



PROJECT MANUAL
FOR
LYNX BLUE LINE EXTENSION
NORTHEAST CORRIDOR LIGHT RAIL PROJECT
PROJECT NO. 13-0021

CONTRACT # 11:
FARE COLLECTION SYSTEM

REQUEST FOR PROPOSALS (RFP) NUMBER:

269-11-FARE

CITY OF CHARLOTTE, NORTH CAROLINA

ADVERTISEMENT DATE: JUNE 24, 2014

REQUEST FOR PROPOSALS
RFP # 269-11-FARE
LYNX Blue Line Extension (BLE) Fare Collection System

JUNE 24, 2014

Dear Service Provider:

The City of Charlotte, located in the State of North Carolina, is now accepting Proposals for a public transit light rail fare collection system. The requirements for submitting a Proposal are stated in this Request for Proposals (the "RFP"). Please review them carefully.

A **Non-Mandatory** Pre-Proposal Conference for the purpose of reviewing the RFP and answering questions regarding the Services will be held on **JULY 10, 2014, at 10:00 a.m.**, at the Charlotte-Mecklenburg Government Center (CMGC), 600 East Fourth Street, Charlotte, North Carolina 28202, 2nd Floor Conference Room 266. Please bring a copy of the RFP with you at that time. All Service Providers should return a completed Request For Proposals Acknowledgement Form (see Section 7.1) by the date stated in the schedule in Section 2.1 of this RFP. Submittal of this form is optional.

An electronic copy of this RFP in Microsoft Word format may be obtained by contacting James McLeod at jmcLeod@charlottenc.gov.

All Proposals are due to the Charlotte Area Transit System (CATS), CMGC 9th Floor, 600 East Fourth Street, Charlotte, North Carolina 28202, no later than **AUGUST 7, 2014 at 2:00 p.m.**

One (1) electronic copy of the Proposal on a CD in MS Word or searchable Adobe Acrobat PDF format and one (1) unbound original Proposal signed in ink by a company official authorized to make a legal and binding offer plus six (6) copies of your Proposal must be submitted in a sealed box or opaque envelope plainly marked with the Proposal number and service description as follows:

Request for Proposals

Attention: James McLeod

Name of Company Submitting Proposal

BLE – Fare Collection System

RFP # 269-11-FARE

RFP questions must be directed to James McLeod, Charlotte Area Transit System, per the enclosed instructions in Section 2.3. The City is an equal opportunity purchaser.

Sincerely,

Dan Edes

Chief Procurement Officer, Charlotte Area Transit System

cc: RFP Project Team
RFP file

Checklist for submitting a Proposal:

Step 1 – Read the RFP document fully.

Step 2 – If you plan on submitting a Proposal, return the **Request for Proposals Acknowledgement** form to the fax number or email address listed on the form. This step is optional.

Steps 3 – If you have any questions send them before the deadline(s) listed in **Section 2.3**.

If you plan on submitting a Proposal you must follow this checklist, and must include everything detailed below.

Proposal Copies

- ☐ 1- Copy on CD in searchable PDF or Word format
- ☐ 1- Copy marked “Original” (*unbound*)
- ☐ 8- Copies marked “Copies” (*MUST be bound*)

Proposal Format – Proposal should follow this format for all required copies.

- ☐ Cover Letter per **Section 4.1.1**
- ☐ Executive Summary per **Section 4.1.2**
- ☐ Background and Experience per **Section 4.1.3**
- ☐ Proposed Solution, including Supplemental Information, per **Section 4.1.4**

Forms and Certifications provided in **Section 7**

- | | |
|--|---|
| <input type="checkbox"/> Addenda Receipt Confirmation | <input type="checkbox"/> Commercial Non-Discrimination |
| <input type="checkbox"/> Proposal Submission | <input type="checkbox"/> E-Verify |
| <input type="checkbox"/> Pricing Worksheet | <input type="checkbox"/> Buy America |
| <input type="checkbox"/> List of Subcontractors/Suppliers – Form A | <input type="checkbox"/> Lobbying |
| <input type="checkbox"/> Evidence of Good Faith Efforts – Form C | <input type="checkbox"/> Lobbying Disclosure |
| <input type="checkbox"/> Conflict of Interest | <input type="checkbox"/> Suspension & Debarment (Prime) |
| <input type="checkbox"/> Insurance Credit Worksheet | <input type="checkbox"/> Suspension & Debarment (Subs) |
- ☐ **Exceptions to any part of the RFP – If you take any exceptions to anything in this document, including the Terms and Conditions of the Sample Contract, list it in a separate section in your Proposal called “Exceptions” and offer an alternative solution.**

This is all you have to include when you submit your Proposal.

If awarded a contract you will have to submit the following when you sign a contract:

- ☐ Insurance certificate per requirements in **Sample Contract, Section 19**.
- ☐ Business licenses per requirements in **Sample Contract, Section 20**.
- ☐ Performance bond per requirements in **Sample Contract, Section 28**.

It is the Service Provider’s responsibility to check www.ips.state.nc.us for any addenda or changes to this Project. Search for bid # 269-11-FARE to find if any documents or changes have been posted.

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1.	OBJECTIVE.	1
1.2.	DEFINITIONS.	1
1.3.	ACCURACY OF RFP AND RELATED DOCUMENTS.	4
1.4.	CITY’S RIGHTS AND OPTIONS.	5
1.5.	EXPENSE OF SUBMITTAL PREPARATION.	5
1.6.	PROPOSAL CONDITIONS.	6
1.6.1.	<i>RFP Not an Offer.</i>	<i>6</i>
1.6.2.	<i>Right to Terminate Discussions.</i>	<i>6</i>
1.6.3.	<i>Representation as to Accuracy and Completeness of Proposal.....</i>	<i>6</i>
1.6.4.	<i>Trade Secrets/Confidentiality.</i>	<i>6</i>
1.6.5.	<i>Commercial Non-Discrimination.....</i>	<i>7</i>
1.6.6.	<i>Statutory Requirements.</i>	<i>8</i>
1.6.7.	<i>Reservation of Right to Change Schedule.....</i>	<i>8</i>
1.6.8.	<i>Reservation of Right to Amend RFP.</i>	<i>8</i>
1.6.9.	<i>Additional Evidence of Ability.</i>	<i>8</i>
1.6.10.	<i>No Collusion or Conflict of Interest.....</i>	<i>8</i>
1.6.11.	<i>Proposal Terms Firm and Irreversible.</i>	<i>8</i>
1.6.12.	<i>Proposal Binding for 180 Days.</i>	<i>8</i>
1.6.13.	<i>Not Used.....</i>	<i>9</i>
1.6.14.	<i>Subcontracting.</i>	<i>9</i>
1.6.15.	<i>Equal Opportunity.</i>	<i>9</i>
1.6.16.	<i>Use of City’s Name.</i>	<i>9</i>
1.6.17.	<i>Withdrawal for Modification of Proposals.</i>	<i>9</i>
1.6.18.	<i>No Bribery.....</i>	<i>9</i>
1.6.19.	<i>Exceptions to the RFP.....</i>	<i>9</i>
1.6.20.	<i>Fair Trade Certifications.</i>	<i>10</i>
1.6.21.	<i>Clarification of Ambiguities.....</i>	<i>10</i>
1.6.22.	<i>Service Provider’s Obligation to Fully Inform Themselves.</i>	<i>10</i>
1.6.23.	<i>Environmental Preferable Purchasing.</i>	<i>10</i>
1.6.24.	<i>Not used.</i>	<i>10</i>
1.6.25.	<i>Disclaimer.....</i>	<i>10</i>
1.7.	E-VERIFY.....	11
1.8.	FEDERAL TRANSIT ADMINISTRATION (FTA) REQUIREMENTS.	11
1.8.1.	<i>Disadvantaged Business Enterprises.....</i>	<i>11</i>
1.8.2.	<i>Certification of No Conflict of Interest.</i>	<i>12</i>
1.8.3.	<i>Non-Discrimination Certification.....</i>	<i>12</i>
1.8.4.	<i>Buy America.....</i>	<i>12</i>
1.8.5.	<i>Lobbying.</i>	<i>13</i>
1.8.6.	<i>Debarment Certifications.....</i>	<i>13</i>

Table of Contents

2.	PROCUREMENT PROCESS.	14
2.1.	SCHEDULE AND PROCESS.	14
2.2.	INTENT TO PROPOSE.	14
2.3.	INTERPRETATIONS AND ADDENDA.	15
2.4.	PRE-PROPOSAL CONFERENCE.	15
2.5.	SUBMISSION OF PROPOSALS.	15
2.6.	CORRECTION OF ERRORS.	16
2.7.	EVALUATION.	16
2.8.	CONTRACT AWARD BY COUNCIL.	16
2.9.	PROTEST.	16
3.	SCOPE OF FARE COLLECTION SYSTEM.	17
3.1.	GENERAL SCOPE.	17
3.2.	EQUIPMENT.	17
3.3.	PRICING.	17
3.4.	FUNCTIONAL REQUIREMENTS.	18
3.5.	CITY HARDWARE/SOFTWARE STANDARDS AND PREFERENCES.	18
3.6.	EQUIPMENT DISPOSAL.	18
3.7.	E-RAILSAFE.	18
	APPENDIX A: SPECIFICATIONS	19
	APPENDIX B: BLE DESIGN CRITERIA – 24. TECHNOLOGY	20
4.	PROPOSAL FORMAT.	21
4.1.	PROPOSAL CONTENT.	21
4.1.1.	<i>Cover Letter.</i>	21
4.1.2.	<i>Executive Summary.</i>	21
4.1.3.	<i>Background and Experience.</i>	22
4.1.4.	<i>Proposed Solution.</i>	22
4.1.5.	<i>Required Forms.</i>	23
4.1.6.	<i>Exceptions to the RFP.</i>	23
5.	SERVICE PROVIDER’S BACKGROUND AND EXPERIENCE.	24
5.1.	OFFICIAL NAME.	24
5.2.	SERVICE PROVIDER BACKGROUND.	24
5.3.	PROPOSING ORGANIZATION’S STRUCTURE.	24
5.4.	NOT USED.	24
5.5.	GUARANTOR.	24
5.6.	NOT USED.	25
5.7.	PROPOSED PROJECT TEAM.	25
5.8.	PAST OR PENDING JUDGMENTS.	25
5.9.	MANAGEMENT APPROACH.	25
5.10.	PERSONNEL MANAGEMENT.	25
5.11.	CLIENT LIST AND REFERENCES.	26
5.12.	FINANCIAL AND LEGAL CONSIDERATIONS.	26

Table of Contents

6.	PROPOSAL EVALUATION CRITERIA.....	28
6.1.	APPROACH AND METHODOLOGY. (20%)	28
6.2.	TECHNICAL INTEGRATION AND SPECIFICATIONS. (20%).....	28
6.3.	SIMILAR PROJECT EXPERIENCE. (15%).....	28
6.4.	SERVICE PROVIDER RESOURCES. (15%)	28
6.5.	COST EFFECTIVENESS AND VALUE. (30%).....	28
7.	PROPOSAL FORMS.	29
7.1.	REQUEST FOR PROPOSALS ACKNOWLEDGEMENT (OPTIONAL).....	29
7.2.	ADDENDA RECEIPT CONFIRMATION	30
7.3.	PROPOSAL SUBMISSION FORM	31
7.4.	PRICING WORKSHEET	32
7.5.	LIST OF SUBCONTRACTORS/SUPPLIERS – FORM A	34
7.6.	EVIDENCE OF GOOD FAITH EFFORTS – FORM C	37
7.7.	CONFLICT OF INTEREST.....	38
7.8.	COMMERCIAL NON-DISCRIMINATION CERTIFICATION.....	39
7.9.	E-VERIFY CERTIFICATION	40
7.10.	BUY AMERICA CERTIFICATION	41
7.11.	LOBBYING CERTIFICATION	42
7.12.	DISCLOSURE FORM TO REPORT LOBBYING	43
7.13.	SUSPENSION & DEBARMENT (PRIMARY PARTICIPANT).....	48
7.14.	SUSPENSION & DEBARMENT (SUBCONTRACTOR/SUPPLIER)	49
8.	SAMPLE CITY CONTRACT.....	50
	SUPPLEMENTARY CONDITIONS A: FEDERAL CONTRACTING REQUIREMENTS	77
	SAMPLE CITY CONTRACT EXHIBITS.....	103

Section 1

Introduction and General Information

1. INTRODUCTION.

1.1. Objective.

The objective of this RFP is to solicit Proposals that will enable the City to determine which Service Provider and Proposed Solution will best meet the City's needs.

1.2. Definitions.

As used in this RFP, the following terms shall have the meanings set forth below:

<i>Acceptance:</i>	Refers to receipt and approval by the City of a Product or Service in accordance with the acceptance process and criteria set forth in the Agreement.
<i>Affiliates:</i>	Refers to all departments or units of the City and all other governmental units, towns, boards, committees or municipalities for which the City processes data or performs Services that involve the System.
<i>Agreement:</i>	Refers to a contract executed by the City and Service Provider for all or part of the Services covered by this RFP.
<i>Blue Line Extension (BLE):</i>	Refers to the comprehensive light rail project that is contemplated and authored by the Federal Full Funding Grant Agreement executed between the City and the FTA on October 16, 2012.
<i>City:</i>	Refers to the City of Charlotte, North Carolina.
<i>City Project Manager:</i>	Refers to a specified City employee representing the best interests of the City for this Project.
<i>Company:</i>	Refers to a Service Provider that has been selected by the City to provide the Services required by this RFP.
<i>Company Project Manager:</i>	Refers to a specified Company employee representing the best interests of the Company for this Project.
<i>Company Software:</i>	Refers to all pre-existing software owned by the Service Provider or any of its "Related Entities" which the Service Provider provides or is required to provide under this RFP, and all Updates and Enhancements to the foregoing. The term "Related Entity" shall mean any person or entity that is directly or indirectly in control of, controlled by, or under common control with the Service Provider, including but not limited to, parent, subsidiary, and affiliate entities. The word, "control," as used in this context, shall mean ownership of a sufficient percentage (not necessarily a majority) of the outstanding voting interests in an entity so as to afford effective control of the management of the entity.
<i>Current Release:</i>	Refers to the latest version of the Software offered for general commercial distribution at a given point in time, including all Updates.
<i>Customizations:</i>	Refers to all newly-developed software created by the Service Provider and/or its subcontractors pursuant to this RFP, including but not limited to all interfaces between different

Section 1

Introduction and General Information

components of the System and between the System and other systems. Customizations will not include Updates and Enhancements that become part of the company Software.

<i>Defect:</i>	Refers to any failure of the System or any component thereof to fully conform to the Specifications and Requirements. A non-conformity is not a Defect if it results directly from the City's improper use or damage, unless it is reasonably likely that such non-conformity would have occurred on that or another occasion even without the City's improper use or damage.
<i>Deliverables:</i>	Refers to all tasks, reports, information, designs, plans and other items, which the Company is required to complete and deliver to the City in connection with this Agreement.
<i>Documentation:</i>	Refers to all written, electronic, or recorded works, that describe the use, functions, features, or purpose of the System or any component thereof, and which are published or provided to the City by the Company or its subcontractors, including without limitation all end user manuals, training manuals, guides, program listings, data models, flow charts, logic diagrams, and other materials related to or for use with the System.
<i>Enhancements:</i>	Refers to any products, parts of products, improvements, additions or materials which are not included in the Products at the time of execution of an Agreement or that are subsequently developed, which modify the Products to provide a function or feature not originally offered or an improvement in function.
<i>Environmentally Preferable Products:</i>	Refers to products that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.
<i>Evaluation Committee:</i>	Refers to a committee, as appointed by the City, responsible for determining the best Service Provider for the Services described in this RFP.
<i>Federal Transit Administration (FTA):</i>	Refers to the branch of the United States Department of Transportation which is participating in the funding of the Work.
<i>Hardware:</i>	Refers to all hardware, equipment and materials which the Company actually provides or is required to provide under the terms of this RFP (whether now or in the future).
<i>License:</i>	Refers to the license agreement.
<i>Maintenance Services:</i>	Refers to the maintenance services described in Section 3.

Section 1

Introduction and General Information

<i>Milestones:</i>	Refers to the benchmarks of performance (consisting of an identified deadline for the completion of specific services and/or the acceptance of identified Deliverables), as specified in this RFP.
<i>Post-Consumer Recycled Material:</i>	Refers to material and byproducts which have served their intended end-use by a consumer and have been recovered or diverted from solid waste. It does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.
<i>Project:</i>	Refers to the procurement process to choose a Service Provider to provide a Fare Collection System for the City.
<i>Project Plan:</i>	Refers to the detailed plan for implementation of the System as described in Section 3, in the form accepted in writing by the City in accordance with the terms of this RFP and resultant Agreement.
<i>Products:</i>	Refers to all Software and all Hardware (both as herein defined).
<i>Proposal:</i>	Refers to the Proposal submitted by a Service Provider for the Services as outlined in this RFP.
<i>Recyclability:</i>	Refers to products or materials that can be collected, separated or otherwise recovered from the solid waste stream for reuse, or used in the manufacture or assembly of another package or product, through an established recycling program. For products that are made of both recyclable and non-recyclable components, the recyclable claim should be adequately qualified to avoid consumer deception about which portions or components are recyclable.
<i>Recycled Material:</i>	Refers to material and byproducts which have been recovered or diverted from solid waste for the purpose of recycling. It does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.
<i>Services:</i>	Refers to the Fare Collection System as requested in this RFP.
<i>Service Provider:</i>	Refers to a company that has interest in providing the Products and Services required by this RFP.
<i>Software:</i>	Refers to (i) all Company Software; (ii) all Customizations; (iii) all Third Party Software; and (iv) all Updates and Enhancements of any of the foregoing.
<i>Source Code:</i>	Refers to the human readable form of a computer program and all algorithms, flow charts, logic diagrams, structure descriptions or diagrams, data format or layout descriptions, pseudo-code, code listings (including comments), and other technical documentation relating to such program.

Section 1

Introduction and General Information

Specifications and Requirements:

Refers to all definitions, descriptions, requirements, criteria, warranties and performance standards relating to the Products or System which are set forth or referenced in: (i) this RFP; (ii) the Documentation; and (iii) any functional and/or technical specifications which are published or provided by the Company or its licensors or suppliers from time to time with respect to all or any part of the Products or the System.

System:

Refers to a **Fare Collection System** to be **designed, supplied, installed, configured, tested and commissioned** as needed by the Service Provider under this RFP, including but not limited to all Products.

System Acceptance:

The term "System Acceptance" shall mean acceptance by the City of the complete System to be provided.

Third Party Software:

Refers to all software included within the System or required for the System to function in full compliance with the Specifications and Requirements that is provided by the Service Provider as a result of this RFP and was not manufactured, developed or otherwise created by the Service Provider, any Related Entity of the Service Provider, or any of the Service Provider's subcontractors. The phrase "Related Entity" shall mean any person or entity that is directly or indirectly in control of, controlled by, or under common control with the Service Provider, including but not limited to any parent, subsidiary, and affiliate entities. The word, "control," as used in this context, shall mean ownership of a sufficient percentage (not necessarily a majority) of the outstanding voting interests in an entity so as to afford effective control of the management of the entity.

Updates:

Refers to program logic changes made by Service Provider or its subcontractors or vendors to correct Defects in the Products and/or related Documentation delivered hereunder.

Warranty Period:

Refers to the twelve-month period following System Acceptance.

Workaround:

Refers to a reasonable change in the procedures followed or data supplied to avoid a Defect that does not impair the performance of the System or increase the cost of using the System.

Work Product:

Refers to the Deliverables and all other programs, algorithms, reports, information, designs, plans and other items developed by the Service Provider in connection with this RFP, and all partial, intermediate or preliminary versions of any of the foregoing.

1.3. Accuracy of RFP and Related Documents.

The City assumes no responsibility for conclusions or interpretations derived from the information presented in this RFP, or otherwise distributed or made available during this

Section 1

Introduction and General Information

procurement process. In addition, the City will not be bound by or be responsible for any explanation, interpretation or conclusions of this RFP or any documents provided by the City other than those provided by the City through the issuance of addenda. In no event may a Service Provider rely on any oral statement by the City or its agents, advisors or consultants.

Should a Service Provider find discrepancies or omissions in this RFP or any other documents provided by the City, the Service Provider should immediately notify the City of such potential discrepancy in writing, and a written addendum may be issued if the City determines clarification necessary. Each Service Provider requesting an interpretation will be responsible for delivering such requests to the City's designated representative as directed in Section 2 of this RFP.

1.4. City's Rights and Options.

The City reserves the following rights, which may be exercised at the City's sole discretion:

- 1.4.1. To supplement, amend, substitute or otherwise modify this RFP at any time;
- 1.4.2. To cancel this RFP with or without the substitution of another RFP;
- 1.4.3. To take any action affecting this RFP, this RFP process, or the Services or facilities subject to this RFP that would be in the best interests of the City;
- 1.4.4. To issue additional requests for information;
- 1.4.5. To require one or more Service Providers to supplement, clarify or provide additional information in order for the City to evaluate the Proposals submitted;
- 1.4.6. To conduct investigations with respect to the qualifications and experience of each Service Provider;
- 1.4.7. To waive any defect or irregularity in any Proposal received;
- 1.4.8. To reject any or all Proposals;
- 1.4.9. To share the Proposals with City employees other than the Evaluation Committee or City advisory committees as deemed necessary;
- 1.4.10. To award all, none, or any part of the Services that is in the best interest of the City, with one or more of the Service Providers responding, which may be done without or without re-solicitation.
- 1.4.11. To discuss and negotiate with selected Service Provider(s) any terms and conditions in the Proposals including but not limited to financial terms; and
- 1.4.12. To enter into any agreement deemed by the City to be in the best interest of the City, with one or more of the Service Providers responding.

1.5. Expense of Submittal Preparation.

The City accepts no liability for the costs and expenses incurred by the Service Providers in responding to this RFP, in preparing responses for clarification, in attendance at interviews, participating in contract development sessions, or in meetings and presentations required for the contract approval process. Each Service Provider that enters into the procurement process shall prepare the required materials and submittals at its own expense and with the express understanding that the Service Provider cannot make any claims whatsoever for reimbursement from the City for the costs and expenses associated with the procurement process.

Section 1

Introduction and General Information

1.6. Proposal Conditions.

The following terms are applicable to this RFP and the Service Provider's Proposal.

1.6.1. RFP Not an Offer.

This RFP does not constitute an offer by the City. No binding contract, obligation to negotiate, nor any other obligation shall be created on the part of the City unless the City and the Service Provider execute an Agreement. No recommendations or conclusions from this RFP process concerning the Service Provider shall constitute a right (property or otherwise) under the Constitution of the United States or under the Constitution, case law, or statutory law of North Carolina.

1.6.2. Right to Terminate Discussions.

The Service Provider's participation in this process might result in the City selecting the Service Provider to engage in further discussions. The commencement of such discussions, however, does not signify a commitment by the City to execute an Agreement or to continue discussions. The City can terminate discussions at any time and for any reason.

1.6.3. Representation as to Accuracy and Completeness of Proposal.

Each Service Provider shall make the following representations and warranty in its Proposal Cover Letter, the falsity of which might result in rejection of its Proposal: **"The information contained in this Proposal or any part thereof, including its Exhibits, Schedules, and other documents and instruments delivered or to be delivered to the City, is true, accurate, and complete. This Proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead the City as to any material facts."**

1.6.4. Trade Secrets/Confidentiality.

Upon receipt at the Charlotte Area Transit System, your Proposal is considered a public record except for material which qualifies as "trade secret" information under N.C. Gen. Stat. §66-152 *et. seq.* including Personal Identification information to include, but not be limited to, social security numbers, bank account numbers, and driver's license numbers. After the Proposal due date, the City's Evaluation Committee, as well as other City staff and members of the general public who submit public records requests will review the Proposal.

The public disclosure of the contents of each Service Provider Proposal submitted in response to this RFP is governed by Chapter 132 and §66-152 *et. seq.* of the General Statutes of North Carolina. If any Proposal contains trade secret information as defined by Chapter 66-152 *et. seq.* of the General Statutes of North Carolina, such trade secret information should be specifically and clearly identified in accordance with this Section 1.6.4.

To properly designate material as trade secret under these circumstances, each Service Provider must take the following precautions: (a) any trade secrets submitted by a Service Provider should be submitted in a separate, sealed envelope and on separate CD for electronic files, marked **"Trade Secret—Confidential and Proprietary Information—Do Not Disclose Except for the Purpose of Evaluating this Proposal,"** and (b) the same trade secret/confidentiality designation should be stamped on each page of the trade secret materials contained in the envelope and on each page of the electronic file.

Section 1

Introduction and General Information

In submitting a Proposal, each Service Provider agrees that the City may reveal any trade secret materials contained in such response to all City staff and City officials involved in the selection process, and to any outside consultant or other third parties who serve on the Evaluation Committee or who are hired or appointed by the City to assist in the evaluation process.

