge such information to third parties without the consent of the Proposer unless required to do so by applicable law or order of a court of competent jurisdiction.

4.0 PROPOSAL PROCEDURES

- 4.1 MATA reserves the right to postpone the proposal opening date for its own convenience and to waive any minor informality that does not go to the heart of the proposal or prejudice other proposers or to reject for good and compelling reasons any and all proposals submitted.
- 4.2 Changes to these instructions will be made by written addendum by MATA and will be forwarded to all persons and firms to whom these instruction documents have been submitted.
- 4.3 Requests for clarification or approved equal must be submitted in writing to Ashley Best, Sr. Contract Administrator, Memphis Area Transit Authority, 40 S. Main Street, Suite 1200, Memphis, Tennessee 38103, abest@matatransit.com and **must be received no later than 11:00 a.m. local time, Monday, March 18, 2024**, in accordance with the approved equal procedures described in the General Contract Provisions, Section 45. Any unapproved deviations, exceptions, substitutes, alternates or conditional qualifications contained in a proposal may be cause for its rejection. MATA's replies to such requests will be postmarked at least seven days before the date scheduled for proposal opening. A notice of clarification or approved equals will be furnished to all parties receiving specifications so that all Proposers may prepare their proposals accordingly.
- 4.4 Proposers shall submit **one (1) original and one (1) electronic copy (flash drive)** of their respective proposals. Proposals shall be securely sealed to prevent access prior to the proposal opening date. Proposals shall have the enclosed label attached to the proposal package.

4.5 Proposals shall be valid for a minimum period of 90 days subsequent to the proposal opening date. Proposals offering less than 90 days for acceptance from the proposal opening date may be considered non-responsive.

5.0 PROPOSAL EVALUATION/BASIS FOR AWARD

5.1 MATA shall employ competitive negotiation procurement process in making a contract award. The award of this contract will be made to the Proposer whose proposal, in the opinion of MATA; best meets the established criteria and is most advantageous to MATA with price and other factors considered. Price evaluation shall not begin until the technical evaluation is completed. An evaluation team shall evaluate proposals.

5.2 Proposals will be evaluated on the basis of the factors described below in the following order of descending priority:

- A. Vehicle Design - Overall design concepts and features of the trolley structure and major components and systems based on a proposed 12-year life cycle.
- B. Past Performance - The proposer's demonstrated ability to meet contractual obligations, manufacture to specifications, deliver on time, and provide parts and technical support.
- C. Conformance to the RFP and delivery schedule.
- D. Price - Overall price as indicated on the Price Proposal forms.

5.3 The evaluation team will provide a tabulation of the technical merits of the proposal with the lowest points designating the worst and the highest points designating the best relative to the criteria.

5.4 The evaluation team may recommend that the contract award be made without negotiations provided that the acceptance of the most advantageous initial proposal will result in a fair and reasonable price. The evaluation team may recommend that a contract be awarded subsequent to negotiations. If negotiations are used at all, the Contracting Officer will negotiate with all the proposers that are in the competitive range and have a reasonable chance of being selected.

5.5 Negotiations will be in conformance with applicable federal, state, local laws, regulations and procedures. The objective of the negotiations will be to reach agreement on all provisions of the proposed contract, including contract price. MATA reserves the right to request documentation supporting the proposed contract price including overhead rates for the firm and subcontractors. Such information can include, but not be limited to:

- A. An overview of the accounting system and its capability to track project costs.
- B. Charts of accounts including a definition of what is included in each account.
- C. A statement indicating the basis of the overhead rate and whether it is historical information or projections. (The proposer will certify that the overhead burden rate separates direct and indirect charges and that indirect charges do not include any unauthorized charges for Federal Acquisition Regulations, Part 31.)

5.6 MATA reserves the right to reject any and all proposals or to waive minor informalities and irregularities in offers received.

5.7 A written notice of award and acceptance of offer mailed or otherwise furnished to the successful proposer within the time specified in the proposal shall be deemed to result in a binding contract.

5.8 MATA reserves the right to award this contract in any manner which MATA deems to be in its best interest.

6.0 PROTESTS

- 61 MATA will consider all protests filed in a timely manner regarding the award of a contract, whether submitted before or after award. All protests are to be submitted in writing, in accordance with the protest procedures described in the General Contract Provisions.
- 6.2 Under certain limited circumstances, a potential proposer may protest to FTA the award of a contract pursuant to an FTA grant. FTA's review of any protest is limited to:
- A. An alleged failure of MATA to have written protest procedures or alleged failure to follow such procedures.
 - B. Alleged violations of a specific federal requirement that provides an applicable complaint procedure, which shall be submitted in accordance with that federal regulation.

7.0 PERFORMANCE BOND

The successful proposer shall furnish a performance bond in an amount equal to 25% of the contract sum as security for the faithful performance of this contract. Form of instruments shall be standard City Of Memphis form, a copy of which is attached. Bonds shall be furnished through an agent legally authorized to do business in the State of Tennessee and delivered to the Authority no later than the date of execution of the contract. The Bond will be released upon delivery and acceptance of the last trolley and all spare parts in the base order. The option order shall have a separate bond.

8.0 PRE-AWARD AUDIT COMPLIANCE

Federal regulations require MATA to conduct a Pre-Award Audit before entering into a contract to purchase rolling stock on procurements with funds obligated by FTA on or after October 24, 1991. The Pre-Award Audit includes the following items as stated in 49 CFR Part 663, Pre-Award and Post-Delivery Audits of Rolling Stock Purchases; Final Rule, dated September 24, 1991:

- A. A Buy America Certification as described in Section 663.25;
- B. A Purchaser's Requirements Certification in Section 663.27;
- C. A Manufacturer's Federal Motor Vehicle Safety Standard Certification in Section 663.41 or 663.43.

9.0 POST-DELIVERY AUDIT COMPLIANCE

Post-Delivery Audit – After the vehicle(s) have been shipped, the Contractor shall review the report of its plant inspectors to determine if a variance exists between the material listed on MATA's Pre-Award Buy America audit and the material used by the vehicle manufacturer. Also, the Contractor shall confirm that the vehicle(s) are in absolute compliance to MATA's technical specifications as amended through the Request for Approved Equals process. If a variance exists, the Contractor shall review the resolution of the variance. If necessary, the vehicle supplier will be contracted. Once this review process is complete, the Contractor shall issue a report to MATA stating that the vehicles comply with both the Pre-Award Buy America certification and the technical certification. The report shall also contain a copy of the weekly reports in order to verify that inspectors were present during the manufacturing process. This report shall meet the Post-Delivery audit requirements of 49 CFR, Part 663.

Federal regulations require MATA to conduct a Post-Delivery Audit before title to the rolling stock is transferred to MATA. The Post-Delivery Audit includes the following items as stated in 49 CFR Part 663, Pre-Award and Post-Delivery Audits of Rolling Stock Purchases; Final Rule, dated September 24, 1991:

- A. A Post-Delivery Buy America Certification as described in Section 663.35;
- B. A Post-Delivery Purchaser's Requirements Certification in Section 663.37;

C. Certification of FMVSS Inapplicability.

10.0 DELIVERY OF VEHICLES

10.1 Delivery shall be determined by signed receipt of MATA's designated agent, or his designee, at the point of delivery and may be preceded by a cursory inspection of the vehicles.

The point of delivery shall be:

Memphis Area Transit Authority Trolley Division
547 North Main Street
Memphis, TN 38105

Delivery of the trolleys shall be FOB point of delivery by Common Carrier Driveaway.

11.0 PRE-AWARD SURVEY PROCEDURES

A. After proposal opening, but prior to award of a contract, MATA shall have the right to conduct a pre-award survey, to evaluate prospective contractor's performance capabilities under the terms and conditions of this proposal request. The pre-award survey will aid MATA in determining the responsibility of the prospective contractor. The evaluation will be conducted on the basis of (1) data on hand, (2) data available from the U.S. Government or commercial sources, (3) if necessary, on-site inspection of plant facilities to be used for performance of the proposed contract, (4) the descriptive literature submitted with the proposal, or (5) any combination of the above.

B. The pre-award survey will focus on the prospective contractor's ability to manufacture and deliver the equipment specified in the proposal request within the time stated. The survey will include, but not be limited to, the following essential elements:

If the pre-award survey is conducted,

(1) MATA will require the prospective contractor to furnish engineering and test data that demonstrates that the equipment proposed meets or exceeds the specifications set forth in the proposal request.

(2) MATA will require the prospective contractor to furnish plans and production schedules which demonstrate the ability of the prospective contractor or meet the delivery schedule specified. MATA shall be permitted to inspect production facilities, if necessary, to determine whether or not the prospective contractor is capable of performing under the terms and conditions of the proposal request.

C. All data obtained from the pre-award survey shall be kept confidential by MATA and shall not be made available outside MATA except insofar as may be required by the Federal Transit Act and applicable laws and regulations.

12.0 CONFLICTING STATEMENTS

Part I, Instructions to Proposers is the correct language if there are any conflicting statements in this document.

13.0 TROLLEY TESTING

The Contractor shall submit a comprehensive test plan that will cover testing of all major components, systems, and vehicle levels at Contractor's plant and a test report provided before acceptance of the first vehicle by MATA.

All tests identified within the following sections: Instructions to Proposers, Section 13; Part II Technical Specifications, Section 8; as defined in Section VII, Section 1.0 Acceptance Tests; and per the requirements in the General Contract Provisions, Item 18.

14.0 PROGRAM MANAGEMENT

The Contractor shall be required to work with MATA's Project Manager for design reviews, project schedules, status reporting, CDRL submittals, and document control, and any other requirements pertaining to technical specifications.

15.0 TERMS OF PAYMENT –

Payment for the specified items shall be net thirty (30) days after acceptance. Proposer should note any discounts for payment before thirty (30) days.

MATA will consider partial payments for the specified items. Partial payments will be made according to the milestone schedule per Part II, Section 3.4, and at MATA's discretion. Contractor shall define the work products or portions of work products that MATA will own for each partial payment. Upon payment by MATA to Contractor, MATA shall own the identified work products.

16.0 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

15.1 This contract is subject to the requirements of Title 49, code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Programs.

A. DBE Requirements for Transit Vehicle Manufactures:

Pursuant to Title 49, Code of Federal Regulations, Part 26.49, a Proposer, as a condition of being authorized to respond to this solicitation, must certify by completing the form Transit Vehicle Manufactures (TVM) Certification that it has on file with the Federal Transportation Administration (FTA) an approved or not disapproved annual Disadvantaged Business Enterprise (DBE) subcontracting participation goal.

****See Part III – Form and Certifications.**

PART II

TECHNICAL SPECIFICATIONS

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1. Scope of Work – General Overview

Memphis Area Transit Authority (MATA) operates a multi-modal transit system that services Memphis and surrounding communities. MATA is funded with federal, state, and local funds, as well as passenger farebox and advertising revenue. MATA is required to comply with safety, security, accessibility, asset management, and applicable provisions, requirements, regulations, and standards (e.g., FTA, TDOT, ADA, DHS, TSA, OSHA, NFPA)¹ as well as all federal and state laws, regulations, and statutes. MATA strives to conform to industry standards and best practices, as applicable and adopted by MATA (e.g., APTA, AREMA).

MATA's Mission is "We connect people to places", and its Vision is "MATA employees are committed to service excellence, creating an exceptional customer experience, and inspiring the community to invest in our success". As part of MATA's ongoing efforts towards its mission, vision, and continuous improvement MATA intends to improve and expand its historic streetcar and trolley operation along MATA's Main Street and Riverfront Lines and to eventually expand trolley system service to include modern light rail vehicle (streetcar) operations on MATA's Madison line.

The Main Street Line has approximately 2.3 miles of double track embedded street running rail, twenty-six (26) stations, two (2) mainline substations that also feed the Riverfront Line, ADA lifts, and communications systems. The Riverfront Line totals 2.4 miles of single track, ballasted rail that operates within an FRA regulated corridor with exclusive right-of-way alongside Canadian National Railroad (CN), six (6) stations, ADA ramps, and communication systems. MATA's trolley system is not regulated by the FRA and operates under a waiver. The Madison Line consists of approximately 2.5 miles of double track, embedded street running rail, seven (7) stations, two (2) power substations, ADA lifts, and communication systems.

The trolley fleet is inspected and maintained out of the Trolley Maintenance & Storage Facility (MSF) located on Main Street, which has a substation. MATA intends to extend its access track beyond the MSF into a temporary shelter as an interim measure until it completes and major upgrade of the MSF in the future.

Through this Request for Proposals ("RFP"), MATA is seeking proposals from highly capable, qualified, and schedule driven firm(s) to rehabilitate, restore, modify, refurbish, modernize, rebuild, test, commission, and certify three (3) vintage Charlotte Birney style trolley cars (Nos. 91, 92, 93) and as an option, to be exercised solely at MATA's discretion, a single vintage Melbourne W2 style trolley car (No. 545) as described herein.

2. Proposed Rehabilitation Plan

Prospective bidders shall submit as part of its proposal to MATA a Rehabilitation Plan (“Rehabilitation Plan”) to include the proposer’s expertise, relevant experience, approach, and best schedule for completing the work described herein. The Plan shall include as a minimum:

1. **Rehabilitation Plan:** The Rehabilitation Plan will include Specifications for Refurbishment of the vintage Charlotte trolley cars as envisioned by the proposer to meet MATA’s expectations of safe, reliable, and sustainable streetcars.
2. **Proposer’s Expertise:** MATA relies on the proposer’s expertise to present a detailed Rehabilitation Plan, to include but is not limited to provide a detailed approach to Rehabilitating every system, subsystem, component, subcomponent, assemblies, and subassemblies to ensure operational readiness, safety & security certification, and revenue service of the Trolley Cars to operate reliably for not less than 12 years.
3. **Vital, Crucial, & Critical Systems:** Identify and detail within the Rehabilitation Plan, vital, crucial, and critical Systems that may require more extensive rehabilitation specifications and procedures to rehabilitate, update, rebuild, modify, test and other assurances to achieve optimal levels of operational effectiveness, safety, security, emergency preparedness, and ADA accessibility.
4. **Structural Components:** Identify and detail inspection, testing, and other procedures to ensure design function, integrity, and performance of all structural Systems.
5. **OEM/LKQ Parts, Materials, and Products:** Describe the process proposer will use to identify and ensure that all OEM parts, LKQ parts, materials, and products used meet or exceed manufacturer design specifications.
6. **Appearance/Esthetics:** Identify and detail within the Rehabilitation Plan interior and exterior visual features to be inspected, cleaned, reconditioned, replaced, refurbished, installed, and or applied to achieve an esthetically appealing on a scale described below through suitable, cost effective, and practical means.
7. **Drawings/Plans/Specifications:** Detail within the plan efforts that will be used, and deliverables provided to MATA to ensure that all Systems are supported with existing drawings, plans, and specifications. Identify and create adequate drawings, plans, specifications for Systems that do not have drawings, plans, or specifications. Develop, catalog, organize, and generate an electronic user-friendly library of all existing and new drawings, plans, and specifications for project and MATA use.
8. **Quality Assurance/Quality Control:** Describe the proposer’s strategy, plans, and processes, that will be used towards the development, implementation, reporting, and control of a robust project specific Quality Assurance and Quality Control (QA/QC) plan or Quality Management System.
9. **Inspection & Maintenance Plan, Schedule & Procedures:** Describe the proposer’s process to provide MATA with inspection and maintenance standards, checklist, schedules, procedures, plans and other aspects of a preventative and life cycle maintenance program, including providing collaboration and inclusion of inspection and maintenance criteria into MATA software maintenance management system.
10. **Static, Dynamic & Integration Testing:** Describe the proposer’s strategy, plans, and processes that will be used to develop, implement, verify, and validate the Charlotte trolley car’s static, dynamic, and integration testing of its various Systems.
11. **Tools, Training, & Calibration:** Describe the proposer’s strategy, plans, and processes to ensure that MATA is provided the proper tools, training, and calibration procedures to inspect, test, calibrate, and maintain the various Systems of the Charlotte trolley car.
12. **ADA Compliance:** Describe the proposer’s vision and plan to design, modify, install, or build

an accessibility system that meets or exceeds ADA Compliance regulations and standards, and interfaces with MATA existing stations. MATA intends to install accessibility ramps at each station to interface with the Charlotte trolley car.

13. **Industry Safety Standards:** Describe the proposer's vision and plan to ensure that MATA conforms to applicable safety, security, emergency preparedness/egress, standards, guidance, or best practices. The Rehabilitation Plan shall detail the relevant standards the proposer intends to follow and their application to each System, as applicable.
14. **Regulatory Standards:** Describe the proposer's vision and plan to ensure that MATA complies with all applicable safety, security, and emergency preparedness/egress Federal, State, and local regulatory laws, regulations, standards, directives, by-laws, ordinances, and other applicable regulations. The Rehabilitation Plan shall detail the relevant Regulations the proposer intends to follow and their application to each System, as applicable.
15. **Asset Management:** Describe the proposer's vision and plan to ensure the MATA complies with applicable Federal (FTA) and State (TDOT), asset management regulations, standards, and guidance, and industry best practices to include Asset Life-cycle Planning, including management, measurements, metrics, and benchmarks for each applicable Systems, and to provide within the Inspection & Maintenance Plan, Schedule & Procedures life cycle planning standards of Vital, Crucial, and Critical Systems, and to adhere to a risk-based inspection approach to managing applicable Systems.
16. **Operational Readiness:** Describe the proposer's plan to collaborate with MATA, develop, and execute an operational readiness plan to include but not limited to operational, maintenance, and support functions, including but not limited to training, rules, procedures, and other parameters to ensure a safe, reliable, and sustainable approach towards revenue readiness and continued operations.
17. **Safety & Security Certification:** Describe the proposer's plan to manage, collaborate with, and support MATA's Safety & Security Certification to meet Federal and State regulations, guidance, and industry best practices to itemize, verify, and validate safety critical criteria, items, elements, and sub elements of Systems, including hazard analysis of safety, security, and emergency management risks.
18. **Management of Change:** Describe the proposer's plan to manage and oversee configuration changes in collaboration with and approval of MATA, and the controls in place to ensure adequate documentation and other measures to reflect approved changes in design, drawings, plans, operationally, and other documents.
19. **Interface Management:** Describe the proposer's plan to analyze interface Systems (e.g., wheel, track, stations, ADA accessibility, wayside structures, roadways, bridges, and other interfaces) with MATA's existing system.
20. **Warranty:** Describe warranty terms and process including response times upon notification from MATA of a warranty claim.
21. **Project Milestone Schedule:** Provide a schedule of events, tasks, tests and deliverables so MATA can understand how the bidder will complete the work defined herein.

3. General Rehabilitation Requirements

3.1. Introduction

This document contains the Technical Specifications for the rehabilitation of MATA's historic trolleys and streetcars, describes the program management and program support requirements, and defines other deliverable goods and services to be furnished by the Contractor as part of the rehabilitation Contract.

MATA intends to operate its vintage trolleys and streetcars in accordance with the recommendations of APTA SS-HT-001-05, APTA Standard for Vintage / Heritage Trolley Vehicle Equipment.

The Technical Specifications are organized by section and sub-section. The sub-sections include the required work to be performed on each system and are correlated to the bid list in the Contract General Provisions.

Additional work may be required or desired to reach the program objectives. Contractor may identify additional work that would be to MATA's benefit and submit a proposal detailing the proposed work scope, cost, and benefit. MATA will review any Contractor proposal and may, at MATA's discretion, add such work to the Contract.

Where work under these Technical Specifications requires the MATA's "approval", such approval shall be conveyed in writing, whether or not such a requirement is expressly stated.

3.2. General Rehabilitation Program Objectives

The general objectives of this rehabilitation program include the items listed below. Contractor shall assure these objectives are met in all aspects of its work.

- To ensure the continuation of useful service life of the vehicles
- To improve system and passenger safety
- To improve vehicle reliability
- To reduce maintenance costs
- To reduce unscheduled repairs
- To improve interior and exterior appearance
- To assist MATA during the safety certification process as needed

3.3. General Requirements

These Technical Specifications and other provisions of this Contract constitute the requirements for the rehabilitation of MATA's vehicles.

All vehicles shall be disassembled as required and prepared for repair and/or replacement components.

Contractor is responsible for all activities necessary to comply with this Contract. Contractor shall perform all management, control, development, inspections and testing work.

In performing work under this Contract, Contractor shall not adversely affect any equipment or systems not part of the Contract. Equipment that is not refurbished shall not be destroyed, degraded, damaged, or altered, and shall maintain the required level of functionality, safety, maintainability, and performance.

On request, and to the extent available, MATA will allow the Contractor access to any original vehicle manuals, drawings, procedures, and reports in MATA's possession. The Contractor shall verify the

accuracy of such materials.

If Contractor believes any non-refurbished part will prevent compliance with the Contract requirements, Contractor shall notify MATA in writing and present a proposed action plan, which may include:

1. Modifying equipment/systems not originally proposed for refurbishment to the extent required to permit Contractor to satisfy the Contract requirements; and
2. A modified requirement that can be satisfied without additional work on non-refurbished equipment or systems.

3.3.1. Interchangeability

To the extent practicable, Contractor shall make every effort to make all components and systems physically interchangeable and functionally identical between all vehicles undergoing rehabilitation and also with MATA's existing fleet.

3.4. General Project Milestone Schedule

Below is MATA's preferred schedule for completing the rehabilitation work.

1. First rehabilitated Charlotte trolley car returned to MATA within 18 months of NTP.
2. Second rehabilitated Charlotte trolley car returned to MATA within 20 months of NTP.
3. Third rehabilitated Charlotte trolley car returned to MATA within 22 months of NTP.
4. If MATA exercises the option to rehabilitate the Melbourne style W2 car, this fourth rehabilitated Melbourne trolley car shall be returned to MATA within 24 months of NTP.

Within 30 days of NTP, Contractor shall host a kick-off meeting with MATA staff to present its approach for meeting all deliverable and contractual requirements described herein. Contractor shall present at the kick-off meeting the overall project schedule including, but not limited to, routine project status meetings, design reviews, system and water tests, vehicle deliveries, manuals deliveries, training, etc.

Prospective bidders shall submit as part of its proposal a proposed project schedule that describes the major milestones and associated target dates of completion if different from the MATA preferred schedule. MATA will amend this Project Milestone Schedule contract section prior to NTP with the final contractual project schedule with consideration of bidder's proposed project schedule.

3.4.1. Liquidated Damages

Liquidated damages shall apply should Contractor fail to deliver completed trolley cars per the contract schedule. The liquidated damages shall be **\$TBD** per day for each day that Contractor is late in delivering rehabilitated trolley cars per the contract delivery schedule.

3.5. Environmental Requirements

All refurbished and new equipment provided shall provide reliable operation and service life in the Memphis, TN, environment regardless of season or time of day and as intended on MATA's transit system. Average and extreme weather data for Memphis, TN, can be found on the National Weather Service website: <https://www.weather.gov/wrh/Climate?wfo=meq>.

3.6. General Rehabilitation Work

Prior to the start of any work, Contractor shall clean and inspect the vehicle and its components.

Based on the findings, Contractor shall identify any issues exceeding the scope of the Contract Documents that need to be addressed to fulfill the Contract objectives.

Contractor shall submit to MATA suggested Contract changes on a per-vehicle basis for all additional work considered necessary. MATA will review each issue and decide how to proceed.

Contractor shall perform all specified work required to completely and satisfactorily refurbish the vehicles as defined by the Technical Specifications, including removal, cleaning, inspection, re-installation, and testing of all equipment not specified for overhaul or upgrading.

Contractor shall clean all parts requiring lubrication with appropriate solvents and apply new lubrication in accordance with either the OEM specification or MATA approval.

Contractor shall replace all gaskets and seals on disassembled equipment.

Contractor shall properly prepare all parts or assemblies requiring paint and apply new paint. All component color, color matching, and finishes used are subject to MATA's written approval unless otherwise specified in these Technical Specifications.

For components damaged beyond reasonable repair, Contractor shall replace in-kind. Standard components such as wiring, pipework, glass, etc. shall be replaced with equivalent or better new components. For vintage equipment and components, fully rebuilt units shall be utilized. Before acquiring rebuilt, Contractor shall contact MATA to check availability of replacement parts.

When the original type components are no longer available or cost effective, service proven components of similar design may be used based on prior written approval by MATA.

Contractor shall overhaul and test assemblies in accordance with OEM standards and requirements, unless otherwise specified or approved in writing by MATA.

Testing of the vehicles shall include operation at different load weights. The load weights are defined as follows:

1. AW0 Empty vehicle plus Operator
2. AW1 Empty vehicle plus Operator and full seated load
3. AW2 Empty vehicle plus Operator and full seated load plus 4 passengers per square meter of standing area.
4. AW3 Empty vehicle plus Operator and full seated load plus 6 passengers per square meter of standing area.

3.7. Delivery of Vehicles To/From Contractor

Contractor shall take delivery of the vehicles to be refurbished at the MATA Rail Maintenance and Storage Facility (MSF, 547 North Main St, Memphis, TN, 38105). Contractor shall haul any MATA supplied spare parts and trucks to the Contractor's facilities. Contractor shall be responsible for loading and unloading of vehicles and materials associated with the project. Contractor shall deliver all completed trolleys and associated spare parts and other deliverables to the MATA Rail MSF.

Loading and unloading of the vehicles is to be done or accomplished on N. Main St in the vicinity of the MSF. Normal hours for this procedure are between 9:00 AM and completed by 3:00 PM, Monday through Friday. Other times may be arranged if mutually agreed between Contractor and MATA. The Contractor's railcar transport vehicle shall have a winch to safely tow a trolley car onto and / or off load onto North Main St. Contractor shall ensure that all its personnel have the appropriate PPE as N. Main St is an active street.

Parts delivery or pick up can be made at 547 North Main St, Memphis TN 38105, between the hours of 8:00 AM and 3:00 PM. The MSF parts department phone number is 901-577-2652.

Contractor shall be responsible for any damage that occurs during any loading and unloading or transport of the trolleys or materials.

3.8. Joint Inspections

Joint outgoing inspections shall be conducted on each vehicle before MATA will release the vehicle to Contractor. The purpose of the outgoing inspection is to document, by means of an "open items list", the current status of the vehicle and the equipment at the time Contractor accepts delivery of the vehicle.

Contractor shall prepare and submit for MATA approval an inspection and test plan and checklists for the Joint Inspections. The Inspection List will also be used for noting any miscellaneous discrepancies found during the inspections and tests, and both parties will sign the completed lists. [CDRL 3-01 Joint Inspections, Test Plans and Checklists]

Contractor shall perform functional tests as needed to confirm the proper operation of all equipment.

The Joint Outgoing Inspection will confirm that no components are missing and that all components are properly functioning.

If defective equipment or material is found during the Joint Outgoing Inspection, MATA will advise in writing whether MATA will repair or replace the item or have Contractor repair or replace the item, which will be accomplished through Contract Change Order.

If defective equipment or material is found during the Contractor's rehabilitation work that was visible during the Joint Outgoing Inspection but was not noted by Contractor or MATA, Contractor shall repair or replace the defective equipment or material with no increase in Contract price.

If defective equipment or material is found during Contractor's rehabilitation work that was hidden by apparatus being removed and could not have been seen during the Joint Outgoing Inspection, Contractor shall immediately notify MATA. Thereafter, a joint inspection will be conducted to determine what further actions may be needed, and MATA may direct Contractor to repair or replace the item, which will be accomplished through a Contract Change Order.

Upon delivery of the refurbished vehicles to MATA, any defects in equipment or material that are outside the scope of the Rehabilitation Program, but which were the result of the Contractor's work, shall be corrected at Contractor's expense.

A Joint Incoming Inspection shall be conducted upon completion of the vehicle. This inspection will confirm that the refurbished vehicle and its components are complete and free from deficiencies. Contractor shall correct any discrepancies, including replacement of consumable items/materials appearing on the Incoming Inspection list, that are not on the Outgoing Inspection list. MATA may Conditionally Accept the vehicle with open items remaining.

3.9. Materials Removed from the Vehicle

Contractor shall tag and properly store all items removed from the vehicle. Any items damaged during removal shall be replaced or repaired, as approved by MATA, by Contractor at its sole expense. Contractor shall set aside each damaged item for disposition in consultation with MATA.

Contractor shall submit a list of all equipment removed and not reinstalled from each vehicle for MATA disposition. Contractor shall provide the list to MATA in Microsoft Excel or approved equivalent. [CDRL 3-02 Removed Materials Lists]

Upon receipt of the list, MATA will determine the disposition of the items removed from the vehicle and advise if the items are to be delivered to MATA, or if Contractor should properly dispose of the items. Shipment of the items to MATA or proper disposal of the items by Contractor will occur at no additional

cost to MATA. Contractor may retain any salvage value received. It is anticipated that most items removed from the vehicles will be disposed of by Contractor.

3.10. Acronyms and Abbreviations

The following acronyms and abbreviations may be found in the Technical Specifications. They are defined as indicated:

AAR	Association of American Railroads
Ac	Alternating Current
ADA	Americans with Disabilities Act
Amp	Ampere
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
AWS	American Welding Society
CD	Compact Disc
CDRL	Contract Deliverable
CFR	Code of Federal Regulations
DC	Direct Current
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
HVAC	Heating, Ventilation and Air Conditioning
LAHT	Low-Alloy High-Tensile
mA	Milliamps
MG	Motor Generator
Mph	Miles Per Hour
MSDS	Material Safety Data Sheet
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NTP	Notice To Proceed
OEM	Original Equipment Manufacturer
PSI	Pounds Per Square Inch
QA	Quality Assurance
Sec	Second
V	Volts
Vdc	Voltage Direct Current

3.11. CDRLs

The Contract Data Requirements List items (CDRLs) required by this section are summarized below. They are described in detail at the referenced location. CDRLs are on a per car basis.

CDRL #	Description	Reference
3-01	Joint Inspections, Test Plans and Checklists	3.7
3-02	Removed Materials Lists	3.8

4. Manuals and Training

4.1. Car History Book

Each car shall have its own car history book which will have part numbers as well as serial numbers listed for all installed components, wires, wire numbers, wiring diagrams and schematics, component schematics, either for air or electrical, whether newly installed or remaining on the car, HVAC units serial numbers, Air compressor serial numbers, traction motor serial numbers, controller serial numbers, truck serial numbers, wheel serial numbers (including manufacture dates and vendor) and axle serial numbers, press tonnages for wheel press work, vendors, vendor part numbers and suppliers and their information, including a parts catalog, including all parts, part numbers, wiring diagrams and schematics with wire numbers for items such as any and all power supplies and ADA lifts.

Documentation/Car History Book: "All Work" for the car shell, roof repairs, car frame, running gear, HVAC, Lift equipment, motors, air compressor (encompassing the entire car) is to be carefully documented, with approved drawings. These will become a part of the overall Car history book, and all parts shall have drawings and shall be produced in printed form. All approved drawings will be delivered to 547 North Main St., Memphis TN 38105. Three (3) hard copies given to MATA along with five (five) thumb drives.

A sample Car History Book representative of these requirements shall be submitted for MATA approval within 60 days of NTP. The final approved Car History Book format shall be used for all cars undergoing rehabilitation. [CDRL 4-01 Representative Car History Book]

4.2. Car Operating Manual

A car operating manual shall be produced and approved by MATA. A short video, approximately 20 minutes in length, shall also be produced and approved by MATA that shows the operation of the console switches, door operation for the treadle and interlock system, HVAC system, location of switches and circuit breakers, or fuses, ADA lift operation and maintenance items such as circuit breakers and fuse location, heater in pantograph and how that operates. The final revision of this video shall be delivered to MATA along with the other final manuals and training curriculum.

4.3. Maintenance Manuals

A Maintenance manual for each car type will show the methods of performing planned and unplanned inspections and repairs, including recommended preventive maintenance tasks and intervals and any required safety inspections. There will be a designation of the items that must be inspected (required preventative maintenance inspections and intervals), including at least those which if improperly accomplished could result in a failure, malfunction, or defect endangering the safe operation of the vehicle.

Wire runs and wire numbers (listing) shall be incorporated, showing from end-to-end terminations, designated terminal strips, and end use devices. Note, all wires, if not numbered in the fabrication of the wire, shall have no less than 2 shrunk wrapped numbers near the ends of each wire, one near the end terminal and one 8 to 15 inches distance from the existing end terminal. All wires shall be listed in this manual, even if, as an example, the wheelchair lifts come prewired, they shall have the wires marked as defined above.

The following shall also be incorporated into this manual:

1. Air equipment and piping schematic(s), schematic narrative, specific air equipment detail drawings, and procedures for performing required inspections.
2. Electrical schematics and wiring diagrams drawings along with narrative describing the methods for performing required inspections, checkouts and repair.
3. Procedures for the inspection of work performed under previously required inspection

findings. As an example, should the air compressor fail to build up the required pressure, what steps are needed before the compressor is swapped out.

4. Procedures, standards, and limits necessary for required inspections and acceptance or rejection of the items required to be inspected.
5. Instructions to any person who performs any item of repair work as well as performing any required inspections of the streetcar.
6. Procedures to ensure that work for required inspections and to ensure required inspections are properly completed before the streetcar is released to service.
7. A schematic for the brake rigging and how it functions shall be added to the car maintenance manual.

The maintenance manual shall be presented in a format (such as a power point) suitable for teaching and shall have sections for each major component and/or system (such as air brake system, mechanical braking system, air compressor).