Furthermore, each Service Provider agrees to indemnify and hold harmless the City and each of its officers, employees, and agents from all costs, damages, and expenses incurred in connection with refusing to disclose any material, which the Service Provider has designated as a trade secret. **Any Service Provider that designates its entire Proposal as a trade secret may be disqualified.**

1.6.5. Commercial Non-Discrimination.

The City has adopted a Commercial Non-Discrimination Ordinance that is set forth in Section 2, Article V of the Charlotte City Code, and is available for review on the City's website (the "Non-Discrimination Policy"). As a condition of entering into an Agreement that may result from this RFP, the Service Provider agrees to comply with the Non-Discrimination Policy, and consents to be bound by the award of any arbitration conducted thereunder. As part of such compliance, the Service Provider shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, suppliers, or commercial customers in connection with a City contract or contract solicitation process, nor shall the Service Provider retaliate against any person or entity for reporting instances of such discrimination. The Service Provider shall provide equal opportunity for subcontractors, vendors and suppliers to participate in all of its subcontracting and supply opportunities on City contracts, provided that nothing contained in this clause shall prohibit or limit otherwise lawful efforts to remedy the effects of marketplace discrimination that has occurred or is occurring in the marketplace.

As a condition of entering into an Agreement that may result from this RFP, the Service Provider agrees to: (a) promptly provide to the City all information and documentation that may be requested by the City from time to time regarding the solicitation, selection, treatment and payment of subcontractors in connection with the Agreement; and (b) if requested, provide to the City within sixty (60) days after the request a truthful and complete list of the names of all subcontractors, vendors, and suppliers that Service Provider has used on City contracts in the past five (5) years, including the total dollar amount paid by Service Provider on each subcontract or supply contract. The Service Provider shall further agree to fully cooperate in any investigation conducted by the City pursuant to the City's Non-Discrimination Policy, to provide any documents relevant to such investigation that are requested by the City, and to be bound by the award of any arbitration conducted under such Policy.

The Service Provider agrees to provide to the City from time to time on the City's request, payment affidavits detailing the amounts paid by Service Provider to subcontractors and suppliers in connection with the Agreement within a certain period of time. Such affidavits shall be in the format specified by the City from time to time.

The Service Provider understands and agrees that violation of this Commercial Non-Discrimination provision shall be considered a material breach of the

Section 1

Introduction and General Information

Agreement and may result in contract termination, disqualification of the Service Provider from participating in City contracts and other sanctions.

- 1.6.6. **Statutory Requirements.**
Any Agreement awarded as a result of this RFP shall be in full conformance with all statutory requirements of North Carolina and all statutory requirements of the Federal Government, to the extent applicable.
- 1.6.7. **Reservation of Right to Change Schedule.**
The City shall ultimately determine the timing and sequence of events resulting from this RFP. The City reserves the right to delay the closing date and time for any phase if City staff believe that an extension will be in the best interest of the City.
- 1.6.8. **Reservation of Right to Amend RFP.**
The City reserves the right to amend this RFP at any time during the process, if it believes that doing so is in the best interests of the City. Any addenda will be posted to the Internet at www.ips.state.nc.us, bid# 269-11-FARE. Service Providers are required to acknowledge their receipt of each addenda by including the Addenda Receipt Confirmation Form set forth in Section 7 with their Proposal.
- 1.6.9. **Additional Evidence of Ability.**
Service Providers shall be prepared to present additional evidence of experience, qualifications, abilities, equipment, facilities, and financial standing. The City reserves the right to request such information at any time during the Proposal evaluation period for this RFP.
- 1.6.10. **No Collusion or Conflict of Interest.**
By responding to this RFP, the Service Provider shall be deemed to have represented and warranted that the Proposal is not made in connection with any competing Service Provider submitting a separate response to this RFP, and is in all respects fair and without collusion or fraud [N.C. GEN. STAT. §133-24].
- 1.6.11. **Proposal Terms Firm and Irreversible.**
The signed Proposal shall be considered a firm offer on the part of the Service Provider. The City reserves the right to negotiate price and Services. All Proposal responses (including all statements, claims, declarations, prices and specifications in the Proposals) shall be considered firm and irrevocable for purposes of future contract negotiations unless specifically waived in writing by the City. The Service Provider chosen for award should be prepared to have its Proposal and any relevant correspondence incorporated into the Agreement, either in part or in its entirety, at the City's election. Any false or misleading statements found in the Proposal or Agreement exceptions not included in the Proposal may be grounds for disqualification.
- 1.6.12. **Proposal Binding for 180 Days.**
Each Proposal shall contain a statement to the effect that the Proposal is a firm offer for one-hundred-eighty (180) calendar day period from the date of the opening. This statement must be signed by an individual authorized to bind the Service Provider and include their name, title, address, and telephone number. All prices quoted shall be firm and fixed for the full Agreement period. The City shall have the option to accept subject to exception by Agreement.

Section 1

Introduction and General Information

- 1.6.13. Not Used.
- 1.6.14. Subcontracting.
The Service Provider given contract award shall be the prime contractor and shall be solely responsible for contractual performance. In the event of a subcontracting relationship, the Service Provider shall remain the prime contractor and will assume all responsibility for the performance of the Services that are supplied by all subcontractors. The City retains the right to approve all subcontractors. Additionally, the City must be named as a third party beneficiary in all subcontracts.
- 1.6.15. Equal Opportunity.
The City has an equal opportunity purchasing policy. The City seeks to ensure that all segments of the business community have access to supplying the goods and services needed by City programs. The City provides equal opportunity for all businesses and does not discriminate against any Service Providers regardless of race, color, religion, age, sex, and national origin or disability.
- 1.6.16. Use of City's Name.
No advertising, sales promotion or other materials of the Service Provider or its agents or representatives may identify or reference the City in any manner absent the prior written consent of the City.
- 1.6.17. Withdrawal for Modification of Proposals.
Service Providers may change or withdraw their Proposals at any time prior to the Proposal due date; however, no oral modifications will be allowed. Only telegrams, letters, or other formal written requests for modifications or corrections of a previously submitted Proposal, which is addressed in the same manner as the Proposal, and received by the City prior to the scheduled closing time for receipt of Proposals, will be accepted. The Proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope, which is plainly marked "**Modifications to Proposal.**"
- 1.6.18. No Bribery.
In submitting a response to this RFP, each Service Provider certifies that neither it, any of its affiliates or subcontractors, nor any employees of any of the foregoing has bribed, or attempted to bribe, an officer or employee of the City in connection with the Agreement [N.C. GEN. STAT. §133-32].
- 1.6.19. Exceptions to the RFP.
Other than exceptions that are stated in compliance with this Section, each Proposal shall be deemed to agree to comply with all terms, conditions, specifications, and requirements of this RFP including the sample contract language contained within Section 8. An "exception" is defined as the Service Provider's inability or unwillingness to meet a term, condition, specification, or requirement in the manner specified in the RFP including the sample contract language contained within Section 8. All exceptions taken must be identified and explained in writing in your Proposal and must specifically reference the relevant section(s) of this RFP. If the Service Provider provides an alternate solution when taking an exception to a requirement, the benefits of this alternative solution and impact, if any, on any part of the remainder of the Service Provider's solution, must be described in detail.

Section 1

Introduction and General Information

- 1.6.20. Fair Trade Certifications.
By submission of a Proposal, the Service Provider certifies that in connection with this procurement:
- The prices have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with anyone;
 - Unless otherwise required by law, the prices which have been quoted in its Proposal have not been knowingly disclosed by the Service Provider and will not knowingly be disclosed by the Service Provider prior to opening; and
 - No attempt has been made or will be made by the Service Provider to induce any other person or firm to submit or not to submit a Proposal for the purpose of restricting competition.
- 1.6.21. Clarification of Ambiguities.
Any Service Provider believing that there is any ambiguity, inconsistency or error in this RFP shall promptly notify the City in writing of such apparent discrepancy. Failure to notify will constitute a waiver of claim for ambiguity, inconsistency or error.
- 1.6.22. Service Provider's Obligation to Fully Inform Themselves.
Service Providers or their authorized representatives are expected to fully inform themselves as to all conditions, requirements and specifications of this RFP before submitting Proposals. Failure to do so will be at the Service Provider's own risk.
- 1.6.23. Environmental Preferable Purchasing.
The City promotes the practice of Environmentally Preferable Purchasing (EPP) in acquiring products or services. Applicable EPP attributes that may be taken into consideration as environmental criterion include the following:
- | | |
|--------------------------------|---------------------|
| Recycled content | Renewable resources |
| Recyclability | Packaging |
| Biodegradability | Reduced toxicity |
| Energy and water efficiency | Durability |
| Low volatile organic compounds | Take back options |
- Service Providers able to supply products or services containing any of the applicable environmentally preferable attributes that meet performance requirements are encouraged to offer them in the Proposal. Service Providers must provide certification of environmental standards and other environmental claims, such as recycled content and emissions data or a formal statement signed by a senior company official.
- 1.6.24. Not used.
- 1.6.25. Disclaimer.
Each Service Provider must perform its own evaluation and due diligence verification of all information and data provided by the City. The City makes no representations or warranties regarding any information or data provided by the City.

Section 1

Introduction and General Information

1.7. E-Verify.

“E-Verify” refers to the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5). Employers must use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a). Subcontractors must also comply with E-Verify and the Proposer will ensure compliance by any subcontractors hired by the Proposer. The Proposer will execute an Affidavit attesting to compliance with the E-Verify program.

1.8. Federal Transit Administration (FTA) Requirements.

The agreement entered into by and between the successful Service Provider and the City will be subject to the requirements of a financial assistance contract between the City and the U.S. Department of Transportation’s Federal Transit Administration (FTA). The Contractor, and his subcontractors performing Work at the Worksite, will be required to comply with federal statutes and regulations, including but not limited to, the Occupational Safety and Health Standards and the Safety and Health Regulations for Construction, 29 CFR Parts 1910 and 1926, the Davis-Bacon Act, the Anti-Kickback Act, the Contract Work Hours Standards, and the President's Executive Orders No. 11246 and No. 11375. CATS will act to ensure that disadvantaged business enterprises have an equitable opportunity to compete in Contracting activities.

1.8.1. Disadvantaged Business Enterprises.

This Project is subject to the requirements of 49 C.F.R. Part 26, *Participation by Disadvantaged Business Enterprises in DOT Financial Assistance Programs* and the City’s DBE Program. Copies of the DBE Program may be obtained online at:

<http://charmeck.org/city/charlotte/cats/about/Business/procurement/Pages/dbesbe.aspx>

under “City of Charlotte’s DBE Program (document)” on the www.ridetransit.org “Doing Business with CATS as a DBE/SBE” page.

Pursuant to 49 C.F.R. Part 26 and the DBE Program, all Service Providers must affirmatively ensure that in any contract entered into with the City, DBEs will be afforded equal opportunity to participate in subcontracting opportunities.

A contract goal of **TBD%** has been established for this Project.

<< DBE goal to be provided via addendum. >>

A Proposal will not be considered responsive unless the Service Provider complies with 49 C.F.R. Part 26 and the City’s DBE Program. Using the List of Subcontractors/Suppliers – FORM A provided in Section 7 of this RFP, Service Providers are required to submit with their Proposal, in accordance with federal law and the DBE Program requirements, the names, addresses, contact information, how long each subcontractor has been in business (age of firm), annual gross receipts, respective scopes of Work to be performed, NAICS Code, NCDOT Reporting Number, the dollar values of each subcontract that the Service Provider proposes for participation in the Contract Work, and the dollar value of total DBE participation for the Contract. The required information must be listed for **ALL** subcontractors and suppliers, not just the DBE subcontractors and suppliers. The purpose of this information is to facilitate the evaluation of proposed

Section 1

Introduction and General Information

subcontractors' technical ability. Service Providers will not, by naming subcontractors or suppliers at the time they submit their Proposals, be precluded from contracting with other or additional subcontractors or suppliers in the event of an award; however, in the case of subcontractors and suppliers proposed as DBEs, the Service Provider must first obtain the written approval of the City Civil Rights Officer or his designee, before replacing any such subcontractor or supplier or reassigning its Work to another subcontractor or supplier.

Failure to submit said detail of DBE participation on the List of Subcontractors/Suppliers - FORM A (or evidence of Good Faith Efforts (GFEs) to maximize DBE participation on the Evidence of Good Faith Efforts – FORM C in Section 7 of this Project Manual) with the Proposal, will result in Proposal rejection. Note: Only DBE certified vendors (i) listed in the NC-DOT's *Directory of Firms*, (ii) there identified in the vendor profile under *Certifications as DBE*, and (iii) designated using a NAICS code(s) identifying a commercially useful function for the Project referenced within this RFP; may be submitted on FORM A to meet the DBE good faith efforts goal requirements. For additional requirements for DBE participation, including what constitutes GFEs, refer to Article 2: Disadvantaged Business Enterprises of Supplementary Conditions A: Federal Contracting Requirements of the Sample Contract in Section 8 of this RFP. Guidelines for DBE involvement, definitions, and eligibility standards are consistent with the FTA Circular 4716.1A and 49 C.F.R. Part 26.

It is imperative that Service Providers read and understand all requirements relating to DBEs as stated here and in Article 2: Disadvantaged Business Enterprises of the Sample Contract in Section 8 of this RFP.

1.8.2. Certification of No Conflict of Interest.

Service Providers are requested to complete the form. If no exception is taken to the general statement, draw a diagonal line across the space allocated for those exceptions. The form should be signed by the person signing the Proposal Certification Form. The Certificate shall become part of the Contract Documents and is a prerequisite for award.

1.8.3. Non-Discrimination Certification.

Service Providers will be required to certify they will not discriminate, nor retaliate against any person or entity for reporting instances of such discrimination, on the basis of race, gender, religion, national origin, ethnicity, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, suppliers, or commercial customers in connection with this Project. Service Providers must submit a completed Non-Discrimination Certification form with their Proposal.

1.8.4. Buy America.

Buy America requires all iron, steel and manufactured products used in the Project to be produced in the United States.

Service Provider must indicate in their Proposal how they intend to comply with Buy America requirements. Service Provider must complete and sign whichever of the two (2) certificates is applicable; **under no circumstance should both certificates be submitted.** The certificate must be signed by the person signing the Proposal and must be submitted with the Proposal. The certificate cannot be submitted after

Section 1

Introduction and General Information

Proposals have been submitted. The certificate shall become part of the Contract Documents. See Section 7 of this RFP for the certifications.

A Service Provider who has submitted an incomplete Buy America certificate or an incorrect certificate of non-compliance through an inadvertent or clerical error (but not including failure to sign the certificate, submission of certificates of both compliance and non-compliance, or failure to submit any certification), may submit to the FTA Chief Counsel and CATS General Counsel within ten (10) calendar days of Proposal submittal a written explanation of the circumstances surrounding the submission of the incomplete or incorrect certification in accordance with 28 U.S.C. 1746, sworn under penalty of perjury, stating that the submission resulted from inadvertent or clerical error.

Failure to comply with Buy America requirements, in addition to other remedies available to the City, will result in the Company removing the non-compliant product and replacing it with a Buy America compliant product at the sole cost and expense of the Company, as well as any other costs associated with replacement.

It is imperative that Service Providers read and understand all requirements relating to Buy America as stated here and in the Buy America section of the Sample Contract Supplementary Conditions A: Federal Contracting Requirements.

1.8.5. Lobbying.

Service Providers will be required to certify that they and their proposed subcontractors, have not used and will not use any of the Contract proceeds for lobbying activities. The successful Service Provider and his subcontractors with such subcontracts will be required to disclose quarterly, during the term of the Contract, whether they have expended any non-federal money for lobbying activity. Service Providers must, before any Contract is awarded to them, submit a completed Certification Regarding Lobbying in substantially the form of "Certification Regarding Lobbying", and a similar form for each proposed subcontractor. Quarterly reporting of lobbying activity by Contractors and their subcontractors will be in accordance with Standard Form LLL, Disclosure of Lobbying Activities.

1.8.6. Debarment Certifications.

Service Providers will be required to certify that they and their proposed subcontractors are not debarred, suspended, or excluded from participation in federally assisted projects. Service Providers must submit a completed Certification of Primary Participant for themselves and a completed Certification of Lower-Tier Participants for all subcontractors.

Section 2

Procurement Process

2. PROCUREMENT PROCESS.

This Section 2 contains information about the procurement process for this Project.

2.1. Schedule and Process.

The following chart shows the schedule of events to prepare the Service Provider's Proposal. The key events and deadlines for this process are as follows, some of which are set forth in more detail in the Sections that follow:

DATE	EVENT
JUNE 24, 2014	<i>Issuance of RFP.</i> The City issues this RFP.
JULY 1, 2014	<i>Request for Proposals Acknowledgement.</i> Service Providers who intend to submit a Proposal should submit the RFP Acknowledgement Form by this date to the fax number or email address listed in Section 2.2. Submittal of this form is optional.
JULY 1, 2014	<i>Submission of Written Questions Prior to Pre-Proposal Conference.</i> Service Providers are permitted to submit written questions, but only for purposes of clarifying this RFP. All submissions must be faxed or preferably e-mailed to James McLeod at the address and number listed in Section 2.3. Questions are due by 5:00 p.m. on JULY 1, 2014.
JULY 10, 2014	<i>Non-Mandatory Pre-Proposal Conference.</i>
JULY 16, 2014	<i>Submission of Written Questions After the Pre-Proposal Conference.</i> Questions are due by 5:00 p.m. on JULY 16, 2014.
AUGUST 7, 2014	<i>Proposal Submission.</i> Proposals are due by 2:00 p.m. on AUGUST 7, 2014, at the Charlotte Area Transit System, CMGC 9 th Floor. All Proposals will be time-stamped upon receipt and held in a secure place until this date.
AUGUST 7, 2014 – AUGUST 29, 2014	<i>Evaluation.</i>
OCTOBER 27, 2014	<i>Contract Award by City Council.</i>
NOVEMBER 20, 2014	<i>Project Implementation.</i> Service Provider begins working on the Fare Collection System.

2.2. Intent to Propose.

Please acknowledge receipt of this RFP via facsimile or email (email preferred) by **JULY 1, 2014** using the Request for Proposals Acknowledgement Form located in Section 7.1. Submittal of this form is optional. Complete the form in its entirety advising the City of your firm's intention to submit or not submit a Proposal. Fax the completed and signed form to 704-632-8480, Attention: James McLeod or email to jmcleod@charlottenc.gov.

Section 2

Procurement Process

2.3. Interpretations and Addenda.

No interpretation or clarification of the meaning of any part of this RFP will be made orally to any Service Provider with the exception of questions answered at the Pre-Proposal Conference. Otherwise, Service Providers must request such interpretations or clarifications in writing from the City. Address requests for information or clarification of this RFP to James McLeod at the e-mail address listed below. When submitting questions, please reference the RFP page and topic number. In order for questions to be considered in advance of the Pre-Proposal Conference, they must be submitted by **5:00 p.m. on JULY 1, 2014**.

After the Pre-Proposal Conference, questions must be submitted by the deadline outlined in Section 2.1. In the case of questions not submitted by the deadline, the Procurement Officer will, based on the availability of time to research and communicate an answer, decide whether an answer can be given before the Proposal Due Date. When responding to Service Provider questions or issuing addenda to the RFP, the City will post the answer or information to the Internet at www.ips.state.nc.us, solicitation# 269-11-FARE.

James McLeod
City of Charlotte / CATS
600 East 4th Street, CMGC 9th Floor
Charlotte, NC 28202
RFP # 269-11-FARE
Fax: 704-632-8480
E-mail: jmcLeod@charlottenc.gov

The City reserves the right to disqualify any Service Provider who contacts a City or County official, employee, or agent concerning this RFP other than in accordance with this Section. Nothing in this Section shall prohibit the City from conducting discussions with Service Providers after the Proposal due date.

2.4. Pre-Proposal Conference.

A Non-Mandatory Pre-Proposal Conference will be conducted on **JULY 10, 2014 at 10:00 a.m.** The meeting will be held at the Charlotte-Mecklenburg Government Center, 600 East Fourth Street, Charlotte, North Carolina 28202, 2nd Floor Conference Room 266.

While attendance at the Pre-Proposal Conference is not mandatory, all interested Service Providers are encouraged to attend. If special accommodations are required for attendance, please notify James McLeod in advance of the conference date and time identifying the special accommodations required.

2.5. Submission of Proposals.

One electronic copy on a CD in MS Word and one unbound original Proposal signed in ink by a company official authorized to make a legal and binding offer plus six copies shall be submitted to the address listed in Section 2.3 above by **AUGUST 7, 2014 on or before but no later than 2:00 p.m.** The "original" Proposal and each of the six copies shall be complete and unabridged, and shall not refer to any other copy of the signed/sealed original for any references, clarifications, or additional information. When received, all Proposals and supporting materials, as well as correspondence relating to this RFP, shall become the property of the City. **Proposals sent by fax or email will not be accepted.**

Due to security at the Charlotte-Mecklenburg Government Center (CMGC), your sealed boxed including any portions marked as Confidential/Trade Secret, may be searched and thoroughly inspected prior to admittance. Please allow time for this search to take place and to re-seal the box if delivering your Proposal in person to the CMGC.

Section 2

Procurement Process

Do not arrive at the Charlotte Area Transit System on the Proposal due date for the purposes of reviewing your competitor's Proposals. The Proposals will not be read aloud or made available to inspect or copy until any trade secret issues have been resolved.

2.6. Correction of Errors.

The person signing the Proposal must initial erasures or other corrections in the Proposal. The Service Provider further agrees that in the event of any obvious errors, the City reserves the right to waive such errors in its sole discretion. The City, however, has no obligation under any circumstances to waive such errors.

2.7. Evaluation.

As part of the evaluation process, the Evaluation Committee may engage in discussions with any Service Provider. Discussions might be held with individual Service Providers to determine in greater detail the Service Provider's qualifications, to explore with the Service Provider the scope and nature of the required contractual Services, to learn the Service Provider's proposed method of performance and the relative utility of alternative methods, and to facilitate arriving at an Agreement that will be satisfactory to the City.

The City may in its discretion require one or more Service Providers to make presentations to the Evaluation Committee or appear before the City and/or its representatives for an interview. During such interview, the Service Provider may be required to orally and otherwise present its Proposal and to respond in detail to any questions posed. Additional meetings may be held to clarify issues or to address comments, as the City deems appropriate. Service Providers will be notified in advance of the time and format of such meetings.

Since the City may choose to award an Agreement without engaging in discussions or negotiations, the Proposals submitted shall define the Service Provider's best offer for performing the Services described in this RFP.

2.8. Contract Award by Council.

As soon as practical after evaluating the Proposals, the name of the apparent successful Service Provider will be submitted to the Charlotte City Council for final approval of award. If approved by the Council, the Charlotte Area Transit System will provide Agreement documents to the Service Provider. In the event the Council approval is not received within one hundred eighty (180) calendar days after opening of the Proposals, the Service Provider may request that it be released from the Proposal.

2.9. Protest.

Any protest or objection directed to these RFP instructions or other procurement procedures, or to the Contract Documents or other requirements of the Contract, or to an award or proposed award of the Contract, or to the rejection or proposed rejection of any Proposal, must be submitted in accordance with CATS' Bid Protest Procedures as described in CATS Procurement Manual, which can be obtained from the contact listed in Section 2.3.

3. SCOPE OF FARE COLLECTION SYSTEM.

3.1. General Scope.

The Blue Line Extension (BLE) is an extension of the successful LYNX Blue Line light rail service. The 9.3-mile alignment extends from 7th Street in Center City of Charlotte through the North Davidson (NoDa) and University areas, terminating on the University of North Carolina Charlotte campus. By including the LYNX Blue Line Extension in a comprehensive transportation system that includes roads, buses, bus rapid transit and commuter rail, CATS can offer more choices and alternatives to traffic congestion on I-85.

The BLE is comprised of 11 stations with four stations incorporating Park n Rides with a total of 3,100 spaces. Eight stations are center platform (including the two stations located in the North Carolina Railroad Corridor) with the remaining stations being side platform. Trains will operate seven days a week from 5:00 a.m. until 1:00 a.m. and the fare will equal the cost of local bus fare. Trains will arrive at stations every 10 minutes during rush hour and every 15 minutes during non-peak hours. The line is scheduled to begin operations in the spring of 2017 and is projected to have 24,500 average weekday trips by 2035.

Additional information about the BLE Project is available on the City's website at <http://charmeck.org/city/charlotte/cats/planning/BLE/Pages/default.aspx>.

The contract awarded as a result of this RFP is currently scheduled to have a Notice to Proceed date of November 20, 2014 with a completion date of November 21, 2016.

In addition to installation of the Fare Collection System for the LYNX Blue Line Extension, CATS is requesting Proposal options for five years of extended maintenance coverage and for potential replacement of the Fare Collection System on the existing Blue Line currently in operation.

The existing Ticket Vending Machines (TVMs) are seven years old and by completion of the BLE project will be near the end of their useful life. CATS seeks an opportunity to replace the existing TVMs with the same technology, design, fare media, etc. as that which will be installed on the BLE project. This uniformity will provide for improved customer satisfaction by having to interact with only one TVM interface. Common machines will also yield efficiencies in maintenance and parts costs. Replacement must include removal and disposal of existing TVMs, installation of new TVMs and associated equipment to provide compatibility with the BLE system, parts, warranty, on-going hardware and software maintenance and upgrades, etc.

3.2. Equipment.

The Fare Collection System for the BLE is comprised of 37 TVMs and a Data Collection and Reporting System. The replacement option includes an additional 39 TVMs.

3.3. Pricing.

Regardless of exceptions taken, Service Providers shall provide pricing based on the requirements and terms set forth in this RFP. Pricing must be all-inclusive and cover every aspect of the Project. Cost must be in United States dollars rounded to the nearest dollar. A pricing worksheet is provided in Section 7 to assist you.

The Service Provider shall provide a fixed price Proposal, which shall be paralleled to a Milestone Payment Plan. The Milestone Payment Plan shall be in direct correlation with the Project Plan submitted by the Service Provider. The Milestone Payment Plan shall be governed by terms and conditions as set forth in Section 8 of this RFP.

Section 3

Scope of Services

The Service Provider may provide additional pricing options or information beyond the requirements of the RFP as part of the Exceptions section of their Proposal.

In the event that CATS exercises the option to replace the existing TVMs, invoices for that portion of the work must be separate from those for the BLE installation.

3.4. Functional Requirements.

Refer to Appendix A: Specifications at the end of this Section.

3.5. City Hardware/Software Standards and Preferences.

Refer to the Appendix B: LYNX Blue Line Extension Design Criteria Ch. 24 – Technology document at the end of this Section.

3.6. Equipment Disposal.

The Proposal option to replace existing fare collection equipment shall include a detailed plan for the disposal of existing equipment including, but not limited to, the method of disposal and all costs/credits associated with disposal. Disposal plan must meet all federal, state and local requirements.

3.7. E-Railsafe.

Prior to starting work in the North Carolina Railroad Corridor, the Service Provider is required to be certified according to e-Railsafe. See <http://www.e-railsafe.com/> for information, compliance and badge requirements.

APPENDIX A:
SPECIFICATIONS
(71 Pages)

PROFESSIONAL ENGINEER SEAL

I hereby certify that I have prepared the following Specification Sections of the Request for Proposals for Contract 11 – Fare Collection, for the City of Charlotte, Charlotte Area Transit System Department, 600 East Fourth Street, Charlotte, North Carolina 28202:

27 25 45 ELECTROMAGNETIC (EMC) COMPATIBILITY

34 54 16 PASSENGER TICKETING EQUIPMENT



SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Requirements for the submittal schedule
 - 2. Administrative and procedural requirements for using City's Project Control System
 - 3. Requirements for submitting Shop Drawings, Product Data, Samples, and other submittals
 - 4. Submittal register

1.2 RELATED REQUIREMENTS

- A. Submitting video recordings of demonstration of equipment and training of City's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require City's Representative's responsive action. Action submittals are subject to review to ensure compliance with requirements indicated in Contract Documents but are not subject to extensive review. Action submittals are those submittals indicated in individual Specification Sections as "action submittals." Submittals received by City's Representative not required by Contract Documents will be removed without action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require City's Representative's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are not subject to extensive review. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- E. Submittal Register: Shows items of equipment, products, and materials for which submittals are required by the Specifications including Action, Informational, and Closeout Submittals as well as requirements from other Sections such as Quality Management Plans, Progress Schedule, and items listed under "Project Control System" below.

1.4 PROJECT CONTROL SYSTEM

- A. Entities involved in the Work of this Project shall use the City's web-based project control software, e-Builder, for submitting documents and for managing and retaining records including project documentation. Documents, forms, and processes that will be used in e-Builder by the City, City's Representatives, and Contractor include but are not limited to items specified in this and other Division 01 Sections, such as the following:
1. Safety and Security Plan
 2. Site-Specific Health and Safety Plan (HASP)
 3. Roadway Worker Protection training records
 4. E-Railsafe records
 5. Hazardous Materials Plan
 6. Substance Abuse Program
 7. Safety Audits of Contractor Work Sites
 8. Accident/Incident Reports
 9. Quality Management Program and related Quality Plan and submittals
 10. Progress Schedule (CPM) plus updates
 11. Four-Week Look-Ahead Schedules
 12. Recovery Schedule
 13. Applications for Payment including attachments
 14. List of subcontractors
 15. Schedule of values
 16. Submittals schedules
 17. List of Contractor's staff assignments
 18. Requests For Interpretation or Information (RFI)
 19. Substitution Requests
 20. Coordination Drawings
 21. Action Submittals such as Shop Drawings, Product Data, Samples
 22. Informational Submittals such as Qualification Data, Welding Certificates, Installer Certificates, Manufacturer Certificates, Product Certificates, Material Certificates, Material Test Reports, Product Test Reports, Research Reports, Compatibility Test Reports, Field Test Reports, and Design Data including Delegated Design Submittals with PE stamp.
 23. Closeout Submittals: Operating and Maintenance Manuals, Warranties, Project Record Documents (As-Built), Punch List
 24. Existing Condition Documentation such as photos
 25. Working Drawings
 26. Submittal Schedule
 27. Submittal Register
 28. Schedules
 29. Reports such as Accident, Inspection, and Non Conformance
 30. Transmittals
 31. Change Notices
 32. Change Order Requests
 33. Change Orders
 34. Construction Change Directives
 35. Field Change Notices
 36. Contract Modifications
 37. Letters
 38. Meeting Notifications
 39. Meeting Minutes
 40. Buy America Certifications

- B. If an item is not covered by e-Builder, submittal shall be as directed by the City's Representative. For shop drawing submittal documents larger than 11x17, submittal shall be as directed by the City's Representative.
- C. The City will provide training, access to, and technical service on the system at no cost to the Contractor.
- D. Information regarding the City's Project Control System can be found on the e-Builder website at www.e-builder.net.
- E. No separate measurement and payment will be made for the mandatory use of the City's web-based project control software. No additional compensation or Contract Time will be awarded for use or training involved in using City's Project Control System. Failure to use City's Project Control System will be considered non-compliant with Contract requirements.

1.5 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by City's Representative and additional time for handling and reviewing submittals required by those corrections.
 - 1. Initial Submittal: Include submittals required during the first 60 days after NTP. List those submittals required to maintain orderly progress of the Work and those required early because of long lead times resulting from manufacturing, transporting, or fabricating requirements.
 - 2. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 - 3. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for City's Representative's final release or approval.
 - g. Scheduled date of fabrication.
 - h. Scheduled dates for purchasing.
 - i. Scheduled dates for installation.
 - j. Activity or event number.
 - 4. Submittals submitted out-of-sequence or in advance of dates listed on Submittal Schedule will be held as appropriate or returned without action until such time as indicated on the Submittal Schedule. Review time for submittals furnished by Contractor prior to date scheduled will not commence until such time as noted on Submittal Schedule. No additional compensation or Contract Time will be awarded to Contractor for submittal furnished to City's Representative at times other than those stated on accepted Submittal Schedule.
 - 5. Submittals furnished to City's Representative after date identified on Submittal Schedule will not be afforded additional review time. Submittals furnished by Contractor after date identified on Submittal Schedule shall not be grounds for additional compensation or Contract Time.
 - 6. Initial Application for Payment will not be processed until City's Representative receives acceptable initial Submittal Schedule.
 - 7. Submit Schedules using City's Project Control System.

1.6 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. City's Project Control System: Unless otherwise directed by City's Representative, submit documents using City's Project Control System.
- B. Designer's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by City's Representative for Contractor's use in preparing submittals.
 - 1. City's Representative will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. City's Representative makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to City and City's Representative.
- C. Coordination: Coordinate preparation and processing of submittals with performance of activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. City's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received. No additional compensation or Contract Time will be awarded until related submittals are received. Processing Time by reviewers will not commence until related submittals are received.
- D. Identifying and Tracking Submittals: On Transmittals Sheets and Submittal cover pages, clearly label the following information:
 - 1. Sequential Tracking Number: Label transmittals with a sequential alpha-numeric identifier consisting of six digits for numerals followed by one alphabetic space to show revisions. Initial submittal will be labeled as 000001 with following submittals numbered sequentially. Revisions and resubmittals shall include decimal point followed by a sequential alphabetic suffix (e.g., 000001.A).
 - 2. Submittal Number with Sequential Tracking Label: In addition to the Sequential Tracking Number above, each Transmittal and Submittal shall be labeled using the appropriate Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Revisions and resubmittals shall include a sequential alphabetic suffix after another decimal point (e.g., 061000.01.A).
 - 3. Include Sequential Tracking Number and sequential Submittal Number for every item submitted.
- E. Processing Time: Allow time for submittal review, including time for resubmittals and revisions as follows. Time for review shall commence on City's Representative's receipt of submittal. No extension of

the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals and revisions.

1. Initial Review: Allow 21 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. City's Representative will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 21 days for review of each resubmittal.
- F. Paper Submittals: In the event City's Representative requires submission of submittal using hard copy, place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by City's Representative and Construction Manager.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of City's Representative.
 - d. Name of Contractor.
 - e. Name of subcontractor.
 - f. Name of supplier.
 - g. Name of manufacturer.
 - h. Sequential Tracking Number and Submittal Number, including revision identifier.
 - i. Number and title of appropriate Specification Section including Article and Paragraph.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
 4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless City's Representative observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to City's Representative.
 5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. City's Representative will discard submittals received from sources other than Contractor.
 - a. Transmittal Form for Paper Submittals: Use form as directed or approved by City's Representative.
 - b. Provide locations on Transmittal Form for the following information:
 - 1) Project name.
 - 2) Date.
 - 3) Destination (To:).

- 4) Source (From:).
- 5) Name and address of City's Representative.
- 6) Name of Contractor.
- 7) Name of firm or entity that prepared submittal.
- 8) Names of subcontractor, manufacturer, and supplier.
- 9) Category and type of submittal.
- 10) Submittal purpose and description.
- 11) Specification Section number and title.
- 12) Specification paragraph number or drawing designation and generic name for each of multiple items.
- 13) Drawing number and detail references, as appropriate.
- 14) Indication of full or partial submittal.
- 15) Sequential Tracking Number and Submittal Number, including revision identifier.
- 16) Submittal and transmittal distribution record.
- 17) Remarks.
- 18) Signature of transmitter.

G. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with sequential submittal number, including revision identifier.
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by City's Representative.
4. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software as directed by City's Representative, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of City's Representative.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Sequential Tracking Number and Submittal Number, including revision identifier.
 - p. Submittal and transmittal distribution record.
 - q. Other necessary identification.
 - r. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.

- b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
 - e. Sequential Tracking Number and Submittal Number, including revision identifier.
- H. Options: Identify options requiring selection by City's Representative.
- I. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by City's Representative on previous submittals, and proposed deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are Approved.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of activities. Show distribution on transmittal forms.
- L. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are Approved by City's Representative.

1.7 SUBMITTAL REGISTER

- A. Prepare, maintain, and update electronic submittal register as the work progresses, compatible with City's Project Control System. Submittal Register shall address submittal of every item specified as being submitted by Contractor to City's Representative such as Progress Schedule, Quality Management Plan, Action Submittals, Informational Submittals, Closeout Submittals, Test Results, Product Certifications, O&M Data and Materials, and Demonstration and Training manuals and presentation media. Place data in columns as follows:
 - 1. Column (a): Submittal Number based on Section or Document Number followed by sequential numbering system as determined by City's Representative
 - 2. Column (b): Specification Section and page number in which Submittal is listed
 - 3. Column (d): Article and Paragraph number in which submittal is defined within the Specification Section
 - 4. Column (e): Title of the Submittal as it appears in the Specifications
 - 5. Column (f): Category for each Submittal (such as Action, Informational, Closeout)
 - 6. Column (g): Description of each Submittal (such as Product Data, Shop Drawing, Sample, Action Plan, Test Reports)
 - 7. Column (h): Number of calendar days allowed before items are to be submitted relative to key dates, such as Notice to Proceed. If no dates are specified, indicate information based on the Submittal Schedule or the Progress Schedule
 - 8. Columns (i-l): Provide columns to allow tracking of submittal including for Date Submitted for Review, Review Due Date, Date Returned, Action Indicated (if Action Submittal), Date of Resubmittal (if required), Date of Resubmittal Review (if required), Date of Anticipated Product Delivery (if applicable), Date Product Delivered (if applicable)

- B. Submit Submittal Register as an electronic database or spreadsheet using City's Project Control System.
 - 1. Submit concurrently with Quality Management Plan specified in Section 01 40 00 QUALITY REQUIREMENTS.
 - 2. Verify that submittals required for project are listed; add missing submittals in updates.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Post electronic submittals as PDF electronic files directly to City's Project Control System as specifically established for Project and as directed by City's Engineer.
 - a. City's Representative will return annotated files for Action Submittals only.
 - b. Contractor shall annotate and retain one copy of file as an electronic Project record document file.
 - 2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated including for Designated Design items requiring stamp and signature of Professional Engineer licensed in the State of North Carolina.
- B. Product Data: Collect information into a single submittal for each element of project and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Clearly mark each submittal to show which products and options are applicable. Cross out options not applicable to the Work. Where more than one product is being submitted, clearly identify locations where each will be used. Reference drawings including details and Specifications including Section numbers and locations within Sections by Article and Paragraph.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts. Submit accurate representations of color charts. Provide physical samples for review and selection by City's Representative in addition to electronic files.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in PDF electronic file unless otherwise directed by City's Representative.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on City's Representative's digital data drawing files is specifically permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings that shall be submitted on hard copy such as paper, submit Shop Drawings electronically.
 3. Submit Shop Drawings in PDF electronic files.
 - a. Files that cannot be viewed or printed clearly will be rejected.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 - f. Sequential Tracking Number and Submittal Number, including revision identifier.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record in addition to physical samples.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as City's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. City's Representative will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. City's Representative will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show full range of limits of variations.
- E. Product Schedule: Based on products required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. PDF electronic file.

- F. Coordination Drawings and Requests for Interpretation/Information (RFI): Comply with requirements specified in Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION.
- G. Application for Payment: Comply with requirements specified in Division 00 PROCUREMENT AND CONTRACTING REQUIREMENTS.
- H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 01 40 00 QUALITY REQUIREMENTS.
- I. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and Owners, and other information specified.
- J. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- K. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- L. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- M. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- N. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- O. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- P. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- Q. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- R. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- S. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to City's Representative.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Fully review submittals and mark with approval before submitting to City's Representative.
- B. Approval Mark: Mark each submittal with a uniform approval mark. Include Project name and location, sequential tracking number, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 CITY'S REPRESENTATIVE'S ACTION

- A. Action Submittals: City's Representative will review each submittal, make marks to indicate corrections or revisions required, and return it. City's Representative will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
 - 1. Conforms: Based on review, submittal appears to conform with Contract Documents
 - 2. Conforms as Noted: Based on review, submittal appears to conform with Contract Documents except for modifications noted
 - 3. Revise as Noted, Resubmit: Based on review, submittal does not conform with requirements of Contract Documents; revise as noted and resubmit revisions for review
 - 4. Rejected, Resubmit: Based on review, submittal does not conform with requirements of Contract Documents
 - 5. Review Not Required as Noted: Submittal not subject to review; no response or notes will be provided
- B. Informational Submittals: City's Representative will review submittal and will not return it, or will return it if it does not comply with requirements.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from City's Representative.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents will be returned by the City's Representative without action.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Work included in this Section shall be incidental to Work of technical Sections in Divisions 02 through 34 and will include Contractor's means and methods with no separate measurement and payment.

4.2 MEASUREMENT

- A. There will be no separate measurement or payment for items listed below. All costs associated with this Section, including time, equipment, labor, overhead, profit, and material shall be considered incidental and included in the Work of technical Sections in Divisions 02 through 34.

4.3 PAYMENT

- A. Payment for the work of this Section will be incidental to Work of technical Sections in Divisions 02 through 34.

4.4 PAYMENT ITEMS

Not Used

END OF SECTION 01 33 00

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements that Contractor implement a Quality Management Program complying with CATS Quality Management System (QMS) and FTA Quality Management System Guidelines. To access a copy of FTA Guidelines, see:

http://www.fta.dot.gov/images/content_images/FINAL_FTA_QMS_Guidelines_December_2012.pdf

- B. The Program shall include administrative and procedural requirements for quality assurance and quality control as well as the services of a full time Quality Control Officer for the duration of the project.

1.2 RELATED SECTIONS

- A. Section 01 33 00 SUBMITTAL PROCEDURES for administrative and procedural requirements including City's Project Control System using e-Builder.

1.3 DEFINITIONS

- A. Quality-Assurance: The planned and systematic activities implemented to ensure that quality requirements for products and services will be fulfilled. Quality Assurance ensures that:
1. Project requirements are sufficiently developed, communicated, and understood;
 2. Proper planning of the Work, including means and methods, equipment, and staffing, are provided by the Contractor to perform the Work shown and specified;
 3. Contractor is capable of complying with specified quality requirements;
 4. Contractor is able to properly document compliance with quality requirements.
- B. Quality-Control: The observation techniques and activities used to determine whether specified quality requirements have been provided. Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by City's Representative or Construction Manager.
- C. Quality Control Officer: The person responsible for implementing the Contractor's Quality Management Program. Appointment of the Quality Control Officer will be communicated by a letter from an officer of the Contractor to the City's Representative.
- D. Quality Control Program: Also referred to as Quality Management Plan; The program and plan which describe the methods and means to be employed in implementing the requirements of the Contractor's Quality Program as established by the Specifications.
- E. NRTL: Nationally Recognized Testing Laboratories (NRTL) are recognized by Occupational Safety and Health Administration (OSHA).

- F. NVLAP: The National Voluntary Laboratory Accreditation Program (NVLAP) run by National Institute of Standards and Technology (NIST) provides third -party accreditation to testing and calibration laboratories.
- G. PreInstallation Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- H. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to City's Representative, to establish product performance and compliance with specified requirements.
- I. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- J. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- K. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- L. Installer: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, with a minimum of two years of experience performing mechanical fabrication or installation of similar electrical machines, and acceptable to the manufacturer of the fare collection system
- M. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of City's Representative.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to City's Representative for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to City's Representative for a decision before proceeding.

1.5 SUBMITTALS

- A. Contractor Quality Control Officer Qualifications: A graduate engineer having construction and installation experience with not less than 3 years Quality Management experience, or a non-graduate with no less than 6 years construction experience and 3 additional years of Quality Control supervisory experience. Submit Contractor Quality Control Officer's resume for CATS approval within 28 days after the effective date of the Notice of Award.

- B. Contractor's Quality-Management Plan (Quality Plan): For quality-assurance and quality-control activities and responsibilities. Encompassing those activities to be performed by the Contractor to ensure that the Work conforms to the Contract requirements. Submit the Quality Plan for CATS approval within 28 days after the effective date of the Notice of Award. Submit revisions to the Quality Plan not less than 10 days before the effective date thereof.
- C. Testing Agency Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Provide proof of qualifications with a certification as a Construction and Materials Testing laboratory to operate in the state of North Carolina.
- D. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of Work.
- F. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY MANAGEMENT PROGRAM

- A. The Quality Program encompasses those activities to be performed by the Contractor to ensure that the Work conforms to the Contract requirements. The Quality Plan shall clearly communicate the Program and shall contain an index and each page shall be numbered and uniquely identified with a revision number and date of issue. The Quality Plan shall be signed by the Contractor's Leadership.
- B. The Quality Plan shall, as a minimum, meet the following requirements: (NOTE: Procedures referred to herein shall be made available for CATS to review and approve.)
 - 1. Identify Contractor's personnel who have quality responsibilities and describe their individual responsibilities and authorities.
 - 2. Describe how the Contractor will ensure that supplies and services procured or provided conform to the requirements of the Contract Documents. CATS and the Construction Manager reserve the right to inspect and reject at the source any supplies furnished or services rendered under the Contract.
 - 3. Describe the procedures which will ensure that the latest issue of documents and information, as required by the Contract, shall be used to govern the Work. Stated procedures shall provide for the removal from use obsolete or suspended information in a timely fashion.

4. Describe a procedure for positively identifying the inspection status of the Work. Procedure shall include documentation which provides verification that Work has been inspected in accordance with current Contract Documents and with approved submittals.
5. Describe detailed operating procedures and forms that will be used to implement the Quality Program. Provide verifiable objective evidence in the form of complete and reliable records. Ensure the quality of materials, equipment, facilities, and workmanship. Use forms provided in the e-Builder software typically unless otherwise directed by City's Representative.
6. Describe a procedure for controlling nonconforming material, including its identification, segregation and disposition.
7. Describe a procedure for ensuring that inspection, measuring, and test equipment are appropriate for their use and how their accuracy will be ensured by calibration. Identify frequency of calibration.
8. Describe the means of assuring that contractor's employees, subcontractors, and others are performing and inspecting the Work adequately and in a timely manner.
9. Describe a tracking system procedure to ensure timely actions are taken. In the event actions are not forthcoming in a timely manner, describe how the need for action is escalated in a step by step fashion to increasingly higher levels of management. Provide names of individuals responsible for compliance, including their positions within the organization.
10. Describe the procedure used to ensure compliance with testing requirements in the Contract. Where testing laboratory services are required, the name and address of each laboratory shall be identified.
11. Describe the procedure for documenting and monitoring test results and how appropriate and timely responses to adverse test results will be ensured.
12. Describe the program by which Contractor's employees will be educated in understanding how quality is to be maintained and how they are to be briefed and updated. Describe how employee feedback shall be acknowledged, skills verified, and how they will be trained including documentation of such training.
13. Describe how the quality and testing of Contractor's Work such as systems, mechanical and electrical will be accomplished and verified.
14. Describe the method of ensuring CATS approval of required remedial action procedures prior to the start of such actions.
15. Describe a program to accomplish the following inspections:
 - a. Receiving Inspections: Inspect products and materials as soon as they are delivered to the job site ensuring that they meet Contract requirements, agree with the shipping documentations and, as applicable, are accompanied by material certifications and test reports. Ensure that accepted material and equipment is properly stored until needed in accordance with the manufacturer's recommendations. Promptly remove rejected materials from the job site.
 - b. Preparatory Inspections: Ensure that preliminary or prerequisite Work has been satisfactorily completed. Ensure that products and material are in good condition and conform to the Contract requirements and are in sufficient quantities. Ensure that materials, products, and equipment have been satisfactorily tested, and test reports have been submitted and approved. If the manufacturer's installation instructions conflict with the Contract, immediately notify the Contractor's Project Manager. Permit installation to proceed only after the conflict has been documented for the Weekly Quality Control Summary Report and resolved.
 - c. In-process Inspections: Inspect when Work is being started, and periodically as Work progresses; on a representative portion of a particular feature of the Work. Review testing for compliance with the Contract.
 - d. Final Inspection: Perform final inspection and testing; ensure that the completed Work is in accordance with the Contract and that previously identified discrepancies have been satisfactorily resolved.

16. Identify specific Work stages for critical inspection points and describe the procedure to be used for initiating, conducting and documenting the status of these inspections. Typical critical inspection points include receipt and installation of unique materials or products, locations, or structures having stringent tolerances, installations requiring special sequences or methods, or where Work will be uninspectable due to follow-up installations.
17. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
18. Design Control: If applicable, describe the procedure that defines the requirements for control, verification, and documentation of design activities. (The Contractor is responsible for ensuring that the Work meets design requirements and that requested changes or modifications to the design are appropriately submitted and approved by the Engineer prior to commencing Work.
19. Product Identification and Traceability: Describe the procedure used to ensure that products and material are properly identified and controlled to prevent the use of incorrect or defective items.
20. Quality Audits: Describe the program to ensure that the elements of the Quality Plan are functioning as intended.

1.7 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 1. Requirements of City's Representative shall supersede requirements for specialists.
- F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required and acceptable to City's Representative.
 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.8 QUALITY CONTROL

- A. Contractor shall conduct testing and inspecting services as part of the Quality Management Program to verify compliance with requirements specified or indicated.
- B. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting the work that replaces or is necessitated by work that failed to comply with the Contract Documents will be the responsibility of the Contractor.
- C. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
 - 1. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 2. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 3. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- D. Contractor's Quality Control Officer: In order to ensure that the Work conforms to the contract document, the Quality Control Officer will develop and supervise the Quality Program for the Contractor's and subcontractor's forces.
 - 1. Inspect and audit the Work. Immediately act to eliminate unacceptable materials, equipment, and workmanship. Recommend immediate corrective action and report the action in the appropriate Quality Control status report.
 - 2. Attend and participate in scheduled progress meetings and Special Quality meetings.
 - 3. Compile, maintain current, and submit to the CATS Representative a list of Contractor and subcontractor personnel and firms requiring certification. The list, when submitted, shall be accompanied by the associated Certifications.
 - 4. Perform, in conjunction with the CATS Representative on site Quality Assurance, or Technical Services representatives, inspections of off-site facilities and Quality Control procedures prior to their products being fabricated and/or installed.
 - 5. Prepare a Weekly Quality Control Summary Report of all quality control activities including but not limited to the following:
 - a. Briefly outline the activities and actions of the Quality Control Officer.
 - b. Summarize test activities and including tests which resulted in actions taken to correct or preclude activities of the Contractor or subcontractor which are contrary to the Contract.
 - c. Identify Contractor and subcontractor activities or conditions adverse to quality, the corrective action taken, and actions taken to preclude recurrence.