4.4. Parts Manual

Contractor shall provide a Parts Manual that meets the following description:

A parts book or parts catalogue or Illustrated part catalogue is a book published by manufacturers which contains the illustrations, part numbers and other relevant data for their products or parts thereof. Supplier contact e-mails, and addresses shall be included. OEM part numbers shall be included. Should Contractor use its own part numbering system, the Contractor's part numbers shall be listed in addition to the OEM part numbers.

The parts manual for the Melbourne W2 style car can be merged with the Charlotte Birney style car parts manual, but items that differ between the two car types, such as the door operator, step operator, air system, shall be separated out and easily found within the parts manual.

The manual shall be presented to MATA in a format to include sections for each major component and or system (such as air brake system, mechanical braking system, air compressor).

4.5. Training

Contractor shall develop training curriculum complementary to the Maintenance and Parts Manuals including student and instructor guides along with poster sized wall charts for describing hydraulic, pneumatic and electrical circuits and systems. The training shall include high level overview of vehicle description, operation and maintenance suitable for all MATA staff. Other training sessions for vehicle operations and system and subsystem maintenance shall be specific and sufficiently detailed for MATA staff to successfully operate and maintain the vehicles.

Training shall be a combination of classroom and hands-on as appropriate. Contractor shall video all training sessions for future use by MATA. Video and computer-based training can be used as approved by MATA. All training shall be presented in a professional manner and suitable for maintenance staff to understand the concepts, procedures and safety implications.

A minimum of 220 hours of training shall be provided to each MATA mechanic and MATA supervision staff. Delivery of training hours shall be concurrent with delivery of the first vehicle. Contractor shall submit a training schedule for MATA approval 12 months prior to delivery of the first car. [CDRL 4-02 Training Schedule] Contractor shall coordinate with MATA to finalize the training schedule within 6 months of delivery of the first vehicle. The training schedule shall consider MATA staff work schedules and holidays.

4.6. Delivery Schedule

MATA seeks to work with Contractor to ensure that the manuals and training curriculum effectively and successfully meet the needs of the MATA staff who will be operating and maintaining the rehabilitated Charlotte trolley cars. As Contractor completes manuals and curriculum content for systems and components, MATA welcomes the opportunity to review partial submittals to ensure adherence to the following schedule:

1. A 20% complete draft to include the organization, approach and table of contents for each of the manuals – operations, maintenance, parts and training – shall be delivered within 90 days of NTP. [CDRL 4-03 20% Manuals and Training Curriculum Draft]
2. An 80% complete draft shall be delivered no later than when the first rebuilt car is delivered to MATA. [CDRL 4-04 80% Manuals and Training Curriculum Draft]
3. **NOTE:** The 80% draft shall be approved by MATA before MATA will accept delivery of the final draft.
4. Delivery of the final draft material shall be within 60 days of the last car being delivered.
5. Upon MATA approval of the final drafts for each of the manuals and training curriculum, Contractor shall provide 25 printed bound copies and five (5) thumb drives of each of the final manuals and training curriculum within 30 days of MATA approval of each final draft. Electronic versions shall be fully word searchable. [CDRL 4-05 Final Manuals and Training Curriculum Submittal]

The final MATA approved car familiarization and operating video described in Section 4.2 shall be delivered to MATA concurrent with delivery of the final maintenance manual materials. [CDRL 4-06 Car Familiarization and Operating Video]

The final Car History Book for each car shall be delivered to MATA within 30 days of acceptance of each rehabilitated trolley car. [CDRL 4-07 Final Car History Book, on a per car basis]

4.7. CDRLs

The Contract Data Requirements List items (CDRLs) required by this section are summarized below. They are described in detail at the referenced location.

CDRL #	Description	Reference
4-01	Representative Car History Book	4.1
4-02	Training Schedule	4.5
4-03	20% Manuals and Training Curriculum Drafts (for each type of manual)	4.2, 4.3, 4.4, 4.5, 4.6
4-04	80% Manuals and Training Curriculum Drafts (for each type of manual)	4.2, 4.3, 4.4, 4.5, 4.6
4-05	Final Manuals and Training Curriculum Submittals (for each type of manual)	4.2, 4.3, 4.4, 4.5, 4.6
4-06	Car Familiarization and Operating Video	4.2, 4.6
4-07	Final Car History Book, on a per car basis	4.1, 4.6

5. Charlotte Birney Trolley Car Rehabilitation Project

5.1. Project Intent

The Charlotte Birney Trolley Car Rehabilitation Project will Rehabilitate three (3) Birney replica cars (Nos. 91, 92, 93). MATA intends to rehabilitate, restore, modify, refurbish, modernize, rebuild, test, and certify (“Rehabilitate” “Rehabilitation”) these cars to operate safely and reliably to provide sustainable service on its existing rail system.

The life expectancy for the rehabilitated vehicle is twelve (12) years. The vehicle will be maintained, and there is a realization that components such as HVAC, motors, wheels, etc. may not last twelve (12) years without repairs, however, the vehicle should operate for eight (8) years without major repairs to components. The “work” shall encompass rebuilding each of the three cars entirely and providing other deliverables as specified herein.

5.2. Trolley Car History and Specifications

The Charlotte Trolley Cars are Birney Replica trolley cars originally built by the Gomaco Trolley Corp of Ida Grove, Iowa, and delivered to the City of Charlotte for operation in late 2004. In August 2021, MATA purchased these cars from the City of Charlotte for use in the MATA trolley system. The following car data is provided for reference:

Source of Running Equipment: Peter Witt-style trucks from ATM Milan, Italy. However, as part of this refurbishment effort, MATA expects the Contractor to replace these trucks with rebuilt and serviceable Melbourne W2 style trucks as described herein.

Running Equipment: 30 HP General Electric traction motors operating at 650 VDC; air/friction brakes utilizing a CP25 air compressor.

Controls: Gomaco proprietary K35G IGBT (insulated gate bipolar transistor) solid state controllers. System diagnostics recording for troubleshooting analysis and documentation.

Length: 48.9 feet.

Width: 10 feet.

Height: 12.9 feet.

Weight (approximate): 48,000 pounds.

Balanced Speed: 30 mph.

Seating: 48 sitting, 57 standing (based on six passengers per square meter).

Total Crush Load: 105 (does not include operator).

Seats: Alternating oak and cherry. Eight rollover, bi-directional transverse benches. Eight fixed longitudinal benches.

Frame: New steel construction developed by Gomaco Trolley Company.

Windows: 11 per side.

Fittings, Solid Brass: New castings by Gomaco Trolley Company.

Special Woods: Oak, cherry and birch.

Paint: Color and details as selected by customer.

Whistles: Three-tone air chime with WABCO valves. Constructed by Gomaco Trolley Company.

Air Conditioners: 11 tons of air conditioning capacity & 10-kilowatt heat.

Communication System: Conductor PA system.

E-Stops: Red emergency stop button located in each operator station.

Steps: Pneumatic sliding steps.

Chair Lift: ADA-compliant integrated wheelchair lift.

Signal Bell: Brass, made by Gomaco Trolley Company.

Brakes: Pneumatic friction brakes with composite shoes and regenerative motor braking. Electromagnetic rail brake for emergency stop. Manual friction parking brake. Full dead-man integration at both operator locations.

Floor: Transit flooring.

Ceiling: Birch. Custom pin stripe. Integrated duct work for air conditioning.

Roof: Plywood construction with fiberglass shell and canvas cover.

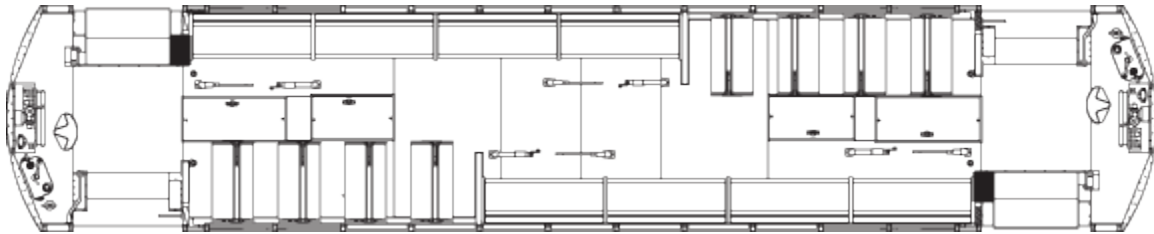


Fig. 1: Plan View of Birney Trolley Car Floor Plan

5.3. Trolley Car Upgrades Overview

MATA intends to upgrade its current trolley fleet with the following components and systems:

1. Replacement of the existing Milan trucks with fully refurbished W2 style trucks as described herein. Upon completion of the rehabilitation effort, MATA expects the Charlotte trolley cars to be capable of navigating into the MATA MSF trolley barn without damage or derailling.
2. Master Controller: Design, test, install, and replace the trolley's high-voltage K-35 Master Controller (high-voltage drum) to a safe, reliable, sustainable, and ergonomically improved digital modulated PWM Master Controller system to provide traction power, direction, and braking capabilities. The digital modulated PWM Master Controller should be identical on all trolleys (e.g. MATA trolley car numbers 234, 453, 455, 539, 540, 545, 799, 91, 92 and 93).
3. HVAC System: Design, configure, test, and install HVAC system to provide effective trolley car heating, ventilation, and cooling for passengers and operator. The HVAC system design and installation should be identical to the extent practical on all MATA trolley cars (e.g. MATA trolley car numbers 234, 453, 455, 539, 540, 545, 799, 91, 92 and 93). The system should include reasonable and practical sealing/weather stripping improvements around doors and windows in an effort to maximize HVAC system efficiency.

4. Truck Assembly: Modify, reconfigure, and replace spring, suspension, and air dryer placement to alleviate suspension bottom out conditions and to improve air dryer clearance.
5. Passenger Stop Request System: Upgrade, modify, or install on-board ADA compliant passenger stop request system.
6. Speedometer: Upgrade, modify, or install trolley speedometer system to provide accurate speed indication for operator. The system could include alerts if the speed exceeds a set limit (e.g. 25 MPH).
7. Reconfigured operator's seat.
8. Other improvements as described herein.

5.4. Paint Process and Scheme

The entire body interior and exterior shall be sanded and primed, scuffed and three coats of paint applied to all painted surfaces. The exterior paint scheme may include up to 4 colors. It is intended that all numbers and logos will be applied with paint, not decals. Numbers and letters shall be a Railroad font. The interior and exterior paint and decal scheme shall be discussed at the kick-off meeting. Contractor and MATA will agree to a design review plan and schedule for the appearance scheme. Upon agreement of the final scheme, Contractor shall submit drawings of the car interior and exterior that depict the paint scheme and layout of decals. [CDRL 5-01 Interior and Exterior Paint and Decal Scheme]

The interior shall be varnished and painted new similarly to the manner it is given to Contractor. Decals may be also used on the interior; the decal shall be appropriately sized without a lot of excess materials applied to the interior. MATA lettering, and information (emergency information, A and B end, safety information such as "keep hands inside car" on each window) will be installed on the interior. All references to Charlotte, NC., CATS, or Lyxs shall be removed. The final appearance form and finish are important. MATA will provide Contractor with new car numbers for each refurbished car. Interior signage shall include brail.

Contractor shall prepare a paint coating and application document containing procedures for surface cleaning and preparation, priming, surfacing, and painting for all equipment that is painted or powder-coated, whether by itself or by its manufacturers and suppliers. A detailed paint schedule showing the equipment painted, paint type and manufacturers, recommended thickness and other pertinent information shall also be included. This document shall be submitted for review and shall be made part of the maintenance manuals. A low-VOC industrial paint and associated mil spec is recommended. [CDRL 5-02 Interior and Exterior Painting Plan]

5.5. General Carbody and Structure

The car body (both interior and exterior) shall be stripped of all components. All parts shall be cataloged, part numbers assigned, and tracked in a matrix that identifies where each part came from. All cataloged parts shall be carefully placed and stored out of harm's way and protected from damage after removal. Contractor shall not store parts outdoors.

The trucks shall be separated from the car shell, HVAC removed, wheelchair lifts removed, hydraulic lines removed, all seats removed, each control cab shall be stripped, all wiring is to be carefully removed, headlights, bumpers (unless welded to car frame) shall be removed, lighting, doors, door motors shall be removed. All Windows and seats shall be removed. Contractor shall tag and/or mark all windows with car and location so each can be reinstalled in the same position.

Interior woodwork shall be completely removed, tagged, and cataloged. It shall be checked for defects (cracks or wear) stripped of old varnish, replaced, or repaired, cleaned and re stained and varnished.

The main steel car body and frame shall first be cleaned of all debris and contaminants and the frame

and car body shall be checked for rust damage. Any wooden portions of the structure shall be checked for deterioration. Wood found to be substandard due to rot or holes drilled into wood that cannot be repaired with dowels (properly drilled and with appropriately sized dowels glued in) shall be replaced. If more than four (4) dowels no larger than ¼" X 1" are needed to repair a piece of wood frame or sub structure, Contractor shall completely replace it with a defect free comparable hardwood. In some areas of the carbody structure, hardwoods such as oak, may be an integral part of the vehicle's load bearing structure. Contractor shall not substitute non-hardwoods for hardwoods without MATA approval.

Contractor shall assess the condition of each carbody and shall identify suitable repairs to the carbody and structure and shall present a report to MATA within 45 days of receipt of each vehicle to Contractor's facilities. [CDRL 5-03 General Carbody and Structure Condition and Repairs Report]

Upon MATA approval of the General Carbody and Structure Condition and Repairs Report for each car, Contractor shall commence and complete the agreed upon repair work. Following repairs to the carbody and structure and all sheet metal repairs, the car shall be primed, and one coat of topcoat paint (for preserving the body) shall be applied, both to the interior and exterior of each trolley car. All body crevasses, drip rails shall be, other places where water might be retained during daily revenue use shall receive several coats of paint which could require hand brushing to ensure that all areas are well protected against future wear and tear or rust.

Contractor shall maintain a detailed history of all work performed including preparation and use of any drawings and disposition of all materials. This information will become a part of the car history book for each car.

5.5.1. Roof

The pantograph and related framing shall be removed. The main HVAC components shall be removed.

The existing roof (exterior and interior) shall be examined for wear and tear and a detailed condition and recommended repairs report submitted to MATA within 45 days of receipt and prior to proceeding with repairs. Contractor shall ensure that repairs to the roof structure result in sufficient structural integrity to support the roof mounted equipment and maintenance personnel. [CDRL 5-04 Roof Condition and Repairs Report]

NOTE: Contractor shall ensure that all roof mounted equipment has sufficient clearance with MATA's low points. Low clearance points are at the Interstate 40 bridges on N. Main St. and at GE Patterson. All roof mounted equipment shall operate normally and safely through these low points.

The lightning arrester shall be replaced with a new one. The grounding cable shall extend to the car frame and shall be connected on a separate grounding lug.

Wooden walkways shall be replaced, painted, and sealed on all sides and ends. If not already equipped, a place for maintenance personnel to tie off using lanyards and safety harnesses shall be installed to comply with current OSHA regulations. Grab handles or bars for stability on the roof may be cleaned, painted and re-used if found to be in good shape.

The roof shall be sealed and made leak proof, including when the all-new HVAC is installed onto the roof, plus the new pantograph.

Contractor shall perform a water test at its facility. The test shall be performed to ensure the roof, windows, doors, door seals, and HVAC vents are sealed against all water leaks, including leaks as the car is traveling at speeds up to 30 MPH. The trolley car shall not leave Contractor's facility until all water leaks are eliminated to MATA's satisfaction.

5.5.2. Accessibility Lifts (Optional)

Prospective bidders shall include in its proposal the option to include accessibility lifts as described below. At MATA's sole discretion, MATA will formally notify Contractor whether it will exercise this option during the kick-off meeting.

Each end (A & B end) of the car is presently equipped with 1 ADA lift at the right-hand doorway (2 ADA lifts per car, one at each end). The lifts shall be carefully removed, including all pumps and hoses, electrical apparatus, motors, relays, etc. The removed wiring shall have numbered wire ID tags applied. All 6 of the lift wire harnesses shall have the same wire ID numbers corresponding to where each wire terminated. A schematic shall be drawn and provided that shows the wires and wire numbers that are removed and where they terminated.

New ADA compliant lifts (2 per car) of similar characteristics and lifting capacity, 600 lb load, shall be installed. All controls shall be on the corresponding adjacent console (e.g. the A-end console shall normally control the A-end ADA lift and the B-end console shall normally control the B-end ADA lift). Each of the lifts shall be interlocked with the doors, propulsion and braking system (Brakes on, propulsion off) and be equipped with a bypass switch at each end. The bypass switch shall be located in a cabinet with a plastic tamperproof lock and breakable tie, which shall be easily identified if the lock is tampered with.

The ADA lift shall also have a way to retract in the event of a failure or emergency. At a minimum each lift shall have an emergency hand pump for use as needed. The pump handle shall be stored in a secure location and not accessible to the public.

Each lift shall also have a way to control its function from the opposite end of the car should there be a need to use the lift at what would be the rear of the car. MATA will consider alternatives from the Contractor such as a key switch that would activate the controls separately.

5.5.3. Doors

All doors shall be removed, cleaned, and inspected for damage. If the doors are determined to be suitable for re-use, they shall be painted inside with primer and one coat of paint. New glass shall be installed. If the doors are not suitable to be re-used, they shall be set aside and new doors of the same type shall be fabricated and installed.

All new safety glazing shall be installed. Safety glazing shall be designed for easy removal to allow replacement of a window in the event of damage or breakage. All new rubber door edges are to be installed, as well as all-weather brush type devices to seal to keep the rain as well as the cold air out. There shall be no draft air felt when the car is in motion. The vehicle door edge seal shall be tested in a manner comparable to the most extreme weather conditions in MATA's operating environment. The vehicle shall be capable of being operated at the specified performance levels, stored, and maintained without impairment resulting from the natural or induced environmental conditions within which the vehicle will operate. The following climatic factors shall be used as design guidelines and shall be considered as operational requirements. Actual localized temperatures and conditions within and under the carbody may be more severe than the ambient climatic conditions and Contractor shall be responsible for evaluating these during its rehabilitation effort. New industry proven 24V door motors shall be installed, along with new control rods, door rotating rods, bearings, pins, bushings and related hardware.

Door motor housings shall be inspected, and new wooden and metal boxes shall be installed. All mounting hardware including those for the hold down plates shall be new. The interior of the housing shall be painted white.

The existing or new folding metal doors shall be re-installed; they shall operate freely with the new steps and ADA lifts. Consideration shall be given to be sure that the air flow (when in motion) is reduced to a

minimum for the colder winter months when placing the rubber nosing parts.

The rear doors shall have both a functioning treadle device as well as sensitive edges conforming to current APTA standards. The treadle activated door, when opened, will remain open for three (3) seconds before the closing cycle begins. The doors shall be equipped with alarms in the cab area should a customer still be obstructing the doors. The treadle will be interlocked with the controls (off) and brakes (on). There will be a light indicating each of the doors is closed on the console.

An exterior emergency release cable shall be at each doorway on the left post (as faced from the outside).

Each door shall have an interior emergency handle to deactivate the doors in emergencies and the doors should balance (no power) then be able to be easily opened in emergencies. Add decal to show how door release handle operates.

There shall be a bypass switch available to bypass each of the doors in emergencies. The switch shall be accessible only to the operator or maintenance staff via a protective tamperproof cover similar to the accessibility lift bypass switch.

Passenger doors shall be compliant with ADA requirements.

5.5.4. Steps

New replacement steps shall be engineered to accommodate the new ADA lift. Step extensions shall be removed, checked for cracks, repaired, cleaned, tested for operation and re-installed at all 4 doorways. The step nose shall have a 2-inch-wide yellow reflective stripe along with length of the step and nose. New operating cylinders shall be installed. Following repairs, they shall be tested for operation and reinstalled on all 4 doorways. The step extension shall work in conjunction with each door operating switch.

Contractor shall submit its intended approach for the upgrades and refurbishment of the doors, steps and accessibility lifts within 45 days of receipt. [CDRL 5-05 Doors, Steps and Accessibility Lifts Work]

5.5.5. Lifeguards

The car shall be equipped with new mechanical lifeguards at each A and B end. The lifeguard gate shall be easily tripped from the outside and be equipped with a switch that, when tripped, will place the car in emergency until the lifeguard is reset by a pedal located inside of the car at the front floor, near the dash panel. The basket frame will have Teflon skids attached to the underside. All parts shall be easily adjusted or adjustable.

5.5.6. Tow bar

An adequately sized tow bar shall be provided and hung under the car in a similar manner as the existing tow bar. The new tow bar to be painted yellow and have reflective stripes for improved visibility during the dark hours in Memphis. The new tow bar shall have the appropriately sized hole at each end and slotted by an additional ¼-inch to allow for extra clearance when coupling.

5.5.7. Tow-Pin

Tow-pins shall be inspected for condition and function. Contractor shall correct or repair as needed. A chain shall be attached to both the tow-pin and car-bumper along with some extra chain length for freedom of movement. Tow-pin and chain shall be painted yellow. The tow-pin shall have a handle of approximately 12-inches long, and have a 180 degree bend at the handle end.

5.6. Interior Work

The car interior shall be cleaned with an environmentally friendly cleaner and without using harmful

solvents, on the floor, seats, posts and ceiling. All wood trim shall be cataloged for location and orientation. All Wood trim and seats shall be removed, checked for damage and then repaired and/or replaced as necessary. Wood parts shall be cleaned of all old varnish, sanded, and coated with new varnish. Varnish shall be able to withstand UV light and impervious to water stains.

5.6.1. Floors

The floor shall be replaced with new plymetal. Where the plymetal may be close to exposed electrical connections and or apparatus, care will be taken to be sure no electrical shorts or that the floor is insulated to prevent the floor from becoming conductive. Anti-squeak tape shall be installed. Plymetal flooring shall be held onto the car frame by the use of machine screws, secured with both flat and split washers and securing nuts. Securing the floor in this manner is also part of the car stiffening system in accidents. All joints and seams shall be fully sealed with a polyurethane sealer (such as Sikaflex) inside and on the underside so as not to allow water to migrate and stay in unseen pockets. No water shall seep into the floor from the underside of the car. New mud guards shall be installed on the car body.

Floor hatches for access to the motors shall be retained. New hatches are to be installed with new trim and a lock that is easily engaged or disengaged for maintenance purposes. Again, care will be taken to ensure no electrical shorts happen due to the sheet metal and electrical contacts.

Contractor shall install heavy duty, transit grade rubber flooring material throughout each car. Ribbed flooring shall be installed in all walking areas. The flooring shall have ribs oriented lengthwise down aisle of the car. At each door opening a carefully cut and trimmed piece of ribbed flooring material shall be oriented so the ribs flooring faces outwards towards the car entrances or exits. Ribbed rubber flooring shall also be installed on the motor hatch cover plates. Smooth rubber shall be installed under the passenger seats. The flooring brand, model and color shall be approved during the kick-off meeting.

5.6.2. Hardware and Trim

Reinstallation shall have all new hardware, brass screws, finish washers, hardware not seen shall be plated (grade 8) so they do not show rust. All exposed trim and hardware to passengers and MATA employees shall be smooth and free of burrs.

5.6.3. Operator Gong

The operator gong from each end shall be removed and cleaned, checked for cracks. The plunger that travels through the floor shall be checked to ensure it is the correct length for use against the striker lever. The plunger that goes through the floor shall be sleeved to prevent corrosion which could cause the plunger to seize and not function as intended. Contractor shall take care when laying out the location of the operator gong in relationship to the sander and the air whistle pedals. Alternatively, MATA will consider installation of a repeating air ringer and apparatus (actuation pedal, air lines, new bell and repeating air hammer, hardware, and brackets).

5.6.4. Windshield wipers

All three (3) windows at each A and B end shall have windshield wipers (six (6) total). All will have controls for fast, slow and three intermittent speeds. The sweep of the blade shall be such that when parked it is out or away of from the operator's vision as best as possible. Each wiper sweep should clear 50 – 75 percent of the window.

5.6.5. Operator's Seat

A new operator seat will be installed at each end. The seat and framing should be installed to not block access for ADA passengers when boarding or alighting the vehicle.

5.6.6. Passenger Seats

All seats and seat frames shall be removed, disassembled, and cleaned. Seat frames shall receive new

bearings and sliding parts installed. The frames shall be primed and painted. Wooden seats backs and bottoms are to be cleaned, check for damaged wood, repaired to be made as new, old varnish removed, and revarnished. Brass handles are to be cleaned and polished. Spare seat bottoms and backs (interchangeable between cars) shall be fabricated. New wood varnish for the interior shall be able to withstand UV light and impervious to water stains.

5.6.7. Mirrors

Four (4) new exterior mirrors shall be installed, and two (2) new interior mirrors shall be installed. Mirrors shall be large enough to see to the rear of the car (interior and exterior)

5.6.8. Window Sash

All Window sashes shall be removed and cleaned. The sashes will be reused if possible. New glazing and seals are to be applied. Glazing will be safety glass and each window shall be marked by the manufacturer in the lower corner. A durable bullet resistant film shall be applied to all windows. All windows seals shall pass the water test. Contractor shall propose ways to mitigate excessive glare while operating at night (reflection from interior lights).

5.6.9. Deliverables, Interior

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 5-06 Interior Repair Work]

All interior car work shall be carefully documented along with approved drawings. These will become a part of the overall car history book.

5.7. Low Voltage Systems

5.7.1. Wiring

Wiring and relays listed below are currently used by MATA. MATA would like to continue to use these same components or approved equal to the extent possible utilizing the same brands and part numbers to enhance maintenance efficiencies, staff training and operational reliability.

The use of butt splices, or wire nut (twist) devices is prohibited. All connection points shall be eye lugs bolted together with new bolts, washers, split washers, nuts terminal boards. Insulation using high temperature rated black electrical 33 tape and electrical tape sealer is acceptable as needed in certain locations. Commercial grade shrink tubing to protect wiring and harnesses is preferred. Contractor shall not allow any exposed wires or terminals where the public can reach them. All chaffing points shall have protected sleeves.

All terminals shall have designated numbers. All wires shall be numbered. Wire runs and wire numbers (listing) shall be incorporated, showing from end-to-end terminations, designated terminal strips, and end use devices. Note, all wires, if not numbered in the fabrication of the wire, shall have no less than 2 heat shrink wire labels near the ends terminals of each wire, one near the end terminal and one 8 to 15 inches distance from the existing end terminal. All wires shall be listed in this manual, even if, as an example the wheelchair lifts come prewired, they shall have the wires marked as defined above.

No use of multi color cables to be used. No wire smaller than #14 THHN or # 14 THHN, except for headlights, taillights, strobe-lights, or interior lighting.

All relays require bases and locking stack-on for wire connections. Socket base type # 38 f. Relays JQX-38F, 40 amp, 3 pole SDT power relay.

All wires runs shall be terminated as per industry standards. All wires shall be hidden from view by the public as much as possible. Wires not seen by the public shall also be run in conduits.

Circuit breaker panel box provided with 125-amp main breaker with typically 20- and 30-amp breakers for each circuit, but always appropriately sized for the loads.

Install up / down push button in each cab for pantograph operation. Install relay Junction Box on top of trolley near pantograph.

All interior lighting shall be 12-volt LED interior. All exterior lighting (headlamps, tail lamps) shall be 12-volt LED. Wiring shall be 12 AWG.

All relays shall be located on the interior of the car, or at a minimum, in a NEMA 3R weather resistant box outside the car.

All boxes shall be easily accessible for maintenance purposes. Junction boxes are to be located under the car, in a NEMA 3R weather resistant box. Use WAG0 / 280 IEC 60947-7-1 600-volt terminal blocks.

600+ Volt cables shall be kept separated from low voltage (12-volt) wires.

Farebox wiring to be wired directly to the batteries with a 15-amp fuse protecting the input power.

Communication power junction box to be located inside of car. Junction box provided with (Cole Hersee Master Battery Disconnect switch #2484) Connect straight to battery, provide fuse terminations in Junction box.

Install master relay junction box in Cab # A. Provide 12-volt light to show relays are energized (WAMCO, Inc, WL192A1250 Panel Indicating light, 12 VDC).

Upgrade door motors for a new standard which has a clutch, that allows the door to be opened when the car loses power or in emergencies (Excell Bus door Control model # 8901)

Install Eaton limit switches at A and B end lifeguards (Eaton E50SN Limit switch, Eaton E50KL22 adjustable rod).

5.7.2. 24 Volt System Components

1. 1 Master control Relay J.B.
2. 1 Carlton NH864 PVC Enclosure
3. 1 Carlton JP86 Metal Back plate
4. 4 Relay socket base type # 38
5. 4 JQX-38F / 32/40 A, 12 VDC relays
6. 16-inch thin rail
7. Thomas Betts RB 14-6 FL Locking Sta-Kon
8. WAMCO, Inc., WL192A1250 Panel Indicating lights 12 VDC
9. Pantograph, Eaton two push button (green and red)
10. Eaton Green push button
11. Eaton red push button
12. Eaton M # 22-Kc10, N.O. Contact block
13. 1- 12 VDC Breaker J B
14. 1- Carlton CJ 665 PVC enclosure
15. 1- Airplex LELHPK11-IREC4-30177-65, 125-amp 2 pole breaker

16. 6- Airplex 11155629/1-099, 20 amp, 1 pole breaker
17. 1- 6"X 1" copper bus bar
18. #4 AWG Rock Bestos wire
19. #4 AWG crimp lugs
20. 1- Carlton # CJ1085 PVC enclosure (pantograph)
21. 1- Carlton #JP 108 Metal back plate
22. 2- Relay bases (11 pin) JQX-38F/32/40 amp, 12 Vdc.
23. 2-relays NTE Electronics RSS-11020-12F, 12 Vdc
24. 150' #14 AWG wire THWM or THHN.
25. #20 locking Sta-Kons, Cat # RB14-6FL
26. #14 Insulated Sta-Kons, Cat # RB14-2577
27. Interior lamps: replace in-kind

5.7.3. Low Voltage Power Supply (LVPS)

The current or now existing low voltage power supply (LVPS) now onboard the rail vehicle will be subjected to tests to be sure it is correctly or suitably rated for the current draw of the low voltage system, this would include all low voltage items while in use, such as track brakes (while in emergency), sanders, all interior and exterior lighting, including headlights, tail lights, strobe lights, ADA lifts, radios, PA systems, tested for current draw. Contractor shall assess these test results and then either rebuild or purchase and install a new LVPS, preferably the same make and model as installed on all other trolley cars undergoing rehabilitation. MATA will also purchase a spare as noted in the required spares list.

5.7.4. Control Switch A and B End.

A selector switch shall be installed which will transfer control from the A end to the B end. The A and B end will be labeled in a manner that can easily be seen. The control switch shall be in a locked cabinet on the A end. The selector switch shall transfer power for headlights, taillights, PA, door controls (including treadle), sanders, Deadman / controller power, horn switch. It will not control interior lights, nor strobe lighting.

5.7.5. Console Door and Treadle Switch Layout

Final position of brake valve and controller need to be closer together. Contractor shall assess ergonomic best practices and come to agreement with MATA as to the new optimal positioning of these items. Switches for both A and B ends:

1. front right door (open + close)
2. front left door (open + close)
3. rear right door (open + close)
4. rear left door (open + close)
5. Treadle switch. Treadle can only be activated when corresponding front door is opened.



Existing door control switches (above)

5.7.6. Deadman

A new deadman control relay will be installed at each end of the car; the part number is White-Rogers # 586-1055111, 12-volt operating coil. Contacts rated for 12 volts. This is a low amperage circuit; MATA has had little trouble even though the working contacts are rated for 12 volts. Contractor should investigate a similar switch /relay with the correct voltage operating tips or contacts.

A deadman plug shall be provided as part of the low voltage control. The deadman plug, when removed, shall cause the car to stop. This works in conjunction with the Deadman control relay. Each end shall have a new female plug and each car shall come equipped with two male plugs, plus a rope and clip to attach to one's belt. Rope length to be provided during design review. Deadman control part numbers are # 61242 for the female and # 61241 for the male. The plug is part number 280-SW. The panel mount socket it plugs in to is part number 11-SW. These items are manufactured by Switchcraft.

5.7.7. Interlock controls

All doors shall have interlocks (low voltage) that prevent the car from movement when the doors are opened, the Deadman plug is removed, and the lifeguard is deployed. This will prevent the high voltage line switch from operation. A bypass switch shall be available to move the car in emergencies. The bypass switch shall be in a locked compartment accessible to the operator and designated MATA employees.

5.7.8. Operator's Fans

Two new operator fans shall be installed at each end, controls for the fans shall be on the console, and the fans shall have a variable control knob. The fan shall be positioned so it may be useful on the windshield as well for defrosting.

5.7.9. Defroster Fan

A defroster fan with hoses running to the windshield area, or heated glass (if allowable) to keep the windshields clear (all three (3) at each A and B end). Controls shall provide high, medium and low speed operation.

5.7.10. Destination Signs

Six (6) new electronic destination signs shall be installed. Two (2) facing forward, one at each A and B end, located to the right of the operator and two (2) exterior facing outward right and left, located in the center of the CCU. Additionally, two (2) inward facing signs shall be installed. Sign controllers should be mounted in a maintenance friendly location but inaccessible to passengers or potentially damaged from routine interior cleaning operations.

5.7.11. General Lighting

Contractor shall design the trolley car lighting to comply with the existing APTA standard APTA-RT-VIM-S-020-10-Rev-1 and CA PUC GO 95, Section 5 as reproduced below. MATA will consider the use of LED bulbs and lamps that are equivalent in color and intensity as substitutes.

HEADLIGHTS. Every LRV which operates on a separate right-of-way shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 600 feet. Every LRV which operates on a public street or road shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 350 feet and shall be designed and adjusted so as not to interfere with the vision of drivers of motor vehicles. Headlights may be dimmed or extinguished under conditions where their use could pose a safety hazard to motorists in adjacent traffic lanes.