- d. Describe subcontractors quality control performance and, if applicable, improvements needed.
 - e. Record off-site inspections and audits, highlighting quality control measures in effect and to be implemented which will assure that quality requirements will be met.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's schedule. Distribute schedule to City's Representatives, Commissioning Authority, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required. Update as the Work progresses. Include the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 - 2. Special inspections required by Code and indicated on the "Statement of Special Inspections."
 - 3. City-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by the Commissioning Authority.
- H. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, Contractor provide and pay for quality-control services, including retesting and reinspecting, for equipment or material that failed to comply with requirements established by the Contract Documents.
- I. Testing Agency Responsibilities: Cooperate with City's Representative and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify City's Representative and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- J. Associated Services: Cooperate with agencies performing tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Security and protection for testing and inspecting equipment at Project site.

- K. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, and similar activities.

1.9 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement that equipment complies with requirements.
 - 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 4. Statement whether conditions, products, and installation will affect warranty.

5. Other required items indicated in individual Specification Sections.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to City's Representative.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for City's Representative's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Work included in this Section shall be incidental to Work of technical Sections in Divisions 02 through 34 and will include Contractor's means and methods with no separate measurement and payment.

4.2 MEASUREMENT

- A. There will be no separate measurement or payment for items listed below. All costs associated with this Section, including time, equipment, labor, overhead, profit, and material shall be considered incidental and included in the Work of technical Sections in Divisions 02 through 34.

4.3 PAYMENT

- A. Payment for the work of this Section will be incidental to Work of Technical Sections in Divisions 02 through 34.

4.4 PAY ITEMS

Not Used

END OF SECTION 01 40 00

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.2 RELATED SECTIONS

Not Used

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. City's Representative's Action: If necessary, City's Representative will request additional information or documentation for evaluation within one week of receipt of a comparable

product request. City's Representative will notify Contractor of approval or rejection of proposed comparable product request within 21 days of receipt of request, or 15 days after receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Section 01 33 00 SUBMITTAL PROCEDURES.
 - b. Use product specified if City's Representative does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 33 00 SUBMITTAL PROCEDURES. Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select products compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
- 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 6. Protect stored products from damage and liquids from freezing.
 - 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," City's Representative will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
 - 1. Products: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions will be considered when shown to meet or exceed specified requirements or requirements established by specified product.

- C. Visual Matching Specification: Where Specifications require "match City's Representative's sample", provide a product that complies with requirements and matches City's Representative's sample. City's Representative's decision will be final on whether a proposed product matches.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by City's Representative from manufacturer's full range" or similar phrase, select a product that complies with requirements. City's Representative will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: City's Representative will consider Contractor's request for comparable product when the following conditions are satisfied by the Contractor at no additional cost to the City. If the following conditions are not satisfied, City's Representative may return requests without action, except to record noncompliance with these requirements. Such action shall not be a basis for awarding additional Contract Time or Contract Sum to the Contractor.
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3 - EXECUTION

Not Used

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Work included in this Section shall be incidental to Work of technical Sections in Divisions 02 through 34 and will include Contractor's means and methods with no separate measurement and payment.

4.2 MEASUREMENT

- A. There will be no separate measurement or payment for items listed below. All costs associated with this Section, including time, equipment, labor, overhead, profit, and material shall be considered incidental and included in the Work of technical Sections in Divisions 02 through 34.

4.3 PAYMENT

- A. Payment for the work of this Section will be incidental to Work of technical Sections in Divisions 02 through 34.

4.4 PAYMENT ITEMS

Not Used

END OF SECTION 01 60 00

SECTION 01 71 13

MOBILIZATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparatory work and operations to mobilize personnel, materials and equipment to the project site.

1.2 RELATED SECTIONS

Not Used

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Mobilization will be paid as a Lump Sum Unit Price

4.2 MEASUREMENT

- A. Mobilization includes but is not limited to the following:
 - 1. the movement of personnel, equipment, supplies and incidentals to the project site,
 - 2. the establishment of offices, buildings and other facilities necessary for work on the project;
 - 3. the removal and disbandment of personnel, equipment, supplies, incidentals or other facilities that were established for the prosecution of Work of previous Contracts required prior to start of Work of this Contract
 - 4. other work as described in Related Sections

4.3 PAYMENT

- A. Payments for MOBILIZATION will be made with the first four Applications for Payment for the Contract at the rate of 25% of the total Lump Sum Unit Price allocated for MOBILIZATION on each of the first four Applications for Payment provided the amount allocated for MOBILIZATION does not exceed 2.0% of the total amount of the Contract. Where the amount for MOBILIZATION exceeds 2.0% of the total amount of the Contract, 2.0% of the total amount of the Contract will be paid on each of the first 4

Applications for Payment for MOBILIZATION; the remaining portion allocated for MOBILIZATION exceeding 2.0% of the total Contract will be paid on the final Application for Payment.

4.4 PAY ITEMS

A. Payment will be made under

01 71 13.01 MOBILIZATIONLS

END OF SECTION 01 71 13

SECTION 27 25 45
ELECTROMAGNETIC (EMC) COMPATIBILITY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This Section describes the Electromagnetic Compatibility (EMC) requirements for all computers, communications, electrical equipment and subsystems that shall be provided, installed and tested by the Contractor.

1.2 RELATED SECTIONS

- A. This Section applies to all applicable Sections with any electrical or electronic components.

1.3 REFERENCES AND STANDARDS

- A. FCC Rules under Code of Federal Regulations "Title 47, Part 15 (47 CFR 15)"
- B. Telcordia GR-1089-CORE "Electromagnetic Compatibility and Electrical Safety – Generic Criteria for Network Telecommunications Equipment"
- C. TIA/EIA-568-C "Commercial Building Telecommunications Cabling Standard"

1.4 SUBMITTALS

- A. Refer to Section 01 33 00 SUBMITTAL PROCEDURES for administrative and procedural requirements pertaining to Submittals.

1.5 SYSTEM DESCRIPTION

- A. Design Requirements
 - 1. The Contractor shall provide and install the electronic and electrical equipment using standard practices, as specified within this Section, for EMI/RFI suppression and mitigation sanctioned by the computer, radio communications and telecommunications industries. These practices shall include the implementation of appropriate shielding, grounding, bonding and electronic filtering methods and specialized wiring and cable installation techniques. Each item of electronic and electrical equipment to be provided and installed under this Contract shall be electronically inter-compatible with all other electronic and electrical equipment planned to be co-resident.
 - 2. Radiated Electromagnetic Interference Requirements
 - a. The levels of radiated electromagnetic interference produced by new electrical and electronic equipment shall remain below levels that cause any noticeable performance degradation or disruption to any electronic equipment, as determined by the City's Representative. The level of radiated EMI produced by the electronic and electrical equipment shall also comply with the US CFR Title 47, "Telecommunications" (Federal Communications Commission Rules & Regulations), Part 15, for Class A (Industrial) Devices.

3. Conducted Electrical Interference Requirements
 - a. The levels of conducted electrical interference produced by specified new electrical and electronic equipment on power, communications and control wiring shall remain below levels that cause any noticeable degradation or disruption to any electronic equipment performance, as determined by the City's Representative.
4. The Contractor shall implement the design and installation of the electrical and electronic equipment using standard practices for EMI/RFI suppression and mitigation sanctioned by the computer, radio communications and telecommunications industries. Refer to the following standards:
 - a. TIA/EIA-568-C "Commercial Building Telecommunications Cabling Standard";
 - b. (Federal Communications Commission Rules & Regulations) Part 15, for Class A (Industrial) Devices;
5. The Contractor shall be responsible for protecting Systems from interference of other Systems, and through compliance with the paragraph below, to prevent interference with other Systems.
 - a. The equipment shall meet the EMI emission requirements for a Class A device as specified by Telcordia standard GR-1089-CORE, criteria 8 to 14, which covers the allowable limits of radiating electric and magnetic field emissions and conducted emissions from AC and DC power leads, analog voice-bend leads, and signal leads.
 - b. The equipment shall meet the EMI immunity requirements as specified by Telcordia standard GR-1089-CORE, criteria 15 to 19, which covers the requirements for the ability of the equipment to operate properly when subjected to electric fields and conducted RF signals on AC and DC power leads.
6. Shielding
 - a. Equipment
 - 1) The Contractor shall provide all electronic and electrical equipment with sufficient electrostatic and electromagnetic shielding to avoid degradation of the specified performance from equipment due to EMI.
 - 2) The Contractor shall also provide all electronic and electrical equipment with sufficient electrostatic and electromagnetic shielding to avoid degradation to the performance of electronic equipment.
 - b. Wiring
 - 1) The Contractor shall provide all computer, communications, control and power wiring interconnections between electronic and electrical equipment with sufficient electrostatic and electromagnetic shielding to avoid degradation of the specified performance, and the performance of electronic systems, due to electromagnetic interference from electrical and electronic systems.
7. Grounding and Transient Voltage Surge Suppression (TVSS)
 - a. The Contractor shall provide the System with grounding, bonding and TVSS devices, materials and wiring, to avoid damage to equipment from atmospheric lightning strikes and conducted transient voltage spikes traveling over communications and electrical power wires and cables entering the System.

8. Electronic Filtering Devices

- a. If EMI/RFI suppression cannot be achieved, as jointly determined by the Contractor and the City's Representative, by the means of preventive methods, the Contractor shall provide the electronic and electrical equipment interconnections with electronic filtering devices, where required, to suppress undesirable conducted EMI. This shall be considered a method of last resort and shall require the approval of the City's Representative for any such installation.

B. Mitigation of Interference Requirements

1. The Contractor shall be responsible for providing any and all material and labor required to mitigate the deleterious effects of EMI/RFI, at no additional costs to CATS.

1.6 QUALITY ASSURANCE

Not Used

PART 2 - PRODUCTS**2.1 MATERIALS**

Not Used

2.2 FABRICATION

Not Used

2.3 INSPECTION AND TESTING

Not Used

2.4 WARRANTY

Not Used

PART 3 - EXECUTION**3.1 GENERAL**

Not Used

3.2 PRE- INSTALLATION

Not Used

3.3 INSTALLATION

Not Used

3.4 FIELD QUALITY CONTROL

Not Used

3.5 TRAINING

Not Used

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. No separate measurement or payment will be made for the Work required under this Section. Cost for providing Work of this Section shall be incidental to Fare Collection Work.

4.2 MEASUREMENT

- A. No specific measurement will be made for the Work of this Section as specified herein and as shown on the Contract Drawings.

4.3 PAYMENT

- A. Payment for the Work of this Section will be included in Work identified as Fare Collection.

4.4 PAYMENT ITEMS

Not Used

END OF SECTION 27 25 45

SECTION 34 54 16

PASSENGER TICKETING EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes the Blue Line Extension (BLE) fare collection system for the Charlotte Area Transit System.

1.2 RELATED SECTIONS

- A. Section 01 40 00 QUALITY REQUIREMENTS
- B. Section 27 25 45 ELECTROMAGNETIC (EMC) COMPATIBILITY

1.3 REFERENCES

- A. Reference Standards: Provide systems that meet or exceed the requirements of the following publications and organizations as applicable to the Work of this Section:
 - 1. Aluminum Association of America
 - 2. American National Standards Institute (ANSI);
 - 3. American Society of Mechanical Engineer (ASME);
 - 4. American Society for Testing and Materials (ASTM);
 - 5. International Electrotechnical Commission
 - a. IEC 60870 – Supervisory Control and Data Acquisition
 - 6. Institute of Electrical and Electronics Engineers (IEEE);
 - 7. International Organization for Standardization (ISO);
 - a. ISO/IEEE 7816-4, Organization, Security and Commands for Interchange, International Organization for Standardization (ISO)
 - b. ISO/IEEE 14443, Identification Cards – Contactless Integrated Circuit Cards, International Organization for Standardization (ISO)
 - c. ISO 24014-1, Interoperable Fare Management System, International Organization for Standardization (ISO)
 - 8. National Electrical Code (NEC);
 - 9. National Electrical Safety Code (NESC);
 - 10. Underwriters' Laboratories, Inc.
 - a. UL 751 – Vending Machines;
 - b. UL 1449 – Surge Protective Devices
 - 11. National Fire Protection Association ANSI/NFPA 70
 - 12. Title 49, Code of Federal Regulations, Part 37
 - 13. Rules related to automated teller machines (49CFR 27, 30 and 37) and appended guidelines for controls and operating mechanisms (Appendix Chapter A4.27) must be addressed in the fare system equipment design

- 14. City of Charlotte Technology Standards
 - a. STD-SOA-001, Service Orientated Architecture
 - b. ET01, Electronic Technology Policy
 - c. ET02, Electronic Technology Access and Security
 - d. City of Charlotte Information Security Policy & Procedure Manual
 - e. BSS 8, Computer Network and Internet Access Policy
 - f. IT-001, City Password Policy
 - g. STD-NETWORK-001, Structured Cabling Infrastructure for Voice (Telephone) and Data Communications
 - h. STD-PROTOCOL-001, Service Transport Protocol
- 15. PCI SCC Payment Application Data Security Standard (PA DSS), Payment Card Industry Security Standards Council (PCI SCC)
- 16. Europay, MasterCard, Visa (EMV) Contactless Specifications for Payment Systems
- B. Idaho National Laboratory, INL/EXT-06-11478, Control Systems Cyber Security: Defense in Depth Strategies
- C. Contract #5 – Track and Systems
- D. Contract #6 - Station Finishes

1.4 SUBMITTALS

- A. See Section 01 33 00 SUBMITTAL PROCEDURES for administrative and procedural requirements pertaining to Submittals.
- B. All submittals shall be subject to CATS' review and approval.
- C. Design Submittals (CDRL):
 - 1. The Design Submittals shall include documentation to support a Preliminary Design Review (PDR) and a Final Design Review (FDR). The purpose of these reviews shall be to evaluate the progress and technical adequacy of the design and conformance with the requirements of this Contract.
 - 2. Preliminary Design Review:
 - a. Product Data: Submit manufacturer's data sheets indicating systems and components proposed for use, including instruction manuals, prior to procurement.
 - b. Customer Machine Interface: A flow chart of all possible customer transactions, showing all interactive instructions and messages to be displayed and/or provided by the TVM, cancellation processes, timeouts, etc. shall be prepared.
 - c. TVM Design: Submit an overview mechanical/electrical/software design for the TVM that meets or exceeds the requirements herein. This shall include a detailed description of the TVM/back-office interface.
 - d. Back Office Design: Submit an overview of the mechanical/electrical/software design for the back office infrastructure that meets or exceeds the requirements herein. This shall include a detailed description of the TVM/back-office interface.
 - 3. Final Design Review:
 - a. PDR Documentation: Updates of the PDR documentation, where changes have been made.

- b. Human Factors: Provide evidence that focus groups have been utilized in finalizing the Customer Machine Interface.
- c. Modular Design: The supplier shall provide a demonstration showing how modular design has been implemented. This shall include a description of which components are modular, the well-defined interfaces and functions of each module, and a demonstration that the modules may be removed and replaced to accommodate new functionality.
- d. TVM Design: Submit a comprehensive design for the TVM that meets or exceeds the requirements herein. This shall include TVM/back-office interface information.
- e. Back Office Design: Submit a comprehensive design for the back office infrastructure that meets or exceeds the requirements herein. This shall include TVM/back-office interface information.
- f. Shop Drawings: Submit complete shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and layout of major equipment components.
- g. Operation and Maintenance Data: Submit manufacturer's operation and maintenance data, customized to the system installed. Include system and operator manuals.
- h. Installation and Interface Plan: Plan shall indicate the method of installation and connections, the installation schedule, and any support required of CATS. The Installation and Interface Plan shall also include the procedures for interfacing with the Roadbed and Bridges, Station Finishes and Systems Contractors for project coordination.

D. As-Built Submittals (CDRL):

- 1. Shop Drawings: Submit complete as-built shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and layout of major equipment components.
- 2. Record Drawings: During construction maintain record drawings indicating location of equipment and wiring. Submit an electronic version of record drawings not later than Substantial Completion of the project.

E. Verification Submittals (CDRL):

- 1. Test Plans and Procedures: Submittal and approval is required prior to any tests being conducted. A comprehensive test plan and detailed procedures shall be submitted and approved to ensure all components and features of the system are tested.
- 2. Field Tests (CDRL)
 - a. Procedures, example report form(s) and example test result format shall be submitted 45 days prior to testing;
 - b. Results shall be submitted within one week after test completion;
- 3. PCI SCC (Payment Card Industry Security Standards Council) compliance: The Contractor shall provide a PCI, PA-DSS Certification and penetration test on all segments of the TVM system by a CATS-approved independent third party. Results shall be submitted prior to Factory Acceptance Test. The communications network will be provided via separate contract, with fiber provided to the TVM. The Contractor shall segment Card Holder Data (CHD) from camera, SCADA and security data. The third-party fiber uplink shall utilize three virtual local area networks (VLAN) for CHD, video and ancillary data (temperature and SCADA). The Contractor shall verify that third-party network devices are properly segmented and not part of the Cardholder Data Environment (CDE), utilizing a Virtual Private Network (VPN) as required for PCI SCC compliance.
- 4. EMV (Europay, MasterCard, Visa) compliance: The Contractor shall provide a system which is certified as compliant with the standards of an acceptable open payment platform.
- 5. Factory Acceptance Test (FAT): The purpose of the Factory Acceptance Test (FAT) shall be to verify that equipment to be supplied functions as described in these specifications. FAT details

- are specified below. The successful completion of the FAT shall be a prerequisite to produce the equipment to be furnished for the Pre-Installation Checkout and to deliver equipment to CATS.
6. Pre-Installation Checkout (PIC): The purpose of the PIC shall be to verify that the equipment delivered has the correct fares programmed and functions in the manner specified. Successful completion of the Pre-Installation Checkout shall be prerequisite to start of installation for the Installation Inspection and Testing. PIC details are specified below.
 7. Reliability, Maintainability, and Accuracy Test (RMAT): At completion of an installation and a 30-day settling period, the Reliability, Maintainability and Accuracy Test (RMAT) shall be conducted. Successful completion of the RMAT shall be a prerequisite for final acceptance. Warranty period shall begin upon successful completion of the RMAT.

1.5 SYSTEMS DESCRIPTION

- A. The design shall provide for TVMs and related back office equipment in the quantities and locations shown in the Contract Drawings.
- B. The fare collection system shall be designed to be compliant with FTA Buy America requirements.
- C. Design Requirements – Overall System
 1. All new fare collection system equipment shall be stand alone from the existing Blue Line ticketing equipment, but the back office data shall be easily merged to allow CATS to produce combined reports from the existing BLE TVM system. Suitable computer hardware shall be provided by the contractor for implementing this requirement seamlessly without the need for CATS personnel or intervention at any point. Blue Line Extension fare collection system equipment shall be capable of dispensing magnetic passes compatible with the bus fare collection equipment for a seamless fare collection system for customers to use one type of fare media, magnetically encoded tickets for travel within the CATS transit system.
 2. The fare collection system shall accept, activate, and re-load contactless fare media. Back office equipment shall accommodate open payment to allow acceptance of a variety of contactless credit and debit cards without the requirement to first visit a TVM. Open payment functionality will be a configurable option available to CATS without any additional programming, equipment, or other effort, other than normal system software configuration changes.
 3. Data shall be stored in a relational database (e.g. Oracle, SQL) to allow for ease of report writing and combining revenue and maintenance data for the entire Blue Line regardless of TVM manufacturer.
 4. Equipment shall be modular in design to permit rapid field replacement of malfunctioning modules as field replaceable units. Assemblies and components that perform identical functions within the fare collection system shall be mechanically and electrically interchangeable. All interchangeable modules, components and boards shall be mechanically keyed in a manner that makes it impossible to insert any such module, component or board into locations other than its correct location on the proper chassis. Modular parts, components, and assemblies shall be serialized and marked.
 5. All single fare ticket transactions involving cash, credit or debit cards shall be completed within 15 seconds of final payment being completed, i.e. final cash equal to or above the price for the ticket being purchased, or acknowledgement of the credit/debit transaction from the provider. All single fare transactions involving a smart media device shall be completed within 10 seconds from the time that the media is sensed. For multi-fare purchases, each additional fare media shall be completed and provided within 5 seconds.
 6. All fare system equipment shall be designed to require only simple and minimal scheduled and unscheduled maintenance tasks. For ease of service, all electrical connections between components and subassemblies shall be established by means of connectors, to allow for rapid removal of a component and/or subassembly from the TVM. Plug-in connections shall be made

- simply, quickly and securely and shall be equipped with strain relief to prevent damage to cables and connectors.
7. Fare equipment software logic shall include diagnostic capability to identify defective modules.
 8. Fare Tables
 - a. Each fare table shall have a capacity of at least 255 entries, where an entry in the fare table provides all configuration data corresponding to a ticket type selectable by customers.
 - b. The TVM application software shall be designed to accommodate any fare structure as a configuration item. The fare table shall also be developed so it will allow a reconfiguration to a flat fare, a zone or a distance based fare system. The fare matrix used shall allow for a seamless conversion to any type of fare system and shall have no impact on the operation of the TVM software or the customer.
 - c. Once new fare tables are created on the Data Collection and Reporting System (DCRS), it shall be possible to download the new fare table(s) from the DCRS to all TVMs or designated groups of TVMs via the data communications link without the need to manually send updated table to each TVM. New fare tables shall also be transferable onto a solid-state memory module (SSMM) or other removable storage media, which can then be loaded into the TVM by a service technician. Once fare tables are downloaded into the TVM, the new fare table shall be activated automatically in the TVM at the specified date/time as configured by CATS.
 9. The Contractor shall provide cameras, access control devices and SCADA outputs that integrate with the appropriate BLE systems provided by third-party under Contract #5 – Track and Systems.

D. Design Requirements – Ticket Vending Machines (TVM)

1. The overall dimension of an installed TVM (including pedestal) shall not exceed 80 inches high by 35.4 inches wide by 22.9 inches deep. The top of the TVM shall slope at least five degrees downward and to the rear of the TVM to prevent any accumulation of rain.
2. TVMs shall be designed to operate in both unsheltered and sheltered locations.
3. The TVM shall be capable of printing and issuing different tickets, passes, magnetic cards, smart cards, radio frequency identification (RFID) cards or a combination thereof from within the same housing.
4. TVMs shall sell the fare media required to support fares that may include flat fare, distance-based fares, zone-based fares, time-based fares, period passes, numerous reduced fares (e.g. senior, student etc,) and transfers between the light rail and bus operations.
5. At a minimum, each TVM shall consist of:
 - a. bill processing unit;
 - b. coin processing unit;
 - c. credit/debit card processing unit with PIN pad;
 - d. smart card reader;
 - e. customer information display;
 - f. ticket and pass issuing unit;
 - g. printer;
 - h. return bin;
 - i. key pad and function keys;
 - j. receipt issuing unit;
 - k. power supply;
 - l. PC-based central processing unit (CPU);
 - m. network switch.

6. The TVM shall have the capability to have functionality modified remotely. This shall include: the ticket to be printed, maximum change returned, fares associated with each button, bank notes accepted and the customer interface display.
7. The TVM shall have a clearly visible indication to both the customer and CATS personnel of a condition(s) that the TVM is inoperative. If a limited operation is available the TVM shall display what functions are operable such as COINS ONLY, NO CREDIT etc.
8. After payment is received for the fare of a selected ticket, the TVM shall print appropriate sales data on the ticket, including but not limited to:
 - a. Expiration time in 12-hour notations, including "AM" or "PM" designation
 - b. Month, day, and year
 - c. Station name
 - d. TVM number — up to five characters/digits
 - e. Amount of fare paid
 - f. Unique serialization number
9. Power provided in the stations for the TVM's will be two (2) 120 VAC (+10% to -20%), 60 Hz (+1Hz to -3Hz), 20 amp, single-phase circuits, with electrical ground wire and a separate equipment earth ground. One circuit will be provided for the TVM Contractor that will be connected to the station UPS. A second circuit not protected by the station UPS will be provided for TVM Contractor to connect to heating elements and the convenience outlet.
10. All TVMs shall be connected to the Data Collection and Reporting System (DCRS). The DCRS shall provide automatic monitoring and control of all TVMs in the customer stations and other ancillary Fare Collection equipment. Data systems shall be turn-key and contain all collection and reporting systems. Data communications will be provided to Contractor via 6 strand fiber optic cable with LC connector to gigabit Ethernet switch. Termination inside TVM will be by Contractor. Network switch in the TVM will be provided by Contractor.
11. All fare collection equipment at each station shall be monitored by SCADA. The TVM shall provide one SCADA output for tampering and one output for when repair/servicing is required. SCADA outputs shall be IP-based following the IEC 60870 standard.
12. Each TVM shall have an outward facing CCTV camera facing the approach to the machine. Additionally each TVM shall have an internal CCTV camera positioned to monitor the internal revenue servicing areas that activate when an authenticated proximity card is sensed or when the front panel door latch mechanism is released. The Contractor provided CCTV camera shall provide a standard IP-based output for recording by a third-party system.