TAILLIGHTS AND STOPLIGHTS. Every LRV shall be equipped with two (2) red taillights at the end of the LRV opposite from the direction of travel and shall emit a red light plainly visible in clear weather from a distance of not less than 500 feet to the rear of the LRV or train. In addition, at least two (2) red stoplights shall be mounted on the end of the LRV with the taillights. Stoplights shall be capable of producing approximately 150 percent of the intensity of the taillights and shall be illuminated whenever any brake except the parking brake is applied.

DOORWAY LIGHTS. Every LRV shall be equipped with lights to illuminate the doorway and adjacent platform or street for the purpose of safe boarding and discharge of passengers.

INTERIOR LIGHTING. Every LRV operating during hours of darkness shall be equipped with lights in the passenger compartment, arranged so as to illuminate the whole interior of the vehicle and in such a manner that windshield reflection will be minimized so as not to interfere with train operation.

EMERGENCY LIGHTING. LRV headlights, taillights, stoplights, interior lights, emergency flashers, and doorway lights sufficient to support safe exiting shall remain functional under emergency power conditions for a minimum of one (1) hour.

5.7.11.1. Interior Lighting

The same number of lamps and shades shall be re-installed. New sockets shall be installed in fixtures. The doorways shall be illuminated. A new lamp shall be installed in the interior at all doors and shall be lit when the door is opened. The lamp over the platform at each end shall be turned on and off as the doors are opened and closed (*off* when doors closed, *on* when opened) to reduce glare for the train operator.

5.7.11.2. Emergency lighting

A select number of interior and exterior lamps shall stay lit during a power outage including appropriate lighting of pathways to platforms.

5.7.11.3. Exterior Doorway Lighting

A new lamp shall be installed on the exterior at all doorways and shall be lit when the door is opened. The new housing shall have a clear lens. The light shall shine towards the path for customers exiting

or entering the vehicle.

5.7.11.4. Headlights

New headlights shall be installed at each end. Each headlight shall have a high and low beam function and controlled at the appropriate A and B end consoles. New wiring and plugs for each headlight shall be installed for easy replacement. The headlights shall be centered relative to the dash at each end.

5.7.11.5. Taillights

Four (4) new taillights shall be installed at each end, two above the operator's cab, two mid-way across dash and shall be facing rearward or 100% parallel with car shell, not accounting for curve of dash panel. New wiring and plugs for each taillight shall be installed for easy replacement.

5.7.11.6. Stoplight / Caution Sign

A stoplight, and optionally also a caution sign, shall be fabricated and be placed to the left rear (while facing forward) and flash STOP when any door is opened. This is to alert autos to not pass the trolley while stopped. It shall also have an on/ off switch for operation in areas where autos can pass on the left. The lamp housing should be made so the bulb can be easily changed. The socket shall have a plug for easy change out if needed.

5.7.11.7. Strobe Lights

ECCO # Model # 6226C (800 635 5900) clear strobe is to be mounted at each corner of the car, at approx. bumper height as to be seen by pedestrians and auto drivers, bicycle riders. and two strobe lights (clear) mounted on the roof at each end of the catwalk, Grote part # 77101. Each strobe light shall have a plug plus easy access for repairs or replacement.

Strobe light controls shall be 12-volt and shall be enabled to turn on and off with the main battery switch, and will have a circuit breaker located with the other light control circuit breakers. Strobe light to be mounted at end of conduits. All wiring to be installed in conduits. Strobe lights and related conduits shall be easily replaceable in the event of accidental damage.

5.7.11.8. Step Lights

New step well lights shall be installed at all interior doorway step areas and shall be illuminated when that particular door is opened. The housing shall be made for easy access for changing the bulb. The fixture shall be waterproof.

5.7.12. Passenger Stop Request

New electronic passenger stop request signs are to be installed (minimum of two), both facing the interior of the car, mounted on a bulkhead or other location as agreed upon. Stop request shall be automatically canceled when any door is opened. A light on the console will alert the operator that a passenger wished to disembark the vehicle.

New stop-request buttons and wiring shall be installed in the car interior. At each post a new switch shall be installed, or a passenger pull cord shall be installed on each side of the car. A new stop request light shall be installed and be illuminated once a switch has been pushed. The stop-request sign shall be inward facing from each end bulkhead. It shall turn off or be canceled any time a door is cycled and remain off until a switch is activated again. A chime shall sound and a light in the active cab to alert the operator that a customer has requested to get off of the car.

A system that is electrically operated via a tape switch or button to alert the operator (with a chime or bell) that a passenger wishes to get off at the next stop. There shall be two interior signs that light up when the electrical signal is activated. For ADA passengers, there shall be a tape switch with an ADA logo to alert the operator (with a chime or bell) that an ADA-dependent passenger wishes to get off at

the next stop. Interior signage shall light up when the electrical signal is activated and state that an ADA passenger requires assistance alighting. These are canceled when any door is opened and closed. When the system is activated, the chime shall sound only once. A light at the operator console shall light up and be canceled as the doors are activated. A separate light (and color) at the operator console for ADA passengers shall light up and be canceled as the doors are activated. The chime or bell shall be a different sound when activated.

5.7.13. Public Address (PA) System

Contractor shall install a new and complete PA system at both the A and B ends of each car. Complete installation shall include two new microphones with an on/off switch, as well as a plug for easy change out or replacement, new amplifiers, and new speakers (both interior and exterior). A selector switch will operate for either interior only, exterior only, or (third selection) both interior and exterior. There shall be a minimum of four (4) interior and four (4) exterior speakers unless approved otherwise. The exterior speakers should be directed to both the left and right side. Interior and exterior PA volumes shall be adjustable separately by MATA staff.

5.7.14. Camera System

A new camera system shall be installed, showing both interior and exterior cameras and recording systems. The interior shall have cameras at each doorway facing the step wells, forward out the front at each end, and cameras facing the operators at each A and B end. Any existing exterior cameras facing in each forward and rear on both sides shall be replaced. The Contractor installed camera system shall be fully compatible with the MATA Apollo camera system currently used throughout the fleet and the MATA operations control center.

5.7.15. Deliverables, Low Voltage Systems and Wiring

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 5-07 Low Voltage Systems and Wiring Repairs]

All low voltage system work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

5.8. High Voltage Systems

5.8.1. Tear Down Process

Contractor shall perform a complete tear down of the supplied units: traction motors, K controllers, air compressors, line switches, HVAC, etc. All parts shall be labeled and/or tagged with the original manufacturer's nomenclature. Serial numbers for serialized parts shall be included on the labels/tags. The record of work performed, or disposition of the part shall be linked to each replaceable part, unless it was identified in this scope for complete replacement.

5.8.2. First Article Inspection (FAI) Process

Upon refurbishment of the first of each type of major component, Contractor shall prepare the first completed unit for a FAI at Contractor's facility. Contractor shall present the labeled/tagged parts during the FAI. MATA and/or its designated representatives will participate in the FAI at Contractor's facility. During the first article inspection, Contractor shall present all proposed criteria to be applied to replacement or overhaul of parts/components where specific numerical criteria or specific industry standards were not cited in this scope of work.

If Contractor identifies conditions that warrant adjustments to this scope-of-work (including the list of extra work items), those adjustments should be submitted to MATA as early as possible and not later than the beginning of the FAI. MATA will respond to the proposed criteria for such items or the modification of the scope of work as quickly as possible, but no later than 7 business days. Any work not related to those parts where Contractor is waiting for MATA's response shall not be delayed pending

such responses.

Contractor shall submit FAI Reports to MATA indicating resolution of any FAI open items within ten (10) business days of the receipt of MATA's response regarding any proposed scope of work adjustments.

5.8.3. HVAC

The original equipment shall be carefully removed and replaced in kind with new units. While a 12V system is preferred, either a 24V or 12V system is suitable. Each newly installed HVAC unit shall be controlled from each end of the car, and the control for each end via a transfer switch. The HVAC duct work shall be free of obstacles to allow free movement air. The HVAC system shall be capable of maintaining the car interior to MATA's chosen temperature set point, or at least be capable of providing a 20-degree differential temperature to the ambient exterior temperature during extreme temperature periods.

New heating elements shall be installed under the seats. These will be installed keeping in mind that the seats are wood, and care should be taken to keep the car interior from catching fire. A heater could be purchased or fabricated in which heater elements are enclosed, and a blower along with a thermostat to prevent overheating may be installed. The controls for this should be where an operator can control it while the vehicle is stopped and out of reach of the public.

Similar heating units, one or more, shall be installed with the proper ducting to keep the operator's windows free of moisture in the winter months. This shall be controlled from the operator console area.

Included in the required spares list, MATA will purchase a new spare HVAC unit.

5.8.4. Roof Main Fuse

A new roof main fuse and enclosure shall be installed on the car roof. The fuse shall be a TRS300R, 300A, 600VAC/DC. The fuse shall be enclosed in a weather tight box, with attached clips on one side for easy access and being able to lift the lid for access to the fuse.

5.8.5. Pantograph

New pantographs shall be installed. Schunk, SGT SBE pantograph 922HC is the model that MATA uses throughout its existing fleet. One of the three cars shall have a pantograph equipped with a sleet cutter for icy conditions, Shunk # 11008184, Memphis Pantograph 10477043 Winterized or approved equal. New electric operating switches (push button) for up and down (raise and lower) shall be installed in each cab (A and B) for easy reach for the operator and labeled as such for function and what it is controlling. The switches shall be selected by the same A or B cab transfer switch and shall correspond to the correct operational end. A new Schunk pantograph with a double spring for operation in icy conditions shall be installed on one car on the same end as the other 2 cars. The pantograph shall be located at the A end of each car and optimally placed relative to the A truck centerline. The precise location shall be agreed upon at the kick-off meeting. The pantograph mount shall ensure sufficient clearances along Main St at the Interstate 40 bridges. The 650-volt power lines and equipment on the roof must be insulated and not able to cause a short throughout the full range of motion of the pantograph.

The pantograph shall have a detachable hand crank installed in each car in the A cab. The design and installation shall be ergonomic as approved by MATA. The handle and crank shall be insulated for use when the pantograph is in contact with the 650 Vdc power. The hole that extends through the ceiling shall be watertight and not leak. There shall be a decal stating this is for the manual crank with arrows to identify the way to raise and lower the pantograph.

5.8.6. Propulsion Controls

5.8.6.1. Existing Master Controls

Presently the cars are equipped with a low voltage controller and apparatus. The low voltage controllers and apparatus now in the car shall be carefully removed and boxed up for shipping back to Memphis. Low voltage wiring associated with the controllers is to be carefully removed not to damage surrounding and other low voltage wiring for the car doors, and communications systems, interlocks for brakes and doors. Descriptions of this unit will be available.

5.8.6.2. K-35 Master Controllers

Each car shall get two (2) rebuilt K-35 controllers, one for each end. MATA will supply K-35 controllers; these are cores that need to be rebuilt. Controllers may or may not have the LB2 (Line breaker device) attached or available. Should there be no LB2 devices available, new ones are to be made, as well as spares. All asbestos shall be abated per current laws and replaced with materials that are suited for electrical arches and flashes.

Main K-35 JJ control drums shall be cleaned and cleared of all existing segments and screws, new insulation installed on the shaft, all screw holes re-tapped with all the same sized hole size and threads, all new segments installed, new bearings installed. Reverser drums shall be cleaned of all existing segments and screws, new insulation installed, all screw holes re-tapped, all new segments installed, new bearings installed. Each controller top will receive a new, complete LB 2 device. And installed on each controller. No old hardware is to be reused. Old housing for LB 2 may be used if available. These must be cleaned and checked before reuse.

Controller fingers shall be new, consisting of new blow out coils, new springs, new replaceable contacts, all new hardware, for both the reverser and the main control drum, new internal high voltage wires, new wire labels, new insulation, insulation boards, controller cover insulation to be replaced, motor cut outs are to be replaced with new manufactured parts. Motor cut outs to be labeled (stamped) for which sets of motors they control.

Reverse fingers are to be replaced with new, consisting of new springs, new contacts, all new mounting hardware (slotted hex cap screws, split washers, flat washers).

Each Controller shall have a new serial number if the one on the controller top is not legible. Serial number shall be easily seen or visible (some have been mounted on the backside, which, once mounted the number is not visible)

All salvaged parts removed shall be sent to MATA in Memphis.

A new reverser handle with a spring clip to hold it in place shall be supplied with each car and three (3) spares per the required spares list.

All parts are to be made serviceable for the maintenance staff. K control segments, as an example, shall be easily removed and replaced as needed, same for controller fingers and burn tips.

5.8.7. Line Switch, GE DB-986-A

All line breakers/switches ("line switches") shall be rebuilt. MATA will supply three (3) GE # 986-line switches for use by Contractor. The line switch model is understood to be a General Electric Co. (GE) DB-986-A. The line switch, upon getting its signal from contacts within (ratchet switch) or on top (LB-2A device) of the controller or under conditions of overload or overcurrent above its trip setting, will open immediately, de-energizing the line switch operating coil and opening the breaker. The breaker operation reduces arcing within the controller during normal operation. The line switch shall be mounted underneath the car and its frame shall be electrically isolated from the car body. MATA will allow the use of insulated bolts. Metal conduits must not be used for wire entry into the line switch.

5.8.8. Control Switches

These are for controlling the voltage for each controller LB 2 device and is associated with the line switch. Six (6) of these control switches will be supplied by MATA for use by Contractor. These MATA supplied control switches will need to be overhauled.

5.8.9. Brake Resistors

All brake resistors shall be all new from Post Glover. The brake resistors shall be mounted under the floor and have a heat shield between the resistors and the car floor. Resistors shall be mounted so the resistor fins are parallel to the track rails for air flow as the car is operated in either direction. Resistors shall be insulated from the car mounting hardware. No isolations parts shall be installed in tension. All wiring shall be routed and or mounted in a way that the heat from the resistors will not burn the insulation. A steel heat shield shall be provided over the top of the resistors. An expanded metal screen shall be attached to the outside (or facing the outside) of the resistors to prevent people from accidentally contacting the resistors. The expanded metal screen shall be electrically isolated from the resistors.

5.8.10. High Voltage Wiring

All new high voltage wiring shall be installed including, but not limited to between the controllers, line switch, pantograph, resistors, grounds, etc. All wiring shall be kept secure and routed away from sharp corners or edges. If a cable must be routed around a sharp corner or edge, it shall have safe edging applied to mitigate any possibility of chafing and undesired wear.

5.8.11. Deliverables, High Voltage Systems and Wiring

Contractor shall submit its intended approach for repairs to these areas including details regarding the installation of new HVAC units, pantographs, and K-35 propulsion controllers within 45 days of receipt. [CDRL 5-08 High Voltage Systems and Wiring Repairs]

All high voltage system work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

5.9. Truck Work

The existing Peter Witt-style trucks originally from ATM Milan, Italy, do not provide MATA with the needed turning radius to allow the Charlotte Birney cars to negotiate the curve into the MSF. Contractor shall perform a truck rotation dimensional analysis to determine the root cause of the limitation and shall implement necessary modifications to the Charlotte cars to ensure that the Charlotte Birney cars can successfully negotiate the curve into the MSF.

MATA intends for the existing Peter Witt-style trucks to be removed from the car and replaced with Melbourne W2 style trucks. Prospective bidders shall include in its proposal a credit to MATA for taking ownership of the existing Peter Witt-style trucks.

Contractor shall acquire W2 style trucks for use under the Charlotte cars and for spare trucks. Each of these Melbourne trucks shall be removed from the car, completely disassembled, all parts labeled per truck, cleaned, and refurbished as described below.

Axles shall be replaced. All wheel press work shall be done on a press that has been certified within the previous 12 months. Press work results for each wheelset shall be recorded on a form that shows the serial numbers for all serialized pressed components (e.g. each axle, wheel, gearbox, brake hub, journal bearings, etc.), the responsible employee that completed the work, and the date of the work.

New axle journal roller bearing with improved seals to mitigate leaks shall be installed. New journal bearings shall be installed so that they do not leak and maintenance of these shall be in a maintenance

manual.

All truck mounted brake linkages are to be taken apart, cleaned, tagged with a part number, checked for wear in all mating wear surfaces, guideways, hold down points, hangers, brake shoe holders, brake shoe pins, attaching or interface rods or pins. Bushing shall be replaced. New brake rigging pins are to be fabricated. All pins shall have drawings made. New pins shall be fabricated. Lubrication ports on pins shall be drilled and Zerk fittings shall be installed.

New rubber mud flaps to be installed at four locations on each truck end beam opposite the wheels to prevent wheel splash.

5.9.1. Motors

Each of the four (4) MV101 traction motors intended for each car shall be removed and overhauled by a motor repair shop that has experience overhauling these types of traction motors. The axle caps shall be labeled with a stamp and kept in the same orientation on each of the traction motors.

Motors shells shall be stripped of all old paint and varnish. Motors shall be stripped.

Overhaul scope shall include removing the armature, brushes, brush holders, end bell plates and roller bearings, pinions. The motor interior shall be thoroughly cleaned of all dirt, grit, old grease, grime, and debris.

Motor interpole and field coils are to be made new with new properly sized insulated coil wire and wrapped with new insulating materials. New wires and insulating grommets are to be installed where wires come out of the motor case. New terminals are to be installed. All motor wiring will have the same terminal ends. Care must be taken when installing pole pieces for magnetic north / south direction to ensure correct motor spin direction.

Armatures shall be stripped. If the commutator is found to be more than half worn, it is to be replaced with a new commutator. All new insulation and windings are to be installed and welded to the commutator in practice with current industry standards.

After rewinding the armatures are to be dipped in a pressure vacuum impregnated tank, baked with new insulating varnish. The commutator shall be turned, cleaned, undercut, balanced and new bearings installed. Brush holders shall be checked for operation, new springs applied, new porcelain insulators installed, or new brush holders installed as required due to defective or worn-out materials. New traction motor brushes shall have shunts. Brush holders shall have a place to secure the shunt with a spade type terminal, and it shall be easy to remove the brush for replacement.

The motor exterior shall be painted black with non-lead paint. The motor interior shall be painted with insulating paint and be baked.

Motors shall be reassembled, floor tested for correct rotation, bearing temperature, vibration, excessive sparking at the brush / commutator, up to full speed operation.

The motor cover shall be cleaned, painted black on the exterior, insulation red on the inside, all clamps and tabs shall be made to work properly and secure the cover. The cover shall be sealed to keep dirt and dust from migrating into the motor.

5.9.2. Gearbox

All new matched sets of main bull gears and pinion gears shall be provided and professionally installed. Main bull gearing shall be pressed onto the axle. Pinion gear sweated onto the motor shaft with new hardware and locking device. All new gears shall be of the herring bone type to ensure quiet operation. Installed gear lash and tolerances shall be installed per manufacturer's requirements to ensure trouble

free operation.

All Gearboxes shall be checked for leaks, cleaned, and repaired as needed. The hatch for checking lubrication shall be in good working order. Contractor shall install new hatch return springs. Gearbox housings shall not leak or seep gear lube. Contractor shall install all new seals to prevent spillage or leaks from occurring. Gear lube shall be Mobil SHC Synthetic Gear Lube or approved equal. Gear cases shall be painted red.

5.9.3. Wheelsets

All new wheels shall be installed. Wheels shall comply with ORX 03904-53-120 drawing and have ORX 03904-53-180 ATEA F3 wheel profile (MATA will provide drawings to Contractor at the kick-off meeting), or a new profile as recommended by the Contractor, or discovered during the term of the Contract. Wheels shall be installed per the AAR instruction manual for press work. Gears and all axle mounted components shall be pressed onto the axle by the same means and methods.

5.9.4. Brake Shoes

All brake shoes shall be renewed. Additionally, 200 new spare brake shoes shall be provided per the required spare parts list. With all new brake shoes installed, the car shall come to a complete stop within 120 feet from a speed of 20 mph at AW 3 conditions on level tangent track. This braking performance shall be tested and confirmed on each car during commissioning at MATA. Brake shoes shall be seated correctly in the brake shoe hangers and attached by means of a key or tapered pin. Brake shoes shall have a means of keeping them lined up on the wheel tread by way of a flange groove within the shoe. The brake shoes shall not contain asbestos and comply with existing environmental requirements.

5.9.5. Brake Rigging

All rods, rollers, pins, guides, rods, levers shall be removed, tagged, cleaned and checked for wear, replaced or refurbished as needed. New Pins that can have a port and holes bored into them for lubrication and Zerk fittings shall be installed. All brake support equipment under the car floor shall be cleaned and checked for damage and wear, replace wear surfaces if found more than ¼ worn. A schematic for the brake rigging and how it functions shall be added to the car maintenance manual.

5.9.6. Hand Brake

All hand brake mechanism components including chains, rods, pins, brake ratchet wheel, gearing and holding dogs plus levers are a part of the braking system, and shall be disassembled and inspected for wear. If gearing is found worn in the hand brake mechanism, they shall be replaced in pairs. If the dog and ratchet are worn, as is the worm gearing under the car, these shall also be replaced with new matched sets of gears. The hand brake, when properly engaged, shall hold the car still on a seven (7) percent grade with no other assistance from wheel blocks or air brakes.

5.9.7. Brake Cylinder

All brake cylinders shall be disassembled and cleaned. All parts shall be checked for cracks using nondestructive testing methods. Contractor shall install new gaskets for both the piston and end bell positions. New gaskets, brake cylinder cups, newly applied brake cylinder lube (AAR type), gasket materials shall be compatible with AAR seal and all other gaskets. All replacement gaskets shall be new and not older than seven (7) months from the date of manufacture.

5.9.8. Track Brake – Feature Deleted

Any track brake equipment and associated parts including electrical gear, activation mechanisms, electrical parts, wiring, all springs and related hardware shall be permanently removed from the Charlotte cars and Melbourne trucks.

5.9.9. Deliverables, Truck Work

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt of each car. [CDRL 5-09 Truck Work and Repairs]

All truck work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

5.10. Air System

5.10.1. Air Compressor Assembly

CP27 air compressors shall be completely torn down. Armatures shall be re-wound and all new field and interpole coils shall be installed along with all new wiring. Armature rewind to include heavy-duty cleaning and removal of all windings. New armature commutator if the existing ones found to have less than ½-life remaining. Armature to receive all new coil windings, vacuum impregnated, commutator turned and undercut, balanced. New brush holders to be installed. New brushes with new shunts to be installed.

Compressor parts shall be thoroughly removed and cleaned. All new bearings (sleeve and wrist pin bearings) and new rings installed. Cylinders shall be honed as needed. The compressor assembled shall be bench tested with 650 volts DC and using a similar air tank (or multiple tanks) volume as the tank(s) installed on the trolley car. The compressor shall build up to operating pressure (90 PSI) within five (5) minutes. NOTE: A safety valve must be installed during all tests as needed.

New mounting hardware shall be used for securement to the carbody structure and a flexible airline (the airline shall also have a heat rating) shall be used between the compressor and the cooling pipes. An insulator shall also be placed into the air line to prevent the 600 VDC from energizing the remaining air piping in the vehicle.

5.10.2. Air gauge

New air gauges shall be purchased and installed. Air gauges shall be duplex, with red and black needles, red for air brake pipe pressure, black for air pipe pressure. The gauges shall be piped in directly with copper air lines. The gauge shall be located so it is easily read while the streetcar is in motion. The face of the gauge shall be lit, either from internally, or with a small lamp directed at the gauge face. Placement of air gauges to be determined in A and B cabs. Spare air gauges are included in the required spare parts list.

5.10.3. Air Horn

The existing air horn shall be cleaned and confirmed serviceable. It shall be located under the car and positioned to produce decibels (90 dBA) when measured at 50-feet from either the A or B ends.

5.10.4. Air Bell Ringer

Contractor shall install an air bell ringer with a foot plunger for operation. This shall be a repeating type bell and will take the place of the existing foot gong, which, depending on the pressure applied, makes the gong soft or noisy. The installed air bell ringer volume shall be approximately the same as the "noisy" gong sound.

5.10.5. Air Dryer

An approved device to reduce the amount of moisture condensing into the vehicles' air system shall be installed.

5.10.6. Air Governor

Contractor shall rebuild and test the air governor for correct operation. Contractor shall replace tips as

needed to ensure that the system trigger pressures achieve the desired on and off performance.

5.10.7. Air Lines

All new seamless copper piping shall be installed with appropriate checks for tightness. The maximum allowable pressure drop for the entire system is 1 PSI per 10-minute loss. A schematic for all air piping shall be presented and included in the maintenance manual. Piping shall be marked for reservoir, and braking, sander, etc.

5.10.8. Air Sanders and Apparatus

Air sander valves shall be repaired, rebuilt or replaced. New hoses, new sand hoppers are to be installed. Sand shall be directed right in front of the leading wheel or wheels. A new control switch shall be installed on the floor (placement to be determined during the kick-off meeting). Sander hoses shall not interfere with truck rotation or be affected in any way while the trolley car negotiates the tightest curves in the MATA rail system.

5.10.9. Air Tank

New certified air pressure tanks shall be installed on each vehicle. New drain valves shall be installed. There shall be 5 inches of clearance between the street and the lowest part of the drain valve.

5.10.10. Deliverables, Air System

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 5-10 Air System Repairs]

All air system work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

5.11. CDRLs

The Contract Data Requirements List items (CDRLs) required by this section are summarized below. They are described in detail at the referenced location. CDRLs are on a system by system and per car basis.

CDRL #	Description	Reference
5-01	Interior and Exterior Paint and Decal Scheme	5.4
5-02	Interior and Exterior Painting Plan	5.4
5-03	General Carbody and Structure Condition and Repairs Report	5.5
5-04	Roof Condition and Repairs Report	5.5.1
5-05	Doors, Steps and Accessibility Lifts Work	5.5.4
5-06	Interior Repair Work	5.6.9
5-07	Low Voltage Systems and Wiring Repairs	5.7.23
5-08	High Voltage Systems and Wiring Repairs	5.8.11
5-09	Truck Work and Repairs	5.9.9
5-10	Air System Repairs	5.10.10

6. Melbourne W2 Trolley Car Rehabilitation Project (Optional)

6.1. Project Intent

Depending on availability of funding, and at the sole discretion of MATA, MATA may exercise the option to complete the Melbourne Trolley Car Rehabilitation Project which will Rehabilitate one (1) W2 replica (No. 545). If MATA exercises this optional scope of work, MATA intends to rehabilitate, restore, modify, refurbish, modernize, rebuild, test, and certify (“Rehabilitate” “Rehabilitation”) this car to operate safely and reliably to provide sustainable service on its existing rail system.

The life expectancy for the rehabilitated vehicle is twelve (12) years. The vehicle will be maintained, and there is a realization that certain wear components such as motors, wheels, bearings, etc. may not last twelve (12) years without repairs, however, the vehicle should operate for eight (8) years without major repairs to components. The “work” shall encompass rebuilding the car entirely and providing other deliverables as specified herein.

6.2. Trolley Car History and Specifications

The Melbourne W2 Trolley Car No. 545 is a W2 replica trolley car originally built by the Gomaco Trolley Corp of Ida Grove, Iowa, for the Melbourne Tramway System. In 2018, MATA acquired the trolley car for use in the MATA trolley system. The following car data is provided for reference:

Source of Running Equipment: Melbourne and Metropolitan Tramways Board.

Running Equipment: MV 101 traction motors, air brakes, and CP27 compressor.

Controls: General Electric K35 controllers.

Length: 48 feet.

Width: 9 feet.

Height: 11.6 feet.

Weight (approximate): 40,000 pounds.

Balanced Speed: 24 mph.

Seating: 48 to 52 sitting, 24 standing (based on six passengers per square meter).

Total Crush Load: 76 (does not include operator).

Seats: Wood seats, alternating cherry and oak. Bench seats.

Frame: Reconditioned original Melbourne frame.

Windows: 14 per side.

Fittings, Solid Brass: New castings by Gomaco Trolley Company.

Special Woods: Oak, maple and cherry.

Paint: Color and details as selected by customer.

Whistles: Three-tone air chime with WABCO valves on each end of the car.

Air Conditioners: N/A

Communication System: Conductor PA system.

Steps: Fixed steps.

Chair Lift: N/A

Signal Bell: Brass, made by Gomaco Trolley Company. A floor pedal to operate on each end of the car.

Brakes: Air-operated friction brakes.

Floor: Plywood floor with commercial transportation vinyl.

Ceiling: Painted or varnished birch with hand pin striping.

Roof: Laminated plywood with fiberglass covering, and painted canvas cover.

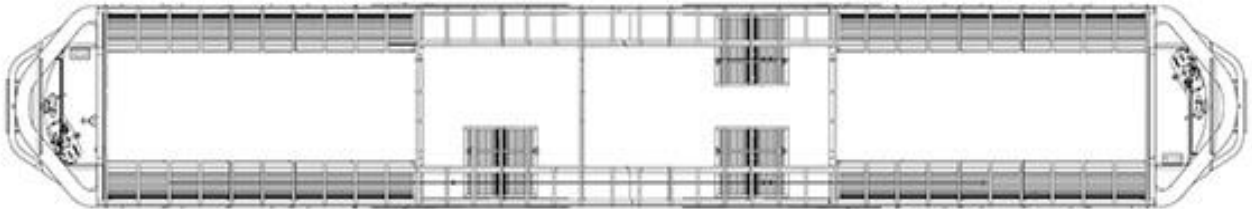


Fig. 2: Plan View of W2 Car Floor Plan

6.3. Trolley Car Upgrades Overview

1. Note: Melbourne trolley car No. 545 is not complete. Contractor, solely at its cost, shall be responsible for sourcing, shipping, acquiring and reconditioning all parts and materials needed to replace the missing parts and materials. MATA will allow Contractor the opportunity to inspect MATA's inventory for the possibility of sourcing any of the needed parts and materials from MATA's spares. Note that MATA does not purport to have any or all of the missing parts needed by Contractor to completely rehabilitate the trolley car. However, MATA is willing to assist Contractor to find sources for the missing parts. Contractor shall acknowledge that not all MATA parts may be available to Contractor due to ongoing maintenance needs for other trolley cars in the MATA fleet or planned for the overhaul of other MATA trolley cars. Contractor shall develop and submit a list of the missing parts needed to complete car 545. [CDRL 6-01 W2 Car 545 Missing Parts List of Parts Needed]
2. MATA intends to add a useful HVAC system as described herein and obtain the design details for the purpose of upgrading other W2 cars in the MATA fleet with HVAC systems.
3. MATA would like to consider a reconfiguration of the step system to make entry and exiting the W2 car easier.

6.4. Paint Process and Scheme

The entire body interior and exterior shall be sanded and primed, scuffed and three coats of paint applied to all painted surfaces. The exterior paint scheme may include up to 4 colors. It is intended that all numbers and logos will be applied with paint, not decals. Numbers and letters shall be a Railroad font. The interior and exterior paint and decal scheme shall be discussed at the kick-off meeting.

Contractor and MATA will agree to a design review plan and schedule for the appearance scheme. Upon agreement of the final scheme, Contractor shall submit drawings of the car interior and exterior that depict the paint scheme and layout of decals. [CDRL 6-02 Interior and Exterior Painting Scheme]

The interior shall be varnished and painted new similarly to the manner it is given to Contractor. Decals may be also used on the interior; the decal shall be appropriately sized without a lot of excess materials applied to the interior. MATA lettering, and information (emergency information, A and B end, safety information such as “keep hands inside car” on each window) will be installed on the interior. All references to Charlotte, NC., CATS, or Lyxs shall be removed. The final appearance form and finish are important. MATA will provide Contractor with new car numbers for each refurbished car. Interior signage shall include brail.

Contractor shall prepare a paint coating and application document containing procedures for surface cleaning and preparation, priming, surfacing, and painting for all equipment that is painted or powder-coated, whether by itself or by its manufacturers and suppliers. A detailed paint schedule showing the equipment painted, paint type and manufacturers, recommended thickness and other pertinent information shall also be included. This document shall be submitted for review and shall be made part of the maintenance manuals. A low-VOC industrial paint and associated mil spec is recommended. [CDRL 6-03 Interior and Exterior Painting Plan]

6.5. General Carbody and Structure

The car body (both interior and exterior) shall be stripped of all components. All parts shall be cataloged, part numbers assigned, and tracked in a matrix that identifies where each part came from. All cataloged parts shall be carefully placed and stored out of harm’s way and protected from damage after removal. Contractor shall not store parts outdoors.

The trucks shall be separated from the car shell, HVAC removed, wheelchair lifts removed, hydraulic lines removed, all seats removed, each control cab shall be stripped, all wiring is to be carefully removed, headlights, bumpers (unless welded to car frame) shall be removed, lighting, doors, door motors shall be removed. All Windows and seats shall be removed. Contractor shall mark all windows with car and location.

Interior woodwork shall be completely removed, tagged, and cataloged. It shall be checked for defects (cracks or wear) stripped of old varnish, replaced, or repaired, cleaned and re stained and varnished.

The main steel car body and frame shall first be cleaned of all debris and contaminants and the frame and car body shall be checked for rust damage. Any wooden portions of the structure shall be checked for deterioration. Wood found to be substandard due to rot or holes drilled into wood that cannot be repaired with dowels (properly drilled and with appropriately sized dowels glued in) shall be replaced. If more than four (4) dowels no larger than ¼” X 1” are needed to repair a piece of wood frame or sub structure, Contractor shall completely replace it with a defect free comparable hardwood. In some areas of the carbody structure, hardwoods such as oak, may be an integral part of the vehicle’s load bearing structure. Contractor shall not substitute non-hardwoods for hardwoods without MATA approval.