E. Performance Requirements – Ticket Vending Machine

1. The customer interface with the TVM shall be at the front of the machine and be a customer-friendly, cleanly designed machine. All customer interface openings shall be designed to prevent unauthorized access and will be well lit.
2. All customer interfaces, coin slots, bill slots, ticket slots, and return bins shall be compliant with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). The TVM shall have raised lines and numbering to guide the transaction for visually-impaired customers, allowing them to make choices regarding language, zones, type and quantity of tickets and to cancel transactions. To allow a wheelchair user to be pulled closer to the TVM, the user interface elements shall be extended toward the user at least 3" further than the pedestal.
3. All hardware, firmware and software utilized in this system must support the ability to be routinely patched and updated as releases are available. The entire system must support a CATS' approved virus protection software. Documented Contractor validation of all patches and updates shall be required within 30 days of a third-party's initial patch.
4. Instructional graphics shall be contained on the front panel of the TVM to clearly indicate each step a customer must follow to choose and purchase a ticket or tickets and information on the required fare. Graphics should in general utilize the maximum space available on the front of the

- TVM. The information signage holder shall be accessible only from inside the TVM, and shall be secured to the front of the TVM from within. The sequence of steps shall be clearly indicated by the use of graphics and symbols meeting ADA requirements. Where feasible, graphics and symbols shall mimic those used on existing CATS equipment. Conceptual designs of the TVM instructions and related graphics shall be submitted for review and approval by CATS as part of the Preliminary Design Review, including signage size, type and characteristics. Sign frames shall also be capable of being attached to the exterior of the TVM on either or both sides. CATS will be responsible for the design and production of the signage to be placed in the information signage holder. Completed information signage will be provided by CATS at least 30 days prior to TVM shipment, and shall be installed by the Contractor prior to shipping the TVMs.
5. Prior to Final Design Review, the Contractor shall hold focus groups of potential customers to assist in finalizing the TVM transaction flow, customer interaction, and related on-screen graphics.
 6. All displays on the exterior of the TVM are to be protected by shatter-resistant, polycarbonate covers or other means as approved by CATS. Any push buttons, function keys, and numeric keys on the exterior of the TVM shall be metal and shall not be removable from the exterior of the machine, subject to CATS' approval.
 7. A conceptual description of the function, configuration, and arrangement of the front panel shall be submitted to CATS for its review and approval as part of the Preliminary Design Review.
 8. The equipment finish, graphics panels and all surfaces, including lettering, maps and other information displayed on the equipment, shall be resistant to ultraviolet radiation and air-borne contaminants.
 9. The TVM shall accept United States' coins (except pennies), bills (up to \$100, except \$2 bills), debit card, credit card and tokens.
 10. All TVM shall be capable of dispensing and encoding CATS currently-approved magnetic standard on CATS-approved ticket stock and limited-use smart cards as a fare product. Enabling of smart card functionality shall be a DCRS configurable item.
 11. Customers may purchase multiple tickets in a single TVM transaction.
 12. Each TVM shall provide audio output of messages and instructions. English, Spanish and two additional languages will be supported, subject to CATS approval.
 13. The TVM shall emit a distinctive tone each time a button is pressed, and additional input is required to complete the transaction.
 14. The TVM shall issue change if excess payment is made and change is available. If a transaction is canceled or aborted the TVM shall return monies deposited.
 15. Issuance of transaction receipts shall be a configurable item. If enabled, transaction receipts shall be provided upon customer request. Quantity of receipt media is to be 150% of that required for a single day's transactions.
 16. Accounting data shall be registered, stored and sent to the back office via the network connection.
 17. The TVM shall accumulate and summarize data to enable an audit of transactions occurring between coin and/or bill vault replacements. This applies to bill and coin vaults and bucos (supplemental coin hoppers). The TVM shall generate and imprint an audit ticket with this data and with the ID of the proximity card used to unlock the TVM front panel. The audit ticket shall be suitable for purposes of financial audit. The TVM will automatically generate the serial identification number of the removed vault either during removal or immediately following removal and before the replacement vault is inserted; this information shall be immediately transmitted to the DCRS.
 18. Each TVM shall be equipped with an alarm system, which shall have the ability to monitor TVM security conditions and report them to the DCRS. The alarm system shall be equipped with an electronic siren capable of emitting a sound level of at least 110 dB (A) measured at a distance of three feet with the door open. This siren shall sound whenever unauthorized entry is detected and whenever severe impacts to the front door are detected. The siren shall only be silenced by a remote DCRS reset, scanning of a valid contactless ID or removing power. In addition, a silent, internal momentary contact switch, hidden inside the TVM but readily accessible, shall permit an

- authorized technician to trigger a silent alarm. When activated, this switch shall cause the TVM to notify the DCRS, but not activate the siren.
19. Each TVM shall normally be ready to respond to a customer selection when it is in the idle condition. If the TVM is not ready, for all designed functions, it shall respond in the limited operation mode that is suitable for the TVM's current condition; otherwise an out-of-service notice shall be presented to the customer. Note a totally blank non-operative display is to be expected if the TVM cannot illuminate the customer display screen.
 20. A programmable display screen and push buttons shall be provided for customers to complete a transaction. The TVM display shall direct the customer through the steps of the transaction with the customer's inputs being entered through push buttons or a touch screen.
 21. Each TVM shall have the ability to default to a "Sleep Mode" of operation, with 'time of day sleep mode enabled' and 'inactivity period' as configurable DCRS items. Button interaction or card/cash insertion shall restore the TVM to operation within 15 seconds.
 22. The customer shall not have to declare the transaction payment type (i.e. cash or credit). However, payment types shall be mutually exclusive; that is, each transaction shall only be by cash, bankcard or contactless. The customer shall be able to change any selection up to the moment when the first coin, bill or card is detected. It shall be possible for the customer to cancel up to the moment final payment has been made. Once payment equal to or exceeding the amount due is inserted into the TVM, the coin and bill slots shall close.
 23. When failures occur during a transaction, the TVM shall make every attempt to complete the transaction or return all deposited funds and if necessary, provide a printed voucher or in case of out-of-stock display the voucher information on the screen.
 24. Detection of a contactless card by the TVM will begin the transaction process.
 25. The maximum frequency and total value of an individual card transaction over a specific time period shall be configurable. The type and maximum value of "off line" transactions shall also be configurable.
 26. In the event of a TVM failure during a credit card transaction, the transaction shall be reversed as part of the cancellation process, and the charge voided and not reconciled.
 27. Debit card transactions that result in a failure to dispense fare media shall be reversed according to CATS' procedures for refunding debit card transactions
 28. The TVM shall continue to operate in a limited capacity in the event of a failure of one or more components; assuming that the failure poses no risk of further damage to the TVM or its components. The TVM shall remain in service as long as it is capable of vending tickets. Whenever possible, the TVM shall remain in service even if multiple failures occur; for example, it shall be possible for the TVM to simultaneously be in both "No Coins Accepted: or credit/debit only mode and "Exact Fare Only" mode. Only the failure of those components necessary to vend tickets (e.g. ticket and pass issuing unit, CPU, power supply, customer keyboard) or a combined failure of the cash and credit systems shall cause the TVM to go out of service.
 29. Upon power loss, the TVM shall shutdown without corruption of application software, application data or completed transaction data. Transaction data stored in the TVM will be maintained for a minimum of seven (7) days following an unrestored loss of primary power.
 30. Faults shall be self-diagnosing and reported by event with detailed error codes. Maintenance information shall be retained at the TVM and also sent to the DCRS.
 31. Diagnostic software shall be furnished for testing and troubleshooting of all TVM functions. TVM application software shall include all software packages necessary for real-time TVM diagnostics and accounting and registration communications between the TVMs and the Data Collection and Reporting System.
 32. The fare collection system shall employ standard communications interfaces and protocols between the station equipment and the DCRS system.
 33. Access Control
 - a. Access to the equipment by authorized personnel equipped with proper swipe/contactless access, keys and individual access code(s) or swipe/contactless identification shall be provided without undue delay. The Contractor shall integrate TVM

access control with the overall BLE access control system. The preferred local personal edition database will be from the same vendor as the Server Relational Database Management Systems (RDMS). CATS desires means of uniquely identifying anyone attempting to open the TVM prior to any key or other access is allowed though a proximity access card device. The means of locking the TVM's shall be subject to CATS review and approval.

- b. All TVM generated alarms, i.e. intrusion, loss of power, maintenance required, shall be sent to the operations control center and prioritized for level of attention and then displayed.

F. Design Requirements – Back Office Processing

1. The DCRS software shall provide an interface between the TVMs and workstations for all TVM configurations, troubleshooting and reporting functions. All revenue data shall be consolidated into a data stream that is acceptable to CATS' revenue department central computer.
2. Other "back office" equipment may include: point of sale devices, high-speed ticket encoders, receipt printers, communications interface equipment, servers, test/verification equipment, other ancillary equipment for power conditioning, communications, and spare parts, etc. Such devices will be dependent upon the technology available, fare tariffs and business rules adopted. Devices' design, inclusion and function are subject to CATS approval.
3. Data concentrators (i.e. equipment, excluding routers and switches, used to collect transaction data from a number of devices at one location for transmission to the DCRS) are only allowed with prior CATS' approval.
4. Fare tables, at least three: one current and an additional two future – shall be maintained at the DCRS and downloaded to the BLE TVMs via the DCRS.
5. Back-up data shall be maintained locally to TVMs for a minimum of seven days or until successful transfer has been achieved between the BLE control computer and the revenue department central computer.
6. All fare products defined by the CATS fare policy shall be accommodated. CATS must be able to modify the system to accept a different fare structure without contractor assistance. Fare tables will be developed within the DCRS and transmitted to all BLE fare system equipment.
7. A separate clearing-house server shall be provided for charge processing.

G. Environmental Conditions

1. The fare collection equipment 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 CATS will operate or store the equipment.
2. TVMs shall be designed to be resistant to liquid ingress caused by driving rain and water such as would occur during routine equipment and/or platform cleaning.
3. The TVM, as a complete assembly, shall carry a third party label by a national recognized testing laboratory.
4. The following environmental conditions of the Charlotte Metropolitan Area shall be met:
 - a. Minimum ambient air temperature: -13° F
 - b. Maximum ambient air temperature: 145° F
 - c. Maximum hourly temperature range: 40° F \pm 10° F
 - d. Maximum solar radiation: 250 BTU/hr/ft²
 - e. Maximum rainfall rate: 8 inches per 24 hour
 - f. Maximum snowfall rate: 18 inches in 24 hours
 - g. Relative humidity: 20% to 100% condensing
 - h. Max wind Speed: 120 mph
 - i. Maximum wind speed sustained for 1 minute: 65 mph
 - j. Maximum elevation: 780 ft above sea level

5. The equipment shall be designed to operate in the electromagnetic environment as specified in Section 27 25 45 – Electromagnetic Compatibility.

H. Technology Standards

1. Computer hardware and software shall fit within the City of Charlotte's current technology environment. New software should use architectures (e.g., database and reporting solutions) that build upon or are compliant with those already implemented at CATS. If technology reflected in this specification is out of date at the time of acquisition, pursue the version that is most current, has been on the market for at least one year and has been tested with the City of Charlotte's software and hardware environment.
 - a. Network hardware – CISCO
 - b. Network Communication Protocol – TCP/IP
 - c. Server Hardware – HP Proliant series, Dell (legacy), Sun (legacy)
 - d. Server Operating Systems – Windows Server 2008 and above, Red Hat 5 and above, Solaris 10 and above (legacy)
 - e. Virtual Operating Environments – VMWare
 - f. Storage – HP, Dell (legacy) & EMC SAN storage
 - g. Database Systems – Oracle Database Server 11g and above, MS SQL Server 2008 and above
 - h. Business Intelligence / Data Warehousing – Tableau
 - i. Application Servers - .NET Framework, Oracle Application Server, WebLogic
 - j. Web Servers – Microsoft Internet Information Services v7 and above, Apache
 - k. Application Languages – MS VB.NET, ASP.NET, C#.NET, PL/SQL, JSP, Javascript, and Java J2EE
 - l. Application Client – Client operating systems may include Windows 7 and above. Browser clients should support Microsoft Internet Explorer Version 8 and above.
 - m. Reporting Services – Third-part products such as Business Objects / Crystal, COGNOS, Oracle Reports, and Microsoft SQL Reporting Services are supported for application-specific reporting. The City of Charlotte prefers Microsoft SQL Reporting Services toolsets.
 - n. Portal Services – Microsoft Office SharePoint Services
 - o. Email Services – Microsoft Exchange with Microsoft Outlook
 - p. Security – Active Directory
 - q. Business Productivity – MS Office 2010
2. Software and hardware purchases must meet the latest security recommendations of INL/EXT-06-14478.

1.6 QUALITY ASSURANCE

- A. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts for a minimum of 5-years after the parts are commercially available from the manufacturer. Components that reach commercial end-of-life may be substituted with components that have equivalent form, fit and function.
- B. All manufactured products shall be thoroughly tested and have been proven in transit service for a minimum of three years.
- C. All equipment and material shall be standard products of manufacturers regularly engaged in the production of fare collection system equipment and material, and shall conform to the standards specified in the related Sections.

- D. Ticket vending machines shall be identical to or derived from designs that are service-proven in an operating environment equal to or more severe than will be experienced in the Charlotte Metropolitan Area.
- E. The manufacturer shall repair or replace without charge, manufactured products proven defective in material or workmanship for the stated warranty period.
- F. Installer: Minimum two years experience performing mechanical fabrication or installation of similar electrical machines, and acceptable to the manufacturer of the fare collection system.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. See Section 01 60 00 - PRODUCT REQUIREMENTS for typical procedural and administrative requirements pertaining to product requirements, product options, delivery, storage, and handling.
- B. Fare Media
 - 1. Contactless smart card readers shall be capable of processing existing RFID cards currently available, as well as ISO/IEC 14443 RFID Proximity Integrated media and cards which meet Europay, MasterCard and Visa (EMV) contactless requirements. Fare System design will specify media use and fare tariff structure, determining the interaction and processing of all fare media with TVM, hand held units (HHUs), point of sale (POS) devices and other fare system equipment.
 - 2. Smart card processors will accept all forms of ISO/IEC-14443 compliant media, including, but not limited to:
 - a. Credit card-sized media
 - b. Key-fobs
 - c. Watches
 - d. ISO/IEC-14443 compliant mobile phones
 - 3. Smart card processors shall further comply with ISO/IEC-14443-2 and accept Type A and B communication signals.
 - 4. Smart card velocity limits (maximum transactions within a 24-hour period) shall be DCRS configurable items.
 - 5. Magnetic stock and limited use smart cards may be pre-cut (stacked), roll or fan-fold subject to CATS approval. Plain paper ticket stock will be only used for vouchers, receipts and audit reports all other printing of passes/tickets shall use CATS-approved stock standard. Audit report and receipt stock may be unprinted paper.
 - 6. Fare options may include single-trip, round-trip, and multi-trip tickets, as well as day passes, weekly passes, monthly passes, timed-passes and stored-value media.
 - 7. Tickets shall be vended on pre-printed ticket stock.
 - 8. The new PICC or smart card (whether "permanent" or "limited use") shall be ISO/IEEE 14443 compliant and contain all data required by CATS to enable calculation of fare to define specific fare products stored on the PICC, transaction history and other information necessary to support cardholder service functions. Fares utilized may include flat fare, distance-based fares, zone-based fares, time-based fares, period passes, numerous reduced fares, etc. for both the light rail and bus operations.
 - 9. CATS' current 'Specification for Paper Magnetic Tickets' will be provided to the contractor at NTP.
- C. Coin Processing

1. Each TVM shall be equipped with a coin processing unit, consisting of the following coin handling modules: a coin acceptor/verifier, recirculation unit, escrow unit, supplemental change units, a coin vault and a chassis with its associated wiring and electronic devices.
2. The coin processing unit shall accept U.S. nickel (\$.05), dime (\$.10), quarter (\$.25), half-dollar (\$.50), post-1978 dollar (\$1.00) coins, and CATS issued tokens and provide change in the fewest number of U.S. coins as required. Each coin processing unit shall include coin recirculation and provide supplemental change units.
3. CATS issued tokens will not be used in change making transactions. Tokens will not require supplemental change units or recirculating change units.
4. The TVM shall reject coins, slugs, and objects other than the above coins and return them to the user upon transaction cancellation or other interruption. The coin acceptor shall have a verifiable adjustment of its tolerance to accept coins; the adjustment shall be controllable by CATS without outside technical support.
5. A single, vertically-oriented coin slot shall be provided. The coin slot shall be closed normally except when a transaction is in process. Design of the coin slot shall minimize the possible entry of foreign objects including liquids and dirt. Where such objects are inserted in the coin slot, the coin tracks and coin acceptor shall have the maximum possible self-clearing ability.
6. Each coin re-circulating unit shall:
 - a. Allow use of inserted coins for making of change
 - b. Require the change to come from the re-circulating unit until it is empty
 - c. Dispense change from the supplemental change units whenever the re-circulating unit cannot dispense change. The maximum amount of change to be returned shall be modifiable by CATS.
7. Each coin vault shall be key-locked into the TVM and shall be removable from the TVM without tools. Any module containing coins shall not allow access to the coins when removed from the TVM. Access to coins stored in the vault shall be granted only with separate keys, different from those allowing removal from the TVM. Two coin vaults shall be provided for each TVM. One vault shall normally be in service in each TVM. The second vault shall be used in rotation for revenue collections.
8. It shall be possible to disable the coin acceptance processing from service and allow the TVM to remain in service for bill operation. Additional spare coin vaults shall be required for use during service and maintenance of the two base vaults for each TVM. Each vault shall be fitted with a device that is encoded with a number unique to that container. The device shall be used by the TVM to automatically identify the vault serial number. In addition, each vault shall be individually identified by a unique, permanently inscribed serial number; the inscribed serial number shall be identical to the encoded number.
9. The total amount of coins by denomination deposited into a vault shall be continually monitored. This monitoring shall allow the contents to be reported when the vault is replaced and prevent the vault from overfilling without warning.
10. Any unit of the coin system shall be removable and, when removed, the TVM shall remain in service for bank note transactions.

D. Bill Note Processing

1. Each TVM shall be equipped with a bill/note processing unit, consisting of the following bill handling modules: bill validator, bill escrow module, bill vault, and a chassis with its associated wiring and electronic devices. After customer has made selection but prior to inserting a payment method, the bill note processor exterior lighting shall illuminate directing where a customer can insert bills.
2. Each bill-processing unit shall accept at least 12 different types of U.S. bank notes inserted in any of the four possible length-wise orientations. The bill-processing unit shall be capable of accepting each current variant of one, five, ten, and twenty dollar bills and store all currency that

- is accepted once the TVM has begun processing a ticket. Two dollar bills are not accepted due to the limited circulation of this bill. A capability for accepting \$50 and \$100 notes is desired for future operational needs, but this capability must be able to be disabled by CATS.
3. The bill validator shall reject foreign objects, foreign bills and notes and counterfeit US bills, as well as bills not in acceptable condition. It shall be possible to disable the bill acceptance processing from service and allow the TVM to remain in service for coin operation. A single horizontal slot shall be provided for accepting or returning bills.
 4. Bills shall be vaulted separately from the coinage, and stacked. Each bill vault shall have a minimum capacity of 900 stacked bills in street condition. A bill recycler may be proposed which has equivalent servicing intervals but a lower vault capacity, for approval at CATS' discretion. Each bill vault shall be key-locked into the TVM and shall be removable from the TVM without tools. Any module containing bills shall not allow access to the bills when removed from the TVM. Access to bills stored in the vault shall be granted only with separate keys, different from those allowing removal from the TVM. Two bill vaults shall be provided for each TVM. One vault shall normally be in service in each TVM. The second vault shall be used in rotation for revenue collections.
 5. Additional spare bill vaults shall be required for use during service and maintenance of the two base vaults for each TVM. Each vault shall be fitted with a device that is encoded with a number unique to that container. The device shall be used by the TVM to automatically identify the vault serial number. In addition, each vault shall be individually identified by a unique, permanently inscribed serial number; the inscribed serial number shall be identical to the encoded number.
 6. The total amount of bills by denomination deposited into a vault shall be continually monitored. This monitoring shall allow the contents to be reported when the vault is replaced and shall prevent the vault from overfilling without warning.
 7. Time from bill insertion to bill-stacking shall be 5 seconds or less. The bill validator shall have a 95% first pass acceptance rate.

E. Credit/Debit Card Processing

1. A triple-DES compliant bank card processor (BCP) shall be provided in each TVM. The BCP shall consist of a bank card reader, a PIN pad and card control electronics, and it shall be capable of processing all electronic payment media accepted by the fare system, including: credit, debit and check cards. The BCP shall include: a keypad for entry of PIN codes (debit) and AVS Zip codes (credit), a card reader and a receipt printer meeting applicable requirements associated with debit/credit card transactions. The BCP shall be capable of completing a single fare bankcard transaction in 15 seconds or less, when financial institution authorization is provided within 10 seconds.
2. Acceptance of debit cards is to be a DCRS configurable item.
3. Credit/debit card velocity limits (maximum transactions within a 24-hour period) shall be DCRS configurable items. These limits shall be enforced locally at each machine.
4. TVM shall provide required cardholder-activated terminal (CAT) indicator as required by bank processor.
5. EMV (Europay, MasterCard, Visa) compliance: The Contractor shall provide a system which is certified as compliant with the standards of an acceptable open payment platform.

F. Ticket and Pass Issuing Unit

1. The TVM shall issue the vended ticket via a weather-protected return bin designed to minimize the possibility of jamming and vandalism. Access to the return bin shall be through a sprung plastic swivel door; the return bin shall have a drain hole.
2. Ticket stock shall comply with CATS current standards which are triplex- plastic passes. Specify limits of ticket stock size, weight, and thickness as part of the Preliminary Design Review.

3. Contactless smart card readers shall be capable of processing existing RFID cards currently available, as well as ISO/IEC 14443 RFID Proximity Integrated media. TVM shall be capable of initial loading and issuing of smart card tickets for one-ride, round-trip and weekly passes. TVM issued smartcards shall have a pre-encoded unalterable serial number.

G. Printing Unit

1. The TVM shall be equipped with a printer or printers capable of printing, encoding, activating encoding, cutting, and issuing all ticket/pass stock feeds once the purchase is made. In addition, the TVM shall be equipped to print and issue customer receipts and audit tickets for accounting and reconciliation requirements of CATS. Ticket font and format to comply with existing CATS ticket format.
2. Depending upon ticket type, the printer shall be capable of printing, at a minimum, the following information on each ticket
 - a. Expiration time (settable) in 12-hour notations, including "AM" or "PM" designation
 - b. Month, day, and year of purchase
 - c. Station name
 - d. TVM number — up to five characters/digits
 - e. Ticket type
 - f. Amount of fare paid
 - g. Serialized
3. CATS will require occasional ticket print format modifications, or additional ticket types for sale from the TVMs. Changes shall be able to be performed by CATS employees. Ticket printing format, including information to be printed, print location, orientation, size and font, number of tickets per transaction and per cut (such as the size of strips when multiple tickets are sold), and encoding information shall be controlled by programmable software and the required print file may be downloaded to the TVMs from the DCRS.
4. If enabled by the DCRS configuration item, upon customer request a receipt shall be printed containing the same information as printed on the ticket. Blank stock shall be used for this receipt.
5. Upon authorized technician request, the TVM shall produce audit tickets. At a minimum, the following audit tickets shall be provided:
 - a. Re-circulating Coin Replenishment
 - b. Coin Vault Removal / Insertion
 - c. Coin Hopper Removal / Insertion
 - d. Bill Vault Removal / Insertion
 - e. Recovered Money Inserted
 - f. TVM Current Status
 - g. TVM Revenue Status
 - h. TVM Daily Sales History
 - i. TVM Diagnostics

H. Magnetic Encoding

1. CATS will sell tickets and passes which are both magnetically encoded and smart card encoded from the ticket vending machine.
2. These magnetically encoded tickets and passes will be compatible with the existing bus farebox system supplied by CATS current farebox vendor. Following NTP, the selected vendor will be required to sign a "Non-Disclosure" document with CATS current farebox vendor in order to receive the encoding scheme. Once a non-disclosure has been completed to CATS' and CATS current farebox vendor's satisfaction, CATS will provide the encoding scheme and validation through integration to check compatibility with the bus system. Tickets sold shall be encoded

with information about the type of ticket, location of issue (platform), date and time of issuance, and expiration. In addition, any magnetic pass encoded shall also be activated.

3. The smart card shall be ISO/IEEE 14443 compliant and contain all data required by CATS to enable calculation of fare, to define specific fare products stored on the PICC, to track transaction history and to support cardholder service functions.

I. Return Bin

1. The opening for the ticket/coin return bin shall be recessed and covered with clear polycarbonate spring-loaded or weighted door that opens inward, and which does not present a pinching hazard when opened and closed by customers. The door shall be at least 0.25 inches thick and completely cover the opening when closed. The bin and its door shall be robust, scratch-resistant, and visually prominent. The geometry of the bin and its door shall minimize intrusion into the machine while the ticket/coin return bin door is open. The bin shall be designed to drain any liquids placed in the bin to the outside of the TVM. The preferred minimum height of the centerline of the ticket/coin return bin is at least 24 inches from the finished floor.
2. As soon as a customer has completed payment for a transaction or a transaction is canceled that results in coins being deposited in the ticket/coin return bin, a light in the ticket/coin return bin shall begin flashing. The ticket/coin return bin light shall continue flashing until five seconds after all tickets and coins have been deposited there by the TVM, or until the next transaction is initiated, whichever occurs first.

J. TVM Central Processing Unit (CPU)

1. The CPU for the TVM shall be rated to meet the anticipated internal TVM environmental characteristics while operating in the Charlotte area.
2. Equipped with at least three (3) USB ports or other approved computer access allowing service personnel to download statistical information manually.
3. The program controlling the TVM functions shall process all fare transactions, alarms and service requests with sufficient speed so that normal business activities are not impacted by delays attributable to slowness of the TVM processor.
4. Local storage capacity shall be sufficiently large to store a minimum of seven days of transactions, alarms, service requests, etc. Storage device shall be redundant, such as a redundant array of independent disks. Sales and configuration data shall also be backed up to a separate solid-state device.
5. Components of the CPU shall be heavy duty, commercially available items from more than a single source.
6. The TVM application will reside on a Windows Operating System compatible with domain integration with enhanced security features and auditing.

K. Customer Information Display

1. A trans-reflective, back-lit liquid crystal display (LCD), or functionally equivalent screen bearing simple, basic instructions shall sequentially instruct the patron as to the purchase of any ticket or pass available for sale by the TVM
2. Displays must be fully legible in bright sunlight and shall provide a viewing angle of least 45° from perpendicular in all directions.
3. The display shall use dark characters on a light background. Characters shall be at least 0.75 inches tall and be of sufficient contrast to make them easily readable in all ambient light conditions.
4. Context-sensitive voice messages shall provide, in audio form, the information shown on the display or otherwise conveyed through the TVM.

5. An experienced/practiced user should be able to complete a single ticket selection and be able to start making payment within 10 seconds. For demonstration purposes, this individual may be a Contractor employee.

L. Lighting

1. The TVM shall be equipped with an illumination unit that shall illuminate the front of the TVM when the ambient light conditions are low; a photoelectric eye shall control this light.
2. There shall be a light inside the cabinet to aid maintenance and service personnel, and it shall illuminate each time the cabinet door is opened.
3. Each TVM shall include a yellow status indicator visible from the front of the machine which will blink to indicate a malfunction.

M. Cameras

1. Each TVM will have an outward facing CCTV camera facing the approach to the machine. It is intended that this camera resemble those used on automatic teller machines. This camera will be connected to the operations center for monitoring and recording. Outward facing cameras will be capable of providing views of approaching passengers, maintenance personnel and others for monitoring and recording at the operations control center. It is expected that the outward facing cameras will always be on and that they will supplement other CCTV station surveillance. Internal CCTV cameras will be installed to show the revenue areas of the TVM.
2. Each TVM will have an internal CCTV camera positioned to monitor the internal revenue servicing areas. This internal camera will be activated when an HID card is used prior to a technician opening the TVM's front panel or when the front panel door latch mechanism is released. Each TVM will have internal CCTV cameras connected via the local area network to the operations control center for monitoring.
3. The specified product shall be a high-resolution 2 megapixel network camera.
4. The assembled unit shall consist of a camera and lens module, enclosure, mounting brackets, heater/blower, any integrated media converters, and back box.
5. The camera unit or TVM shall provide for live streaming using the TVM network connection.
6. The camera shall feature open architecture connectivity for third-party software recording solutions allowing integration into an IP-based system.
7. The camera shall be able to use a standard web browser interface for remote administration and configuration of camera parameters.
8. TVM cameras shall meet or exceed the following specifications:
 - a. Camera Specifications
 - 1) Sensor Type: 1/3-inch CCD or CMOS
 - 2) Maximum Resolution: 1600 x 1200
 - 3) Minimum illumination level: 0.25Lux @ F2.0
 - b. Video Specifications
 - 1) Image Compression: H.264
 - 2) Frame Rates: Configurable up to 20 frames per second
 - 3) Camera shall support least two unicast users and unlimited H.264 multicast users.
 - 4) Camera shall provide web browser software interface for setup and view with password protected security access.
 - c. Certifications and Ratings
 - 1) UL Listed
 - 2) Meet NEMA Type 4X and IP66 standards door open
 - d. Camera shall provide backlight compensation, automatic white balance, image distortion correction, and motion detection.

N. TVM Cabinet

1. All enclosures will be US-based UL certified as identified in Part 1.03 - References. The UL certification must be clearly visible and affixed on the enclosure by the manufacturer and/or installer.
2. All enclosures shall be corrosion resistant by utilizing NEMA-4X enclosures, painting or other coating. Exterior devices (bill acceptor, pinpad, etc) shall be sealable to the cabinet in such a manner that the seal (but not necessarily the device) also meets NEMA-4.
3. The fare collection equipment shall be capable of being anchored into locations other than station platforms, such as building floors, mezzanine floors, and on concrete slabs and a stand-alone base.
4. Securely install and anchor the fare collection equipment into the station platforms (a minimum of 6" deep) using approved stainless steel drop-in anchors. Conduit will be provided by the appropriate Contractor to the fare collection equipment locations. Pull strings will be available for ease of cable pulling. The Contractor will provide a mounting template to the Station Contractor.
5. The TVM shall be compatible with the existing Blue Line pedestals:
 - a. Four drilling holes shall position the TVM on the pedestal. The two holes at the front of the TVM shall be 32.1 inches apart. The two holes at the back of the TVM shall be 13.6 inches behind the front row of holes and 29.5 inches apart.
 - b. Cables must protrude within a space of 8" by 8" on the right side of the TVM.
 - c. Pedestal heights may range from 5" to 34". The TVM shall be at optimal ADA height when placed on a 5.75" pedestal.
 - d. At the point of connection, the pedestal shall be flush with the TVM.
6. The TVM shall have a heating unit installed, sufficient to ensure card stock and equipment condition.
7. The cabinets of the TVM shall form an integrated structure capable of resisting, without permanent deformation, fatigue, failure, or undue wear, and other stresses inherent in the type of service for which this equipment is intended including 200 lbs/ft² applied horizontally in any direction at the top of the machine cabinet.
8. The open TVM door hinges shall be able to withstand a concentrated vertical force of 150 pounds applied at the extreme outer edge of the door without causing damage or deformation of any part of the door or TVM cabinet. When opened, door shall be designed to eliminate external environmental conditions from entering into the cabinet, i.e. rain.
9. Except for plastic panels and covers, the fare collection equipment shall resist without damage a kick or punch resulting in a concentrated load of 200 lbs/in² while the equipment is operating and outer door is secured.
10. Fare collection equipment, including all its installed components, shall remain in operation and survive vibration of 0.6g, 5 to 60 Hz along each of three mutually perpendicular axes.
11. The TVM cabinet shall be completely unitized. All sections (excluding the leveling pedestal and light fixture) shall be suitably welded together.
12. All fare collection equipment shall be so arranged to distribute the equipment weight over the mounting base evenly. Apparatus requiring frequent inspection, maintenance or adjustment shall be readily accessible and replaceable.
13. The mounting base and housing shall be incorporated into the unitized cabinet so that maximum use of metal consistent with good engineering practices can be obtained incorporating high-strength, low weight features, and so that all fare collection equipment is able to be installed on a fully interchangeable basis.
14. All cabling and conduits shall be properly labeled and sealed.
15. The TVMs on the platform shall have the ability to monitor internal temperatures and report that information via network alarms if the temperature is outside the operating range of the equipment.

O. Keys and Locks

1. Controlled key locks shall be furnished to implement a minimum of three levels of security. The locks to each access on any TVM shall be keyed differently according to function. However, all TVMs shall be keyed alike, and match the existing Blue Line TVM for maintenance and revenue servicing. The levels defining the hierarchy of access are: full access is level A, very limited access is level C.
 - a. A = MAINTENANCE CREW AND ADMINISTRATIVE PERSONNEL
 - b. B = REVENUE SERVICE CREW
 - c. C = MONEY PROCESSING CREW AT REVENUE FACILITY
2. Each access on each TVM shall be by a lock designed to minimize vandalism and theft. All locks shall be flush mounted.
3. All keys shall be controlled and registered equivalent to existing Blue Line keys.
4. Access to the TVM and to related access to interior subassemblies requires the service technician to use a proximity card licensed by HID Global to record the action prior to starting the activity. The Contractor provided card reader is required to interface with the third-parties access control system.
5. Access and security methods may be proposed by the Contractor prior to or as part of the Preliminary Design Review, and are subject to CATS' review and approval.

P. TVM Power Supply

1. TVM shall have an accessible main power switch internal to each enclosure for removing all power from the unit.
2. The TVM shall be protected from surges. The surge protection device shall conform to UL 1449 and not utilize "crowbar" electronic components such as Thyristors, Triacs, or Thyratrons or similar acting devices.

Q. TVM Electronic Access

1. The TVM shall be programmed with individual codes and corresponding security codes, which shall restrict the actions taken by the individual based on his or her authorized activities. A detailed description of the TVM access method, security codes, restrictions per security code, and security code database content and modification procedures shall be provided for CATS review and approval as part of the Preliminary Design Review.

R. Data Collection and Reporting System (DCRS)

1. The Blue Line Extension back office computer system is independent of the existing Blue Line computer system. The new system will provide a separate fare collection data stream that shall be easily and seamlessly integrated with existing Blue Line data to provide total Blue Line (existing plus extension) fare collection reporting.
2. The DCRS shall be a state-of-the-art computer suitable for server application. Although DCRS computer hardware selection and sizing shall be the responsibility of the Contractor, the DCRS shall employ the most recently available configuration that meets the requirements of CATS and satisfies the purpose for which it is intended. Additionally suitable provision shall be provided for a reasonable expectation of growth in the number of transactions processed, memory capability and back-up storage media or devices.
3. The DCRS shall consist of computer and ancillary equipment consistent with the City of Charlotte standards. A conceptual description of DCRS hardware shall be submitted at the Preliminary Design Review for CATS Technology review and approval. Final DCRS make, model, and other hardware selection are subject to CATS Technology approval as per CATS Electronic Technology Policy at the time of the Final Design Review.

4. A DCRS shall be used to provide a CATS-approved, secure and encrypted communications and processing link between TVMs and the PC-based workstation(s) to be provided under this Contract.
5. The DCRS shall perform all required functions to upload and download information from and to the TVMs.
6. The DCRS shall fulfill the requirements of the Central Data Collection and Reporting System as designed herein.
7. All computer hardware shall be readily obtainable from multiple sources and not require any proprietary components available only from the Contractor.
8. The DCRS shall be of sufficient power and speed to perform its required functions. These shall include:
 - a. Collect, process, and store all data generated by all TVMs each day
 - b. Generate daily reports as scheduled and on demand
 - c. Respond to users' queries (via local and remote workstations) in a timely manner
 - d. Pass alarm information to the workstations.
 - e. Poll each light rail station or user workstation to determine the status of DCRS-to-station communication
9. The DCRS shall be capable of transmitting, receiving, processing, and storing data in all-possible scenarios, including
 - a. Simultaneous (asynchronous) receipt of data from all stations
 - b. Simultaneous receipt of data from one or more stations while data is being transmitted to one or more stations
 - c. Simultaneous receipt and/or transmission of data to/from TVMs while receiving report queries from workstations users, data transmissions to/from the workstation, etc.
10. The back office data processing functions/servers will consolidate all BLE data into a data stream that is acceptable to CATS' revenue processing operations. It is expected that the data from the TVM will be collected into a relational database that can be transferred into the normal processing operations of the revenue department for reporting.
11. Back-up data will be maintained locally until successful transfer has been achieved between the DCRS and the revenue department central computer.
12. A separate back office clearing-house server will be provided for charge processing.

S. TVM Configuration Management

1. All configuration files and operational parameters of the TVMs shall be managed by the DCRS. No change to these files or parameters shall be transmitted to any TVM without a record of the change being stored on the DCRS.
2. The DCRS shall store all changes made to all configuration files and operational parameters and allow for historical review of no less than the previous 100 changes made. Records of each change to TVM configuration files and operational parameters shall include the workstation user responsible for the change, the date and time the change was made, the TVMs to which the change was transmitted, and the date and time of transmission.
3. Methods to alter configuration files and operational parameters shall not require the workstation user to edit fields with a text editor, but shall instead utilize preformatted input forms supported by the relational data base manager.
4. As required in this specification, some operational parameters shall be capable of being downloaded to any single TVM, any station of TVMs, and all TVMs. All other operational parameters and configuration files shall be downloaded to all TVMs only.
5. The configuration files and operational parameters to be managed shall include at the minimum the following information:

- a. Station names
- b. TVM locations and types
- c. Fare tables
- d. TVM ticket print format
- e. Display screen configuration
- f. Operational parameters such as timeouts, vault full levels, accepted bill denominations, etc.
- g. Event descriptions, categories, and priorities
- h. Cash handling device (such as vault, hopper) serial numbers in system
- i. Digitally recorded voice message file assignments (when to play which message)
- j. Technician identification and access codes

T. Voice Messaging System Management

- 1. The voice system shall utilize either stored human speech or synthesized speech using AT&T Natural Voices Software or approved equal.
- 2. The DCRS shall provide software tools to manage the assignment of all voice messages to each step of all TVM transactions.
- 3. Management of voice messages shall also permit CATS to assign new voice messages to additional ticket types created by CATS, and to delete voice message assignments for ticket types that are discontinued by CATS. Each voice message file shall be individually tracked and managed. Voice message management is supported for English, Spanish and two additional languages. Pre-recorded voice message shall be uploaded in audio formats such as WAV or MP4, or other as approved by CATS at Preliminary Design Review.

U. DCRS Software

- 1. Software on the DCRS shall consist of current commercial versions of City and CATS-approved operating system software, relational Structured Query Language (SQL), server-based, database management software, and other applications needed to perform the DCRS functions. In addition, proprietary application software shall be supplied as necessary, and all software programs shall be configured for optimal performance of the DCRS and its associated networks. All proprietary software source code and compilers shall be submitted for escrow per the standards of the City of Charlotte.
- 2. Furnish printed technical and user documentation of all software furnished. All required software licenses shall be identified and unconditionally provided to CATS.
- 3. A conceptual description of the DCRS application software, user interface, and database tables shall be submitted.
- 4. Relational Database Manager
 - a. The DCRS shall store all pertinent data relating to the operation of the fare collection system in one or more relational databases. These databases shall be managed by a commercially available software package that shall be subject to CATS approval at the Preliminary Design Review. The database manager shall support standard Structured Query Language (SQL) commands and queries, and shall be of sufficient flexibility and power to perform the necessary functions described herein.
 - b. The relational database manager (RDBM) software package shall include the necessary add-on tools to allow CATS to customize reports, create queries, generate reports in graphical format, and integrate with software packages specified in the City of Charlotte standards. All databases shall store data in a format that complies with Open Database Connectivity (ODBC).
 - c. The RDBM shall be utilized to configure all necessary database tables, relationships, queries, reports, data entry forms, and automated data population procedures.

5. DCRS Application Software Functions

- a. Application software for the DCRS shall consist of proprietary software programs supplied by the Contractor, configuration files used to customize user interfaces and other operational characteristics of the DCRS, prepared reports and queries, special software tools, other commercially available software packages, and any other special functions resulting from software provided as part of the DCRS.
- b. Real-Time Status and Event Monitoring
 - 1) As on-line events are reported to the DCRS, a graphical summary of the status of TVMs shall be updated and maintained by the DCRS. Using graphics of sufficient detail to create a recognizable pictogram of the LYNX system map showing all stations, the DCRS shall provide current status information to a connected workstation.
 - 2) The DCRS shall indicate system status in four levels of detail. At the highest level, the pictogram shall show all stations and shall depict the status of station equipment and communications by the use of colors defined as follows:
 - a) Green - All equipment at station functioning normally
 - b) Blue - Access in progress or attention needed at one or more TVMs (priority 3 alarm in effect)
 - c) Yellow - One or more TVMs malfunctioning, out of service, or off-line (priority 2 alarm in effect)
 - d) Red - Security alert – such as intrusion, impact, silent alarm, etc. (priority 1 alarm in effect)
 - e) White - No connected equipment at station
 - 3) When a station has more than one alarm in effect, the station shall be shown in the color of the highest priority alarm. For example, if a station has one TVM out of service and an intrusion alarm at another TVM, the station shall be shown in red.
 - 4) When a workstation user selects a station, a schematic diagram of the equipment at the station shall be displayed, using the same color scheme described above to indicate the status of each TVM.
 - 5) When a workstation user selects a specific TVM from the second level of status display, detailed information about the item shall be displayed in text form.
- c. Data Polling and Event Recording
 - 1) Each TVM shall be capable of being polled at any time selected by CATS, and the polled data shall be capable of being transmitted from each TVM for a pre-selected and modifiable time slice.
 - 2) Polled data shall be available on demand and from automatic polling at a pre-selected frequency and time (such as each day at 2 AM). Received data shall be automatically processed and populated into all pertinent databases.
 - 3) The DCRS shall record the date and time each TVM was last polled.
 - 4) Polling of TVMs shall provide the following:
 - a) Cash in TVMs by coin and bill denomination in all cash storage devices
 - b) TVM status and status of all modules
 - c) Sales since last polling, separated by ticket type per day and by cash and bankcard (if a Cash/Bankcard TVM option is exercised)
 - d) Cash removed from and added to the TVM since last polling
 - e) All events recorded but not previously transmitted to DCRS
 - f) Date and time synchronization
 - g) Downloading Data and Configuration Files
- d. From any user workstation connected to the DCRS, based on password/user ID security, any authorized user shall be able to download to any single TVM, any station of TVMs and all TVMs:
 - 1) Fare tables
 - 2) Security access codes

- 3) Configuration files
- 4) Operational parameters
- 5) New and updated ticket layout and text
- 6) New and updated customer display screen text
- 7) New and updated voice message files
- 8) Any other information necessary for the operation and maintenance of the TVMs

- e. It shall be possible for any authorized user to specify the date and time when any data download is to occur, and to review and cancel any previously scheduled download.

V. Remote Control of TVMs

1. From any user workstation connected to the DCRS, each TVM shall have the capability of being controlled by an authorized user, based on password/user ID security, to perform the following functions:
 - a. Put a TVM in service or out of service
 - b. Cause the TVM to perform self-diagnostics of any selected module or all modules
 - c. Reset the TVM (such as cause the TVM to restart all programs without affecting data registers)
 - d. Enable or disable any payment mode
 - e. Updates and remote troubleshooting purposes
 - f. Note: Additionally, provided power supply is fed via remote-trip circuit breaker, allowing power to be cycled by CATS Technology from the City Network.

W. User Workstations

1. The DCRS shall be accessible from any computer with access to CATS/City internal system, via a standard web browser. A standalone application server may be used. CATS shall be permitted to have an unlimited number of user ids and 12 concurrent licenses of any and all software used to access the DCRS system and the ability to add unlimited additional user workstations without fees, conditions, or restrictions.

X. Maintenance Test Station

1. A Maintenance Test Station, consisting of spare fare collection equipment configured as a working station, shall be installed at the Bus Maintenance Facility and shall communicate with the DCRS via a networked connection (supplied by others).
2. The Maintenance Test Station shall be capable of operating in a credit card processor "sandbox" configuration. In this mode transactions can be completed by keying a special code on the pin pad. This mode shall only be available on the TVM used for the Maintenance Test Station.

Y. Database Queries and Reports

1. The software shall provide CATS with the capability to query the database to produce a series of information reports for auditing, cash and ticket control, and fare management information. The structure of the data shall be such that CATS can access the data files with database programs to produce their own reports, in addition to those provided by the Contractor.
2. Query, Report, and Database Input Forms
 - a. These input forms shall be displayed on the workstation screens and provide "fill-in-the blank" simplicity of use. Each blank on the input form shall correspond to a field in the associated database table.

- b. Each query and report shall have an input form to enter data necessary to perform the task. Each input form shall be customized to the task being performed, and all shall follow similar layout and design themes.
- 3. Query and Report Output Format
 - a. To the extent possible, the output format of all queries and reports shall be of similar style. Each report and query shall produce data in tabular format with each column clearly titled on each page. Each row of output data (excluding column titles) shall be consecutively numbered.
- 4. Queries and Reports to be Provided
 - a. Provide a minimum of 20 reports at time of DCRS delivery. The prepared queries and reports shall be presented in a menu form for selection at any time. Each query and report shall have access permissions assigned to limit availability to those users authorized to view data presented by the query or report.
 - b. Each prepared query and report shall also be capable of being automatically processed at predetermined dates, times, and frequencies. It shall be possible for CATS to identify reports to be run daily, weekly (example, every Wednesday), monthly (such as the first day, last day, or any specific day of each month), quarterly, and so on.
 - c. The queries and reports to be provided at time of delivery can be grouped into four major categories:
 - 1) Summary Reports, which provide an historical view of data within a date range. These reports shall include detailed information and/or totals of related events or transactions, and shall indicate the polling status of each TVM listed or the overall polling status of TVMs included in the report if TVMs are not listed individually. This shall include fields such as sales data, transaction times, number of abandoned/cancelled transactions and records of other conditions and events which should be logged as agreed upon during Design Reviews.
 - 2) Status Reports, which provide "snapshots" of TVM conditions, usually for the most recent data available. All status reports shall list the date and time each TVM was last polled.
 - 3) Database Reports, which provide printouts of configuration files, operational parameters, and other data used to determine operations of the TVMs. Database reports shall indicate the date and time the database table being shown was last modified and by whom.
 - 4) Comparison Reports, which provides that ability to compare prior year, month, or week with the current period. The time frame shall be selectable by CATS personnel without any involvement required on the part of the TVM Contractor.
- 5. Query and Report Customization
 - a. Software shall be provided to enable authorized workstation users to prepare new or modified queries and reports with minimum of programming knowledge. Such customized queries and reports shall be capable of being executed as they are created, and shall be capable of being added to the menu of prepared queries and reports. When added to the prepared query and report menu, customized queries and reports shall be treated by the DCRS the same as any Contractor-supplied query or report. Authorized users shall also be able to edit and delete any prepared query or report on the selection menu.
 - b. For experienced programmers, the DCRS shall permit the use of SQL commands to create specialized queries.

- c. After system acceptance, for the first 12 months of revenue service, provide technical assistance to CATS as necessary to modify or create up to 20 additional CATS specified queries and reports.
6. Polling Status and Output Data Validity
 - a. The validity of reported data shall be indicated on each query and report where necessary. Data validity shall be determined by whether the TVM or TVMs included in the report or query have been polled since the end of the reporting interval. For example, a TVM's date is valid for a report of sales and events ending noon January 1 if the TVM has been polled any time after that time, because all sales and events data up to noon January 1 will be included in the polled data. (Conversely, if the TVM's last polling is 2 AM January 1, a report for all events ending noon January 1 would not include any event that occurred between 2 AM and noon, and would thus must be considered as possibly invalid.)
 - b. If a TVM has not been successfully polled since the requested query and report end times, the query and report shall clearly indicate that the data is not valid due to faulty polling status. Where a query or report list data by individual TVM, each item shall indicate the validity of the data. Where a report or query summarizes data from more than one TVM, the validity of the data shall be indicated on the report and shall be based on whether data from all TVMs included in the report has been received since the end of the reporting interval.
- Z. Data Collection and Reporting System Alarm Monitor
 1. The fare collection system shall, through the DCRS, transmit current alarm and security conditions to the workstations.
 2. The DCRS shall send alarm conditions to the workstations and re-send alarm conditions as required in the event of non-receipt of a verification notice from the workstation operator.
 3. Communications alarms detected by the DCRS shall be treated as priority 2.
 4. All events that trigger and clear alarms (audible sirens) shall be transmitted by the DCRS to the workstations.
 5. If an "outer door open" event is received by the DCRS and a corresponding "entry authorized" message is not received within a CATS programmable time (default 45 seconds prior to door opening detected and 1 second after door opening detected), the DCRS software shall assume that an intrusion is in progress and shall transmit such an alarm to the workstations.
- AA. Equipment Modification and Configuration Control
 1. A database shall be included in the DCRS that tracks the subcomponents within each TVM. An input form and database report shall be provided for this database.
 2. The configuration control records shall include an identification serial number and nameplate information, of each major component and part installed and assembled in each TVM. The configuration control records shall also include software and firmware revision levels of all major serialized components. Training of CATS staff in the management and maintenance of this database shall be provided prior to fare collection system equipment installation. Once revenue service begins, maintenance of the configuration control database shall be the responsibility of CAT after CATS personnel have demonstrated understanding of the system.
- BB. Network Security
 1. Access to the fare collection system, either directly through the Fare Collection Network Controller or any of its devices, shall securely utilize active directory NT Authentication. Unauthorized users shall not be able to alter or view data. The network environment shall be secure, in accordance with ANSI X9.24, Retail Financial Services Key Management and shall

conform to the Policies and Procedures of the City of Charlotte, PCI-PADSS requirements and INL/EXT-06-11478 recommendations.

- a. Access to the system shall be protected by logins and passwords that adhere to the Policies and Procedures of the City of Charlotte, with various levels of access as appropriate to ensure a secure database.
- b. All unused port numbers shall be disabled in software.
- c. Users shall be assigned passwords based upon the security level requirements associated with their specific functions.
- d. Passwords shall be modifiable only by the password owner and by use of a master password.
- e. Password databases shall be encrypted so that they are not readable by displaying the contents of the database.
- f. Entered passwords shall be masked on the display monitor.
- g. Revenue data, such as sales and transaction data, vault contents data shall not be alterable by anyone.
- h. The DCRS shall store data describing all TVM configuration changes, including who made the change, the date and time of the change and the configuration of the TVM prior to and after the changed configuration.

CC. DCRS Network Administrator

1. DCRS software shall perform all necessary administrative functions for the DCRS network.
2. The Contractor is to provide all necessary tools to allow CATS to efficiently administer the DCRS computer.