Contractor shall assess the condition of the carbody and shall identify suitable repairs to the carbody and structure and shall present a report to MATA within 45 days of receipt of the vehicle to Contractor’s facilities. [CDRL 6-04 General Carbody and Structure Condition and Repairs Report]

Upon MATA approval of the General Carbody and Structure Condition and Repairs Report for each car, Contractor shall commence and complete the agreed upon repair work. Following repairs to the carbody and structure and all sheet metal repairs, the car shall be primed, and one coat of topcoat paint (for preserving the body) shall be applied, both to the interior and exterior of each trolley car. All body crevasses, drip rails shall be, other places where water might be retained during daily revenue use shall receive several coats of paint which could require hand brushing to ensure that all areas are well protected against future wear and tear or rust.

Contractor shall maintain a detailed history of all work performed including preparation and use of any drawings and disposition of all materials. This information will become a part of the car history book for each car.

6.5.1. Roof

The pantograph and related framing shall be removed. The main HVAC components shall be removed.

The existing roof (exterior and interior) including all wooden slats and ribs shall be examined for wear and tear and a detailed condition and recommended repairs report submitted to MATA within 45 days of receipt and prior to proceeding with repairs. Contractor shall ensure that repairs and modifications to the roof structure result in sufficient structural integrity to support the roof mounted equipment such as new HVAC units if provided, and maintenance personnel. [CDRL 6-05 Roof Condition and Repairs Report]

NOTE: Contractor shall ensure that all roof mounted equipment has sufficient clearance with MATA's low points. Low clearance points are at the Interstate 40 bridges on N. Main St. and at GE Patterson. All roof mounted equipment shall operate normally and safely through these low points.

The lightning arrester shall be replaced with a new one. The grounding cable shall extend to the car frame and shall be connected on a separate grounding lug.

Wooden walkways shall be replaced, painted, and sealed on all sides and ends. If not already equipped, a place for maintenance personnel to tie off using lanyards and safety harnesses shall be installed to comply with current OSHA regulations. Grab handles or bars for stability on the roof may be cleaned, painted and re-used if found to be in good shape.

The roof shall be sealed and made leak proof, including when the all-new HVAC unit(s) is installed onto the roof, plus the new pantograph.

Contractor shall perform a water test at its facility. The test shall be performed to ensure the roof, windows, doors, door seals, and HVAC vents are sealed against all water leaks, including leaks as the car is traveling at speeds up to 30 MPH. The trolley car shall not leave Contractor's facility until all water leaks are eliminated to MATA's satisfaction.

6.5.2. (Section Not Used)

6.5.3. Doors

All doors shall be removed, cleaned, and inspected for damage. If the doors are determined to be suitable for re-use, they shall be painted inside with primer and one coat of paint. New glass shall be installed. If the doors are not suitable to be re-used, they shall be set aside and new doors of the same type shall be fabricated and installed.

All new safety glazing shall be installed. Safety glazing shall be designed for easy removal to allow replacement of a window in the event of damage or breakage. All new rubber door edges are to be installed, as well as all-weather brush type devices to seal to keep the rain as well as the cold air out. There shall be no draft air felt when the car is in motion. The vehicle door edge seal shall be tested in a manner comparable to the most extreme weather conditions in MATA's operating environment. The vehicle shall be capable of being operated at the specified performance levels, stored, and maintained without impairment resulting from the natural or induced environmental conditions within which the vehicle will operate. The following climatic factors shall be used as design guidelines and shall be considered as operational requirements. Actual localized temperatures and conditions within and under the carbody may be more severe than the ambient climatic conditions and Contractor shall be responsible for evaluating these during its rehabilitation effort. New industry proven 24V door motors

shall be installed, along with new control rods, door rotating rods, bearings, pins, bushings and related hardware.

A new industry proven door operating system shall be installed. This will include new control rods, door rotating rods, bearings, pins bushings and related hardware and electronics. This door operating system shall operate at 24V under normal operating conditions.

Door motor housings shall be inspected, and new wooden and metal boxes shall be installed. All mounting hardware including those for the hold down plates shall be new. The interior of the housing shall be painted white.

The existing or new folding metal doors shall be re-installed; they shall operate freely with the new steps and ADA lifts. Consideration shall be given to be sure that the air flow (when in motion) is reduced to a minimum for the colder winter months when placing the rubber nosing parts.

An exterior emergency release cable shall be at each doorway on the left post (as faced from the outside).

Each door shall have an interior emergency handle to deactivate the doors in emergencies and the doors should balance (no power) then be able to be easily opened in emergencies. Add decal to show how door release handle operates.

There shall be a bypass switch available to bypass each of the doors in emergencies. The switch shall be accessible only to the operator or maintenance staff via a protective tamperproof cover similar to the accessibility lift bypass switch.

Passenger doors shall be compliant with ADA requirements.

6.5.4. Steps

New replacement steps shall be engineered. Step extensions shall be removed, checked for cracks, repaired, cleaned, tested for operation and re-installed at all 4 doorways. The step nose shall have a 2-inch-wide yellow reflective stripe along with length of the step and nose. New operating cylinders shall be installed. Following repairs, they shall be tested for operation and reinstalled on all 4 doorways. The step extension shall work in conjunction with each door operating switch.

Specifically, a concern with the W2 style car is the tall step from the fold down step into the main cabin. Contractor shall submit, as part of the Doors, Steps and Accessibility Lifts Work CDRL a design modification proposal that will reduce the distance or height of the steps that access the main cabin. It may be possible to modify the frame structure and lower the floor in the center cabin area while not affecting the undercar equipment such as the air tanks and air compressor that need to remain under the floor. This could potentially be an option that MATA would eventually apply to all W2 cars as they are rehabilitated.

Contractor shall submit its intended approach for the upgrades and refurbishment of the doors, steps and accessibility lifts within 45 days of receipt. [CDRL 6-06 Doors, Steps and Accessibility Lifts Work]

6.5.5. Lifeguards

The car shall be equipped with new mechanical lifeguards at each A and B end. The lifeguard gate shall be easily tripped from the outside and be equipped with a switch that, when tripped, will place the car in emergency until the lifeguard is reset by a pedal located inside of the car at the front floor, near the dash panel. The basket frame will have Teflon skids attached to the underside. All parts shall be easily adjusted or adjustable.

6.5.6. Tow bar

An adequately sized tow bar shall be provided and hung under the car in a similar manner as the existing tow bar. The new tow bar to be painted yellow and have reflective stripes for improved visibility during the dark hours in Memphis. The new tow bar shall have the appropriately sized hole at each end and slotted by an additional ¼-inch to allow for extra clearance when coupling.

6.5.7. Tow-Pin

Tow-pins shall be inspected for condition and function. Contractor shall correct or repair as needed. A chain shall be attached to both the tow-pin and car-bumper along with some extra chain length for freedom of movement. Tow-pin and chain shall be painted yellow. The tow-pin shall have a handle of approximately 12-inches long, and have a 180 degree bend at the handle end.

6.6. Interior Work

The car interior shall be cleaned with an environmentally friendly cleaner and without using harmful solvents, on the floor, seats, posts and ceiling. All wood trim shall be cataloged for location and orientation. All Wood trim and seats shall be removed, checked for damage and then repaired and/or replaced as necessary. Wood parts shall be cleaned of all old varnish, sanded, and coated with new varnish. Varnish shall be able to withstand UV light and impervious to water stains.

6.6.1. Floors

The floor shall be replaced with new plymetal. Where the plymetal may be close to exposed electrical connections and or apparatus, care will be taken to be sure no electrical shorts or that the floor is insulated to prevent the floor from becoming conductive. Anti-squeak tape shall be installed. Plymetal flooring shall be held onto the car frame by the use of machine screws, secured with both flat and split washers and securing nuts. Securing the floor in this manner is also part of the car stiffening system in accidents. All joints and seams shall be fully sealed with a polyurethane sealer (such as Sikaflex) inside and on the underside so as not to allow water to migrate and stay in unseen pockets. No water shall seep into the floor from the underside of the car. New mud guards shall be installed on the car body.

Floor hatches for access to the motors shall be retained. New hatches are to be installed with new trim and a lock that is easily engaged or disengaged for maintenance purposes. Again, care will be taken to ensure no electrical shorts happen due to the sheet metal and electrical contacts.

Contractor shall install heavy duty, transit grade rubber flooring material throughout each car. Ribbed flooring shall be installed in all walking areas. The flooring shall have ribs oriented lengthwise down aisle of the car. At each door opening a carefully cut and trimmed piece of ribbed flooring material shall be oriented so the ribs flooring faces outwards towards the car entrances or exits. Ribbed rubber flooring shall also be installed on the motor hatch cover plates. Smooth rubber shall be installed under the passenger seats. The flooring brand, model and color shall be approved during the kick-off meeting.

Contractor shall provide a new ADA bridge plate. Contractor shall submit design for MATA approval. [CDRL 6-07 ADA Bridge Plate Design Description]

6.6.2. Hardware and Trim

Reinstallation shall have all new hardware, brass screws, finish washers, hardware not seen shall be plated (grade 8) so they do not show rust. All exposed trim and hardware to passengers and MATA employees shall be smooth and free of burrs.

6.6.3. Operator Gong

The operator gong from each end shall be removed and cleaned, checked for cracks. The plunger that travels through the floor shall be checked to ensure it is the correct length for use against the striker lever. The plunger that goes through the floor shall be sleeved to prevent corrosion which could cause

the plunger to seize and not function as intended. Contractor shall take care when laying out the location of the operator gong in relationship to the sander and the air whistle pedals. Alternatively, MATA will consider installation of a repeating air ringer and apparatus (actuation pedal, air lines, new bell and repeating air hammer, hardware, and brackets).

6.6.4. Windshield wipers

All three (3) windows at each A and B end shall have windshield wipers (six (6) total). All will have controls for fast, slow and three intermittent speeds. The sweep of the blade shall be such that when parked it is out or away of from the operator's vision as best as possible. Each wiper sweep should clear 50 – 75 percent of the window.

6.6.5. Operator's Seat

A new operator seat will be installed at each end. The seat and framing should be installed to not block access for ADA passengers when boarding or alighting the vehicle.

6.6.6. Passenger Seats

All seats and seat frames shall be removed, disassembled, and cleaned. Seat frames shall receive new bearings and sliding parts installed. The frames shall be primed and painted. Wooden seats backs and bottoms are to be cleaned, check for damaged wood, repaired to be made as new, old varnish removed, and revarnished. Brass handles are to be cleaned and polished. Missing seats and frames shall be replaced by Contractor. Spare seat bottoms and backs shall be fabricated. New wood varnish for the interior shall be able to withstand UV light and impervious to water stains. All seats and frames shall be interchangeable between vehicles to the extent practicable.

6.6.7. Mirrors

Four (4) new exterior mirrors shall be installed, and two (2) new interior mirrors shall be installed. Mirrors shall be large enough to see to the rear of the car (interior and exterior)

6.6.8. Window Sash

All Window sashes shall be removed and cleaned. The sashes will be reused if possible. New glazing and seals are to be applied. Glazing will be safety glass and each window shall be marked by the manufacturer in the lower corner. A durable bullet resistant film shall be applied to all windows. All windows seals shall pass the water test. Contractor shall propose ways to mitigate excessive glare while operating at night (reflection from interior lights).

6.6.9. Deliverables, Interior

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 6-08 Interior Repair Work]

All interior car work shall be carefully documented along with approved drawings. These will become a part of the overall car history book.

6.7. Low Voltage Systems

6.7.1. Wiring

Wiring and relays listed below are currently used by MATA. MATA would like to continue to use these same components or approved equal to the extent possible utilizing the same brands and part numbers to enhance maintenance efficiencies, staff training and operational reliability.

The use of butt splices, or wire nut (twist) devices is prohibited. All connection points shall be eye lugs bolted together with new bolts, washers, split washers, nuts terminal boards. Insulation using high temperature rated black electrical 33 tape and electrical tape sealer is acceptable as needed in certain

locations. Commercial grade shrink tubing to protect wiring and harnesses is preferred. Contractor shall not allow any exposed wires or terminals where the public can reach them. All chaffing points shall have protected sleeves.

All terminals shall have designated numbers. All wires shall be numbered. Wire runs and wire numbers (listing) shall be incorporated, showing from end-to-end terminations, designated terminal strips, and end use devices. Note, all wires, if not numbered in the fabrication of the wire, shall have no less than 2 heat shrink wire labels near the ends terminals of each wire, one near the end terminal and one 8 to 15 inches distance from the existing end terminal. All wires shall be listed in this manual, even if, as an example the wheelchair lifts come prewired, they shall have the wires marked as defined above.

No use of multi color cables to be used. No wire smaller than #14 THHN or # 14 THHN, except for headlights, taillights, strobe-lights, or interior lighting.

All relays require bases and locking stack-on for wire connections. Socket base type # 38 f. Relays JQX-38F, 40 amp, 3 pole SDT power relay.

All wires runs shall be terminated as per industry standards. All wires shall be hidden from view by the public as much as possible. Wires not seen by the public shall also be run in conduits.

Circuit breaker panel box provided with 125-amp main breaker with typically 20- and 30-amp breakers for each circuit, but always appropriate sized for the loads.

Install up / down push button in each cab for pantograph operation. Install relay Junction Box on top of trolley near pantograph.

All interior lighting shall be 12-volt LED interior. All exterior lighting (headlamps, tail lamps) shall be 12-volt LED. Wiring shall be 12 AWG.

All relays shall be located on the interior of the car, or at a minimum, in a NEMA 3R weather resistant box outside the car.

All boxes shall be easily accessible for maintenance purposes. Junction boxes are to be located under the car, in a NEMA 3R weather resistant box. Use WAG0 / 280 IEC 60947-7-1 600-volt terminal blocks.

600+ Volt cables shall be kept separated from low voltage (12-volt) wires.

Farebox wiring to be wired directly to the batteries with a 15-amp fuse protecting the input power.

Communication power junction box to be located inside of car. Junction box provided with (Cole Hersee Master Battery Disconnect switch #2484) Connect straight to battery, provide fuse terminations in Junction box.

Install master relay junction box in Cab # A. Provide 12-volt light to show relays are energized (WAMCO, Inc, WL192A1250 Panel Indicating light, 12 VDC).

Upgrade door motors for a new standard which has a clutch, that allows the door to be opened when the car loses power or in emergencies (Excell Bus door Control model # 8901)

Install Eaton limit switches at A and B end lifeguards (Eaton E50SN Limit switch, Eaton E50KL22 adjustable rod).

6.7.2. 24 Volt System Components

1. 1 Master control Relay J.B.
2. 1 Carlton NH864 PVC Enclosure

3. 1 Carlton JP86 Metal Back plate
4. 4 Relay socket base type # 38
5. 4 JQX-38F / 32/40 A, 12 VDC relays
6. 16-inch thin rail
7. Thomas Betts RB 14-6 FL Locking Sta-Kon
8. WAMCO, Inc., WL192A1250 Panel Indicating lights 12 VDC
9. Pantograph, Eaton two push button (green and red)
10. Eaton Green push button
11. Eaton red push button
12. Eaton M # 22-Kc10, N.O. Contact block
13. 1- 12 VDC Breaker J B
14. 1- Carlton CJ 665 PVC enclosure
15. 1- Airplex LELHPK11-IREC4-30177-65, 125-amp 2 pole breaker
16. 6- Airplex 11155629/1-099, 20 amp, 1 pole breaker
17. 1- 6"X 1" copper bus bar
18. #4 AWG Rock Bestos wire
19. #4 AWG crimp lugs
20. 1- Carlton # CJ1085 PVC enclosure (pantograph)
21. 1- Carlton #JP 108 Metal back plate
22. 2- Relay bases (11 pin) JQX-38F/32/40 amp, 12 Vdc.
23. 2-relays NTE Electronics RSS-11020-12F, 12 Vdc
24. 150' #14 AWG wire THWM or THHN.
25. #20 locking Sta-Kons, Cat # RB14-6FL
26. #14 Insulated Sta-Kons, Cat # RB14-2577
27. Interior lamps: replace in-kind

6.7.3. Low Voltage Power Supply (LVPS)

The current or now existing low voltage power supply (LVPS) now onboard the rail vehicle will be subjected to tests to be sure it is correctly or suitably rated for the current draw of the low voltage system, this would include all low voltage items while in use, such as track brakes (while in emergency), sanders, all interior and exterior lighting, including headlights, tail lights, strobe lights, ADA lifts, radios, PA systems, tested for current draw. Contractor shall assess these test results and then either rebuild or purchase and install a new LVPS, preferably the same make and model as installed on all other trolley cars undergoing rehabilitation.

6.7.4. Control Switch A and B End.

A selector switch shall be installed which will transfer control from the A end to the B end. The A and B end will be labeled in a manner that can easily be seen. The control switch shall be in a locked cabinet on the A end. The selector switch shall transfer power for headlights, taillights, PA, door controls (including treadle), sanders, Deadman / controller power, horn switch. It will not control interior lights, nor strobe lighting.

6.7.5. Console Door Switch Layout

Final position of brake valve and controller need to be closer together. Contractor shall assess ergonomic best practices and come to agreement with MATA as to the new optimal positioning of these items.

6.7.6. Deadman

A new deadman control relay will be installed at each end of the car; the part number is White-Rogers # 586-1055111, 12-volt operating coil. Contacts rated for 12 volts. This is a low amperage circuit; MATA has had little trouble even though the working contacts are rated for 12 volts. Contractor should investigate a similar switch /relay with the correct voltage operating tips or contacts.

A deadman plug shall be provided as part of the low voltage control. The deadman plug, when removed, shall cause the car to stop. This works in conjunction with the Deadman control relay. Each end shall have a new female plug and each car shall come equipped with two male plugs, plus a rope and clip to attach to one's belt. Rope length to be provided during design review. Deadman control part numbers are # 61242 for the female and # 61241 for the male. The plug is part number 280-SW. The panel mount socket it plugs in to is part number 11-SW. These items are manufactured by Switchcraft.

6.7.7. Interlock controls

All doors shall have interlocks (low voltage) that prevent the car from movement when the doors are opened, the Deadman plug is removed, and the lifeguard is deployed. This will prevent the high voltage line switch from operation. A bypass switch shall be available to move the car in emergencies. The bypass switch shall be in a locked compartment accessible to the operator and designated MATA employees.

6.7.8. Operator's Fans

Two new operator fans shall be installed at each end, controls for the fans shall be on the console, and the fans shall have a variable control knob. The fan shall be positioned so it may be useful on the windshield as well for defrosting.

6.7.9. Defroster Fan

A defroster fan with hoses running to the windshield area, or heated glass (if allowable) to keep the windshields clear (all three (3) at each A and B end). Controls shall provide high, medium and low speed operation.

6.7.10. Destination Signs

Six (6) new electronic destination signs shall be installed. Two (2) facing forward, one at each A and B end, located to the right of the operator and two (2) exterior facing outward right and left, located in the center of the CCU. Additionally, two (2) inward facing signs shall be installed. Sign controllers should be mounted in a maintenance friendly location but inaccessible to passengers or potentially damaged from routine interior cleaning operations.

6.7.11. General Lighting

Contractor shall design the trolley car lighting to comply with the existing APTA standard APTA-RT-VIM-S-020-10-Rev-1 and CA PUC GO 95, Section 5 as reproduced below.

HEADLIGHTS. Every LRV which operates on a separate right-of-way shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 600 feet. Every LRV which operates on a public street or road shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 350

feet and shall be designed and adjusted so as not to interfere with the vision of drivers of motor vehicles. Headlights may be dimmed or extinguished under conditions where their use could pose a safety hazard to motorists in adjacent traffic lanes.

TAILLIGHTS AND STOPLIGHTS. Every LRV shall be equipped with two (2) red taillights at the end of the LRV opposite from the direction of travel and shall emit a red light plainly visible in clear weather from a distance of not less than 500 feet to the rear of the LRV or train. In addition, at least two (2) red stoplights shall be mounted on the end of the LRV with the taillights. Stoplights shall be capable of producing approximately 150 percent of the intensity of the taillights and shall be illuminated whenever any brake except the parking brake is applied.

DOORWAY LIGHTS. Every LRV shall be equipped with lights to illuminate the doorway and adjacent platform or street for the purpose of safe boarding and discharge of passengers.

INTERIOR LIGHTING. Every LRV operating during hours of darkness shall be equipped with lights in the passenger compartment, arranged so as to illuminate the whole interior of the vehicle and in such a manner that windshield reflection will be minimized so as not to interfere with train operation.

EMERGENCY LIGHTING. LRV headlights, taillights, stoplights, interior lights, emergency flashers, and doorway lights sufficient to support safe exiting shall remain functional under emergency power conditions for a minimum of one (1) hour.

6.7.11.1. Interior Lighting

The same number of lamps and shades shall be re-installed. New sockets shall be installed in fixtures. The doorways shall be illuminated. A new lamp shall be installed in the interior at all doors and shall be lit when the door is opened. The lamp over the platform at each end shall be turned on and off as the doors are opened and closed (*off* when doors closed, *on* when opened) to reduce glare for the train operator.

6.7.11.2. Emergency lighting

A select number of interior and exterior lamps shall stay lit during a power outage including pathways to platforms.

6.7.11.3. Exterior Doorway Lighting

A new lamp shall be installed on the exterior at all door ways and shall be lit when the door is opened. The new housing shall have a clear lens. The light shall shine towards the path for customers exiting or entering the vehicle.

6.7.11.4. Headlights

New headlights shall be installed at each end. Each headlight shall have a high and low beam function, and controlled at the appropriate A and B end consoles. New wiring and plugs for each headlight shall be installed for easy replacement. The headlights shall be centered relative to the dash at each end.

6.7.11.5. Taillights

Four (4) new taillights shall be installed at each end, two above the operator's cab, two (2) mid-way across dash and shall be facing rearward or 100% parallel with car shell, not accounting for curve of dash panel. New wiring and plugs for each taillight shall be installed for easy replacement.

6.7.11.6. Stop-Light / Caution Sign

A stop-light, and optionally also a caution sign, shall be fabricated and be placed to the left rear (while facing forward) and flash STOP when any door is opened. This is to alert autos to not pass the trolley while stopped. It shall also have an on/ off switch for operation in areas where autos can pass on the

left. The lamp housing should be made so the bulb can be easily changed. The socket shall have a plug for easy change out if needed.

6.7.11.7. Strobe Lights

ECCO # Model # 6226C (800 635 5900) clear strobe is to be mounted at each corner of the car, at approx. bumper height as to be seen by pedestrians and auto drivers, bicycle riders. and two strobe lights (clear) mounted on the roof at each end of the catwalk, Grote part # 77101. Each strobe light shall have a plug plus easy access for repairs or replacement.

Strobe light controls shall be 12-volt and shall be enabled to turn on and off with the main battery switch, and will have a circuit breaker located with the other light control circuit breakers. Strobe light to be mounted at end of conduits. All wiring to be installed in conduits. Strobe lights and related conduits shall be easily replaceable in the event of accidental damage.

6.7.11.8. Step Lights

New step well lights shall be installed at all interior doorway step areas and shall be illuminated when that particular door is opened. The housing shall be made for easy access for changing the bulb. The fixture shall be waterproof.

6.7.12. Passenger Stop Request

New electronic passenger stop request signs are to be installed (minimum of two), both facing the interior of the car, mounted on a bulkhead or other location as agreed upon. Stop request shall be automatically canceled when any door is opened. A light on the console will alert the operator that a passenger wished to disembark the vehicle.

New stop-request buttons and wiring shall be installed in the car interior. At each post a new switch shall be installed, or a passenger pull cord shall be installed on each side of the car. A new stop request light shall be installed and be illuminated once a switch has been pushed. The stop-request sign shall be inward facing from each end bulkhead. It shall turn off or be canceled any time a door is cycled and remain off until a switch is activated again. A chime shall sound and a light in the active cab to alert the operator that a customer has requested to get off of the car.

A system that is electrically operated via a tape switch or button to alert the operator (with a chime or bell) that a passenger wishes to get off at the next stop. There shall be two interior signs that light up when the electrical signal is activated. For ADA passengers, there shall be a tape switch with an ADA logo to alert the operator (with a chime or bell) that an ADA-dependent passenger wishes to get off at the next stop. Interior signage shall light up when the electrical signal is activated and state that an ADA passenger requires assistance alighting. These are canceled when any door is opened and closed. When the system is activated, the chime shall sound only once. A light at the operator console shall light up and be canceled as the doors are activated. A separate light (and color) at the operator console for ADA passengers shall light up and be canceled as the doors are activated. The chime or bell shall be a different sound when activated.

6.7.13. Public Address (PA) System

Contractor shall install a new and complete PA system at both the A and B ends of each car. Complete installation shall include two new microphones with an on/off switch, as well as a plug for easy change out or replacement, new amplifiers, and new speakers (both interior and exterior). A selector switch will operate for either interior only, exterior only, or (third selection) both interior and exterior. There shall be a minimum of four (4) interior and four (4) exterior speakers unless approved otherwise. The exterior speakers should be directed to both the left and right side. Interior and exterior PA volumes shall be adjustable separately by MATA staff.

6.7.14. Camera System

A new camera system shall be installed, showing both interior and exterior cameras and recording systems. The interior shall have cameras at each doorway facing the step wells, forward out the front at each end, and cameras facing the operators at each A and B end. Any existing exterior cameras facing in each forward and rear on both sides shall be replaced. The Contractor installed camera system shall be fully compatible with the MATA Apollo camera system currently used throughout the fleet and the MATA operations control center.

6.7.15. Deliverables, Low Voltage Systems and Wiring

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 6-09 Low Voltage Systems and Wiring Repairs]

All low voltage system work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

6.8. High Voltage Systems

6.8.1. Tear Down Process

Contractor shall perform a complete tear down of the supplied units: traction motors, K controllers, air compressors, line switches, HVAC, etc. All parts shall be labeled and/or tagged with the original manufacturer's nomenclature. Serial numbers for serialized parts shall be included on the labels/tags. The record of work performed, or disposition of the part shall be linked to each replaceable part, unless it was identified in this scope for complete replacement.

6.8.2. First Article Inspection (FAI) Process

Upon refurbishment of the first of each type of major component, Contractor shall prepare the first completed unit for a FAI at Contractor's facility. Contractor shall present the labeled/tagged parts during the FAI. MATA and/or its designated representatives will participate in the FAI at Contractor's facility. During the first article inspection, Contractor shall present all proposed criteria to be applied to replacement or overhaul of parts/components where specific numerical criteria or specific industry standards were not cited in this scope of work.

If Contractor identifies conditions that warrant adjustments to this scope-of-work (including the list of extra work items), those adjustments should be submitted to MATA as early as possible and not later than the beginning of the FAI. MATA will respond to the proposed criteria for such items or the modification of the scope of work as quickly as possible, but no later than seven (7) business days. Any work not related to those parts where Contractor is waiting for MATA's response shall not be delayed pending such responses.

Contractor shall submit FAI Reports to MATA indicating resolution of any FAI open items within 10 business days of the receipt of MATA's response regarding any proposed scope of work adjustments.

6.8.3. Roof Main Fuse

A new roof main fuse and enclosure shall be installed on the car roof. The fuse shall be a TRS300R, 300A, 600VAC/DC. The fuse shall be enclosed in a weather tight box, with attached clips on one side for easy access and being able to lift the lid for access to the fuse. The roof main fuse shall be installed prior to the water test. Water shall not penetrate the fuse box.

6.8.4. Pantograph

A new pantograph shall be installed. Schunk, SGT SBE pantograph 922HC is the model that MATA uses throughout its existing fleet. One of the three cars shall have a pantograph equipped with a sleet cutter for icy conditions, Schunk No. 11008184, Memphis Pantograph 10477043 Winterized or approved

equal. New electric operating switches (push button) for up and down (raise and lower) shall be installed in each cab (A and B) for easy reach for the operator and labeled as such for function and what it is controlling. The switches shall be selected by the same A or B cab transfer switch and shall correspond to the correct operational end. The pantograph shall be located at the A end of each car and optimally placed relative to the A truck centerline. The precise location shall be agreed upon at the kick-off meeting. The pantograph mount shall ensure sufficient clearances along Main St at the Interstate 40 bridges. The 650-volt power lines and equipment on the roof must be insulated and not able to cause a short throughout the full range of motion of the pantograph.

The pantograph shall have a detachable hand crank installed in each car in the A cab. The design and installation shall be ergonomic as approved by MATA. The handle and crank shall be insulated for use when the pantograph is in contact with the 650 Vdc power. The hole that extends through the ceiling shall be watertight and not leak. There shall be a decal stating this is for the manual crank with arrows to identify the way to raise and lower the pantograph.

6.8.5. HVAC

Contractor shall propose a design modification to install new HVAC equipment into the W2 trolley car. MATA prefers the use of the same HVAC equipment as what the Contractor is providing for the Charlotte trolley cars. The HVAC unit(s) shall have sufficient capacity to adequately cool the interior of the MATA trolley car when fully loaded during MATA's hottest season. While a 12V system is preferred, either a 24V or 12V system is suitable. Each new installed HVAC unit shall be controlled from each end of the car, and the control for each end via a transfer switch. Contractor shall design and install new HVAC duct work that is functional, maintenance friendly and aesthetic. The HVAC system shall be capable of maintaining the car interior to MATA's chosen temperature set point, or at least be capable of providing a 20-degree Fahrenheit differential temperature to the ambient exterior temperature during extreme temperature periods. [CDRL 6-10 W2 Car HVAC Design and Installation Modification]

MATA intends to rehabilitate additional W2 cars in future rehabilitation procurements and may seek to replicate this HVAC design modification on the rest of the W2 cars that undergo rehabilitation.

New heating elements shall be installed under the seats. These will be installed keeping in mind that the seats are wood, and care should be taken to keep the car interior from catching fire. A heater could be purchased or fabricated in which heater elements are enclosed, and a blower along with a thermostat to prevent overheating may be installed. The controls for this should be where an operator can control it while the vehicle is stopped and out of reach of the public.

Similar heating units, one or more, shall be installed with the proper ducting to keep the operator's windows free of moisture in the winter months. This shall be controlled from the operator console area.

Included in the required spares list, MATA will purchase a new spare HVAC unit.

6.8.6. Propulsion Controls

6.8.6.1. Existing Master Controls

Presently the car may be equipped with a low voltage controller and apparatus. The low voltage controllers and apparatus shall be carefully removed and boxed up for shipping back to Memphis. Low voltage wiring associated with the controllers shall also be carefully removed not to damage surrounding and other low voltage wiring for the car doors, and communications systems, interlocks for brakes and doors.

6.8.6.2. K-35 Master Controllers

Each car shall get two (2) rebuilt K-35 controllers, one for each end. MATA will supply K-35 controllers; these are cores that need to be rebuilt. Controllers may or may not have the LB2 (Line breaker device) attached or available. Should there be no LB2 devices available, new ones are to be made, as well as

spares. All asbestos shall be abated per current laws and replaced with materials that are suited for electrical arches and flashes.

Main K-35 JJ control drums shall be cleaned and cleared of all existing segments and screws, new insulation installed on the shaft, all screw holes re-tapped with all the same sized hole size and threads, all new segments installed, new bearings installed. Reverser drums shall be cleaned of all existing segments and screws, new insulation installed, all screw holes re-tapped, all new segments installed, new bearings installed. Each controller top will receive a new, complete LB 2 device. And installed on each controller. No old hardware is to be reused. Old housing for LB 2 may be used if available. These must be cleaned and checked before reuse.

Controller fingers shall be new, consisting of new blow out coils, new springs, new replaceable contacts, all new hardware, for both the reverser and the main control drum, new internal high voltage wires, new wire labels, new insulation, insulation boards, controller cover insulation to be replaced, motor cut outs are to be replaced with new manufactured parts. Motor cut outs to be labeled (stamped) for which sets of motors they control.

Reverse fingers are to be replaced with new, consisting of new springs, new contacts, all new mounting hardware (slotted hex cap screws, split washers, flat washers).

Each Controller shall have a new serial number if the one on the controller top is not legible. Serial number shall be easily seen or visible (some have been mounted on the backside, which, once mounted the number is not visible)

All salvaged parts removed shall be sent to MATA in Memphis.

A new reverser handle with a spring clip to hold it in place shall be supplied with each car and three (3) spares per the required spares list.

All parts are to be made serviceable for the maintenance staff. K control segments, as an example, shall be easily removed and replaced as needed, same for controller fingers and burn tips.

6.8.7. Line Switch, GE DB-986-A

All line breakers/switches ("line switches") shall be rebuilt. MATA will supply three (3) GE # 986-line switches for use by Contractor. The line switch model is understood to be a General Electric Co. (GE) DB-986-A. The line switch, upon getting its signal from contacts within (ratchet switch) or on top (LB-2A device) of the controller or under conditions of overload or overcurrent above its trip setting, will open immediately, de-energizing the line switch operating coil and opening the breaker. The breaker operation reduces arcing within the controller during normal operation. The line switch shall be mounted underneath the car and its frame shall be electrically isolated from the car body. MATA will allow the use of insulated bolts. Metal conduits must not be used for wire entry into the line switch.

6.8.8. Control Switches

These are for controlling the voltage for each controller LB 2 device and is associated with the line switch. Six (6) of these control switches will be supplied by MATA for use by Contractor. These MATA supplied control switches will need to be overhauled.

6.8.9. Brake Resistors

All brake resistors shall be all new from Post Glover. The brake resistors shall be mounted under the floor and have a heat shield between the resistors and the car floor. Resistors shall be mounted so the resistor fins are parallel to the track rails for air flow as the car is operated in either direction. Resistors shall be insulated from the car mounting hardware. No isolation parts shall be installed in tension. All wiring shall be routed and or mounted in a way that the heat from the resistors will not burn the insulation. A steel heat shield shall be provided over the top of the resistors. An expanded metal screen

shall be attached to the outside (or facing the outside) of the resistors to prevent people from accidentally contacting the resistors. The expanded metal screen shall be electrically isolated from the resistors.

6.8.10. High Voltage Wiring

All new high voltage wiring shall be installed including, but not limited to between the controllers, line switch, pantograph, resistors, grounds, etc. All wiring shall be kept secure and routed away from sharp corners or edges. If a cable must be routed around a sharp corner or edge, it shall have safe edging applied to mitigate any possibility of chafing and undesired wear.

6.8.11. Deliverables, High Voltage Systems and Wiring

Contractor shall submit its intended approach for repairs to these areas including details regarding the installation of new HVAC units, pantographs, and K-35 propulsion controllers within 45 days of receipt. [CDRL 6-11 High Voltage Systems and Wiring Repairs]

All high voltage system work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

6.9. Truck Work

Melbourne style trucks shall be removed from the car, completely disassembled, all parts labeled per truck, cleaned, and refurbished as described below.

Axles shall be replaced. All wheel press work shall be done on a press that has been certified within the previous 12 months. Press work results for each wheelset shall be recorded on a form that shows the serial numbers for all serialized pressed components (e.g. each axle, wheel, gearbox, brake hub, journal bearings, etc.), the responsible employee that completed the work, and the date of the work.

New axle journal roller bearing with improved seals to mitigate leaks shall be installed. New journal bearings shall be installed so that they do not leak and maintenance of these shall be in a maintenance manual.

All truck mounted brake linkages are to be taken apart, cleaned, tagged with a part number, checked for wear in all mating wear surfaces, guideways, hold down points, hangers, brake shoe holders, brake shoe pins, attaching or interface rods or pins. Bushing shall be replaced. New brake rigging pins are to be fabricated. All pins shall have drawings made. New pins shall be fabricated. Lubrication ports on pins shall be drilled and Zerk fittings shall be installed.

New rubber mud flaps to be installed at four locations on each truck end beam opposite the wheels to prevent wheel splash.

6.9.1. Motors

Each of the four (4) MV101 traction motors intended for each car shall be removed and overhauled by a motor repair shop that has experience overhauling these types of traction motors. The axle caps shall be labeled with a stamp and kept in the same orientation on each of the traction motors.

Motors shells shall be stripped of all old paint and varnish. Motors shall be stripped.

Overhaul scope shall include removing the armature, brushes, brush holders, end bell plates and roller bearings, pinions. The motor interior shall be thoroughly cleaned of all dirt, grit, old grease, grime, and debris.

Motor interpole and field coils are to be made new with new properly sized insulated coil wire and wrapped with new insulating materials. New wires and insulating grommets are to be installed where

wires come out of the motor case. New terminals are to be installed. All motor wiring will have the same terminal ends. Care must be taken when installing pole pieces for magnetic north / south direction to ensure correct motor spin direction.

Armatures shall be stripped. If the commutator is found to be more than half worn, it is to be replaced with a new commutator. All new insulation and windings are to be installed and welded to the commutator in practice with current industry standards.

After rewinding the armatures are to be dipped in a pressure vacuum impregnated tank, baked with new insulating varnish. The commutator shall be turned, cleaned, undercut, balanced and new bearings installed. Brush holders shall be checked for operation, new springs applied, new porcelain insulators installed, or new brush holders installed as required due to defective or worn-out materials. New traction motor brushes shall have shunts. Brush holders shall have a place to secure the shunt with a spade type terminal, and it shall be easy to remove the brush for replacement.

The motor exterior shall be painted black with non-lead paint. The motor interior shall be painted with insulating paint and be baked.

Motors shall be reassembled, floor tested for correct rotation, bearing temperature, vibration, excessive sparking at the brush / commutator, up to full speed operation.

The motor cover shall be cleaned, painted black on the exterior, insulation red on the inside, all clamps and tabs shall be made to work properly and secure the cover. The cover shall be sealed to keep dirt and dust from migrating into the motor.

6.9.2. Gearbox

All new matched sets of main bull gears and pinion gears shall be provided and professionally installed. Main bull gearing shall be pressed onto the axle. Pinion gear sweated onto the motor shaft with new hardware and locking device. All new gears shall be of the herring bone type to ensure quiet operation. Installed gear lash and tolerances shall be installed per manufacturer's requirements to ensure trouble free operation.

All Gearboxes shall be checked for leaks, cleaned, and repaired as needed. The hatch for checking lubrication shall be in good working order. Contractor shall install new hatch return springs. Gearbox housings shall not leak or seep gear lube. Contractor shall install all new seals to prevent spillage or leaks from occurring. Gear lube shall be Mobil SHC Synthetic Gear Lube or approved equal. Gear cases shall be painted red.

6.9.3. Wheelsets

All new wheels shall be installed. Wheels shall comply with ORX 03904-53-120 drawing and have ORX 03904-53-180 ATEA F3 wheel profile (MATA will provide drawings to Contractor at the kick-off meeting), or a new profile as recommended by the Contractor, or discovered during the term of the Contract. Wheels shall be installed per the AAR instruction manual for press work. Gears and all axle mounted components shall be pressed onto the axle by the same means and methods.

6.9.4. Brake Shoes

All brake shoes shall be renewed. Additionally, 200 new spare brake shoes shall be provided per the required spare parts list. With all new brake shoes installed, the car shall come to a complete stop within 120 feet from a speed of 20 mph at AW 3 conditions on level tangent track. This braking performance shall be tested and confirmed on each car during commissioning at MATA. Brake shoes shall be seated correctly in the brake shoe hangers and attached by means of a key or tapered pin. Brake shoes shall have a means of keeping them lined up on the wheel tread by way of a flange groove within the shoe. The brake shoes shall not contain asbestos and comply with existing environmental requirements.

6.9.5. Brake Rigging

All rods, rollers, pins, guides, rods, levers shall be removed, tagged, cleaned and checked for wear, replaced or refurbished as needed. New Pins that can have a port and holes bored into them for lubrication and Zerk fittings shall be installed. All brake support equipment under the car floor shall be cleaned and checked for damage and wear, replace wear surfaces if found more than ¼ worn. A schematic for the brake rigging and how it functions shall be added to the car maintenance manual.

6.9.6. Hand Brake

All hand brake mechanism components including chains, rods, pins, brake ratchet wheel, gearing and holding dogs plus levers are a part of the braking system, and shall be disassembled and inspected for wear. If gearing is found worn in the hand brake mechanism, they shall be replaced in pairs. If the dog and ratchet are worn, as is the worm gearing under the car, these shall also be replaced with new matched sets of gears. The hand brake, when properly engaged, shall hold the car still on a seven (7) percent grade with no other assistance from wheel blocks or air brakes.

6.9.7. Brake Cylinder

All brake cylinders shall be disassembled and cleaned. All parts shall be checked for cracks using nondestructive testing methods. Contractor shall install new gaskets for both the piston and end bell positions. New gaskets, brake cylinder cups, newly applied brake cylinder lube (AAR type), gasket materials shall be compatible with AAR seal and all other gaskets. All replacement gaskets shall be new and not older than seven (7) months from the date of manufacture.

6.9.8. Track Brake – Feature Deleted

Any track brake equipment and associated parts including electrical gear, activation mechanisms, electrical parts, wiring, all springs and related hardware shall be permanently removed from the Charlotte cars and Melbourne trucks.

6.9.9. Deliverables, Truck Work

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 6-12 Truck Work and Repairs]

All truck work shall be carefully documented along with approved drawings and disposition of materials. This information will become a part of the car history book for each car.

6.10. Air System

6.10.1. Air Compressor Assembly

CP27 air compressors shall be completely torn down. Armatures shall be re-wound and all new field and interpole coils shall be installed along with all new wiring. Armature rewind to include heavy-duty cleaning and removal of all windings. New armature commutator if the existing ones found to have less than ½-life remaining. Armature to receive all new coil windings, vacuum impregnated, commutator turned and undercut, balanced. New brush holders to be installed. New brushes with new shunts to be installed.

Compressor parts shall be thoroughly removed and cleaned. All new bearings (sleeve and wrist pin bearings) and new rings installed. Cylinders shall be honed as needed. The compressor assembled shall be bench tested with 650 volts DC and using a similar air tank (or multiple tanks) volume as the tank(s) installed on the trolley car. The compressor shall build up to operating pressure (90 PSI) within 5 minutes. NOTE: A safety valve must be installed during all tests as needed.

New mounting hardware shall be used for securement to the carbody structure and a flexible airline (the airline shall also have a heat rating) shall be used between the compressor and the cooling pipes.

An insulator shall also be placed into the air line to prevent the 600 VDC from energizing the remaining air piping in the vehicle.

6.10.2. Air gauge

New air gauges shall be purchased and installed. Air gauges shall be duplex, with red and black needles, red for air brake pipe pressure, black for air pipe pressure. The gauges shall be piped in directly with copper air lines. The gauge shall be located so it is easily read while the streetcar is in motion. The face of the gauge shall be lit, either from internally, or with a small lamp directed at the gauge face. Placement of air gauges to be determined in A and B cabs. Spare air gauges are included in the required spare parts list.

6.10.3. Air Horn

The existing air horn shall be cleaned and confirmed serviceable. It shall be located under the car and positioned to produce decibels (90 dBA) when measured at 50-feet from either the A or B ends.

6.10.4. Air Bell Ringer

Contractor shall install an air bell ringer with a foot plunger for operation. This shall be a repeating type bell and will take the place of the existing foot gong, which, depending on the pressure applied, makes the gong soft or noisy. The installed air bell ringer volume shall be approximately the same as the "noisy" gong sound.

6.10.5. Air Dryer

An approved device to reduce the amount of moisture condensing into the vehicles' air system shall be installed.

6.10.6. Air Governor

Contractor shall rebuild and test the air governor for correct operation. Contractor shall replace tips as needed to ensure that the system trigger pressures achieve the desired on and off performance.

6.10.7. Air Lines

All new seamless copper piping shall be installed with appropriate checks for tightness. The maximum allowable pressure drop for the entire system is 1 PSI per 10-minute loss. A schematic for all air piping shall be presented and included in the maintenance manual. Piping shall be marked for reservoir, and braking, sander, etc.

6.10.8. Air Sanders and Apparatus

Air sander valves shall be repaired, rebuilt or replaced. New hoses, new sand hoppers are to be installed. Sand shall be directed right in front of the leading wheel or wheels. A new control switch shall be installed on the floor (placement to be determined during the kick-off meeting). Sander hoses shall not interfere with truck rotation or be affected in any way while the trolley car negotiates the tightest curves in the MATA rail system.

6.10.9. Air Tank

New certified air pressure tanks shall be installed on each vehicle. New drain valves shall be installed. There shall be 5 inches of clearance between the street and the lowest part of the drain valve.

6.10.10. Deliverables, Air System

Contractor shall submit its intended approach for repairs to these areas within 45 days of receipt. [CDRL 6-13 Air System Repairs]

All air system work shall be carefully documented along with approved drawings and disposition of

materials. This information will become a part of the car history book for each car.

6.11. CDRLs

The Contract Data Requirements List items (CDRLs) required by this section are summarized below. They are described in detail at the referenced location. CDRLs are on a system by system and per car basis.

CDRL #	Description	Reference
6-01	W2 Car 545 Missing Parts List of Parts Needed	6.3
6-02	Interior and Exterior Paint and Decal Scheme	6.4
6-03	Interior and Exterior Paint and Decal Plan	6.4
6-04	General Carbody and Structure Condition and Repairs Report	6.5
6-05	Roof Condition and Repairs Report	6.5.1
6-06	Doors, Steps and Accessibility Lifts Work	6.5.4
6-07	ADA Bridge Plate Design Description	6.6.1
6-08	Interior Repair Work	6.6.9
6-09	Low Voltage Systems and Wiring Repairs	6.7.15
6-10	W2 Car HVAC Design and Installation Modification	6.8.3
6-11	High Voltage Systems and Wiring Repairs	6.8.11
6-12	Truck Work and Repairs	6.9.9
6-13	Air System Repairs	6.10.10

7. Contractor Field Support

Contractor shall provide a qualified representative for a minimum two-week period at MATA to support the commissioning of the first rehabilitated vehicle, and a minimum one-week period for each remaining rehabilitated vehicle. MATA will coordinate with Contractor the timing and duration of the Contractor's representative site visit. Contractor's representative shall support MATA and coordinate with MATA's Resident Engineer to provide assistance prior to and/or during these commissioning activities.

The Contractor's representative shall be knowledgeable about the rehabilitation history and proper operation and maintenance practices for each vehicle. The Contractor shall have available any tools, equipment and parts needed to perform all required corrective actions or repairs on overhauled equipment supplied by Contractor during this visit. Contractor shall provide documentation of any corrective actions taken to a specific overhauled component/system. For any corrective actions taken during commissioning and warranty period, Contractor shall propose for MATA's approval the application of such corrective actions to the other like vehicles/components and/or systems already overhauled or yet to be overhauled.

The Contractor's field support representative shall remain on site at Contractor's expense if the trolley car commissioning tests are not yet completed satisfactorily.

8. General Testing and Commissioning

This section is intended to complement the testing requirements specified in Part VII, Section 1.0 Acceptance Tests.

Each trolley car shall be tested at Contractor's facilities and then at MATA prior to commissioning and acceptance. Contractor shall assist MATA to document that each Trolley and its systems as refurbished by Contractor can meet safety certification requirements. At a high level, and at a minimum, the following performance tests shall be performed.

1. Brake test per APTA Vintage and Heritage Trolley Vehicle Equipment. The stopping distance test shall be performed on level, dry, tangent track. Each car shall come to a complete stop in 120 feet or less from a speed of 20 MPH.
2. Door interlock test. Each door, when opened manually or any other means, the car propulsion shall immediately switch to coast mode and the emergency brakes shall be applied automatically.
3. Pantograph test. The full pantograph motion shall be checked for proper and reliable operation including raising, lowering and stowed in the latched down position.
4. Burn in test. Each Trolley car shall operate on any of the MATA streetcar routes or lines for 300 miles with no reported defects.

Contractor shall submit a comprehensive test plan for all systems and for each completed car within 60 days of NTP. [CDRL 8-01 Comprehensive Test and Commissioning Plan]

8.1. CDRLs

The Contract Data Requirements List items (CDRLs) required by this section are summarized below. They are described in detail at the referenced location.

CDRL #	Description	Reference
8-01	Comprehensive Test and Commissioning Plan	8

9. Spare Parts

MATA requires, at a minimum, the following spare parts:

1. Complete, new operator's seat (per TS 5.7.5), 1 each
2. Spare passenger seat bottoms and backs, interchangeable between cars (per TS 5.7.6):
 - a. moveable backs and bottoms, 6 each
 - b. stationary backs and bottoms, 2 each
3. Spare LVPS unit (per TS 5.8.3), 1 each
4. Carset of spare lights (per TS 5.8.11), 1 carset
5. Spare HVAC unit (per TS 5.9.3), 1 each
6. Main fuses, TRS300R, 300A, 600VAC/DC (per TS 5.9.4), 10 each
7. New reverser handle with a spring clip (per TS 5.9.6.2), 9 each
8. Spare traction motor brushes (per TS 5.10.1), 100 each
9. New spare brake shoes (per TS 5.10.4), 200 each
10. Spare air compressor brushes (per 5.11.1), 30 each
11. Air gauges (per TS 5.11.2), 3 each
12. Air bell ringer (per TS 5.11.4), 2 each
13. Air dryer (per TS 5.11.5), 2 each
14. Complete rehabilitated W2 style trucks, 2 each
15. Complete carset of Charlotte Birney car spare door equipment, 2 each
16. Complete carset of W2 car spare door equipment, 2 each – to be provided if MATA exercises option to refurbish Melbourne W2 Car.

Prospective bidders shall submit a recommendation for additional spare parts as part of its proposal.

All spare parts shall be delivered no later than concurrent with delivery of the first rehabilitated trolley car returned to MATA.

PART III

REQUIRED FORMS AND CERTIFICATIONS

MEMPHIS AREA TRANSIT AUTHORITY
ADDENDA ACKNOWLEDGEMENT FORM

Addenda received (if none received, write "none received")

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Addendum No: _____ Date Received: _____

Name of individual, partner or corporation: _____

Street Address: _____

City, State and Zip Code: _____

Telephone Number: _____ Fax Number: _____

Printed Name: _____

Authorized Signature: _____

Title: _____

EXHIBIT I
MEMPHIS AREA TRANSIT AUTHORITY
AFFIDAVIT OF NON-COLLUSION

Affidavit of Non-Collusion:

I hereby swear (or affirm) under the penalty of perjury:

- (1) That I am the proposer (if the proposer is an individual), a partner of the proposer (if the proposer is a partnership), or an officer or employee of the proposing corporation with authority to sign on its behalf (if the proposer is a corporation);
- (2) That the attached proposal or proposals have been arrived at by the proposer independently, and have been submitted without collusion with, and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in the request for proposal, designed to limit independent proposing or competition.
- (3) That the contents of the proposal or proposals have not been communicated by the proposer or its employees or agents to any person not an employee or agent of the proposer or its surety on any bond furnished with the proposal or bids; and
- (4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: _____

Firm Name: _____

Subscribed and sworn to before me this _____ day of _____

Notary Public

My Commission expires _____

Proposer's E.I. Number: _____
(Number used on Employer's Quarterly Federal tax return)

EXHIBIT II

MEMPHIS AREA TRANSIT AUTHORITY

CERTIFICATE OF COMPLIANCE WITH BUY AMERICA ROLLING STOCK REQUIREMENTS

(For Contracts of \$150,000 or greater)

The Proposer or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations in 49 CFR § 661.11

Date _____

Signature _____

Company: _____

Print Name: _____

Title _____

or

The proposer hereby certifies that it cannot comply with the requirements of Section 165a of Surface Transportation Assistance Act of 1982, but it may qualify for an exception to the requirement pursuant to Section 165b of the Surface Transportation Assistance Act and regulations in 49 CFR 661.7.

Date _____

Signature _____

Title _____

FEDERAL TAX LIABILITY AND RECENT FELONY CONVICTION

The contractor hereby certifies the following:

Does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and was not convicted of the felony criminal violation under any Federal law within the preceding 24 months.

The contractor agrees to require all subcontractors to provide this certification and to flow this requirement down to participants at all lower tiers, without regard to the value of any subcontract.

Date _____

Signature _____

Title _____

EXHIBIT III

MEMPHIS AREA TRANSIT AUTHORITY

CERTIFICATION OF PRIMARY PARTICIPANT (prime contractor)
REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Primary Participant (potential contractor for a major third-party contract), _____ certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission or any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposer had one or more public transactions (Federal, State, or local) terminated for cause or default.

(If the primary participant (potential third-party contractor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT (POTENTIAL CONTRACTOR FOR A MAJOR THIRD-PARTY CONTRACT), _____, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTION 3801 ET. SEQ. ARE APPLICABLE THERETO.

Signature and Title of Authorized Official

**EXHIBIT III
MEMPHIS AREA TRANSIT AUTHORITY**

**CERTIFICATION OF LOWER-TIER PARTICIPANTS (subcontractors)
DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

The Lower Tier Participant (potential third-party contractor, or potential subcontractor under a major third-party contract), _____, certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(If the Lower Tier Participant, (potential third-party contractor or potential subcontractor under a major third-party contract) is unable to certify to any of the statements in this certification, such participant shall attach an explanation to this proposal).

The LOWER-TIER PARTICIPANT, POTENTIAL THIRD-PARTY CONTRACTOR, OR POTENTIAL SUBCONTRACTOR UNDER A MAJOR THIRD PARTY CONTRACT, _____, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET. SEQ. ARE APPLICABLE THERETO.

Signature and Title of Authorized Official

EXHIBIT IV

MEMPHIS AREA TRANSIT AUTHORITY

CERTIFICATION OF RESTRICTIONS ON LOBBYING

(For Contracts of \$100,000 or greater)

I, _____, hereby certify on behalf of _____
Name of Official Name of Contractor

that:

- (1) No Federal appropriated funds have been paid or will be paid on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriate funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the CONTRACTOR shall complete and submit Office of Management and Budget Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Executed this _____ day of _____, _____.

By: _____
Signature of Authorized Official

Title of Authorized Official

**CERTIFICATION OF UTILIZATION OF
DISADVANTAGED BUSINESS ENTERPRISES**

The undersigned, as authorized representative of the Proposer, agrees to accept the terms and conditions of Section D and commits to carrying out the DBE contracting arrangements specified in the Schedule of DBE Participation.

Signature _____

Title _____

Date _____

NATIONAL DEFENSE AUTHORIZATION ACT TELECOMMUNICATIONS

VENDOR hereby acknowledges that the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. 115232, § 889 (Aug. 13, 2018) (the Act) prohibits the Agency from procuring certain “covered telecommunications equipment or services,” as defined in the Act, in federally assisted procurements and that the instant procurement is a federally assisted procurement subject to that prohibition. VENDOR represents and warrants that it has performed a due diligence review of its supply chain and that no such “covered telecommunications equipment or services” shall be provided to the Agency that would cause the Agency to be in violation of the prohibition contained in the Act.

By: _____
Signature of Authorized Official

Title of Authorized Official

Letter of Intent to Perform as a DBE Contractor or Subcontractor

To: _____
Name of Prime/General Proposer

24-03
_____ MATA RFP Number

Address of Prime/General Proposer

City/State/Zip

The undersigned DBE intends to perform work in connection with the above project as (check one):

[] An Individual; [] A Corporation; [] Partnership; [] A Joint Venture

The undersigned DBE is prepared to perform the following described work in connection with the above project (specify in detail the particular work, items or parts thereof to be performed):

at the following price \$_____. This price equals _____% of the total proposal price or contract to be awarded to the prime proposer.

Work or Items by Subcontractor	Projected Commencement Date	Projected Completion Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

DBE Business Name

Signature of Authorized DBE Representative

Certification # / State of Certification

Expiration Date of Certification

Address

Date

City/State/Zip

Phone Number Fax Number

No agreement has been entered into between the above-named Prime Proposer and the DBE subcontractor wherein the above-named DBE subcontractor has promised not to provide subcontracting quotations to other proposers.

Date

Name of Prime or General Proposer

Signature of Authorized Representative

SCHEDULE OF DBE PARTICIPATION

NAME OF DBE FIRM	ROLE IN PROJECT (P, JV, S)	SERVICES TO BE PERFORMED	% OF TOTAL PROJECT COST
TOTAL			

P = Prime Contractor
 JV = Joint Venture
 S = Subcontractor

NO RESPONSE

* PLEASE EITHER PRINT OR TYPE INFORMATION ON THIS FORM *

TO: Memphis Area Transit Authority (MATA)

Our company is submitting a "NO RESPONSE" on RFP# 24-03 purchase Charlotte Trolley Car w/ Optional W2 Trolley Car Rehabilitation for the reason indicated below.

- () Product or service is not available.
- () Cannot provide required bonds.
- () Other obligations - cannot make deadline.
- () Other (please explain below)

FROM:

Name of Company: _____

Representative: _____

Address: _____

Phone Number: _____

Signature: _____

- () Please keep our name on the Proposer's list for this item.
- () Please remove our name from the Proposer's list for this item.

**FAILURE TO RETURN EITHER A PROPOSAL OR THIS FORM
MAY RESULT IN REMOVAL FROM THE PROPOSER'S LIST.**

EXHIBIT V
PERFORMANCE BOND

STATE OF TENNESSEE (_____ COUNTY)

KNOW ALL MEN BY THESE PRESENT, THAT:

We, _____ (Herein called the "Contractor") of _____ County, _____ a (Partnership or Corporation) organized and existing under and by virtue of the Laws of the State of _____ as principal, and _____, as surety, do hereby acknowledge ourselves indebted and firmly bound and held unto _____ (Hereinafter called the "Owner"), a corporation existing under and by virtue of the laws of Tennessee, for the use and benefit of those entitled thereto, in the sum of _____ (\$ _____) (Dollars) for the payment of which well and truly to be made, in lawful money of the United States we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, The Owner has engaged the said Contractor, for the sum of _____ (\$ _____) (Dollars) as more fully appears in a written agreement or contract bearing date of _____. A copy of which said agreement or contract is by reference hereby made a part hereof, and it is the desire of the said Owner that the said Contractor shall assume all undertaking under said agreement or contract, and shall assure and protect all laborers and furnishers of material on said work as provided by Chapter 182 of the Acts of the General Assembly of Tennessee of 1899, and any and all amendments thereto, including without being limited to Chapter 121 of the Public Acts of 1923, and Chapter 121 of the Public Acts of 1925, all of which were codified, as required by Tennessee Code Annotated Sections 12-417 through 12-424, as amended, and also independently of said statutes.

NOW, THEREFORE, if the said Contractor shall fully and faithfully perform all undertakings and obligations under the said agreement or contract hereinbefore referred to and shall fully indemnify and save harmless the said Owner from all costs and damage whatsoever which it may suffer by reason of any failure on the part of said Contractor so to do, and shall fully reimburse and repay the said Owner any and all outlay and expense which it may incur in making good any such default, and shall fully pay for all of the labor, materials, and work used by said Contractor any immediate or remote Contractor or Furnisher of material under him in the performance of said Contract, in lawful money of the United States, as the same shall become due, then this obligation or bond shall be null and void, otherwise to remain in full force and effect.

AND, for value received, it is hereby stipulated and agreed that no change, extension of time, alteration to the terms of the said agreement or contract or to the work to be performed thereunder or the specifications accompany the same shall in anywise affect the obligations under this obligation or bond, and notice is hereby waived of any such change, extension of the time, alteration or addition to the terms of the agreement or contract or to the work or to the specifications.

IN WITNESS WHEREOF, the said Contractor has hereunder affixed its signature and said surety has hereunto cause to be affixed its corporate signature and seal, by its duly authorized officers, on this

_____ day of _____ 20 _____

Company Name

President

ATTEST: _____
Corporate Secretary

SURETY: _____

BY: _____
Attorney in fact

APPROVED: _____
Chief Executive Officer
Memphis Area Transit Authority

COUNTERSIGNED:
BY: _____
Tennessee Agent

APPROVED: _____
Legal Counsel
Memphis Area Transit Authority

Exhibit VII

Memphis Area Transit Authority

SAFETY CERTIFICATION

The _____ hereby certifies that the
(Name of Proposer)

Vehicles offered in this bid comply with the Motor Safety Standard as established by the Department of Transportation and with requirements of the laws of the State of Tennessee, all as are in effect at the time of delivery of the vehicles, as to lighting equipment and all warnings, operating and safety devices.

Name

Address

City

State

Zip

Authorized Signature

Date

Exhibit IX

CERTIFICATION OF FMVSS INAPPLICABILITY

_____ (the Proposer) acknowledgement

That the vehicles being renewed under this procurement are not subject to the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 CFR, Part 571.

Date _____

Recipient Authorized Signature _____

Print Name: _____

Title _____

PRICE PROPOSAL FORM
RFP# 24-03 - CHARLOTTE TROLLEY CAR W/ OPTIONAL W2 TROLLEY CAR REHABILITATION

TO: Public Agency: Memphis Area Transit Authority (MATA)

- In compliance with your Request for Proposals relating to the rehabilitation of vintage trolleys, the undersigned, having become thoroughly familiar with the terms and conditions of the RFP, hereby proposes, and agrees to furnish the equipment within the time stated and in strict accordance with the RFP (which will become part of the contract), including all labor and materials for the following sums of money. The Total Contract Price will be used as the basis of award during the MATA proposal evaluation process.

Description of Equipment	Qty.	Unit Price	Total Price	Delivery Schedule (days after NTP)
Car 1, Charlotte Birney	1	\$	\$	
Car 2, Charlotte Birney	1	\$	\$	
Car 3, Charlotte Birney	1	\$	\$	
OPTION 1 Car 4, Melbourne W2	1	\$	\$	
OPTION 2 Accessibility Lifts, Charlotte Birney	3*	\$	\$	N/A
Spare Parts	Lot	\$	\$	(As Specified)
Manuals	Lot	\$	\$	(As Specified)
Training	Lot	\$	\$	(As Specified)
Total Sum Price			\$	

* As described in Part II, Section 5.5.2, there shall be two (2) accessibility lifts per car

Description of Equipment	Qty	Unit Credit	Total Credit
Trucks, Charlotte Birney per Part II, Section 5.9	6	\$	\$

The Total Sum Price: \$ _____ minus the Total Credit: \$ _____ equals the Total Contract Price: \$ _____.

2. I understand that MATA reserves the right to reject this proposal, but that this proposal shall remain open and not be withdrawn for a period of 90 days from the date prescribed for its opening.
3. I understand the successful proposer will provide no later than the date of contract execution an escrow account of \$100,000 to MATA in accordance with Paragraph 7.0, of the Instructions to Proposers.
4. Notice of acceptance, or request for additional information, may be addressed to the undersigned at the address set forth below.
5. The undersigned understands that any conditions by the proposer or modifications to items not requested may render the proposal non-responsive.
6. The names of all persons interested in the foregoing proposal as principals are:
Note: If proposer is a corporation, set forth in the space below the following information.
 1. The legal name of the corporation.
 2. The state where it is incorporated.
 3. The name of the president of the corporation.
 4. The name of the secretary of the corporation.
 5. Signatures of officer(s) authorized to sign contracts on behalf of the corporation. If proposer is a partnership, provide:
 1. Name of the firm.
 2. Names of all individual partners.

The undersigned understands that any condition stated above, clarification made to the above or information submitted on or with this form – other than that requested may render the proposal unresponsive.

NAME OF INDIVIDUAL/PARTNER/CORPORATION: _____

ADDRESS _____

PHONE _____ FAX _____

EMAIL: _____

BY _____ TITLE: _____

SIGNATURE: _____

IMPORTANT – PRICE PROPOSAL MUST BE SIGNED

PART IV

UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES

Utilization of Disadvantaged Business Enterprises

1. Policy and Terms

a. It is the policy of the Memphis Area Transit Authority (MATA) that Disadvantaged Business Enterprises (DBE) as defined in the United States Department of Transportation (USDOT) Regulation 49 C.F.R. Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds.

b. Refer to Section A, 8.0 for DBE requirements.

c. The DBE participation goal shall be expressed as a percentage of the total Contract price. The Proposer may also meet the goal by showing good faith efforts to meet the goal as described in 49 C.F.R. Part 26 and as set forth in Section D. Any evidence of good faith efforts must be submitted with the sealed proposal or the proposal will be rejected in its entirety.

d. The DBE participation goal shall apply to the total dollar value of this contract, inclusive of all amendments, modifications, and change orders. The Proposer agrees to make its best efforts to include DBE participation in any contract modification work.

e. The goal may be met, as further explained in Section D hereof, by the Proposer's status as a DBE, by a joint venture with one or more DBEs, by subcontracting a portion of the work to one or more DBEs, by the purchase of materials used in the performance of the contract from one or more DBEs or by any combination of the above or through a showing of good faith efforts as defined in Section D hereof.

f. A Proposer who fails to meet the DBE goal and fails to demonstrate sufficient good faith efforts shall not be eligible to be awarded the contract. All documentation of good faith efforts by a Proposer must be included in the envelope or package containing the proposal.

g. MATA prohibits agreements between a Proposer and a DBE in which the DBE promise not to provide subcontracting quotations to other Proposers.

2. Definitions

a. Disadvantaged Business Enterprise (DBE) means a small business concern (a) which is at least 51% owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly-owned business, at least 51% of the stock of which is owned by one or more socially and economically disadvantaged individuals; and (b) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

b. "Good Faith Efforts" means efforts to achieve a DBE contract goal as specified in 49 C.F.R., Part 26 and Section D hereof.

c. "Joint Venture" means an association of two or more businesses to carry out a single business enterprise for profit, and for which purpose they combine their expertise, property, capital, efforts, skill and knowledge. Proposers may develop joint venture agreements as an instrument to provide participation by DBEs in contract work. A joint venture seeking to be credit for DBE participation may be formed among DBE firms or between a DBE firm and non-DBE firm.

d. "Small Business Concern" means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto, including Title 13 C.F.R., Part 121, except that a small business concern shall not include any concern or group of concerns controlled by the small socially and economically disadvantaged individual or individuals which has annual average gross receipts in excess of \$16.6 million over the previous three (3) fiscal years, as such figure may thereafter be adjusted by the Secretary of the DOT.

e. "Socially and Economically Disadvantaged Individuals" means any individual who is a citizen of the United States (or lawfully admitted permanent residents) and who is in the following groups, the members of which are reputedly presumed to be socially and economically disadvantaged:

1. "Black Americans" (which includes persons having origins in any of the black racial groups of Africa);
2. "Hispanic Americans" (which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race);
3. "Native Americans" (which includes persons who are American Indians, Eskimos, Aleuts, or native Hawaiians);
4. "Asian-Pacific Americans" (which includes persons whose origins are from Japan, China, Taiwan, Korea, Laos, Cambodia (Kampuchea), the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific (Republic of Palau), and the Commonwealth or the Northern Marianas Islanacs, Macao, Fiji, Tonga, Kirbati, Juvalu, Nauru, Federated States of Micronesia or Hong Kong; and
5. "Subcontinent Asian-Indian Americans" which includes persons whose origins are from India, Pakistan, and Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.
6. Women.
7. Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA) at such time as the SBE designation becomes effective.

f. "USDOT" or "DOT" refers to the U.S. Department of Transportation.