DD. Workstation Interface

1. Workstation software and hardware will conform to City of Charlotte Standards, shall be fully compatible with communications with the DCRS, and shall support the variety of uses described in the Contract Documents. A web browser based interface, specific to each workstation type, shall be supplied that provides the functionality required for the purposes intended.
2. Workstation User Interface
 - a. The workstations connected to the DCRS shall, to the extent possible, employ a user interface that is similar across all workstations and application programs.
 - b. While many functions will be common between workstations, each workstation shall have application software that is designed to perform the tasks associated with the workstation.
3. Administrative Interface
 - a. The Administrative Workstation shall provide those functions necessary to administer the DCRS and other elements of the DCRS. Other general workstation functions, such as querying the database and generating reports, shall also be supported.
4. Revenue and Maintenance Interface
 - a. The Revenue and Maintenance workstations will be the most heavily used workstations:
 - 1) Monitor status of DCRS
 - 2) Monitor status of TVMs
 - 3) Manage TVM configuration and operational parameters
 - 4) Manage fare tables
 - 5) Initiate and schedule upload and download of data from and to TVMs

- 6) Query database and generate reports
- 7) Read data from SSMMs and format/initialize SSMMs for use in installed TVMs
- 8) Manage voice message system, and create, delete, and edit voice messages
- 9) Remotely control TVMs

5. Security and Alarm Monitor

The workstations shall have application software that provides the following features:

- a. A security and alarm-monitoring program shall be configured to automatically execute upon reboot and power up of any workstation.
- b. Events shall be indicated by the security and alarm monitoring application on the workstations in the following manner:
 - 1) Priority 1 Events (on-line) shall be reported both visually and audibly at the workstation.
 - 2) Priority 2 Events (on-line) shall be reported visually.
 - 3) Priority 3 Events (on-line) shall be reported visually.

2.2 FABRICATION

Not used.

2.3 INSPECTION AND TESTING

- A. The Contractor shall conduct a full program of testing, the purpose of which shall be to demonstrate the System fulfills all of the specifications and requirements as set forth herein. All systems, components, installation, and any associated workmanship or materials are required to be reviewed, tested, and accepted prior to turnover. The Contractor shall test all functional requirements set forth in the specification have been met by the System.
- B. Contractor shall prepare and deliver a comprehensive Acceptance Test Plan that describes all the activities and tasks associated with testing during each test phase – Factory, Field, and Operational. At a minimum, the Contractor's Acceptance Test Plans shall conform to the requirements of ANSI/IEEE Standard 829 and shall contain the following elements:
 - 1. A summary statement of each test phase.
 - 2. A list and schedule of test items to be performed during each phase.
 - 3. A test itinerary identifying each individual test to be performed, the anticipated duration, staffing requirements, the purpose of the test, the method of testing, step-by-step description of the test procedure, the conditions that shall exist at the start of the test, and expected results with pass/fail criteria.
 - 4. A description of the overall test environment including: test equipment details; test equipment configuration sketches and diagrams including cabling requirements; and hardware and software required for the test, including the number and type of devices to be used during the test and/or the method of simulation.
 - 5. A description of the expected outputs (reports, database listings, statistical analyses, etc) to be provided to document the test results, test incident report forms, and test incident log.
 - 6. Contractor shall include provisions for a test credit card to be created for testing a complete credit card transaction.
- C. Factory Acceptance Testing (FAT)
 - 1. The purpose of the Factory Acceptance Test shall be to verify that equipment to be supplied functions as described in these specifications. It shall involve the inspection by CATS of all major

physical components of the System furnished under this contract as well as testing the functionality in a controlled environment in accordance with the Factory Acceptance Test Plan. At a minimum, the Factory Acceptance Test shall include, but is not limited to:

- a. Physical inspection of equipment panels and cabinets for conformance with approved shop drawings
 - b. Network-based System communications functions
 - c. Server and workstation performance features
 - d. Video transmission quality and format
 - e. Operator and administrator functions
 - 1) On-site reports
 - 2) Money change
 - 3) All other operating and administrative functions as required by this specification
 - f. API functions
 - g. Testing of payment methods (coin, bill, token, credit, debit, smartcard)
 - h. Security (entry, keying, alarms)
 - i. Stress testing of DCRS (simulated transactions from 60 TVMs)
2. Prior to the initiation of the factory test, the Contractor shall have submitted, and CATS-approved, draft copies of the hardware, software, and operations documentation, training manuals, and any other documentation that is required for full system operation.
 3. Acceptance of the factory test results shall not relieve the Contractor of the responsibility for the installed system to meet the specifications as set forth herein.

D. Field Installation Acceptance Test

1. The Field Installation Acceptance Test shall be performed on the final installed equipment, properly connected, configured, and interfaced to the actual field devices. Field Installation Test shall demonstrate the full and complete functionality of the final, installed system. Simulation may only be used to perform stress and performance testing.
2. Preliminary as-built drawings shall be available during Field Installation Test so their accuracy can be verified by CATS in the field.
3. Field Installation Acceptance Test shall be conducted by the Contractor. Contractor shall perform each test as described in the Field Installation Acceptance Test Plan in its entirety with the use of actual system equipment. Contractor shall determine the detailed results of each test and shall record the success (pass) or failure of each test.
4. After the Contractor has completed the Field Installation Acceptance Test, CATS will also conduct a Field Installation Acceptance Test. Acceptance of the field installation test results by CATS shall not relieve the Contractor of the responsibility for a fully operational system to meet the specifications as set forth herein.
5. Any repairs, construction, or modifications as required to comply with this section shall be performed by the Contractor without additional cost. Contractor shall make changes or perform additional work as CATS may direct, for proper performance, functionality, and operation of the system, prior to the start of the 30 Day Operational Test.

E. 30 Day Operational Test

1. At least 60 days prior to the commencement of the 30 Day Operational Test, the Contractor shall submit an Operational Acceptance Test Plan to CATS for review and approval.
2. Operational Acceptance Testing shall commence following notification by CATS that the results of the Field Installation Acceptance Test are satisfactory and following receipt of the Contractor's certification that the system is ready for 30 Day Operational Test.
3. The 30 Day Operational Test shall be performed on the final installed and configured hardware and software. During the test, normal system use shall be available to all system users utilizing all

- applicable manuals, printed guides, and procedures submitted by the Contractor. The Contractor shall periodically perform various operations to verify correct system operation. These operations shall be specified within the Operational Acceptance Test Plan.
4. During the Test, the system shall be monitored by the Contractor within the performance standards set forth herein under full operating conditions for a period of thirty (30) consecutive calendar days. In the event of error or other malfunction, including but not limited to, equipment failures or a failure of the System to comply with the Functional and Technical System Requirements, the Contractor shall make the necessary corrections as they occur at no additional cost. At the completion of the thirty (30) consecutive calendar days, the Contractor shall demonstrate to a 95% confidence interval that the reliability requirements are met, using a statistically valid analysis to be described in the Operation Acceptance Test Plan and approved by CATS. If reliability fails to be demonstrated during the 30 Day Operational Test, the test period shall continue to be extended by 15-day intervals until the reliability requirements specified herein are demonstrated successfully. In parallel, the warranty period of the entire system will also be extended by 15-day intervals. Data from earlier test periods shall continue to be included in the analysis unless the Contractor has justified to and been granted approval by CATS to exclude specific earlier failures which are expected to be addressed by subsequent design changes or bug fixes.
 5. The Contractor shall perform any re-calibration, re-configuration, or re-programming of the System required as part of the normal operational configuration and to correct any system bug or errors encountered to insure that the system performs in accordance with this specification and required sequence of operations. All changes performed must be fully documented by the Contractor and shall not be implemented without prior approval by CATS.

2.4 RELIABILITY

- A. Subject to the manufacturer's recommended maintenance practices, the Fare Collection System shall be designed for a minimum service life of 15 years of operation in the Northeast Blue Line Extension service area. All equipment is expected to operate seven days per week and twenty-four hours per day. The selected manufacturer shall supply parts and materials for the entire anticipated service life.
- B. The ticket processing concept proposed by the contractor shall be demonstrated and shown to meet reliability criteria as a system prior to acceptance of the TVM. Ticket system performance shall include transport jams, read-write errors, ease of bezel entry, resistance to moisture, printing of graphics and frequency of repair of replaceable items.
- C. Reliability measures shall be based on a mix of fare media and shall include ticket, contactless cards, coin, bill jams and tokens, credit cards, debit cards and pin pads. Cycles shall be defined as:
 1. One complete fare payment (TVM). This would include all required actions from fare media selection completion of the ticket transaction (encoding and activating of a ticket, printing, issue of a ticket, issuing change and providing a receipt; determining available fare from contactless card, deduction, updating card info, display of info to customer and serialization of media).
- D. For the purposes of this contract, the measure Mean Cycles Between Failure (MCBF) shall be used to determine reliability. Failures shall not include acts of excessive vandalism (the equipment shall be designed to withstand minor acts of vandalism), use of out of specification stock, mutilated coins or bills, or inadequate or improper maintenance, unless such maintenance was the responsibility of the Contractor, or a result of improper or inadequate training by the Contractor. The MCBF calculation shall include any transaction that cannot be completed due to DCRS failure. The Mean Cycles Between Failure for the TVMs shall be 15,000 mean-cycles between failure.
- E. The designed Mean Time Between Failure (MTBF) for the DCRS shall be 25,000 hours.

- F. The TVM and DCRS will be maintained by replacing faulty modules. The following maintainability criteria for Mean Time to Repair must be met:
 - 1. Rail Station Equipment – 0.5 hours
 - 2. DCRS – 0.6 hours

2.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's labeled packages. Store and handle in accordance with manufacturer's requirements, in a facility with environmental conditions within recommended limits.
- B. Protect all equipment against damage during transit and storage. All equipment shall be shimmed, braced, blocked, and tied down to prevent distortion or other damage during transportation.
- C. All materials shall be properly stored and handled to prevent deterioration or damage due to moisture, weather, temperature, corrosion, contaminants, dirt, vandalism, or other causes.
- D. After delivery to the work site, a field inspection of the equipment shall be made by the Contractor. If any equipment has been damaged or for any reason does not comply with the requirements hereof, the Contractor shall replace the equipment at their own cost even though this equipment may have been previously inspected and approved for shipment.

2.6 WARRANTY

- A. The Contractor shall provide a warranty for all equipment for a minimum of one (1) year from the completion of the 30-Day Operational Test.
- B. Where the original equipment manufacturers standard warranty is longer than one (1) year, this warranty shall be transferred to CATS.

PART 3 - EXECUTION

3.1 GENERAL

- A. Software Source Code And Documentation:
 - 1. Provide both paper documentation and two (2) electronic copies of all software as installed. The paper copy and one electronic copy shall be provided for secure local storage by CATS. The second electronic copy shall be stored off-site of CATS at a secure location.
 - 2. If the source code is not available to the user (CATS) then a code escrow arrangement shall be negotiated between the supplier and CATS giving CATS the right to access the code should the supplier of the code be unable to function as a viable business entity.

3.2 PRE-INSTALLATION

- A. Surface Cleaning: Clean out openings immediately before installing and comply with manufacturer's written instructions.
- B. Confirm power circuits are installed and can be activated
- C. Confirm data cable has been installed and can be activated.

3.3 INSTALLATION**A. DCRS Installation**

1. Power source and communications will be available within 10 feet of the DCRS. Environment control will be supplied by others.
2. Furnish and install a rack onto which all DCRS hardware shall be installed. Rack(s) shall have enough capacity to support an additional 20% of equipment for future expansion.
3. Supply any devices necessary to interface between supplied power and communication lines and the workstations, and make all necessary connections.

B. Wire and Cable Installation

1. Make the proper SCADA, fiber and electrical connections, including the furnishing of wire, cable, and other materials as necessary.
2. All fiber optic and communication cable will be encased in a CATS-approved innerduct prior to pulling through conduit. As part of the Preliminary Design Review, submit specifications for wiring and cabling to CATS for review and approval.
3. Where power or communications cabling passes through junction boxes, at least 36 inches of additional cable shall be left neatly coiled in the box. Splices of the data cable in junction boxes are not permitted; all connections shall occur inside TVMs or inside communications enclosures.
4. All conduits and cabling will be clearly labeled and visible with a weatherproof, phenolic label. All labeling will be identified on all as-built and single-line diagrams and electronically (Excel Format) submitted to CATS as part of the preliminary design review.

C. Finishing Requirements

1. The interface between the bases of the TVM and the station platform shall be sealed with a material approved by CATS. The seal shall perform as a durable, attractive, watertight seal and shall be resistant to abrasion, weather, staining, and migration. The seal shall not deteriorate in any manner except as indicated in manufacturer's data. The seal shall be installed in compliance with the manufacturer's requirements and recommendations. It shall be possible to remove and replace the Fare Collection Equipment without damage to the platform, anchor bolts, or the equipment.

D. Installation Procedures

1. Not less than 60 days prior to delivery of the first Fare Collection Equipment, submit for CATS' review and approval drawings of the equipment installation, indicating details on the equipment installation, and electrical and communications connections. In addition, the installation and removal procedures shall be sufficiently detailed such that CATS could perform TVM installation and removal.

3.4 FIELD QUALITY CONTROL

- A. Conduct complete inspection and testing of equipment, including verification of operation with connected equipment.
- B. Test devices and demonstrate operational features for Owner's representative and authorities having jurisdiction, as applicable.
- C. Correct deficiencies until satisfactory results are obtained.
- D. Maintain test records in an orderly manner.

- E. Submit written copies of test results.

3.5 TRAINING

- A. The Contractor shall supply course description, outline and syllabus draft user, maintenance and administrator manuals for CATS review and approval. This shall include all training plans and credentials of the trainers.
- B. The Contractor shall deliver training to enable CATS personnel (including contractors) to configure, operate, maintain and repair the equipment and software supplied. This shall include, as a hands-on training exercise for CATS personnel, the final configuration and set up of the production DCRS application, the implementation and testing of the connection with Credit/Debit processor and installation and commissioning of one production TVM. The training shall be considered complete when the Contractor trainer certifies that CATS personnel who had undertaken the training are qualified to install, configure, maintain and repair the TVM and DCRS applications.
- C. Following the training, the Contractor shall deliver the draft trainer notes for CATS review and approval. The trainer notes shall be sufficiently detailed to enable CATS trainers to deliver the same training program to CATS staff at a future date.
- D. The Contractor shall provide a comprehensive program to educate and train designated CATS personnel to operate, service, and maintain the equipment and system. The training shall be sufficiently comprehensive so as to ensure that CATS has the expertise and capabilities to maintain the Fare Collection System so that its operation meets the system performance criteria for the design life of the system.
- E. The Contractor shall be responsible for the following training program activities:
 - 1. Developing the Training Program and Courses
 - 2. Preparing a Training Program Plan and Schedule
 - 3. Providing qualified instructors
 - 4. Supplying syllabus, handouts, manuals, classroom aids and audiovisual equipment
 - 5. Conducting the training sessions
 - 6. Providing DVD video of at least one complete session of each training course
 - 7. Testing trainees to verify personnel proficiency
 - 8. Providing follow-up training as required
 - 9. Training and certification levels required to allow for the procurement of all materials required for proper operational and maintenance support.
- F. Training Program General Requirements
 - 1. Practical "hands-on" training on the actual equipment and systems software shall occupy a significant portion of all training classes.
 - 2. All training presentations and material shall be in English.
 - 3. Training shall be provided to bring designated CATS employees and contractors to the level of proficiency required for performing their respective duties.
 - 4. Instruction shall be tailored to the specific needs of each class of CATS personnel to be trained or familiarized on the system and equipment; e.g., maintenance-related emphasis for technicians; revenue collection and reporting emphasis for revenue personnel and management; general overview for executive management.
 - 5. All training sessions shall occur at CATS-designated facilities.
 - 6. Instructors shall have previous experience performing similar training for other clients. They shall be thoroughly familiar with the technical information in advance of the training session and shall

- be competent in the proper methods of instruction and use of training aids, audiovisuals and other classroom materials.
7. Production-level fare collection equipment configured for revenue operation shall be used for training. The Contractor shall restore such equipment to normal operating condition with the completion of the training courses. Use of the equipment for training purposes shall not void or otherwise modify warranty provisions.
 8. Training materials shall be kept consistent with system design and documentation, including manuals and drawings. Any updates to these shall be reflected in the training materials and course curriculum as well.
 9. Training of fare technicians shall be of sufficient detail so that CATS' fare technicians become highly proficient in the diagnosis and repair of the TVMs as required.
- G. Training Schedule: All training shall be scheduled in coordination with and for approval by CATS. The schedule shall be consistent with the following factors:
1. Production equipment and system software are available to support "hands-on" classroom training.
 2. Completion of training will occur in time for CATS personnel to perform their duties related to the new Fare Collection System prior to system implementation;
 3. Lag time between training completion and actual use of skills will be minimal.
 4. Availability of existing personnel may be affected by current responsibilities and may limit number of personnel available by time of day.
 5. Maintenance technician classroom training shall occur prior to field equipment installation. Proficiency testing shall be scheduled on installed and tested equipment.
- H. Training Program Plan: The Contractor shall submit a Training Program Plan for review and approval. The training program plan shall include the following information, as a minimum:
1. Program Description
 - a. General description of the training program
 - b. Training courses included in the program
 - c. Sequence of training and system installation activities
 2. Program Schedule
 3. Course descriptions
 - a. Course objectives and content
 - b. Targeted trainees of each class
 - c. Prerequisite skills and knowledge of course trainees
 - d. Training methods to be used (e.g., classroom presentation, hands-on practice, paper and pencil exercises, etc.)
 - e. Methods and criteria for evaluating performance, including an objective grading system to report progress of trainees during the training
 - f. Resources to be provided by Contractor, including system equipment and software, handout material, audio-visual equipment, video recorders (for documenting at least one class of each training course)
 - g. Resources required from CATS, including classroom, field and shop space; vehicles, facilities with installed equipment, etc.
 - h. Approximate time, in days and hours per day, required for classroom and field training
 - i. Maximum class size
 4. Contractor's Training Staff Experience, including resumes.

I. Training Course Curricula and Materials

1. Training shall occur only after CATS review and approval of all training course curricula, materials and manuals.
2. The curriculum and training material for each course shall include the following:
 - a. Course Outline and Lesson Plan: Lesson title, lesson objectives, instructing sequences (outline), tests, trainee competency pass/fail criteria, and summary. Maintenance courses shall include a section devoted to system fault analysis and troubleshooting.
 - b. Student Guides: Notebook containing descriptive information, drawings and procedures for trainees to refer to during training courses and to assist them in achieving competency in their assigned duties.
 - c. Instructor Material: Used initially by the Contractor instructors, the Instructor Material shall be in sufficient detail to enable CATS management and supervisors to, in turn, train newly-hired or newly-assigned CATS personnel.
3. At the completion of all training courses, one set of training material originals, camera-ready and suitable for reproduction, shall be delivered to CATS.

J. Training Courses

1. The Contractor shall provide at minimum the courses identified in below. The Contractor shall determine if additional training is required to meet the Contract requirements.
 - a. System Overview and TVM Assistance
 - b. TVM Servicing – media replacement and vault exchanges
 - c. TVM Field Maintenance – Preventative and Corrective Maintenance Manuals
 - d. TVM Shop Maintenance – Shop Repair and Overhaul Manuals
 - e. DCRS Fare Management - DCRS Workstation User's Manual
 - f. DCRS Software Administration – DCRS Administrator's Manual; DCRS Report Formatting Manual
 - g. IT Administration – DCRS Design and Database Structure Manual; TVM Software and Programming Manual
 - h. Revenue Reconciliation

K. Manuals – General

1. A complete documentation plan, identifying all manuals and the development and delivery schedule for each to operate and maintain the TVMs is necessary. All manuals are to be provided in the English language.
2. The manual shall be complete, accurate, up to date, and thoroughly cross-indexed with no extraneous material such as advertisements or irrelevant information.
3. Manuals shall be bound in hard or flexible covers. Illustrations shall be clear; and printed matter, including dimensions and lettering on drawings, shall be legible. If reduced drawings are incorporated into manuals, original lines and letters shall be darkened as necessary to retain their legibility after reduction. Larger drawings may be folded into manuals to page size. Any reproduction shall be of near-perfect quality. No blotched or poorly readable areas on any reproduction are allowed. Material shall also be submitted electronically in original format, approved by CATS at the Preliminary Design Review, and PDF.
4. All manuals are to use nomenclature, symbols and designations common to those found and approved by such bodies as the Institute of Electrical and Electronics Engineers (IEEE), which are common to the USA work place. References to supplemental information shall be included where necessary. All manuals shall include final as-builts, single-line diagrams, cable/conduit labeling information and panel schedules.
5. Manuals shall be written in English and assembled so that a person possessing reasonable intelligence and skill could take the manual and maintain or operate the specific system or equipment without difficulty or requiring assistance from other sources.

6. Manuals furnished may be manufacturer's standard publications in regard to size and binding provided they comply with specified requirements relative to quantity and quality of information and data and upon approval by CATS.

L. Operating Diagrams

1. Electrical wiring diagrams and other diagrams necessary for operation of the equipment shall be provided for Fare Collection Equipment
2. No single diagram shall show more than one system or parts thereof
3. Diagrams shall be reproduced by photographic process to a size not to exceed 18 inches by 24 inches and shall be complete and legible in all respects. Systems shall be subdivided into portions, which are operable from location where diagrams are installed, and to provide intelligible information within specified size. They shall be made on white paper and vacuum-sealed in transparent plastic material impervious to moisture and oil, and resistant to abrasion. Other formats which are equal in clarity, sharpness, durability, and permanence will be considered.

M. TVM Manuals

1. TVM Operating Instruction Manual – shall contain all information needed for safe, proper, and efficient operation of the Ticket Vending Machines. Manuals shall include general orientation and familiarization with all features of the TVM. Detailed information shall be provided regarding location, function and operation of all controls, indicators, switches hardware and reset buttons, and trouble diagnosis. All normal operational sequences shall be described in detail.
2. TVM Preventive Maintenance Manual – shall contain all information needed to enable maintainers to perform all periodic inspection and preventive maintenance tasks including all routine lubrication, inspection and replacement of consumable items. The manual shall contain recommended preventive maintenance schedules grouped, as much as possible, into compatible and convenient intervals of time, or operating hours. If binder size limitations permit, this manual may be combined with the TVM Corrective Maintenance Manual.
3. TVM Corrective Maintenance Manual – shall contain all information needed to enable maintainers to diagnose problems, and to make adjustments and repairs to all TVM components and sub-assemblies. Repairs include adjustments, repairs or replacements prescribed to restore the TVM components and subassemblies to a normal operational condition in an efficient and timely manner. The manual shall include:
 - a. A general description of each subsystem, component and subassembly
 - b. Procedures to exchange all major components
 - c. Functional block diagrams
 - d. Detailed schematics
 - e. Wiring diagrams
 - f. Pictorials with exploded views to permit easy part identification
4. TVM Shop Repair and Overhaul Manual – shall contain a detailed description of each assembly and subassembly to enable maintainers to service, maintain, repair, replace, rebuild, and overhaul the TVM. If binder size limitation permits, this manual may be combined with the TVM Parts Manual. The manual shall include:
 - a. Circuit board diagnosis and repair procedures
 - b. Complete systematic procedures
 - c. Wear and tolerance limits for determining when overhauls are needed
 - d. Overhaul procedures for all major components
 - e. Special tools and equipment required
 - f. Pictorials with exploded views to permit easy parts identification

5. TVM Parts Manual – shall enumerate and describe every TVM component with its related parts, including the supplier’s number, the Contractor’s number, and provision for entry of CATS stores number. The manual shall include:
 - a. A complete list of spare parts with vendor’s name, contract, part number and current price list is to be provided 6 months prior to installation.
 - b. Cut-away and exploded drawings shall be used to permit identification of all parts not readily identified by description.
 - c. Parts common to different components, such as screws, shall bear the same Contractor’s number with reference to the other components where they are found.
 - d. Each part or component shall be identified as being part of the next assembly.
 - e. Commercially available items such as standard fasteners, fuses, lamps, fittings, switches, solenoids, and motors shall be identified by standard hardware nomenclature in addition to the Contractor’s number.
 6. TVM Software and Programming Manual – shall describe how to operate and maintain the TVM software. Procedures for updating the TVM application software source code, including data files, data file structure, and data file mapping and cross-referencing.
- N. DCRS Manuals: DCRS Manuals shall be organized and shall include as a minimum the following information:
1. OEM Manuals – shall be provided unaltered. All manufacturers’ hardware and software documentation for the DCRS, workstation, and any associated networking hardware and software shall be supplied in their entirety. Where appropriate, these manuals may be bound with the Contractor’s documentation.
 2. DCRS Administrator’s Manual – shall supply all necessary procedures to administer the DCRS and the associated networking hardware and software. Administrative requirements of the DCRS operating system software shall be described in detail or specific references to the manufacturer’s operating system documentation shall be supplied. All administrative procedures, including managing user accounts, data archiving, and backup creation and restoration (full and incremental) shall be provided in this documentation. All functions performed only on the DCRS Administrative Workstation shall also be documented in this manual.
 3. DCRS Workstation User’s Manual – shall provide complete documentation on the use of the Revenue and Maintenance Workstations. All functions supported by these workstations shall be fully explained, including logging onto the system, querying the database, generating reports, altering fare table and other operating parameters, downloading data, polling TVMs for data, managing the voice messaging system, and proper responses to all input requests. Extensive use of sample screens shall be employed throughout the manual.
 4. DCRS Report Formatting Manual – shall provide instructions on how to create new queries and reports and to modify existing reports. Instructions on how to add reports to the list of prepared reports, to schedule reports for automated generation at predetermined times, and to delete unused reports shall also be provided. All instructions should include instructions on how to setup combined reports (including data from both the existing and new back-office equipment) which will allow workstation users to obtain this data seamlessly without special intervention. If necessary, specific references to manufacturer’s documentation shall also be provided to clarify instructions. If binder size limitations permit, this manual may be combined with the DCRS Design and Database Structure Manual.
 5. DCRS Design and Database Structure Manual – shall describe the design of the DCRS network architecture and the communications protocols used between the DCRS, TVMs, and the DCRS workstations. The manual shall provide a complete description of the database structure, including definitions, parameters, and relations for all database fields, records, and tables.