3. Counting DBE Participation Toward the Contract Goal

The inclusion of any DBE by the Proposer in its proposal documents shall not conclusively establish the Proposer's eligibility for full DBE credit for the firms' participation in the contract. The Compliance Officer, DBE Program, will determine the amount of DBE participation credit based upon an analysis of the specific duties, which will be performed by the DBE.

The Proposer may count toward its DBE goal only expenditures to firms which are currently certified by the Uniform Certification Agency or the Tennessee Department of Transportation and which perform a commercially useful function. A firm is considered to perform a commercially useful function when it is responsible for the performance of a distinct element of the work and carries out its responsibilities by actually performing, managing, and supervising the work involved.

To evaluate whether the firm is performing a commercially useful function, the Compliance Officer, DBE Program will evaluate the amount of work subcontracted, industry practices, and other relevant factors. The Compliance Officer, DBE Program reserves the right to deny or limit DBE credit to the Proposer where any DBE is found to be engaged in substantial pass-through activities with others.

DBE participation shall be counted toward the DBE goal in the contract as follows:

- a. Once a DBE is determined to be eligible in accordance with these rules, the total dollar value of the contract awarded to the DBE may be counted toward the DBE goal except as follows:

- b. A Proposer may count toward its DBE goal that portion of the total dollar value of a contract with an eligible joint venture equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces.
- c. Consistent with normal industry practices, a DBE may enter into subcontracts. If a DBE prime contractor subcontracts more than thirty percent (30%) or a significantly greater portion of the work of the contract that would be expected on the basis of normal industry practices, the DBE shall be presumed not to be performing a commercially useful function. Evidence may be presented by the Proposer involved to rebut this presumption.
- d. When a DBE subcontracts a part of the work under the contract to another firm, the value of the subcontracted work may only be counted towards the DBE goal if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward the DBE goal.
- e. The Proposer may count one hundred percent (100%) of its expenditures for materials and supplies required under the contract and which are obtained from a DBE manufacturer toward the DBE goal. The Proposer may count sixty percent (60%) of its expenditures for materials and supplies under the contract obtained from a DBE regular dealer towards its DBE goal. The terms "manufacturer" and "regular dealer" are defined in 49 C.F.R. Part 26.55(e)(1)(ii) and (2)(iii).
- f. The Proposer may count towards its DBE goal expenditures to DBEs which are not manufacturers or regular dealers, such as fees or commissions charged for services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies and transportation charges as set forth in 49 C.F.R. Part 26. However, the Compliance Officer, DBE Program must determine the fee or charge to be reasonable and not excessive as compared with fees or charges customarily allowed for similar services.
- g. Proposer must use good business judgment when negotiating with subcontractors and take a DBE's price and capabilities into consideration. The fact that there may be some additional costs involved in finding and using DBE firms is not sufficient reason to fail to meet the DBE goal set forth in the contract, as long as such costs are reasonable.

4. DBE Substitutions

a. Arbitrary changes by the Contractor of the commitments previously indicated in the Schedule of DBE participation are prohibited. No changes may be made to the DBE firms listed on this schedule after the opening of proposals but prior to contract award. Further, after entering into each approved DBE subcontract, the Contractor shall neither terminate the subcontract, nor reduce the scope of the work to be performed by the DBE, nor decrease the price to the DBE, without receiving prior written approval of the Compliance Officer, DBE Program. Such approval is required even if the DBE agrees with the change to the DBE's contract desired by the Contractor.

b. It may become necessary, at times, to substitute a new subcontractor in order to complete the contract work. The substitution procedure to be followed is:

1. The Contractor must immediately notify the Compliance Officer, DBE Program, in writing, of the proposed substitution of subcontractor. The Contractor's notification must include the specific reasons it intends to reduce the scope of or terminate a DBE subcontract; adequate documentation to support the Contractor's proposed action; and a proposed substitute firm to complete the DBE's portion of work.
2. The following is a non-exclusive list of the types of reasons, which justify substitution: the DBE was found not to be able to perform, or not to be able to

perform on time; the DBEs work product was not acceptable; the DBE demands an unreasonable escalation of its price.

3. The following is a non-exclusive list of the types of reason which do not justify substitution: a replacement firm has been recruited by the Contractor to perform the same work under more advantageous terms; performance issues by the DBE were disputed and every reasonable effort to have the dispute resolved or mediated has not been taken; the DBE has requested a reasonable price escalation which may be justified due to unforeseen circumstances (e.g. a change in scope of DBEs work).
4. If the subcontractor to be substituted for the DBE is not a DBE, the Contractor must show adequate good faith efforts as set forth in Section D hereof.
5. The Contractor's request for approval of a substitution must include the name, address, and principal official of the proposed substitute subcontractor and the dollar value and scope of work of the proposed subcontract. If the new subcontractor is a DBE, all DBE affidavits and documents required by the contract shall be attached.
6. MATA will evaluate the submitted documentation and respond within ten (10) business days to the request for approval of a substitution. MATA's response may approve the request, seek more information; request an interview to clarify the problem or reject the proposed DBE substitution, with the reasons for the rejection stated in MA's response. In the case of an expressed emergency need to receive the necessary decision for the sake of job progress, MATA will respond as soon as practicable.
7. Actual substitution by the Contractor may not be made prior to MATA approval. Once notified of MATA approval, the substitute subcontract must be executed within five (5) business days, and a copy submitted to the Compliance Officer, DBE Program.

5. Good Faith Efforts

In order to be responsive, a Proposer must make good faith efforts to meet the DBE participation goal set forth in the contract. The Proposer must document the good faith efforts it made in that regard. Thus, the Proposal submitted to MATA must be accompanied by written documentation prepared by the Proposer evidencing all of its reasonable good faith efforts toward fulfilling the goal. These efforts must be active steps, ones that could reasonably be expected to lead to sufficient DBE participation to meet the contract DBE participation goal. Mere pro forma efforts are not acceptable and will be rejected by the Compliance Officer, DBE Program.

Good Faith Efforts require that the Proposer consider all qualified DBEs, who express an interest in performing work under the contract. This means that the Proposer cannot reject a DBE as unqualified unless the Proposer has sound reasons based on a thorough investigation of the DBE's capabilities. Further, the DBE's standing within its industry, membership in specific groups, organizations or associations and political or social affiliation; (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of proposals in the Contractor's efforts to meet the contract DBE participation goal.

The following are illustrative of factors, which will be considered in judging whether or not the Proposer has made adequate good faith efforts:

- a. Attendance at any pre-proposal meetings that were scheduled by MATA to inform DBEs

of participation opportunities.

b. Advertisement in general circulation, trade association, or minority and female-focused media concerning participation opportunities. Adequate time for advertisement and sufficient DBE response will be considered.

c. Written notification to a reasonable number of specific DBEs that their participation in the contract is solicited in sufficient time to allow them to participate effectively.

d. Follow-up of initial solicitations of interest by contacting DBEs to determine with certainty if they were interested.

e. Documentation of efforts to negotiate with DBEs for specific sub-contracts including at a minimum:

i. The names, addresses, and telephone numbers of DBEs that were contacted and the date(s) of contract.

ii. A description of the information provided to the DBEs regarding the plans and specifications for portions of the work to be performed.

iii. A statement explaining why additional agreements with DBEs were not reached.

f. For each DBE the Proposer contacted but rejected as unqualified, the reason for the Proposer's conclusion. This may include documentation of price comparisons. Receipt of a lower quotation from a non-DBE will not in itself excuse a Proposer's failure to meet the contract goal.

g. Documentation of efforts made to assist the DBEs contacted that needed assistance in obtaining bonding or insurance required by the Proposer or MATA.

h. Documentation of efforts to utilize the service of available minority community organizations or other organizations that provides assistance in the recruitment and placement of qualified DBEs.

i. Documentation that the Proposer selected portions of the work likely to attract DBE participation (including dividing contracts into economically feasible units to facilitate participation).

j. Evidence that adequate information was provided to interested DBEs about the plans, specifications and requirements of the contract, and that such information was communicated in a timely manner.

Any Proposer which MATA determines to have failed to fulfill the obligations of this Section will be deemed non-responsible and will not be eligible for contract award.

MATA will not award a contract to any Proposer who does not meet the contract DBE participation goal or show good faith efforts to meet the goal. Thus, it is essential that all Proposers submit ALL relevant documentation concerning the DBE goal and/or good faith efforts in the envelope or package containing their sealed proposal.

6. Procedure to Determine Proposer Compliance

The Proposer must complete and sign the Letter of Intent to Perform as a DBE. The Letter of Intent must also be signed by any DBEs (prime or subcontractor). A separate Letter of Intent must be included for each DBE included in the proposal. It MUST be submitted with the sealed proposal. In addition, any documentation evidencing the Proposer's good faith efforts to meet the contract DBE goal must be

submitted with the proposal. Any proposals submitted without a completed and executed Letter of Intent and/or evidence of good faith efforts, if applicable, will be deemed non-responsive and will be rejected by MATA.

a. Letters of Certification

1. A copy of each proposed DBE firm's current Certificate of Certification from the Uniform Certification Agency or the Tennessee Department of Transportation (TDOT) should be attached to the Letter of Intent to Perform as a DBE.
2. All DBEs are certified to perform work in a specific specialty or specialties. The DBE firm's scope of work set forth on the Letter of Intent and Schedule of DBE Participation must conform to its stated area of specialization.

b. Joint Ventures

1. Where the Proposer proposes to include in its proposal a DBE, which is a joint venturer, the Proposer must submit a fully executed copy of the joint venture agreement with its proposal. The joint venture agreement must show that the DBE firm will be responsible for a clearly defined portion of the work to be performed, and that the DBE firm's capital contribution, control, management, risks and profits are commensurate with its ownership interest.

Further, the proposed joint venture agreement shall include specific details related to: 1) contributions of capital and equipment; 2) work items to be performed by the DBEs own forces; 3) work items to be performed under the supervision of the DBE; 4) the DBE management, supervisory and operating personnel to be dedicated to the performance of the project; and 5) the authority of each joint venturer to contractually obligate the joint venture and to expend funds.

Failure to submit a copy of the joint venture agreement will cause the firm to be considered by MATA to be non-responsible.

7. Reporting Requirements During the Term of the Contract

a. The Proposer shall, within five (5) business days of contract award, or prior to any work being performed, execute formal subcontracts or purchase orders with the DBE firms included in the proposal. These written agreements shall be made available to the Compliance Officer upon request. All contracts between the Proposer and its subcontractors must contain a prompt payment clause as set forth in Section 8 herein.

b. During the term of the contract, the Proposer shall submit regular "DBE Subcontractor Payment Status Reports" in a form acceptable to MATA. The frequency with which these reports are to be submitted will be determined by the Compliance Officer but in no event will reports be required less frequently than quarterly. In the absence of written notice from the Compliance Officer, the Proposer's first "DBE Subcontractor Payment Status Report" will be due sixty (60) days after the date of contract award, with additional reports due monthly thereafter.

c. The address for the Compliance Officer, DBE Program, is: MATA, Attn: Chief Compliance Officer, ADA / DBE Administration, 1370 Levee Road, Memphis, TN 38108.

8. Prompt Payment to Subcontractors

a. Prime Contractors are required to pay all subcontractors, both DBE and non-DBE, for all work which the subcontractor has satisfactorily completed, no later than ten (10) business days after the

prime Contractor received payment from MATA.

b. In addition, all retainage amounts must be returned by the prime Contractor to the subcontractor no later than fourteen (14) business days after the subcontractor has satisfactorily completed its portion of the contract work.

c. A delay or postponement of payment to the subcontractor requires good cause and prior written approval of the Compliance Officer and the Project Manager.

d. All prime Contractors are required to include, in each subcontract, a clause requiring the use of appropriate arbitration mechanisms to resolve all payment disputes.

e. MATA will not reimburse Contractors for work performed unless and until the prime Contractor ensures that the subcontractors are promptly paid for the work they have performed to date as evidenced by the submittal of the "DBE Subcontractor Payment Status Report" with canceled checks/wire transfers as supporting documentation.

f. MATA will consider failure to comply with these prompt payment requirements a contract violation, which may lead to any remedies permitted under law, including but not limited to, contract debarment.

9. Enforcement

a. All Proposers are hereby advised that failure to carry out the requirements set forth above shall constitute a material breach of the contract, and after notification by MATA may result in rejection of the proposal or proposal; termination of the contract; a deduction from the contract funds due or to become due the contractor; or other such remedy as the MATA deems appropriate. Failure to comply with the DBE requirements shall include but not be limited to failure to meet the established goal, failure to submit documentation of good faith efforts; failure to exert a good faith effort (as determined by MATA) to meet any established DBE participation goal; failure to adhere to DBE substitution requirements; and failure to realize the DBE participation.

b. If awarded the contract, the Proposer acknowledges and agrees that if MATA determines that the Proposer, a DBE or any other firm retained by the Proposer has failed to comply with the DBE Program requirements or federal or state DBE Program regulations, MATA, through its Contracting Officer, shall have the sole authority and discretion to determine the extent of the monetary value to which the DBE contract goals have not been met, and to assess against and withhold monetary damages from the contractor in the full amount of that breach. MATA may impose any other remedies available at law or provided in the contract in the event of a contract breach. The Proposer further understands and agrees that this clause authorizes MATA, through MATA's Contracting Officer, to determine and fix the extent of the damages caused by a breach of any contractual or regulatory DBE Program requirement and that the damage assessment will be enforced in addition to, and not in lieu of, any other damages or remedy provisions in the contract. By entering into a contract, the Proposer irrevocably agrees to such an assessment of damages for DBE Program purposes, and authorizes MATA to make such an assessment of damages against the Proposer and to collect that assessment from any sums due the Proposer under the contract, or any other contract, or by other legal process. The Proposer makes this certification, agreement and authorization on behalf of itself, its subcontractors and suppliers, and the proposal bond and contract bond sureties.

c. The decision of the Contracting Officer shall be final and conclusive unless, within ten (10) days from the receipt, in writing, of such decision, the Proposer mails or otherwise furnishes to the Contracting Officer an appeal, in writing, addressed to the Chief Executive Officer of MATA. The Chief Executive Officer shall review the dispute, related documents and the Contracting

Officer's decision. The Chief Executive Officer may consult with MATA's project manager, the Contracting Officer or any other person deemed necessary by the Chief Executive Officer. The decision of the Chief Executive Officer shall be final and conclusive unless, within 10 days from the date of the receipt of such decision, in writing, the Proposer mails or otherwise furnishes to the Contracting Officer an appeal, in writing, addressed to the Board of the Memphis Area Transit Authority. The decision of the Board or its duly authorized representative for the determination of such appeal shall be final and conclusive unless in proceedings initiated by either party for review of such decision in a court of competent jurisdiction, the Court determines the decision to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this section, the Proposer shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Proposer shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

PART V

GENERAL CONTRACT PROVISIONS

**MEMPHIS AREA TRANSIT AUTHORITY (MATA)
GENERAL CONTRACT PROVISIONS**

1. Non-Collusion - The Proposer guarantees that the Proposal submitted is not a product of collusion with any other Proposer and no effort has been made to fix the Proposal price of any Proposer or to fix any overhead, profit, or cost element of any Proposal price. An Affidavit of Non-Collusion, as per attached format, must be signed and submitted with Proposal. (Exhibit I)
2. Proposal Acceptance - Each Proposal will be submitted with the understanding that the acceptance, in writing by purchaser of the offer to furnish any or all of the items described herein, shall constitute a Contract between the Proposer and the purchaser, which shall bind the Proposer on his part to furnish and deliver at his Proposal price and in accordance with said accepted Proposal and specifications.
3. Pricing - The price to be quoted in any Proposal submitted shall include all labor, materials, tools, equipment, and other costs necessary to fully complete the project in accordance with the specifications. Anything omitted from such specifications which are clearly necessary for the completion of the item and its appurtenances shall be considered a portion of such Proposal item although not directly specified or called for in these specifications. All material shall be new and in no case will used, reconditioned, or obsolete material be accepted unless otherwise specified. Proposer should note discounts, if any. Freight charges must be included in Proposal price.
4. Terms of Payment - Payment for the specified items shall be net thirty (30) days after acceptance. Proposer should note any discounts for payment before thirty (30) days.

MATA will consider partial payments for the specified items. Partial payments will be made according to the milestone schedule per Part II, Section 3.4, and at MATA's discretion. Contractor shall define the work products or portions of work products that MATA will own for each partial payment. Upon payment by MATA to Contractor, MATA shall own the identified work products.

5. Acceptance of Material - If the item is not acceptable; MATA will furnish a letter of non-acceptance detailing the deficiencies within thirty (30) days after delivery. Acceptance of delivery of an item shall not release the CONTRACTOR from liability for faulty workmanship or materials appearing even after final payment have been made.
6. Approved Equal -
 - a. In all cases, materials must be furnished as specified. Where brand names or specific items are used in the specifications, consider the term "or approved equal" to follow.
 - b. Any unapproved deviations, exceptions, substitutions, alternates, or conditional qualifications contained in a Proposal may be cause for its rejection.
 - c. If a potential Proposer feels that his product is an equal to the product specified, he must submit a written request to MATA.
 - d. Requests for approved equals, clarification of specifications, and protest of specifications must be received by MATA, **IN WRITING, NO LATER THAN 11:00 a.m. CST, Monday, March 18, 2024, TO ALLOW ANALYSIS OF THE REQUEST.** Any request for an approved equal or protest of the specifications must be fully supported with catalog information, specifications, and illustrations or other pertinent information as evidence that the substitute offer is equal to or better than the specifications' requirement. Where an approved equal is requested, the CONTRACTOR must demonstrate the quality of his product to the Authority and must furnish sufficient information to enable the Authority to determine whether the CONTRACTOR's product is or is not equal to that specified. Such

requests may be e-mailed to Ashley Best, Sr. Contract Administrator, at abest@matatransit.com.

- e. MATA's replies to requests under paragraph (d) above will be post-marked at least fourteen (14) days before the date scheduled for Proposal opening.
 - f. A notice of approved equals shall be furnished to all parties receiving specifications so that all Proposers may prepare their Proposal accordingly.
 - g. Appeal from the decisions of MATA to approve or disapprove approved equal status shall be submitted in writing to the Contracting Officer, MATA, 1370 Levee Road, Memphis, TN 38108, not later than five (5) days from the date of MATA's decision. The appeal shall, at a minimum, identify the decision in question, specify all reasons why the appealing party disagrees with the decision, and shall include all facts and justification, including technical information, in support of its position. The Contracting Officer may request additional information from the appealing party, and information or a response from the Proposers which shall likewise be submitted in writing to the Contracting Officer not later than ten (10) days from the date of MATA's request. So far as practicable, appeals will be decided upon the basis of the written appeal, information and written response submitted by the appealing party and other Proposers; all parties are urged to make written submissions as complete as possible. Failure of any party to timely respond to a request for information may be deemed by MATA that such party does not desire to participate in the proceeding, does not contest the matter, or does not desire to submit a response; and, in such event, the appeal will proceed and will not be delayed due to the lack of a response. Upon receipt and review of written submissions and any independent investigation deemed appropriate by MATA, the Contracting Officer shall either (a) render a decision which shall be final and advise all interested parties of same in writing, or (b) at the sole election of the Contracting Officer, conduct an informal hearing at which the interested participating parties will be afforded an opportunity to present their respective positions and facts, documents, justification, and technical information in support thereof. Parties may, but are not required to, be represented by counsel at the informal hearing, which will not be subject to formal rules of evidence or procedure. Following the informal hearing, the Contracting Officer shall render a decision, which shall be final and advise all interested parties thereof in writing.
 - h. Changes in the specifications will be made by written addendum by MATA and will be forwarded to all persons and firms to whom Proposal documents have been furnished.
7. Proposal Withdrawal -
- a. Each and every Proposer who submits his Proposal specifically waives any right to withdraw it except as hereinafter provided. Proposers will be given permission to withdraw any Proposal after it has been deposited with MATA, provided any Proposer makes its request by telephone, telegraph, or in writing, twenty-four (24) hours before the time Proposals are due. Requests pertaining to withdrawals by telephone or telegraph must be confirmed in writing by the Proposer and must reach the Office of the Contracting Officer of MATA not later than one (1) hour prior to the time fixed for submission of Proposals.
 - b. No Proposer may withdraw his Proposal within ninety (90) days after the date Proposals are due.
8. Proposal Rejection - MATA reserves the right to waive any minor Proposal informalities or irregularities received which do not go to the heart of the Proposal or prejudice other Proposers, or to reject, for good and compelling reasons, any and all Proposals submitted. Conditional Proposals, or those, which take exception to the specifications, may be considered non-responsive and may be rejected.

9. Tax Exemption - MATA is exempt from payment of all Federal, State, and local taxes in connection with the project. Said taxes must not be included in Proposal prices. MATA will provide necessary tax exemption certificate to manufacturer, if requested.
10. Proposal Evaluation -
- a. Consideration will be given to Proposer's previous experience, price, financial responsibility of Proposer, responsiveness to these specifications, including level of participation of DBEs.
 - b. Proposers may be required to submit duplicate sworn statements of their financial responsibility, technical qualifications, and performance record before a Contract can be awarded to them.
 - c. MATA reserves the right to award Proposals singularly or collectively on any of the Proposal items.
 - d. The Contract shall be awarded according to Section 5.0 of Section A.
11. Proposal Cost Form - If MATA includes a Proposal Cost Form in the RFP, Proposals must be submitted on the form provided. Each item should be listed separately on the form. Proposals submitted in any other form may be considered non-responsive and may be rejected. Proposals may be submitted on any or all items in this Proposal request. Proposal Cost Form should be submitted in a separate package, one (1) original and one (1) flash drive.
12. Protest Procedures - Protests may be made by prospective Proposers whose direct economic interest would be affected by the award of a Contract, or by failure to award a Contract. MATA will consider all protests requested in a timely manner regarding the award of a Contract, whether submitted before or after an award. All protests are to be submitted in writing to the Contracting Officer, Memphis Area Transit Authority, 1370 Levee Road, Memphis, TN 38108. Protest submissions should be concise, logically arranged, and clearly state the grounds for the protest. Protests must include at least the following information:
1. Name, address, and telephone number of protestor.
 2. Identification of the solicitation or Contract Number.
 3. A detailed statement of the legal and factual grounds of protest, including copies of relevant documents.
 4. A statement as to what relief is requested.

Protests must be submitted to MATA in accordance with these procedures and time requirements. Protests must be complete and contain all issues that the protestor believes relevant.

- a. Proposal protests alleging restrictive specifications or improprieties which are apparent prior to Proposal closing time or receipt of Proposals must be submitted in writing to the Contracting Officer and must be received seven (7) days prior to Proposal closing time or receipt of Proposals. If the written protest is not received by the time specified, Proposals may be received, and award may be made, in the normal manner unless the Contracting Officer determines that remedial action is required. Oral protests not followed up by a written protest will be disregarded. The Contracting Officer may request additional information from the appealing party and information or a response from other Proposers, which shall likewise be submitted in writing to the Contracting Officer not later than ten (10) days from the date of MATA's request. So far as practicable, appeals will be decided upon the basis of the written appeal, information, and written response submitted by the appealing party and other Proposers; all parties are urged to make written submissions as complete as possible. Failure of any party to timely respond to a request for information

may be deemed by MATA that such party does not desire to participate in the proceeding, does not contest the matter, or does not desire to submit a response; and, in such event, the protest will proceed and will not be delayed due to the lack of a response. Upon receipt and review of written submissions and any independent investigation deemed appropriate by MATA, the Contracting Officer shall either (a) render a decision, or (b) at the sole election of the Contracting Officer, conduct an informal hearing at which the interested participating parties will be afforded an opportunity to present their respective positions and facts, documents, justification, and technical information in support thereof. Parties may, but are not required to, be represented by counsel at the informal hearing, which will not be subject to formal rules of evidence or procedure. Following the informal hearing, the Contracting Officer shall render a decision, which shall be final and advise all interested parties thereof in writing but no later than ten (10) days from the date of the informal hearing.

- b. Proposal protest against the making of an award by the MATA Board must be submitted in writing to the Contracting Officer and received by the Contracting Officer within seven (7) days of the award by the MATA Board. The process for resolving protests listed above in Section (a) will be followed for any protest received under this section.

Notice of the protest and the basis therefore will be given to all prospective Proposers. In addition, when a protest against the making of an award by the MATA Board is received and it is determined to withhold the award pending disposition of the protest, the Proposers whose Proposals might become eligible for award shall be requested before expiration of the time for acceptance, to extend or withdraw the Proposal.

Where a written protest against the making of an award is received in the time specified, award will not be made prior to seven (7) days after resolution of the protest unless MATA determines that:

1. The item(s) to be procured or service to be performed is urgently required.
2. Delivery or performance will be unduly delayed by failure to make award promptly; or,
3. Failure to make award will otherwise cause undue harm to MATA or the Federal Government.

- c. Protests made after contract award shall be received no later than seven (7) calendar days afterwards. Protests received after award will be reviewed by the Contracting Officer and MATA's General Counsel.

In instances where the award has been made, the CONTRACTOR shall be furnished with the notice of the protest and the basis therefore. If the CONTRACTOR has not executed the Contract as of the date the protest is received by MATA, the execution of the Contract will not be made prior to seven (7) days after resolution of the protest unless MATA determines that:

1. The item(s) to be procured or service to be performed is urgently required;
2. Delivery or performance will be unduly delayed by failure to make award promptly; or,
3. Failure to make award will otherwise cause undue harm to MATA or the Federal Government.

The process for resolving protests listed above in Section (a) will be followed for any protest received under this section.

- d. Appeals and requests for reconsideration of the determination of the Contracting Officer of

protests under (a), (b) and (c) must be submitted to the Chief Executive Officer and received within seven (7) days after the date of the written determination by the Contracting Officer. The Chief Executive Officer may request additional information from the appealing party and information or a response from other Proposers, which shall likewise be submitted in writing to the Chief Executive Officer not later than ten (10) days from the date of MATA's request. So far as practicable, appeals will be decided upon the basis of the written appeal, information, and written response submitted by the appealing party and other Proposers; all parties are urged to make written submissions as complete as possible. Failure of any party to timely respond to a request for information may be deemed by MATA that such party does not desire to participate in the proceeding, does not contest the matter, or does not desire to submit a response; and, in such event, the appeal will proceed and will not be delayed due to the lack of a response. Upon receipt and review of written submissions and any independent investigation deemed appropriate by MATA, the Chief Executive Officer shall either (a) render a decision, or (b) at the sole election of the Chief Executive Officer, conduct an informal hearing at which the interested participating parties will be afforded an opportunity to present their respective positions and facts, documents, justification, and technical information in support thereof. Parties may, but are not required to, be represented by counsel at the informal hearing, which will not be subject to formal rules of evidence or procedures. Following the informal hearing, the Chief Executive Officer shall render a decision, which shall be final and advise all interested parties thereof in writing but no later than ten (10) days from the date of the informal hearing.

- e. Under certain limited circumstances, an interested party may protest to the Federal Transit Administration (FTA) the award of a Contract pursuant to an FTA grant. FTA's review of any protest will be limited to:
 - 1. Alleged failure of MATA to have written protest procedures or alleged failure to follow such procedures.
 - 2. Alleged violations of a specific Federal requirement that provides an applicable complaint procedure which shall be submitted and processed in accordance with that Federal regulation.

- f. Protestors shall file a protest with FTA not later than five (5) working days after a final decision of MATA's Chief Executive Officer is rendered under the MATA protest procedure. In instances where the protestor alleges that MATA failed to make a final determination on the protest, the protestor shall file a complaint with FTA not later than five (5) Federal working days after the protestor knew or should have known of MATA's failure to render a final determination on the protest.

- g. Submission of Protest to FTA
 - 1. Protests shall be filed with the appropriate FTA Regional Office with a concurrent copy to MATA.
 - 2. The protest filed with FTA shall:
 - (i) Include the name and address of the protestor.
 - (ii) Identify MATA project number and the number of the Contract Solicitation.
 - (iii) Contain a statement of the grounds for the protest and any supporting documentation. This should detail the alleged failure to follow protest procedures or the alleged failure to have procedures and be fully supported to the extent possible.
 - (iv) Include a copy of the local protest filed with MATA and a copy of the MATA decision, if any.

13. Correspondence - The Proposer is required to show on all correspondence with MATA and FTA, the following: RFP No. **24-03** Communication with MATA should be mailed directly to Ashley Best, Sr. Contract Administrator, MATA, 40 S. Main Street, Suite 1200, Memphis, TN 38103, or sent by e-mail to abest@matatransit.com.
14. Contract Subletting - No Contract may be assigned, sublet, or transferred without the written consent of MATA.
15. Miscellaneous -
 - a. CONTRACTOR warrants that it has not been paid any bonus or commission for the purpose of obtaining this Contract.
 - b. Except as otherwise set forth herein, this Contract shall be governed and construed in accordance with the laws of the State of Tennessee. All actions, whether sounding in contract or in tort, relating to the validity, construction, interpretation, and enforcement of this Contract shall be instituted and litigated in the courts of the State of Tennessee located in Shelby County, Tennessee, and in no other. In accordance herewith, the parties to this Contract submit to the jurisdiction of the courts of the State of Tennessee, located in Shelby County, Tennessee.
 - c. The failure of MATA at any time to insist upon a strict performance of any terms, conditions, and covenants herein shall not be deemed a waiver of any subsequent breach or default of the terms, conditions, and covenants herein contained.
 - d. CONTRACTOR shall not assign any interest or obligation in this Contract, and CONTRACTOR shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of MATA.
 - e. Any proposed change or modification of this Contract shall be submitted in writing to MATA for its prior approval. All changes shall be by written agreement of MATA and CONTRACTOR.
 - f. The CONTRACTOR acknowledges that MATA is managed and operated by Mid-South Transportation Management, Inc. (MTM). The CONTRACTOR shall cooperate with and abide by the instructions of MATA and MTM personnel.
16. Extent of Agreement -
 - a. The Proposal submitted by the CONTRACTOR is incorporated herein by reference as fully set forth verbatim herein. In the event of conflict between this Contract and Proposal, the provisions of this Contract shall control.
 - b. This Contract, except as set forth in the preceding paragraph, represents the entire and integrated Agreement between MATA and the CONTRACTOR, and supersedes all prior negotiations, statements, instructions, and representations or agreements, whether written or oral. This Contract may not be modified, amended, or assigned except by written agreement duly signed by both parties.
 - c. At the election of MATA, the invalidity or illegality of any provisions of this Contract, other than arising from the fiscal inability of MATA to pay the compensation due to the CONTRACTOR as same becomes due, as determined by a court of last resort of competent jurisdiction, shall not affect the validity of the remainder of this Contract, and this Contract shall remain in full force and effect as if such illegal or invalid provisions were not contained herein.

17. Compliance with Applicable Law -

- a. In the performance of its obligations pursuant to this Contract, the CONTRACTOR shall comply with all applicable provisions of Federal, State, and local law in any manner affecting the conduct of the work and all prohibitive orders and instructions issued by the State and Federal Government regarding fortifications, military, and naval establishments and other areas.
- b. To accommodate changing Federal requirements, the CONTRACTOR agrees that Federal requirements may change, and the changed requirements will apply to the project as required, unless the Federal Government determines otherwise. All standards or limits within FTA's Master Agreement are minimum requirements, unless modified by FTA.
- c. The CONTRACTOR agrees to comply with FTA Circular 4220.1F, "Third Party Contracting Requirements", any revisions or replacement thereof, and applicable Federal regulations or requirements, including FTA third party contracting regulations when promulgated.

18. Audit and Inspection -

- a. The CONTRACTOR shall permit MATA, the Secretary, and Comptroller General of the United States or any of their duly authorized representatives' access to all CONTRACTOR records as they request for audits and inspections related to any Contract not awarded on the basis of competitive bidding for a capital or improvement project, as needed for compliance with 49 U.S.C. § 5325(a). The CONTRACTOR shall permit said persons to inspect all work materials, payrolls, and other data with regard to the project, and to audit the books, records, and accounts pertaining to such Contracts with regard to the project. The CONTRACTOR shall provide sufficient access to contract records as needed for compliance with federal regulations or to assure proper project management as determined by FTA.
- b. The CONTRACTOR shall maintain documentation for all charges against MATA under this Contract. The books, records, and documents of the CONTRACTOR, insofar as they relate to work performed or money received under the Contract, shall be maintained in conformity with generally accepted accounting principles for a period three full years from the date of final payment, and shall be subject to audit, at any reasonable time upon reasonable notice, by MATA, the State of Tennessee or the Comptroller of the Treasury or their duly appointed representatives, or a licensed independent public accountant. Further, the records shall be maintained for a period not less than that recommended in the Uniform Manual for Development Districts of Tennessee, published by the Comptroller of the Treasury, State of Tennessee, but not less than three years from the date of final payment.
- c. In the event any Federal or State agency audits MATA, the CONTRACTOR shall provide whatever records, information, and assistance as MATA may reasonably require.
- d. The CONTRACTOR shall provide information and assistance requested by MATA for progress reports required of MATA by Federal or State Government, or agencies.

19. Equal Employment Opportunity - In the performance of its duties hereunder, the CONTRACTOR shall not discriminate against any employee or applicant for employment because of disability, race, color, age, creed, sex, religion or national origin. The CONTRACTOR shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their disability, race, color, religion, sex, age, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR shall insert the foregoing

provisions (modified only to show the particular contractual relationship) in all subcontracts, except subcontracts for standard commercial supplies or raw materials.

20. Interests of Federal and State Governmental Officials -

- a. No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Contract, or to any benefit arising therefrom.
- b. No part of the proceeds hereof shall be paid directly or indirectly to any officer or employee of the State of Tennessee as wages, compensation or gifts in exchange for acting as officer, agent, employee, subcontractor, or consultant to MATA in connection with any work contemplated or performed relative to this Contract.

21. Environmental Requirements -

- a. Environmental Protection. The CONTRACTOR agrees to comply with all applicable requirements and implementing regulations of the National Environmental Policy Act of 1969, as amended (NEPA), 42 U.S.C. §§ 4321 through 4335 (as restricted by 42 U.S.C. § 5159, if applicable); Executive Order No. 11514, as amended, "Protection and Enhancement of Environmental Quality," 42 U.S.C. § 4321 note; FTA statutory requirements at 49 U.S.C. § 5324(b); U.S. Council on Environmental Quality regulations pertaining to compliance with NEPA, 40 C.F.R. Parts 1500 through 1508; and joint FHWA/FTA regulations, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771 and 49 C.F.R. Part 622, and other applicable Federal environmental protection regulations that may be promulgated at a later date. The CONTRACTOR agrees to comply with the applicable provisions of 23 U.S.C. § 139 pertaining to environmental procedures, and, as applicable, 23 U.S.C. § 326, pertaining to State responsibility for categorical exclusions, in accordance with the provisions of joint FHWA/FTA final guidance, "SAFETEA-LU Environmental Review Process (Public Law 109-59)," 71 *Fed. Reg.* 66576 et seq., November 15, 2006, and any applicable Federal directives that may be issued at a later date, except to the extent that FTA determines otherwise in writing.
- b. Air Quality (Applicable to Contracts Exceeding \$100,000) – Except to the extent the Federal Government determines otherwise in writing, the CONTRACTOR agrees to comply with all applicable Federal laws and regulations and follow applicable Federal directives implementing the Clean Air Act, as amended, 42 U.S.C. §§ 7401 through 7671q. Specifically:
 1. The CONTRACTOR agrees to comply with the applicable requirements of subSection 176(c) of the Clean Air Act, 42 U.S.C. § 7506(c); with U.S. EPA regulations, "Determining Conformity of Federal Actions to State or Federal Implementation Plans," 40 C.F.R. Part 93, Subpart A; and with any other applicable Federal conformity regulations that may be promulgated at a later date. To support the requisite air quality conformity finding for the Project, the CONTRACTOR agrees to implement each air quality mitigation or control measure incorporated in the applicable documents accompanying the approval of the Project. The CONTRACTOR further agrees that any Project identified in an applicable State Implementation Plan (SIP) as a Transportation Control Measure will be wholly consistent with the design concept and scope of the Project described in the SIP.
 2. U.S. EPA also imposes requirements implementing the Clean Air Act, as amended, that may apply to public transportation operators, particularly operators of large public transportation bus fleets. Accordingly, to the extent they apply to the Project, the CONTRACTOR agrees to comply with U.S. EPA regulations, "Control of Air Pollution from Mobile Sources," 40 C.F.R. Part 85; U.S. EPA regulations, "Control of Air Pollution from New and In-Use Motor Vehicles and New and In-Use Motor Vehicle Engines," 40 C.F.R. Part 86; and U.S. EPA regulations "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600,

and any revisions thereto.

3. The CONTRACTOR agrees to comply with the notice of violating facilities provisions of Section 306 of the Clean Air Act, as amended, 42 U.S.C. § 7414, and facilitate compliance with Executive Order No. 11738, "Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans," 42 U.S.C. § 7606 note.

- c. Clean Water Requirements (Applicable to Contracts Exceeding \$100,000) - Except to the extent the Federal Government determines otherwise in writing, the CONTRACTOR agrees to comply with all Federal laws and regulations and follow applicable Federal directives implementing the Clean Water Act, as amended, 33 U.S.C. §§ 1251 through 1377. Specifically:
1. The CONTRACTOR agrees to protect underground sources of drinking water consistent with the provisions of the Safe Drinking Water Act of 1974, as amended, 42 U.S.C. §§ 300f through 300j-6.
 2. The CONTRACTOR agrees to comply with the notice of violating facilities provisions of Section 508 of the Clean Water Act, as amended, 33 U.S.C. §§ 1368, and facilitate compliance with Executive Order No. 11738, "Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans," 42 U.S.C. § 7606 note.
- d. Use of Certain Public Lands. The CONTRACTOR agrees that in implementing its Project, it will not use any publicly owned land from a park, recreation area, or wildlife or waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, unless the Federal Government makes the findings required by 49 U.S.C. § 303. The CONTRACTOR also agrees to comply with joint FHWA/FTA regulations, "Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites," 23 C.F.R. Part 774, and referenced in 49 C.F.R. Part 622.
- e. Wild and Scenic Rivers. The CONTRACTOR agrees to comply with applicable provisions of the Wild and Scenic Rivers Act of 1968, as amended, 16 U.S.C. §§ 1271 through 1287, relating to protecting components of the national wild and scenic rivers system, with applicable implementing U.S. Forest Service regulations, "Wild and Scenic Rivers," 36 C.F.R. Part 297, and with applicable implementing U.S. Bureau of Land Management regulations, "Management Areas," 43 C.F.R. Part 8350.
- f. Coastal Zone Management. The CONTRACTOR agrees to assure Project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. §§ 1451 through 1465.
- g. Wetlands. The CONTRACTOR agrees to comply with the protections for wetlands addressed in Executive Order No. 11990, as amended, "Protection of Wetlands," 42 U.S.C. § 4321 note.
- h. Floodplains. The CONTRACTOR agrees to facilitate compliance with the flood hazards protections in floodplains in accordance with Executive Order No. 11988, as amended, "Floodplain Management" 42 U.S.C. § 4321 note.
- i. Endangered Species and Fisheries Conservation. The CONTRACTOR agrees to comply with applicable protections for endangered species of the Endangered Species Act of 1973, as amended, 16 U.S.C. §§ 1531 through 1544, and the Magnuson Stevens Fisheries Conservation Act, as amended, 16 U.S.C. §§ 1801 *et seq.*

- j. Historic Preservation. The CONTRACTOR agrees as follows:
1. The CONTRACTOR agrees that in implementing its Project, it will not use any land from a historic site that is on or eligible for inclusion on the National Register of Historic Places, unless the Federal Government makes the findings required by 49 U.S.C. § 303.
 2. The CONTRACTOR agrees to encourage compliance with the Federal historic and archaeological preservation requirements of Section 106 of the National Historic Preservation Act, as amended, 16 U.S.C. § 470f; Executive Order No. 11593, "Protection and Enhancement of the Cultural Environment," 16 U.S.C. § 470 note; and the Archaeological and Historic Preservation Act of 1974, as amended, 16 U.S.C. §§ 469a through 469c as follows:
 - (a) In accordance with U.S. Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties," 36 C.F.R. Part 800, the CONTRACTOR agrees to consult with the State Historic Preservation Officer concerning investigations to identify properties and resources included in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and agrees to notify FTA of affected properties.
 - (b) The CONTRACTOR agrees to comply with all applicable Federal regulations and directives to avoid or mitigate adverse effects on those historic properties, except to the extent the Federal Government determines otherwise in writing.
- k. Indian Sacred Sites. The CONTRACTOR agrees to facilitate compliance with the preservation of places and objects of religious importance to American Indians, Eskimos, Aleuts, and Native Hawaiians, pursuant to the American Indian Religious Freedom Act, 42 U.S.C. § 1996, in accordance with Executive Order No. 13007, "Indian Sacred Sites," 42 U.S.C. § 1996 note, except to the extent that the Federal Government determines otherwise in writing.
- l. Mitigation of Adverse Environmental Effects. Should the Project cause or result in adverse environmental effects, the CONTRACTOR agrees to take all reasonable steps to minimize the impact of those adverse effects, as required by 49 U.S.C. § 5324(b), and other applicable Federal laws and regulations, including 23 C.F.R. Part 771, 23 C.F.R. Part 774, and 49 C.F.R. Part 622. The CONTRACTOR agrees to implement all environmental mitigation measures that may be identified as commitments in applicable environmental documents (such as environmental assessments, environmental impact statements, memoranda of agreement, and other documents required by 49 U.S.C. § 303). The CONTRACTOR also agrees to comply with any conditions the Federal Government might impose in a finding of no significant impact or a record of decision. The CONTRACTOR agrees that those mitigation measures are incorporated by reference and made part of the Contract. The CONTRACTOR agrees that any deferred mitigation measures will be incorporated by reference and made part of the Contract as soon as agreement with the Federal Government is reached. The CONTRACTOR agrees that any mitigation measures agreed on may not be modified or withdrawn without the express written approval of the Federal Government.
22. Energy Conservation - The CONTRACTOR agrees to comply with applicable mandatory energy efficiency standards and policies under the Energy Policy and Conservation Act, as amended, 42 U.S.C. §§ 6321 *et seq.*, except to the extent that the Federal Government determines otherwise in writing. As applicable, the CONTRACTOR agrees to perform an energy assessment for any building constructed, reconstructed, or modified with FTA assistance, in compliance with FTA regulations, "Requirements for Energy Assessments," 49 C.F.R. Part 622, Subpart C.
23. Patent Rights – (Applicable to Contracts For Planning, Research, Development and/or

Demonstration Projects Only)

a. General. If any invention, improvement, or discovery of the CONTRACTOR or of any subcontractor, lessee, third party contractor, or other participant at any tier of the Project is conceived or first actually reduced to practice in the course of or under the Project, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Recipient agrees to notify FTA immediately and provide a detailed report in a format satisfactory to FTA.

b. Federal Rights. The CONTRACTOR agrees that its rights and responsibilities, and those of each subcontractor, lessee, or other participant at any tier of the Project, pertaining to that invention, improvement, or discovery will be determined in accordance with applicable Federal laws and regulations, including any waiver thereof. Absent a determination in writing to the contrary by the Federal Government, the Recipient agrees to transmit to FTA those rights due the Federal Government in any invention, improvement, or discovery resulting from that subcontract, lease, or arrangement, as specified in 35 U.S.C. §§ 200 *et seq.*, and U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401, irrespective of the status of the CONTRACTOR, subcontractor, lessee, third party contractor or other participant in the Project (*i.e.*, a large business, small business, State government, State instrumentality, local government, Indian tribe, nonprofit organization, institution of higher education, or individual).

c. License Fees and Royalties. FTA considers income earned from license fees and royalties for patents, patent applications, and inventions produced under the Project to be program income. Except to the extent FTA determines otherwise in writing, as provided in 49 C.F.R. Parts 18 and 19, the CONTRACTOR has no obligation to the Federal Government with respect to that program income, apart from compliance with 35 U.S.C. §§ 200 *et seq.*, which applies to patent rights developed under a research project.

24. **Rights in Data – (Applicable to Contracts For Planning, Research, Development and/or Demonstration Projects Only)**

a. Definition. The term "subject data," as used in this Section 18 of the FTA Master Agreement means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the Grant Agreement or Cooperative Agreement for the Project. Examples include, but are not limited to: computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information. "Subject data" do not include financial reports, cost analyses, or other similar information used for Project administration.

b. General. The following restrictions apply to all subject data first produced in the performance of the Contract for the Project:

(1) Except for its own internal use, the CONTRACTOR may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the CONTRACTOR authorize others to do so, without the prior written consent of the Federal Government, unless the Federal Government has previously released or approved the release of such data to the public.

(2) The restrictions on publication of Paragraph 18(b)(1) of the FTA Master Agreement, however, do not apply to a Contract with an institution of higher learning.

c. Federal Rights in Data and Copyrights. The CONTRACTOR agrees to provide to the Federal Government a royalty-free, non-exclusive, and irrevocable license to reproduce, publish,

or otherwise use, and to authorize others to use, for Federal Government purposes the subject data described in this SubSection 18.c of the FTA Master Agreement. As used herein, "for Federal Government purposes," means use only for the direct purposes of the Federal Government. Without the copyright owner's consent, the Federal Government may not provide or otherwise extend to other parties the Federal Government's license to:

- (1) Any subject data developed under the Contract for the Project, or under a subcontract, lease, third party contract or other arrangement at any tier of the Project, supported with Federal assistance derived from the Contract for the Project, whether or not a copyright has been obtained; and
- (2) Any rights of copyright to which a CONTRACTOR, subcontractor, lessee, third party contractor, or other participant at any tier of the Project purchases ownership using Federal assistance.

d. Special Federal Rights in Data for Research, Development, Demonstration, and Special Studies Projects. In general, FTA's purpose in providing Federal assistance for a research, development, demonstration, or special studies Project is to increase transportation knowledge, rather than limit the benefits of the Project to Project participants. Therefore, when the Project is completed, the CONTRACTOR agrees to provide a Project report that FTA may publish or make available for publication on the Internet. In addition, the CONTRACTOR agrees to provide other reports pertaining to the Project that FTA may request. The CONTRACTOR agrees to identify clearly any specific confidential, privileged, or proprietary information it submits to FTA. In addition, except to the extent that FTA determines otherwise in writing, the CONTRACTOR to support a research, development, demonstration, or a special studies Project agrees that, in addition to the rights in data and copyrights that it must provide to the Federal Government as set forth in SubSection 18.c of the FTA Master Agreement, FTA may make available to any FTA CONTRACTOR, subcontractor, or other participant at any tier of the Project, either FTA's license in the copyright to the subject data or a copy of the subject data. If the Project is not completed for any reason whatsoever, all data developed under the Project shall become subject data as defined in SubSection 18.a of the FTA Master Agreement and shall be delivered as the Federal Government may direct. This SubSection 18.d, however, does not apply to adaptations of automatic data processing equipment or programs for the CONTRACTOR's use when the costs thereof are financed with Federal assistance through an FTA capital program.

e. License Fees and Royalties. FTA considers income earned from license fees and royalties for copyrighted material, or trademarks produced under the Project to be program income. Except to the extent FTA determines otherwise in writing, as provided in 49 C.F.R. Parts 18 and 19, the CONTRACTOR has no obligation to the Federal Government with respect to that program income, apart from compliance with 35 U.S.C. §§ 200 *et seq.*, which applies to patent rights developed under a research project.

f. Hold Harmless. Except as prohibited or otherwise limited by State law or except to the extent that FTA determines otherwise in writing, upon request by the Federal Government, the CONTRACTOR agrees to indemnify, save, and hold harmless the Federal Government and its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the CONTRACTOR of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under the Project. The CONTRACTOR shall not be required to indemnify the Federal Government for any such liability caused by the wrongful acts of Federal employees or agents.

g. Restrictions on Access to Patent Rights. Nothing in Section 18 of the FTA Master Agreement pertaining to rights in data shall either imply a license to the Federal Government under any patent or be construed to affect the scope of any license or other right otherwise granted to the Federal Government under any patent.

h. Data Developed Without Federal Funding or Support. In connection with the Project, the CONTRACTOR may find it necessary to provide data to FTA developed without any Federal funding or support by the Federal Government. The requirements of Subsections 18.b, 18.c, and 18.d of the FTA Master Agreement do not apply to data developed without Federal funding or support by the Federal Government, even though that data may have been used in connection with the Project. Nevertheless, the CONTRACTOR understands and agrees that the Federal Government will not be able to protect data from unauthorized disclosure unless that data is clearly marked "Proprietary" or "Confidential."

i. Requirements to Release Data. To the extent required by U.S. DOT regulations, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations," at 49 C.F.R. § 19.36(d), or other applicable Federal laws or Federal regulations, the CONTRACTOR understands and agrees that the data and information it submits to the Federal Government may be required to be released in accordance with the Freedom of Information Act (or another Federal law or Federal regulation providing access to such records).

25. Vendor Responsibility - It is the intent of these specifications to provide for goods of first quality and the workmanship must be the best obtainable in the various trades. The design of the goods, which the manufacturer proposes to furnish, must be of substantial and durable construction in all respects. No advantage shall be taken by the Proposer or manufacturer in the omission of any part or detail, which goes to make the product complete and ready for installation and use.

The vendor shall assume responsibility for all materials used in the Proposal item whether the vendor manufactures the same or purchased ready-made from a source outside the vendor's company.

26. References - Proposer shall provide with its proposal at least three references for projects similar to that described in this Request for Proposal. The following must be provided: company name, address and telephone number, fax number, a contact person, and the dates of the contract. The references given should be on contracts within a 12-month period prior to the Proposal due date.

27. Delivery - Proposals shall provide for delivery of all equipment or supplies to MATA, 1370 Levee Road, Memphis, TN 38108, unless stated otherwise in Sections A or B.

28. Delivery Schedule - Hours of delivery shall be any weekday between 8:30 a.m. and 4:00 p.m., unless stated otherwise in Sections A or B.

29. Preference for United States Products and Services. To the extent applicable, the CONTRACTOR agrees to comply with the following U.S. preference requirements:

- a. Buy America (Applicable to Contracts Exceeding \$150,000) - The CONTRACTOR agrees to comply with 49 U.S.C. § 5323(j), FTA regulations, "Buy America Requirements," 49 C.F.R. Part 661, and implementing guidance FTA may issue. A Buy America certificate (Exhibit II), as per attached format, must be completed and submitted with the Proposal or the Proposal will be considered non-responsive.

A waiver from the Buy America provision may be sought by MATA if grounds for the waiver exist. Section 165a of the Surface Transportation Assistance Act of 1982 permits FTA's participation in this Contract only if iron, steel and manufactured products used in the Contract are produced in the United States.

- b. Cargo Preference—Use of United States-Flag Vessels. The CONTRACTOR agrees to comply with U.S. Maritime Administration regulations, "Cargo Preference—U.S.-Flag Vessels," 46 C.F.R. Part 381, to the extent those regulations apply to the Project. Specifically,

the CONTRACTOR agrees:

1. To utilize privately owned United States-Flag Commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this section, to the extent such vessels are available at fair and reasonable rates to United States-Flag Commercial vessels.
 2. To furnish within thirty (30) days following the date of loading for shipments originating within the United States, or within thirty (30) working days following the date of loading for shipment originating outside the United States, a legible copy of a rated, On-Board Commercial Ocean Bill-Of-Lading in English for each shipment of cargo described in paragraph one above to MATA (through the prime CONTRACTOR in the case of subcontractor Bills-of-Lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, 400 Seventh Street, S.W., Washington, DC 20590, marked with appropriate identification of the project.
- c. Fly America. The CONTRACTOR understands and agrees that the Federal Government will not participate in the costs of international air transportation of any persons involved in or property acquired for the Project unless that air transportation is provided by U.S.-flag air carriers to the extent service by U.S.-flag air carriers is available, consistent with the requirements of the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 U.S.C. § 40118, and U.S. General Services Administration (U.S. GSA) regulations "Use of United States Flag Air Carriers," 41 C.F.R. §§ 301.131 through 301.143.
30. Debarment, Suspension, and Other Responsibility Matters (Applicable to Contracts Exceeding \$25,000) - Unless otherwise permitted by law, any person that is debarred, suspended, or voluntarily excluded may not take part in a federally covered transaction, either as participant or a principal, during the period of debarment, suspension, or voluntary exclusion. Accordingly, neither FTA nor MATA may enter into any transaction with such debarred, suspended or voluntarily excluded persons during such period.
- A certification process has been established by 49 CFR, Part 29 as a means to ensure that debarred, suspended, or voluntarily excluded persons do not participate in a federally assisted project. Each CONTRACTOR and subcontractor must provide to MATA a signed certification in compliance with 49 CFR, Part 29 as part of this Contract. (Exhibit III)
31. Prohibited Interests - No member, officer, or employee of MATA, MTM, RATP Dev, or the City of Memphis during his or her tenure or one year thereafter shall have interests, direct, or indirect in this Contract or the proceeds thereof, or if a conflict, real or apparent, as defined in MATA's Code of Ethics, would be involved.
32. Copeland "Anti-Kickback" Act, as amended (Applicable to Construction Contracts) - The CONTRACTOR shall comply with the Copeland "Anti-Kickback" Act, 18 U.S.C. 874 and 40 U.S.C. 276c, and U.S. Department of Labor (DOL) regulations, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States", 29 C.F.R. Part 3. In addition to other requirements that may apply:
- a. The CONTRACTOR will not induce, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which that employee is otherwise entitled.
 - b. MATA agrees to report every suspected or reported violation of the Copeland "Anti-Kickback" Act or its Federal implementing regulations to FTA.

33. Termination of Contract -
- a. MATA may terminate this Contract without cause by giving fifteen (15) days written notice to the CONTRACTOR thereof and specifying the effective date of termination.

If the Contract is terminated by MATA as provided herein, the CONTRACTOR will be paid for its satisfactory services completed through the date of termination specified by MATA.
 - b. If, through any cause, the CONTRACTOR shall fail to fulfill in timely and proper manner its obligations under this Contract, or shall violate any of the covenants, agreements, or stipulations of this Contract, MATA shall thereupon have the right to terminate this Contract by giving written notice to the CONTRACTOR for such termination and specifying the effective date of such termination. In the event of termination, the CONTRACTOR shall be entitled to just and equitable compensation for any satisfactory work through the date of termination specified by the MATA.
 - c. In the event of default by the CONTRACTOR, MATA shall be entitled to all of its reasonable expenses, and its costs to include, but not limited to its reasonable attorney's fees incurred by reason of such default.
 - d. In addition to the foregoing, MATA reserves the right to cancel any services or portion of services to be provided hereunder upon written notice to the CONTRACTOR specifying the canceled services and the effective date of such cancellation. In the event of such cancellation, the CONTRACTOR shall be compensated for satisfactory work completed and, further, the compensation due to the CONTRACTOR hereunder shall be reduced accordingly effective said cancellation date.
34. Employment of Contractor - MATA hereby agrees to engage the CONTRACTOR, and the CONTRACTOR hereby agrees to perform the services hereafter set forth in connection with the project.
35. Interest of the Contractor - The CONTRACTOR covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Contract. The CONTRACTOR further covenants that in the performance of this Contract no person having any such interest shall be employed.
36. Independent Contractor - The CONTRACTOR is at all times an independent contractor and in no wise shall be deemed to be in joint venture, partnership, or other relationship with MATA.
37. Indemnification - The CONTRACTOR shall indemnify, save, defend, and hold MATA, the City of Memphis, TN, RATP Dev, and MTM, their officers, agents and employees free from all losses, damages, claims, and expenses in any wise arising or resulting from the actions and omissions of the CONTRACTOR, its employees, agents, or contractors in the performance of its services hereunder.
38. Cost Analysis - MATA reserves the right to conduct a cost or price analysis for any purchase. MATA may be required to perform a cost analysis when competition is lacking for any purchase. Sole source procurements or procurements which result in a single Proposal being received will be subject to a cost analysis which will include the appropriate verification of cost data, the evaluation of specific elements of costs and the projection of the data to determine the effect on Proposal prices. MATA may require a pre-award audit, and potential contractors shall be prepared to submit data relevant to the proposed work which will allow MATA to sufficiently determine that the proposed price is fair, reasonable, and in accordance with Federal, State, and local regulations. Procurements resulting in a single Proposal will be treated as a negotiated procurement and MATA

reserves the right to negotiate with the single Proposer to achieve a fair and reasonable price. If both parties cannot agree upon a negotiated price, MATA reserves the right to reject the single Proposal.

Contract change orders or modifications will be subject to a cost analysis.

39. False or Fraudulent Statements or Claims - The CONTRACTOR acknowledges and agrees that:
- a. The Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 *et seq.* and U.S. Department of Transportation (DOT) regulations "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its activities in connection with the Project. Accordingly, by executing the Contract, the CONTRACTOR certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, or it may make in connection with the Project covered by the Contract. In addition to other penalties that may apply, the CONTRACTOR also acknowledges that if it makes a false, fictitious, or fraudulent claim, statement, submission, certification, assurance, or representation to the Federal Government, the Federal Government reserves the right to impose on the CONTRACTOR the penalties of the Program Fraud Civil Remedies Act of 1986, as amended, to the extent the Federal Government deems appropriate.
 - b. If the CONTRACTOR makes a false, fictitious, or fraudulent claim, statement, submission, certification, assurance, or representation to the Federal Government or includes a false, fictitious, or fraudulent statement or representation in any agreement with the Federal Government in connection with a project authorized under 49 U.S.C. chapter 53 or any other Federal law, the Federal Government reserves the right to impose on the CONTRACTOR the penalties of 49 U.S.C. § 5323(1), 18 U.S.C. § 1001, or other applicable Federal law to the extent the Federal Government deems appropriate.
40. No Contingency Fees - The CONTRACTOR shall warrant that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the CONTRACTOR for the purpose of securing business, for the breach or violation of which warranty MATA shall have the right to annul said Contract without liability or, in its discretion, to deduct from the Contract price or consideration the full amount of such commission, percentage, brokerage or contingent fee.
41. Excluded Facilities - The CONTRACTOR shall comply with the provisions of 40 CFR Part 15 which prohibit the use of facilities included on the Environmental Protection Agency list of violating facilities.
42. Federal Changes - The CONTRACTOR shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the FTA Master Agreement dated October 1, 2012, as they may be amended or promulgated from time to time during the term of this contract. The CONTRACTOR's failure to so comply shall constitute a material breach of this contract.
43. Lobbying Requirements (Applicable to Contracts Exceeding \$100,000) - Federal regulations require MATA to include certifications from contractors. Accordingly, the CONTRACTOR must sign the attached certification. (Exhibit IV)

By executing this Contract, the CONTRACTOR certifies to the best of its knowledge and belief that:

- a. No Federal appropriated funds have been paid or will be paid on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making

of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- b. If any funds other than Federal appropriate funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the CONTRACTOR shall complete and submit Office of Management and Budget Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- c. The CONTRACTOR shall insert the language of this certification in all subcontracts and require that all subcontractors at any tier shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

- 44. Recycled Products - The CONTRACTOR agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.
- 45. No Government Obligation
 - a. MATA and the CONTRACTOR acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to MATA, CONTRACTOR, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
 - b. The CONTRACTOR agrees to include the above clause in each subcontract. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.
- 46. Incorporation of Federal Transit Administration (FTA) Terms - The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Master Agreement (17), dated October 1, 2010, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The CONTRACTOR shall not perform any act, fail to perform any act, or refuse to comply with any MATA requests, which would cause MATA to be in violation of the FTA terms and conditions.
- 47. Access Requirements for Persons with Disabilities - The CONTRACTOR agrees to comply with the requirements of 49 U.S.C. § 5301(d) which expresses the Federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement those policies. The CONTRACTOR also agrees to comply with all applicable requirements of Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, and with the Americans with Disabilities Act of

1990 (ADA), as amended, 42 U.S.C. §§ 12101 *et seq.*, which requires the provision of accessible facilities and services, and with the following Federal regulations, including any amendments thereto:

- a. U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA),"49 C.F.R. Part 37;
- b. U.S. DOT regulations "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance,"49 C.F.R. Part 27;
- c. Joint U.S. Architectural and Transportation Barriers Compliance Board/U.S. DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles,"36 C.F.R. Part 1192 and 49 C.F.R. Part 38;
- d. U.S. Department of Justice (DOJ) regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services,"28 C.F.R. Part 35;
- e. U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities,"28C.F.R. Part 36;
- f. U.S. General Services Administration (GSA) regulations, "Accommodations for the Physically Handicapped,"41 C.F.R. Subpart 101-19;
- g. U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,"29 C.F.R. Part 1630;
- h. U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled,"47 C.F.R. Part 64, Subpart F; and
- i. FTA regulations, "Transportation for Elderly and Handicapped Persons,"49 C.F.R. Part 609; and
- j. Any implementing requirements FTA may issue.

48. Disputes, Breaches, Defaults or Other Litigation (**Applicable to Contracts Exceeding \$100,000**)

- a. Except as otherwise provided in this Contract, any dispute concerning a question of fact arising under this Contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the CONTRACTOR. The Contracting Officer may consult with the Construction Manager if one has been appointed for this project. The decision of the Contracting Officer shall be final and conclusive unless, within ten (10) days from the receipt of such copy, the CONTRACTOR mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Chief Executive Officer of MATA. The Chief Executive Officer shall review the dispute, related documents and the Contracting Officer's Final Decision. The Chief Executive Officer may consult with the Construction Manager and the Contracting Officer. The decision of the Chief Executive Officer shall be final and conclusive unless, within 10 days from the date of the receipt of such copy, the CONTRACTOR mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Board of the Memphis Area Transit Authority. The decision of the Board or its duly authorized representative for the determination of such appeals shall be final and conclusive unless in proceedings initiated by either party for review of such decision in a court of competent jurisdiction, the Court determines the decision to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this Article, the CONTRACTOR shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the CONTRACTOR shall proceed diligently with the performance of the Contract and in accordance with the Contracting Officer's decision.

- b. This Section 48 does not preclude consideration of questions of law in connection with decisions provided for in Paragraph a. above. Nothing in this Contract, however, shall be construed as making final the decisions of the Board or its representative on a question of law.
49. Nondiscrimination - Title VI of the Civil Rights Act - The CONTRACTOR will comply and will assure the compliance by subcontractors under this project with all provisions prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. Section 2000d *et seq.*, and with U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act," 49 C.F.R. Part 21 and the assurances by MATA pursuant thereto.
50. Disadvantaged Business Enterprises - To the extent authorized by Federal law, the CONTRACTOR agrees to facilitate participation by Disadvantaged Business Enterprises (DBEs) in the Project and assures that each subcontractor, lessee, third party contractor, or other participant at any tier of the Project will facilitate participation by DBEs in the Project to the extent applicable as follows:
- a. The CONTRACTOR agrees and assures that it shall comply with Section 1101(b) of SAFETEA-LU, 23 U.S.C. § 101 note, and U.S. DOT regulations, "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs," 49 C.F.R. Part 26.
- b. The CONTRACTOR agrees and assures that it shall not discriminate on the basis of race, color, sex, or national origin in the award and performance of any subcontract, lease, third party contract, or other arrangement supported with Federal assistance derived from U.S. DOT in the administration of its Contract and shall comply with the requirements of 49 C.F.R. Part 26. The CONTRACTOR agrees to take all necessary and reasonable steps as set forth in 49 C.F.R. Part 26 to ensure nondiscrimination in the award and administration of all subcontracts, leases, third party contracts, and other arrangements supported with Federal assistance derived from U.S. DOT.
51. Prompt Payment - The CONTRACTOR agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 10 days from receipt of each payment the prime contractor receives from MATA. The CONTRACTOR agrees further to return retainage payments to each subcontractor within 10 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of MATA. This clause applies to both DBE and non-DBE subcontractors. If the CONTRACTOR determines the work to be unsatisfactory, it must notify MATA's Contracting Officer, Project Manager and DBE Liaison Officer immediately, in writing, and state the reasons. Failure to comply with this requirement will be construed to be a breach of contract and subject to contract termination.
52. Nondiscrimination in Federal Public Transportation Programs - The CONTRACTOR agrees to comply, and assures the compliance of each subcontractor, lessee, third party contractor, or other participant at any tier of the Project, with the provisions of 49 U.S.C. § 5332, which prohibit discrimination on the basis of race, color, creed, national origin, sex, or age, and prohibits discrimination in employment or business opportunity.
53. Contract Work Hours and Safety Standards Act - The CONTRACTOR agrees to comply, and assures the compliance of each subcontractor, lessee, third party contractor, and other participant at any tier of the Project, with the employee protection requirements for non-construction employees of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. §§ 3701 *et seq.*, in particular with the wage and hour requirements of Section 102 of that Act at 40 U.S.C. § 3702, and with implementing U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5.

54. National Intelligent Transportation Systems Architecture and Standards - To the extent applicable, the CONTRACTOR agrees to conform to the National Intelligent Transportation Systems (ITS) Architecture and Standards as required by SAFETEA-LU § 5307(c), 23 U.S.C. § 512 note, and follow the provisions of FTA Notice, "FTA National ITS Architecture Policy on Transit Projects," 66 *Fed. Reg.* 1455 *et seq.*, January 8, 2001, and any other implementing directives FTA may issue at a later date, except to the extent FTA determines otherwise in writing.
55. Seismic Safety (Applicable to Design and/or Construction Contracts Only) - The CONTRACTOR agrees to comply with the Earthquake Hazards Reduction Act of 1977, as amended, 42 U.S.C. §§ 7701 *et seq.*, with Executive Order No. 12699, "Seismic Safety of Federal and Federally-Assisted or Regulated New Building Construction," 42 U.S.C. § 7704 note, and with U.S. DOT regulations, "Seismic Safety," 49 C.F.R. Part 41, (specifically, 49 C.F.R. § 41.117), and any implementing guidance FTA may issue.
56. Environmental Justice. The CONTRACTOR agrees to facilitate compliance with the policies of Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 42 U.S.C. § 4321 note; and DOT Order 5620.3, "Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 62 *Fed. Reg.* 18377 *et seq.*, April 15, 1997, except to the extent that the Federal Government determines otherwise in writing.
57. Veterans Employment. Recipients and subrecipients of Federal financial assistance under this chapter shall ensure that contractors working on a capital project funded using such assistance give a hiring preference, to the extent practicable, to veterans (as defined in Section 2108 of Title 5) who have the requisite skills and abilities to perform the construction work required under the contract. This sub Section shall not be understood, construed, or enforced in any manner that would require an employer to give preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or former employee.
- 58- Trafficking in Persons - CONTRACTOR agrees that it and its employees that participate in the contract, may not: Engage in severe forms of trafficking in persons during the period of time the contract is in effect, procure a commercial sex act during the period of time that the contract is in effect, or use forced labor in the performance of the contract or subcontracts thereunder. CONTRACTOR will inform Agency immediately of any information it receives from any source alleging a violation of the prohibitions listed in section.
59. Telecommunications - CONTRACTOR hereby acknowledges that the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. 115232, § 889 (Aug. 13, 2018) (the Act) prohibits the Agency from procuring certain "covered telecommunications equipment or services," as defined in the Act, in federally assisted procurements and that the instant procurement is a federally assisted procurement subject to that prohibition. VENDOR represents and warrants that it has performed a due diligence review of its supply chain and that no such "covered telecommunications equipment or services" shall be provided to the Agency that would cause the Agency to be in violation of the prohibition contained in the Act.
60. Reporting Fraud, Waste, And Abuse of Government Funds –
- The Office of Inspector General (OIG) maintains a Hotline for receiving allegations of fraud, waste, abuse, or mismanagement affecting U.S. Department of Transportation (DOT) programs or operations. Allegations may be reported 24 hours a day, seven days a week by DOT employees, contractors, or the general public.

Please provide relevant and specific details of your complaint, including the identity of the person, company, or organization alleged to have engaged in wrongdoing; a description of the alleged impropriety; the DOT facility, funds, or program affected by the allegation; any relevant contract

numbers; date(s) of alleged wrongdoing; how you are aware of the alleged impropriety; the identity of potential witnesses; and the identity and location of supporting evidence or documentation. NOTE: The OIG Hotline is obligated to expeditiously forward all safety-related complaints to DOT's safety regulatory agencies.

In addition to using the online submission form, Hotline complaints may be made through the following alternative methods:

- Call: (800) 424-9071
- Email: hotline@oig.dot.gov
- Mail: DOT Inspector General, 1200 New Jersey Ave SE, West Bldg. 7th Floor, Washington, DC 20590
- Fax: (202) 366-7749
- Contractors may also use our online FAR Disclosure Form, which can be found at <https://www.oig.dot.gov/contractor-far-reporting> to report criminal or civil violations connected to a federal contract.

Anyone can contact the OIG Whistleblower Protection Coordinator at 202-366-1514 or OIGwhistleblowerinfo@oig.dot.gov.

61. Safe Operation of Motor Vehicles -

Seat Belt Use

The Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company rented vehicles, or personally operated vehicles. The terms "company-owned" and "company-leased" refer to vehicles owned or leased either by the Contractor or Agency.

Distracted Driving

The Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this Contract.

62. Access to Records and Reports

1. Record Retention. The Contractor will retain, and will require its subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, data, documents, reports, statistics, leases, subcontracts, arrangements, other third party Contracts of any type, and supporting materials related to those records.

2. Retention Period. The Contractor agrees to comply with the record retention requirements in accordance with 2 C.F.R. § 200.334. The Contractor shall maintain all books, records, accounts and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.

3. Access to Records. The Contractor agrees to provide sufficient access to FTA and its contractors to inspect and audit records and information related to performance of this contract in accordance with 2 CFR § 200.337.

4. Access to the Sites of Performance. The Contractor agrees to permit FTA and its contractors access to the sites of performance under this contract in accordance with 2 CFR § 200.337.

63. Conformance with ITS National Architecture

Intelligent Transportation Systems (ITS) projects shall conform to the National ITS Architecture and standards pursuant to 23 CFR § 940. Conformance with the National ITS Architecture is interpreted to mean the use of the National ITS Architecture to develop a regional ITS architecture in support of integration and the subsequent adherence of all ITS projects to that regional ITS architecture. Development of the regional ITS architecture should be consistent with the transportation planning process for Statewide and Metropolitan Transportation Planning (49 CFR Part 613 and 621)

64. Notice To Third Party Participants

Federal requirements that apply to the Recipient or the Award, the accompanying Underlying Agreement, and any Amendments thereto may change due to changes in federal law, regulation, other requirements, or guidance, or changes in the Recipient's Underlying Agreement including any information incorporated by reference and made part of that Underlying Agreement; and Applicable changes to those federal requirements will apply to each Third Party Agreement and parties thereto at any tier.

65. Federal Tax Liability And Recent Felony Convictions

(1) The contractor certifies that it:

(a) Does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have

lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

(b) Was not convicted of the felony criminal violation under any Federal law within the preceding 24 months.

If the contractor cannot so certify, the Recipient will refer the matter to FTA and not enter into any Third Party Agreement with the Third Party Participant without FTA's written approval.

(2) Flow-Down. The Recipient agrees to require the contractor to flow this requirement down to participants at all lower tiers, without regard to the value of any subagreement

66. Notification to FTA

If a current or prospective legal matter that may affect the Federal Government emerges, the Recipient must promptly notify the FTA Chief Counsel and FTA Regional Counsel for the Region in which the Recipient is located. The Recipient must include a similar notification requirement in its Third Party Agreements and must require each Third Party Participant to include an equivalent provision in its sub agreements at every tier, for any agreement that is a "covered transaction" according to 2 C.F.R. §§ 180.220 and 1200.220.

(1) The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason.

(2) Matters that may affect the Federal Government include, but are not limited to, the Federal Government's interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal Government's administration or enforcement of federal laws, regulations, and requirements.

(3) The Recipient must promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the Recipient is located, if the Recipient has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729 et seq., or has or may have committed a criminal or civil

violation of law pertaining to such matters as fraud, conflict of interest, bribery, gratuity, or similar misconduct. This responsibility occurs whether the Project is subject to this Agreement or another agreement between the Recipient and FTA, or an agreement involving a principal, officer, employee, agent, or Third Party Participant of the Recipient. It also applies to subcontractors at any tier. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the Recipient.

67. Simplified Acquisition Threshold

Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. § 1908, or otherwise set by law, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate. (Note that the simplified acquisition threshold determines the procurement procedures that must be employed pursuant to 2 C.F.R. §§ 200.317–200.327. The simplified acquisition threshold does not exempt a procurement from other eligibility or processes requirements that may apply. For example, Buy America's eligibility and process requirements apply to any procurement in excess of \$150,000. 49 U.S.C. § 5323(j)(13).

68. Severability

The Contractor agrees that if any provision of this agreement or any amendment thereto is determined to be invalid, then the remaining provisions thereof that conform to federal laws, regulations, requirements, and guidance will continue in effect.

69- Contract Work Hours and Safety Standards Act

a. Applicability: This requirement applies to all FTA grant and cooperative agreement programs.

b. Where applicable (see 40 U.S.C. § 3701), all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations at 29 C.F.R. Part 5. See 2 C.F.R. Part 200, Appendix II.

c. Under 40 U.S.C. § 3702, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of

40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.

d. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

e. The regulation at 29 C.F.R. § 5.5(b) provides the required contract clause concerning compliance with the Contract Work Hours and Safety Standards Act:

Compliance with the Contract Work Hours and Safety Standards Act.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract

work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth ipre-n paragraphs (1) through (4) of this section.”

70. Pre-Award and Post-Delivery Audits of Rolling Stock Purchases

(Does not apply to projects fully funded by the Tribal Transportation Program (TTP).)

The Contractor agrees to comply with 49 U.S.C. § 5323(m) and FTA's implementing regulation at 49 C.F.R. part 663. The Contractor shall comply with the Buy America certification(s) submitted with its proposal/bid. The Contractor agrees to participate and cooperate in any pre-award and post-delivery audits performed pursuant to 49 C.F.R. part 663 and related FTA guidance.

71. Violation And Breach of Contract

Disputes:

Disputes arising in the performance of this Contract that are not resolved by agreement of the parties shall be decided in writing by the authorized representative of the agency. This decision shall be final and conclusive unless within [10] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the agencies authorized representative. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the agencies authorized representative shall be binding upon the Contractor and the Contractor shall abide be the decision.

Performance during Dispute:

Unless otherwise directed by the agencies authorized representative, contractor shall continue performance under this contract while matters in dispute are being resolved.

Claims for Damages:

Should either party to the contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

Remedies:

Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the agencies authorized representative and contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the Agency is located.

Rights and Remedies:

Duties and obligations imposed by the contract documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the Agency or contractor shall constitute a waiver of any right or duty afforded any of them under the contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

PART VI

TENNESSEE STATE CONTRACT CLAUSES

Tennessee State Contract Clauses

Conflicts of Interest.

The Grantee warrants that no part of the total Grant Contract Amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Grantee in connection with any work contemplated or performed relative to this Grant Contract

Lobbying.

The Grantee certifies, to the best of its knowledge and belief, that:

- a. No federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- b. If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this contract, grant, loan, or cooperative agreement, the Grantee shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- c. The Grantee shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into and is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352

Nondiscrimination.

The Grantee hereby agrees, warrants, and assures that no person shall be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination in the performance of this Grant Contract or in the employment practices of the Grantee on the grounds of handicap or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal, Tennessee state constitutional, or statutory law. The Grantee shall, upon request, show proof of nondiscrimination and shall post in conspicuous places, available to all employees and applicants, notices of nondiscrimination.

Public Accountability.

If the Grantee is subject to Tenn. Code Ann. § 8-4-401 et seq., or if this Grant Contract involves the provision of services to citizens by the Grantee on behalf of the State, the Grantee agrees to establish a system through which recipients of services may present grievances about the operation of the service program. The Grantee shall also display in a prominent place, located near the passageway through which the public enters in order to receive Grant supported services, a sign at least eleven inches (11") in height and seventeen inches (17") in width stating:

NOTICE: THIS AGENCY IS A RECIPIENT OF TAXPAYER FUNDING. IF YOU OBSERVE AN AGENCY DIRECTOR OR EMPLOYEE ENGAGING IN ANY ACTIVITY WHICH YOU CONSIDER TO BE ILLEGAL, IMPROPER, OR WASTEFUL, PLEASE CALL THE STATE COMPTROLLER'S TOLL-FREE HOTLINE: 1-800-232-5454.

The sign shall be on the form prescribed by the Comptroller of the Treasury. The Grantor State Agency shall obtain copies of the sign from the Comptroller of the Treasury, and upon request from the Grantee, provide Grantee with any necessary signs.

Public Notice.

All notices, informational pamphlets, press releases, research reports, signs, and similar public notices prepared and released by the Grantee in relation to this Grant Contract shall include the statement, "This project is funded under a grant contract with the State of Tennessee, Department of Transportation." All notices by the Grantee in relation to this Grant Contract shall be approved by the State.

Records.

The Grantee and any approved subcontractor shall maintain documentation for all charges under this Grant Contract. The books, records, and documents of the Grantee and any approved subcontractor, insofar as they relate to work performed or money received under this Grant Contract, shall be maintained in accordance with applicable Tennessee law. In no case shall the records be maintained for a period of less than five (5) full years from the date of the final payment. The Grantee's records shall be subject to audit at any reasonable time and upon reasonable notice by the Grantor State Agency, the Comptroller of the Treasury, or their duly appointed representatives.

The records shall be maintained in accordance with Governmental Accounting Standards Board (GASB) Accounting Standards or the Financial Accounting Standards Board (FASB) Accounting Standards Codification, as applicable, and any related AICPA Industry Audit and Accounting guides.

In addition, documentation of grant applications, budgets, reports, awards, and expenditures will be maintained in accordance with U.S. Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

Grant expenditures shall be made in accordance with local government purchasing policies and procedures and purchasing procedures for local governments authorized under state law. The Grantee shall also comply with any recordkeeping and reporting requirements prescribed by the Tennessee Comptroller of the Treasury.

The Grantee shall establish a system of internal controls that utilize the COSO Internal Control -Integrated Framework model as the basic foundation for the internal control system. The Grantee shall incorporate any additional Comptroller of the Treasury directives into its internal control system.

Any other required records or reports which are not contemplated in the above standards shall follow the format designated by the head of the Grantor State Agency, the Central Procurement Office, or the Commissioner of Finance and Administration of the State of Tennessee.

Environmental Tobacco Smoke.

Pursuant to the provisions of the federal "Pro-Children Act of 1994" and the "Children's Act for Clean Indoor Air of 1995," Tenn Code Ann. §§39-17-1601 through 1606, the Grantee shall prohibit smoking of tobacco products within any indoor premises in which services are provided to individuals under the age of eighteen (18) years. The Grantee shall post "no smoking" signs in appropriate, permanent sites within such premises. This prohibition shall be applicable during all hours, not just the hours in which children are present. Violators of the prohibition may be subject to civil penalties and fines. This prohibition shall apply to and be made part of any subcontract related to this Grant Contract."

(If the Federal Debarment and Suspension option is included in procurement documents, then this state Debarment and Suspension clause is not needed.)

Debarment and Suspension.

The Grantee certifies, to the best of its knowledge and believe, that the Selected Offeror:

- a. is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal or state department or agency;

b. has not within a three (3) year period preceding this Grant Contract been convicted of, or had a civil judgment rendered against them from commission of fraud, or a criminal offence in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or grant under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c. is not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses detailed in Section b. of this certification; and

d. has not within a three (3) year period preceding this Grant Contract had one or more public transactions (federal, state, or local) terminated for cause or default.

The Grantee will provide immediate written notice to the State if at any time it learns that there was an earlier failure to disclose information or that due to changed circumstances, the Selected Offeror is excluded or disqualified, or presently falls under any of the prohibitions of sections a-d.

PART VII
ACCEPTANCE TESTS

PART VII

- 1.0 ACCEPTANCE TESTS**
- 2.0 MATA QUALITY ASSURANCE PROVISIONS (TROLLEYS)**
- 3.0 WARRANTY PROVISIONS**
- 4.0 WARRANTY-RELATED REPAIR PROCEDURES**

1.0 ACCEPTANCE TESTS

1.1 Responsibility

The contractor shall furnish (as part of the Bid) a listing of projected & documented acceptance tests (pre & post-delivery) to be performed on each renewed vintage trolley following renewal (for MATA review and acceptance). At a minimum, the tests shall be inclusive of all “non-struck through” Elements listed in the attached “Certifiable Elements List” used on the current rehabilitation process for present MATA Trolleys. These acceptance tests shall include pre-delivery inspections and testing by the contractor and inspections and testing by MATA under the trolley(s) being delivered.

1.1.1 Certifiable Elements List

Element No.	Element
2.0	Car Body
3.0	Truck System
4.0	Propulsion System
5.0	Electric System
6.0	Brake and Piping System
8.0	Door Control System
9.0	Lighting System
10.0	Communication System
11.0	Current Collection
13.0	Maintenance Procedures
14.0	Operations Procedures
15.0	Training Plans
16.0	Training Verification
17.0	Drill Plan
18.0	Drill (Internal and Full Scale)
19.0	Physical Systems Verification
20.0	Plans
21.0	System Integration Plan and Testing
22.0	System Walk-through
23.0	Pre-Revenue Operations
24.0	Shop Safety Improvements

1.2 Pre-Delivery Tests

The contractor shall conduct acceptance tests at its plant on each vintage trolley following completion of renewal and before delivery to MATA. These pre-delivery tests shall include visual and measured inspections, as well as testing the total vintage trolley operation. The tests shall be conducted and documented in accordance with written test plans. Additional tests may be conducted at the contractor's discretion to insure that the completed vintage trolley(s) have attained the desired quality and have met the requirements in the technical specifications. This additional testing shall be recorded on appropriate test forms provided by the contractor.

The pre-delivery tests shall be scheduled and conducted with sufficient notice so that they may be witnessed by the resident inspectors, who may accept or reject the results of the tests. The results of pre-delivery tests, and any other tests, shall be filed with the assembly inspection records for each trolley. The under-floor equipment shall be made available for inspection by the resident inspectors, using a pit or trolley hoist provided by the contractor. A hoist, scaffold or elevated platform shall be provided by the contractor to easily and safely inspect trolley roofs. Delivery of each vintage trolley shall require written authorization of a resident inspector. Authorization forms for the release of each trolley for delivery shall be provided by the contractor. An executed copy of the authorization shall accompany the delivery of each trolley.

1.2.1 Inspection-Visual and Measured

Visual and measured inspections shall be conducted with the trolley in a static condition. The purpose of the inspection testing is to verify overall dimensional and weight requirements, to verify that required components are included and are ready for operation and to verify that components and subsystems that are designed to operate with the trolley in a static condition do function as designed.

1.2.2 Total Trolley Operation

Total trolley operation shall be evaluated during road tests. The purpose of the road test is to observe and verify the operation of the complete trolley as a unit and to verify the functional operation of the subsystem that can be operated only while the trolley is in motion. MATA defines a complete trolley as a trolley ready for shipment with all seats, interior trim and other components installed and functional.

Each trolley shall be driven for a minimum of 15 miles during the road tests. Observed defects shall be recorded on the test forms. The trolley shall be retested when defects are corrected and adjustments are made. This process shall continue until defects or required adjustments are no longer detected. Results shall be pass/fail for these trolley operation tests.

After the trolley has been driven on the final road test MATA reserves the right to require the trolley to be raised or placed over a pit to allow the resident inspectors to inspect and check the understructure. Defects found on this inspection must be corrected before the trolley is shipped.

1.3 Post-Delivery Tests

MATA will conduct acceptance tests on each delivered trolley. These tests will be completed within 30 days after trolley delivery and will be conducted in accordance with written test plans. The purpose of these tests is to identify defects that have become apparent between the time of trolley release and delivery to MATA. The post-delivery tests will include visual inspection and trolley operations.

Trolleys that fail to pass the post-delivery tests are subject to non-acceptance. MATA will record details of all defects on the appropriate test forms and will notify the contractor of non-acceptance of each trolley within five days after completion of the tests. The defects detected during these tests will be repaired according to procedures defined in Solicitation, Offer and Award/Contractual Provisions.

1.3.1 Visual Inspection

The post-delivery inspection is similar to the inspection at the contractor's plant

and shall be conducted with the trolley in a static condition. Any visual delivery damage shall be identified and recorded during the visual inspection of each trolley.

1.3.2 Trolley Operation

The road tests for total trolley operation are similar to those conducted at the contractor's plant. Operational deficiencies of each trolley shall be identified and recorded.

1.3.3 Acceptance

Within 30 calendar days after arrival at the designated point of delivery in Memphis, the trolley will undergo a MATA post-delivery inspection and test. If the trolley passes this inspection and test, acceptance of the trolley by MATA occurs on the thirtieth day. Acceptance may occur earlier if MATA notifies the contractor of early acceptance or places the trolley in revenue service. If the trolley fails the inspection test, MATA reserves the right to either have the contractor make the required repairs or make the repairs itself. If MATA makes the repairs, they will be handled in accordance with the Warranty Provisions.

2.0 MATA QUALITY ASSURANCE PROVISIONS

2.1 Quality Assurance Organization

The contractor will establish and maintain an effective in-plant quality assurance organization. It will be a specifically defined organization and should be directly responsible to the contractor's top management.

2.1.1 Control

The quality assurance organization will exercise quality control over all phases of production from initiation of design through manufacture and preparation for delivery. The organization will also control the quality of supplied articles.

2.1.2 Authority and Responsibility

The quality assurance organization will have the authority and responsibility for reliability, quality control, inspection planning, establishment of the quality control system, and acceptance/rejection of materials and manufactured articles in the production of the transit trolley(s).

2.2 Quality Assurance Organization Functions

The quality assurance organization will include the following minimum functions:

2.2.1 Work Instructions

The quality assurance organizations will verify inspection operation instructions to ascertain that the manufactured product meets all prescribed requirements.

2.2.2 Records Maintenance

The quality assurance organization will maintain and use records and data essential to the effective operation of its program. These records and data will be available for review by the resident inspectors. Inspection and test records for this procurement will be available for a minimum of one year after inspections and tests are completed.

2.2.3 Corrective Actions

The quality assurance organization will detect and promptly assure correction of any conditions that may result in the production of defective trolley(s). These conditions may occur in design, purchases, manufacture, tests, or operations that culminate in defective supplies, services, facilities, technical data, or standards.

2.3 Standards and Facilities

The following standards and facilities will be basic in the quality assurance process.

2.3.1 Configurations Control

The Contractor shall maintain drawings and other documentation that completely describes all of the options and special requirements of this procurement. The quality assurance organization shall verify that each trolley(s) is manufactured with these control drawings and documentation.

2.3.2 *Measuring and Testing Facilities*

The Contractor shall provide and maintain the necessary gauges and other measuring and testing equipment devices for use by the quality assurance organization to verify that the trolley(s) conform to all specification requirements. These shall be calibrated at established periods against certified measurement standards that have a known valid relationship to national standards. All torque wrenches must be recalibrated at least once a month.

2.3.3 *Production Tooling as Media of Inspection*

When production jigs, fixtures, tooling masters, templates, patterns, and other devices are used as media of inspection, they shall be proven for accuracy at formally established intervals and adjusted, replaced, or repaired as required to maintain quality.

2.3.4 *Equipment Used By Inspectors*

The Contractor's gauges and other measuring equipment and testing devices shall be made available for use by the Inspectors to verify that the trolley(s) conform to all specification requirements. If necessary, the Contractor's personnel shall be made available to operate the devices and to verify their condition and accuracy.

2.4 Manufacturing Control

The Contractor will ensure that all basic production operations, as well as all other processing and fabricating are performed under controlled conditions. Establishment of these controlled conditions will be based on the documented work instructions, adequate production equipment, and special working environments if necessary.

2.4.1 *Completed Items*

A system for final inspection and test of completed trolley(s) will be provided by the quality assurance organization. It will measure the overall quality of each completed trolley(s).

2.4.2 *Nonconforming Materials*

The quality assurance organization will monitor the contractor's system for controlling nonconforming materials. The system will include procedures for identification, segregation, and disposition.

2.4.3 *Statistical Techniques*

Statistical analysis, tests, and other quality control procedures may be used when appropriate in the quality assurance processes.

2.4.4 *Inspection Status*

A system will be maintained by the quality assurance organization for identifying the inspection status of components and completed transit trolley(s). Identification may include cards, tags, or other normal quality control devices.

2.5 Inspection System

The quality assurance organization will establish, maintain and periodically audit a fully-documented inspection system. The system will prescribe inspection and test of materials, work in progress, and completed articles. As a minimum, it will include the

following controls.

2.5.1 Inspection Stations

Inspection stations will be at the best locations to provide for the work content and characteristics to be inspected. Stations will provide the facilities and equipment to inspect structural, electrical, pneumatic, and other components and assemblies for compliance with the design requirements.

Stations will also be at the best locations to inspect or test characteristics before they are concealed by subsequent fabrication or assembly operations. These locations will minimally include underbody structure completion, body framing completion, body before paint preparation, engine installation completion, underbody dress-up and completion, trolley(s) before final paint touch up, trolley(s) before road test, and trolley(s) final road test completion.

2.5.2 Inspection Personnel

Sufficiently trained inspectors will be used to insure that all materials, components, and assemblies are inspected for conformance with the qualified trolley(s) design.

2.5.3 Inspection Records

Acceptance, rework, or rejection identification will be attached to inspected articles. Articles that have been accepted as a result of approved materials review actions will be identified. Articles that have been reworked to specified drawing configurations will not require special identification. Articles rejected as unsuitable or scrap will be plainly marked and controlled to prevent installation on the trolley(s). Articles that become obsolete as a result of engineering changes or other actions will be controlled to prevent unauthorized assembly or installation. Unusable articles will be isolated and then scrapped.

Discrepancies noted by the contractor or resident inspector during assembly will be entered by the inspection personnel on a record that accompanies the major component, subassembly, assembly, or trolley(s) from start of assembly through final inspection. Actions will be taken to correct discrepancies or deficiencies in the manufacturing processes, procedures, or other conditions that cause articles to be in nonconformity with the requirements of the contract specifications. The inspection personnel will verify the corrective actions and mark the discrepancy record. If discrepancies cannot be corrected by replacing the nonconforming materials, MATA will approve the modification, repair, or method of correction to the extent that the contract specifications are affected.

2.5.4 Quality Assurance Audits

The quality assurance organization will establish and maintain a quality control audit program. Records of this program will be subject to review by MATA.

2.6 Resident Inspector

MATA may, at its discretion, be represented at the contractor's plant by resident inspectors. They will monitor, in the contractor's plant, any modifications, preparation, and testing, of trolley(s) being supplied under this procurement. The resident inspectors will be authorized to approve the pre-delivery acceptance tests, and to release the trolley(s) for delivery. Upon request to the quality assurance supervisor, the resident inspectors will have access to the contractor's quality assurance files related to this procurement. These

files will include drawings, material standards, parts lists, inspection processing and reports, and records of defects.

No less than 30 days before the beginning of trolley(s) manufacture, the resident inspectors will meet with the contractor's quality assurance manager. They will review the inspection procedures and checklists. The resident inspectors may begin monitoring trolley(s) construction activities two weeks before the start of trolley(s) fabrication.

The contractor will provide office space for the resident inspectors in close proximity to the final assembly area. This office space will be equipped with desks, outside and inside telephones, file cabinet, chairs, and clothing lockers sufficient to accommodate the resident inspector staff. The office space will be properly heated and air-conditioned.

The presence of these resident inspectors in the plant will not relieve the contractor of its responsibility to meet all of the requirements of this procurement.

3.0 WARRANTY PROVISIONS

3.1 Warranty Requirements

Contractor shall provide two (2) years' service, against defective materials and workmanship not arising from abuse, neglect, or normal wear and tear, for all trolleys, trucks, motors and controllers provided starting from the date of the vehicle is placed in revenue service. Any new parts provided shall be warranted as provided by the manufacturer or supplier.

NOTE: Warranty shall start upon MATA's final acceptance of each vintage trolley(s).

3.1.1 *Corrective Work Requirements*

The Authority will give the Contractor a written notice of observed defects of the failures with reasonable promptness. Unless otherwise directed in the notice. The Contractor shall commence corrective work at time specified by the Authority, but in no event later than five (5) working days after notification by the Authority of the defect or failure. The Contractor shall diligently pursue such corrective work to completion.

Replacement parts and repairs provided pursuant to corrective work hereunder shall be subject to prior approval of the Authority and shall be tendered and performed in the same manner and extent as items originally delivered.

To prevent delays and disruption to the Authority's operations the Authority shall have the right, when practical and feasible, in its opinion, to the continued use of any such goods, materials, supplies, equipment, systems, components, and work deemed defective or unsatisfactory until it can be taken out of service pursuant to the corrective work hereby undertaken by the Contractor. In addition, the following provisions shall be applicable to this Contract:

If a defect or failure, in the opinion of the Authority constitutes an emergency that will jeopardize or impair the operations and schedules of revenue service, the Authority will provide the Contractor both verbal and written notice thereof and the Contractor shall commence corrective work within 24 hours after receiving verbal notice. Nothing herein shall be constructed as preventing the Authority to utilize its forces to immediately commencing corrective work, provided that all such corrective work is performed in accordance with the Operations and Maintenance Manual furnished by the Contractor. The Contractor shall reimburse the Authority or make replacement (at the option of the Authority) for any spare parts or materials required by the Authority to perform any corrective work with which it must proceed. Such corrective work by the Authority's forces shall not be construed in invalidate Contractor's warranties and other provisions contained in this Article.

Under such emergency conditions, the Contractor, with approval of the Authority may utilize spare parts from the Authority's spare parts inventory, provided that the Contractor agrees to replace each spare part used under terms and within the time period to be prescribed by the Authority.

The general and special warranty provisions described above shall be applicable to each spare part replaced by the contractor or parts used pursuant to subparagraph above.

3.1.2 *Failure to Perform Corrective Work*

If the Contractor is unable or fails within the time prescribed to commence and diligently pursue and complete the corrective work, the Authority is by this provision authorized by the Contractor at the option of the Authority and upon written notice to the Contractor, to contract with another or use their own forces to perform the warranty work. The Contractor hereby agrees to reimburse the Authority for all costs and expense in connection with such correct work, including, but not limited to, reasonable attorney's fees.

3.1.3 *Timeliness*

It is understood and agreed that the time is of the essence with respect to all corrective work to be undertaken pursuant to the warranty herein contained, expressed or implied.

3.1.4 *Other Legal Rights*

The rights and remedies of the Authority under this section are not intended to be exclusive and shall not preclude the exercise of any other rights or remedies provided for in this contract, or by law or otherwise.

3.2 Voiding of Warranty

The warranty will not apply to any part or component of the trolley that has been subject to misuse, negligence, accident, or that has been repaired or altered in any way so as to affect adversely its performance or reliability, except insofar as such repairs were in accordance with the contractor's maintenance manuals and the workmanship was in accordance with the recognized standards of the industry. The warranty will also be void if MATA fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in the contractor's maintenance manuals.

3.3 Exceptions to Warranty

The warranty will not apply to scheduled maintenance items nor to items furnished by MATA such as trucks, traction motors, air compressors, controllers, line breakers, radios, fareboxes, and other auxiliary equipment, except insofar as such equipment may be damaged by the failure of a part of component for which the contractor is responsible.

3.4 Detection of Defects

If MATA detects a defect within the warranty periods defined in Section 3.1, it shall promptly notify the contractor's representative. Within five (5) working days after receipt of notification, the contractor's representative shall either agree that the defect is in fact covered by warranty, or reserve judgment until the subsystem or component is inspected by the contractor's representative or is removed and examined at MATA's property. At that time, the status of warranty coverage on the subsystem or component will be mutually resolved between MATA and the contractor. Work necessary to affect the repairs defined in Section 2.2 shall commence within 10 working days after receipt of notification by the contractor.

3.5 Scope of Warranty Repairs

When warranty repairs are required, MATA and the contractor's representative will agree

within five days after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under the warranty. If no agreement is obtained within the five-day period, MATA reserves the right to commence the repairs in accordance with Section 2.2.

3.6 Warranty after Replacement/Repairs

If any component, unit, or subsystem is rebuilt or replaced by the Contractor or by MATA personnel, with the concurrence of the Contractor, the subsystem shall have the unexpired warranty period of the original subsystem.

3.7 Warranty of Basic Carbody Structure

The Contractor is not liable for warranty if MATA voids the warranty. If the frame or truck fails or shows indication of imminent failure, MATA will immediately notify the Contractor of the said defect. Within ten calendar days the Contractor shall inform MATA on how the Contractor will repair the trolley. Repair of frame and suspension failures shall be the responsibility of the Contractor. Within 20 calendar days from notification of the defect the Contractor shall begin the repair of the frame and suspension defects. If the trolley is out of revenue service for 35 or more calendar days because of the reported defect, the contractor shall have to either provide a substitute vintage trolley of equal seating capacity and quality or directly reimburse MATA for the cost of leasing substitute vehicles. The maximum daily reimbursement shall be \$200. The contractor shall have to continue to provide a substitute vehicle or reimburse MATA until the defect is completely repaired.

3.8 Reduction of Costs/Product Improvements

MATA welcomes suggestions from the Contractor, after contract award, to reduce costs to improve the quality of the product. MATA will review all such suggestions and, if approved, will negotiate with the Contractor a change in contract price that is mutually beneficial to both parties. MATA is under no obligation to accept any offered suggestions.

3.9 Spare Parts List/Supplier List

Proposer shall furnish with the final invoice a list of recommended spare parts and the suppliers from which they may be obtained. This list shall clearly describe each part and quantity recommended. The address, phone number and email of the suppliers shall be shown.

4.0 WARRANTY-RELATED REPAIR PROCEDURES

4.1 Repair Performance

At its option, MATA or its designated representative may require the contractor or its designated representative to perform warranty covered repairs that are clearly beyond the scope of MATA's capabilities. The work may be done by MATA's personnel with reimbursement by the contractor.

4.2 Repairs by Contractor

If MATA requires the contractor to perform warranty-covered repairs, the contractor's representative must begin the work necessary to make the repairs, within 10 working days after receiving notification of a defect from MATA. MATA will make the vintage trolley available to complete repairs timely with the contractor repair schedule.

The Contractor shall provide, at its own expense, all spare parts, tools and space required to complete repairs. At MATA's option, the contractor may be required to complete repairs. At MATA's option, the Contractor may be required to remove the trolley from MATA's property while repairs are being affected. If the vintage trolley is removed from MATA's property, repair procedures must be diligently pursued by the Contractor's representative.

4.2 Repairs by MATA

4.2.1 *Parts Used*

If MATA performs the warranty covered repairs, it will correct or repair the defect and any related defects using contractor-specified spare parts available from its own stock or those supplied by the Contractor specifically for this repair. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty will be submitted by MATA to the Contractor for reimbursement or replacement of parts. The Contractor shall provide forms for these reports.

4.2.2 *Contractor Supplied Parts*

MATA may request that the Contractor supply new parts for warranty covered repairs being performed by MATA. These parts will be shipped prepaid to MATA from any source selected by the Contractor within 10 working days of receipt of the request for said parts.

4.2.3 *Defective Components Return*

The Contractor may request that parts covered by the warranty be returned to the manufacturing plant. The Contractor shall pay the total cost of this action. Materials should be returned in accordance with the Contractor's instructions.

4.2.4 *Reimbursement for Labor*

The Contractor shall reimburse MATA for labor costs. The amount shall be determined by multiplying the number of man-hours actually required to correct the defect by the current per hour, straight wage rate, plus 38 percent fringe benefits, plus the cost of towing in the vintage trolley if such action was necessary and if the vintage trolley was in the normal service area. These wage and fringe benefit rates shall not exceed the rates in effect in MATA's repair facility at the time the defect

correction is made. MATA will not accept parts credit as reimbursement of labor. The labor rates for MATA's FY24 (July 1, 2023 – June 30, 2024) are currently under negotiation, and the Contractor shall be notified of the new rate, once established.

4.2.5 Reimbursement for Parts

MATA will be reimbursed by the Contractor for defective parts and for parts that must be replaced to correct the defect. The reimbursement will be at the invoice cost of the part(s) at the time of repair and will include taxes where applicable and 15% handling costs.