6. Wiring diagrams shall be provided that reflects the as-built condition of the communications system.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Each Unit Price for Items listed below shall include the cost of incidental Work required to provide a complete and proper installation.

4.2 MEASUREMENT

- A. Work for the construction as specified in this Section for Item No. 34 54 16.01 TICKET VENDING MACHINES and as shown on the Contract Drawings will be measured per Each, furnished and installed.
- B. No separate measurement will be required for Item No. 34 54 16.02 DATA COLLECTION AND REPORTING SYSTEM. Payment will be made on Lump Sum basis.

4.3 PAYMENT

- A. Payment for designated work of this Section will be paid per Each for Item No. 34 54 16.01 TICKET VENDING MACHINE.
- B. Payment for Item No. 34 54 16.02 DATA COLLECTION AND REPORTING SYSTEM will be made at the lump sum price bid. Such lump sum price will be full compensation for all materials, equipment, tolls, labor, and incidentals necessary to complete the work.

4.4 PAYMENT ITEMS

- A. Payment will be made under:

34 54 16.01	TICKET VENDING MACHINE.....	EA
34 54 16.02	DATA COLLECTION AND REPORTING SYSTEM	LS

END OF SECTION 34 54 16

APPENDIX B:
LYNX BLUE LINE EXTENSION
DESIGN CRITERIA – 24. TECHNOLOGY
(15 Pages)

24. TECHNOLOGY

24.1 Introduction

CATS shall operate in a manner consistent with the maintenance of a shared, trusted environment within the City enterprise network and provide the protection of sensitive data and business transactions. In accordance with CATS' Electronic Technology Policy (CATS ET01), CATS' Chief Transit Technology Officer (CTTO) serves as compliance officer, ensuring all information security policies and procedures are enforced, and ensuring that corrective actions are taken when processes or procedures are found to be non-compliant.

CATS Technology, under the direction of the CTTO, manages and coordinates all connectivity to the City of Charlotte (City) enterprise network. Only CATS Technology team members may connect or make changes to the network infrastructure. During the design submittal process, CATS Technology will evaluate all equipment for compliance before it may be installed or connected to the network. This includes, but is not limited to, equipment such as printers, fax machines, laptops, workstations, communications devices, fire/safety equipment, HVAC controllers, recording devices, wireless devices, cameras, etc.

All users accessing any network connected devices must be approved by the CTTO, have reviewed all security and usage policies, and have a City issued unique User ID account. Sharing of User ID accounts is strictly prohibited. Each User ID account must be authenticated before access to network resources will be granted. Detailed information for password authentication can be found in the City Password Policy.

This chapter is a portion of the entire BLE Design Criteria. Additional information may be found in other supporting chapters. Appendix B highlights cross-references between chapters. Please review Appendix B and any other Design Criteria chapters referenced in the text for additional relevant information.

24.2 Standards, Codes, and Guidelines

Below are applicable policies, procedures and guidelines to be used in the design of system infrastructure.

- CATS ET01 *Electronic Technology Policy*
- CATS ET02 *Electronic Technology Access and Security*
- City of Charlotte (CoC) – *Information Security Policy & Procedure Manual*
- CoC BSS 8 – *Computer Network and Internet Access Policy*
- CoC IT-001 – *City Password Policy*
- CoC STD-NETWORK-001 – *Structured Cabling Infrastructure for Voice (Telephone) and Data Communications*
- CoC STD-PROTOCOL-001 – *Service Transport Protocol*
- CoC STD-SOA-001 – *Service Oriented Architecture*
- *Control Systems Cyber Security: Defense in Depth Strategies*, report #INL/EXT-06-011478, Department of Homeland Security (DHS). (May 2006)
- Payment Card Industry (PCI) Security Standards Council for the transmission of credit card data
- PCI Data Security Standard (PCI DSS) credit card compliance
- Payment Application Data Security Standard (PA-DSS) credit card compliance
- *BICSI Telecommunications Distribution Methods Manual*, 11th Edition

- ANSI/EIA/TIA-569-B *Commercial Building Standard for Telecommunications Pathways and Space*
- NFPA 70, *National Electrical Code*, National Fire Protection Association (NFPA). (2008 Edition)
- National Intelligent Transportation System (ITS) Architecture, Version 6.1, United States Department of Transportation (USDOT) - Research and Innovation Technology Administration (RITA)

24.2.1 City Hardware / Software Standards and Preferences

Any proposed technology solution must address full vendor allowing for software and hardware updates, patches, releases and upgrades to maintain, support, and secure the proposed environment. The solution must prevent unauthorized intrusions or modifications. This applies to the infrastructure, data, databases, configuration, hardware, and applications.

Computer hardware and software shall fit within the City's current technology environment. Implementation of any new hardware or software should require minimal changes to existing City systems. It is preferred that new software use architectures (e.g., database and reporting solutions) that build upon or are compliant with those already implemented at the City. Similarly, where system integration is required, new software installation should include the implementation of these interfaces and the Service Provider should identify means of minimizing any changes to the systems being interfaced with.

Recognizing that the BLE is a long-running project, if the technology versions reflected in the design criteria are out of date and the vendor is attempting to purchase like technology, please pursue the version that is most current at the time of acquisition but has also been on the market for at least one year and tested with the City's software and hardware environment. The following table provides a summary of the City's current technology environment.

Table 24 – 1 Charlotte's Technology Environment

Technology Category	Technical Architecture Summary
Telephony	Avaya (legacy), Cisco
Call Recording System	NICE / Verint
Network Hardware	Cisco
Network Communication Protocol	TCP/IP
Wireless	Cisco CAPWAPP architecture, 80211ABGN protocol, AES 256 bit encryption, PEAP authentication, IEEE 802.11i
Server Hardware	HP Proliant series, Dell (legacy), Sun (legacy)
Server Operating Systems	Windows Server 2008 and above, Red Hat 5 and above, Solaris 10 and above (legacy)

Technology Category	Technical Architecture Summary
Virtual Operating Environments	VMWare
Storage	HP, Dell (legacy) & EMC SAN storage
Database Systems	Oracle Database Server 11g and above, MS SQL Server 2008 and above
ETL/Data Mapping Services	SQL Server Integration Services, Oracle Warehouse Builder
Business Intelligence / Data Warehousing	Tableau
Application Servers	.NET Framework, Oracle Application Server, WebLogic
Web Servers	Microsoft Internet Information Services v7 and above, Apache
Application Languages	MS VB.NET, ASP.NET, C#.NET, PL/SQL, JSP, Javascript, and Java J2EE are among the City's development toolsets in use.
Application Client	Browser-based implementation is preferred. Client operating systems may include Windows 7 and above. Browser clients should support Microsoft Internet Explorer Version 8 and above. If an actual client installation is required, it must be tested by the City to confirm that it does not conflict with other existing desktop components.
GIS Platform	The City uses ESRI's software for its GIS platform. Any spatial databases shall be compatible with the City's implementation of the ESRI Geodatabase using ArcSDE. Web-based GIS tools/components shall use ArcGIS Server.
Reporting Services	Third-party products such as Business Objects / Crystal, COGNOS, Oracle Reports, and Microsoft SQL Reporting Services are supported for application-specific reporting. The City has a preference to utilize Microsoft SQL Reporting Services toolsets.
Portal Services	Microsoft Office SharePoint Services
E-mail Services	The City uses Microsoft Exchange with the Microsoft Outlook e-mail client.
Security	Security Access to the Software must be restricted by assigning user credentials to authorized users. Enterprise authentication services are provided by Active Directory.
Desktop Operating System	Windows 7
Business Productivity	MS Office 2010

24.2.2 Service Oriented Architecture

The City maintains a Service Oriented Architecture and prefers new technologies that apply the following Service Oriented Architecture elements:

- The system groups functionality around business processes and provides access to this functionality via interoperable services
- Supplied services are engineered to improve system agility and to be generic and reusable
- Disparate system components share related data to ensure consistency
- Web services delivered as part of a commercial-off-the-shelf application and web services developed for the City of Charlotte as part of any engagement must adhere to City of Charlotte Service Oriented Architectural Standards and Development Guidelines

24.2.3 Security Requirements

The City of Charlotte is committed to protecting its information resources from accidental or intentional intrusion. To accomplish this, the City will require information security features be included with software/hardware purchases. These purchases must meet the latest security criteria of the DHS' Recommended Practice: Improving Industrial Control Systems Cybersecurity with Defense-In-Depth Strategies, October 2009 and the Payment Card Industry (PCI) Council for the transmission of credit card data. If the software/hardware will process credit cards, providers should include PCI and PA-DSS compliance letters. Firewalls and IDS/IPS will be purchased separately by the City of Charlotte. The Information Security design and implementation must be approved by the Chief Security Officer of the City of Charlotte to ensure the security requirements are met for the Blue Line Extension. Specific Information Security procedures and standards can be supplied upon request.

24.3 Cabling

24.3.1 Fiber Cabling

Fiber-optic cabling is steadily replacing copper wire as an appropriate means of communication signal transmission. Fiber-optic cabling spans long distances and provides the backbone for many network and surveillance systems. See City of Charlotte Standards - Structure Cabling Infrastructure for Fiber Based Communications.

All cabling will be installed and placed as directed in the BICSI Telecommunications Distribution Methods Manual, Registered Communications Distribution Designer and the manufacturer's guidelines. All cable will be tested and certified by the installer to manufacturer's specifications using a calibrated fiber Optical Time Domain Reflectometer test set. Testing results will be provided to the City of Charlotte's Business Support Services Information Technology Division. New construction and major renovation projects will be registered with the manufacturer and the installer/contractor will provide the City of Charlotte a manufacturer's warranty for a minimum of 5 years from time of acceptance.

24.3.1.1 City Fiber Optic Cabling

Fiber optic cabling installed for the sole use of City Business Support Services Information Technology (BSS/IT) Group to provide data and Internet Protocol (IP) voice solutions to CATS facilities shall be configured as follows:

- Fiber cabling shall be installed with cable slack at each street crossing manhole.
- Slack will be 50' from each direction (100' total for each cable) at each manhole.
- Fiber will be spliced at each manhole.
- BSS fiber will go to the North Yard Site, the Central Communications House and the proposed parking decks.
- 24 strand capacity minimum.

24.3.1.2 CATS Fiber Optic Cabling

All fiber optic cabling installed as data and voice communications shall be configured as follows:

- Fiber for CATS is continuous between Station Communication Cabinets.
- Fiber cabling shall be installed with cable slack at each Station Communication Cabinet.
- Slack will be 13' from each direction (26' total for each cable) at each Station Communication Cabinet.
- Slack for CATS fiber will not be required at manholes or pull boxes along the alignment.
- 24 strands of CATS fiber will be from the Station Communication Cabinets to park-and-ride facilities / parking garages.
- 6 strands of CATS fiber will be to Traction Power Substations (TPSS) and Central Instrument Houses (CIHs).

24.3.1.3 CDOT Fiber Optic Cabling

Fiber optic cabling installed for the sole use of Charlotte Department of Transportation (CDOT) to provide communication solutions to CDOT traffic devices along the rail corridor shall be configured as follows:

- Fiber cabling shall be installed with cable slack at each street crossing manhole.
- Slack will be 50' from each direction (100' total for each cable) at each manhole.
- Fiber will be spliced at each manhole.
- 72 strand capacity minimum.

24.3.2 Copper Structured Cabling System (SCS)

An SCS is comprised of all required equipment and cabling to provide connectivity across a network. The equipment and cabling may include hardware, termination blocks, cross connect wire or cordage, patch panels, patch cords, telecommunication outlets, work area cords, shielded cables, and Unshielded Twisted Pair (UTP) cables. The connectivity links data, video, and voice data from each device to a network file server or network switch designated as the service point of the local area network.

Cabling installed for CATS shall meet the following criteria:

- The design will be prepared by the vendor's Registered Communications Distribution Designer and reviewed by the City of Charlotte Communications Division
- Cabling will not be accepted without a letter of approval from the supplier indicating completion of pre-qualification requirements

24.3.2.1 Structured Cabling Systems (SCS) Installation

The SCS will serve as a vehicle for transport of data, video and voice telephony signals throughout the network from designated demarcation points to outlets located at various desks, workstations and other locations as indicated on drawings and described by the City of Charlotte Communications Division.

24.3.2.2 Structured Cabling Systems (SCS) Hardware

Within each discrete network/system, the vendor must provide a SCS in which all components, to include all cross connect and termination apparatus, are constructed by a single supplier. Components are defined as:

- All copper cabling (Category 6 – plenum, riser, and non-plenum)
- All interconnecting apparatus
- Copper Patch Panels
- Information Management Outlets (IMO)
- Modular 8- Position/8 Conductor Information Jacks
- Modular 110 style or 66 punch down blocks

24.3.3 Media Converters / Fiber Optic Transceivers

Fiber optic transceivers are used to convert data signals from fiber optic media to copper media when used in extended data runs where the local network media will not span the entire distance. No City IT managed equipment will use external transceivers. Media Converters / Fiber Optic Transceivers shall include the following characteristics:

- Secure interface for remote administration and management
- Internet Protocol (IP) configuration
- Online diagnostic monitoring for optic temperature, voltage, transmit power level and receive power level.
- RJ45 and fiber interface statistics to include broadcasts, CRCs, input/output rates, and interface resets.

24.4 Conduit

The important factors in conduit design are size, location, and amount of conduit required. Consider not only the currently installed cables but the likelihood of having to add cables in the future. Fill factor, or conduit fill, states the maximum amount of space that the installed cables should occupy in a given size conduit. National guidelines and local codes to be considered when planning a conduit installation include ANSI/EIA/TIA-569-B and the National Electrical Code. In the case of fiber based cables, see City of Charlotte Standard - Structure Cabling Infrastructure for Fiber Based Communications (draft).

All conduit shall meet the following minimum criteria:

- Dedicated conduit will be provided for data requirements; this includes copper (Ethernet, audio, serial, etc.) and fiber optic cables

- Dedicated conduit will be provided for power requirements; this includes the power needed to meet the installation requirements for technology based devices or groups of devices
- Power lines for technology based items must not be shared with power pathways for industrial equipment
- Conduit design must provide future expansion capacity by including innerduct or spare conduit runs
- PVC conduit must be Schedule 80 encased in fines or Schedule 40 encased in concrete

24.5 CCTV/Enterprise Security Systems

CATS' enterprise security system works as a sentinel across numerous locations and facilities. The secure nature of the enterprise technology provides time-and-date-stamped information for CATS.

The equipment shall consist of Network Video Recorders (NVRs) and CCTV Internet Protocol (IP) cameras as well as High Definition Fixed and Pan Tilt Zoom (PTZ) cameras, IP switches, proprietary troubleshooting equipment, monitors, etc. Designated CATS staff will be required to monitor/control live video feeds and retrieve recorded video through their network connected desktop PC.

The contractor will provide the training for CATS staff to operate and maintain a fully functioning system. Users with CATS approved credentials will have the ability to control all of the PTZ cameras on the new system from any work station with the client software on the City Wide Area Network (WAN).

The system shall record all cameras to an IP addressable NVR. Video storage for each new NVR must provide the capacity to store 20 days of recorded video per camera, recording at 15fps and 16 times Common Intermediate Format (16CIF) each (or 1080p), or better. In addition, the NVR shall store selected video recordings to a server-based stored solution for long term storage. All NVRs must be set up to perform time synchronization across the City WAN to a Network Time Server via Network Time Protocol (NTP).

These enhanced video recorders will allow for the integration of the LYNX BLE rail system with the current monitoring systems already in use on the LYNX Blue Line. The system shall integrate with the existing CATS enterprise video monitoring/recording system via the City WAN. Each NVR shall be integrated with the existing CATS Access Control System (ACS). The NVR shall be integrated via TCP/IP over the City WAN. Integration shall allow the NVR to input alarms from the ACS and also output CCTV alarm and recorder trouble conditions to the ACS. Integration shall also allow the ACS monitoring workstations to view live and recorded video and control PTZ cameras. Alarms from the ACS shall cause the following actions to occur:

- The CCTV camera associated with that ACS alarm point will move to a preset position
- The record rate and image quality will be increased as specified for the CCTV camera associated with that ACS alarm point
- A minimum of 30 seconds of pre-alarm video from the CCTV camera associated with that ACS alarm point will be stored
- Live video will be transmitted from the CCTV camera associated with that ACS alarm point to designated alarm monitoring workstations in the CATS Command Centers

The cameras and related equipment and software shall allow for monitoring by City staff through the City WAN. The system shall allow the stored video to be played back in the forward or

reverse direction, frame by frame, and from beginning or end of the clip using standard VCR-like buttons. Reviewed video clips or still images may be zoomed in or out. The images may be printed via a network printer. Single JPEG or HTML images or video clips in standard formats may be exported to a CD-RW or DVD for recorded video removal. Playback of exported images shall be possible from any Windows based PC. Video authentication, via digital signature or similar method, shall assure that images are not altered in any way.

24.5.1 CCTV Cameras

All CCTV Cameras shall meet the following criteria:

- IP based
- Pan/tilt/zoom capabilities
- Installed using direct single mode fiber or CAT6 UTP Ethernet cabling
- Provide control to Transit Center Police Department and other CATS locations across the City network and connectivity to other City Departments. Access to live and recorded video to all approved clients on the City network.
- Have the ability to block video coverage of non-approved areas

24.5.2 Network Video Recorders (NVRs)/Video Servers

NVRs and video servers shall meet the following criteria:

- Support unlimited client/user connections to each NVR
- IP based systems capable of supporting CCTV IP cameras
- Support video analytics
- Capable of enabling every camera on the system with internal video motion sensor alarms
- Capable of providing a programmable, multilevel response in the occurrence of an alarm condition (e.g., open/close auxiliary relay, display activity camera on screen, change record rate, automatically e-mail alarm message, etc.)
- Equipped with a pre-alarm recording function, which can be set to record a minimum of 30 seconds of pre-alarm video, from external or built-in video motion detection alarm events
- Compatible with CATS current enterprise security and CCTV system and monitoring software
- Have the ability to block recording by section, also known as privacy zones.
- Allow individual cameras to be recorded in different modes, at different frame rates, at different resolutions and on different schedules. Global settings for all cameras are not acceptable.
- Domain group security configuration compatibility
- Include enhanced security features for video retrieval allowing control of viewing, copying and retaining of the videos to only authorized persons.

24.6 Ticket Vending Machines (TVMs)

The current credit card system on CATS' LYNX Blue Line TVMs is designed to work with credit cards only and no debit. The TVMs have pin pads installed but are not being utilized by CATS at this time. Future plans are to have debit card transactions available to the public and any planning for future TVMs will need to incorporate credit/debit functionality. Compatible pin pad for use with debit is required.

Any additions to the current TVMs will have the ability to tie to the existing TVMs' Central Management System for reporting and system administration. The TVMs on the platform will have the ability to monitor internal temperatures and report that information across the network via an alarm should the temperature get too high or drop below the minimum operating range.

The TVMs will be located under a canopy built to provide protection from rain and other environmental factors.

Separate conduit will be installed for power and data. The conduit will be routed to the communication house to provide data connections to the Local Area Network (LAN). Connections will also be provided to allow connection from the intrusion and degradation relays installed in the TVMs across the LAN to any City location to allow alarms to be sent and alerting the staff to TVM issues. TVMs will also include CCTV capabilities. The TVM application will reside on a Windows Operating System compatible with domain integration with enhanced security features and auditing. Each TVM must be capable of being remotely controlled for support, updates, and remote troubleshooting purposes. Each TVM will alert the Central Management System with all alarms that occur on the TVM. Alarms shall be configurable to the alert status and priority. Each TVM will have remote capabilities to place it in service mode for remote troubleshooting and testing. TVMs shall operate independently when servers are not available. The preferred local personal edition database will be from the same vendor as Server Relational Database Management Systems (RDMS).

All components specified for use with the TVM must meet or exceed the current PCI-DSS and PA-DSS compliant standards.

24.7 Public Contact Systems

CATS messaging systems shall provide reliable displays, adhere to industry standards, and easily integrate with CATS scheduling, monitoring, and National Transportation Communications for ITS Protocol systems. The information displays are to be used to provide public information pertaining to the type of transportation, movement, and safety and security messages. The information must be transferred to the display system and the display system must be able to accept, translate, and display the information delivered. The Public Information Display System is a medium to present the information from varying sources. The Public Information Display System shall accept any information formatted for display and present either audibly or visibly. These devices shall provide guidance to passengers through stations/transit centers, notify them of proper boarding locations, alert them to scheduling, and present marquees and advertising possibilities. The Public Contact Systems include Variable Message Signage (VMS), audio announcements, Passenger Assistance Telephones, Station Control Processor Units, and Master Control Processor Units which are detailed in Design Criteria Chapter 17 – *Communications*.

24.8 Rail Communications Systems

Communication systems play a vital role in providing information to CATS rail controllers and technology based devices at each rail station and parking facility. Likewise, many public amenities such as TVMs, Surveillance, Public Address, Messaging, and many other systems are serviced by these communications components. See Design Criteria Chapter 17 – *Communications*.

24.9 Network Infrastructure

CATS' infrastructure currently uses Cisco products for the existing Blue Line such as the Cisco ONS 15454 Multiservice Transport Platform, Cisco ONS 15310-CL SONET Multiservice Platform, and Catalyst 2950 switches. The CATS Blue Line extension design and hardware specifications must provide 100 percent compatibility with the existing infrastructure. In order to ensure this compatibility, the network design and hardware specifications must be approved by the City of Charlotte Network Architects prior to hardware purchase and design commitment. In addition, to further aid in hardware selection, the applicable IEEE standards, protocols and specifications are listed below:

- IEEE 802.1AX-2008 (link aggregation)
- IEEE 802.1AE (MACsec)
- IEEE 802.3at-2009 (POE)
- IEEE 802.3af-2003(POE+)
- IEEE 802.1p (QOS)
- IEEE 802.1x (PNAC).
- IEEE 802.1Q VLAN tagging
- IEEE 802.3ac (Q-tag)
- IEEE 802.3ae (10GBE)
- IEEE 802.1AB (LLDP)
- IEEE 802.1d (STP)
- IEEE 802.1w (RSTP)
- IEEE 802.1s (MSTP)
- Protocol-Independent Multicast (PIM)
- Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3)
- Internet Group Management Protocol v3 (IGMP)
- Differentiated Services Code Point (DSCP)
- Mean time between failures (MTBF) of 100,000 hours
- Small Form-Factor Pluggable (SFP & SFP+)-based Gigabit Ethernet/Ten Gigabit ports
- 24 hours per day, 7 days per week, 365 days per year product support. The switches are configured to comply with the City of Charlotte Senior Technology Advisory Team protocol standards. A list of the protocols allowed and not allowed can be referenced in the Service Transport Protocol suite policy.

24.9.1 Powered over Ethernet (PoE) Functionality

PoE removes the need for wall power to each PoE-enabled device and eliminates the cost for additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments. PoE devices shall be incorporated in the design of the BLE when appropriate and available.

24.10 Uninterruptible Power Supply (UPS)

24.10.1 UPS for Workstations, Servers, and Switches

Each workstation, server, and switch should be powered up through a Backup UPS. The UPS shall provide the following functionality:

- Filters, conditions, and regulates the power
- Protects the systems from fluctuating voltages, surges and spikes, and noise that may be on the power line
- Maintains the critical load of the devices attached for a minimum of 10 minutes during a power outage
- Provides internal monitoring to alert when the UPS is failing or battery life is not expected to keep the system up for the required duration
- Provides external alerts to the condition of the UPS and all UPS devices via email, SMS messaging, and web interface for ad hoc monitoring

24.10.2 Generators

The generators to be used for technology support shall provide the following functionality:

- Provide load support for technology equipment, HVAC, lighting, phone system, and communication and network room
- Calculation of generator load for specific facility
- Dual power distribution switch gear with automatic transfer switching

24.11 Workstations

Contractor shall coordinate with CATS Technology to determine the latest approved PC configurations before final project PC equipment is selected.

Additional requirements of redundant network interface cards will be necessary to support the network infrastructure of the rail system. Video cards must be able to accept up to four monitors with unique information on each display.

24.12 Server Standards

CATS will only accept servers previously tested and accepted by City of Charlotte BSS/IT. CATS adheres to these configurations and standards when considering the purchase of a new server. The following minimum specifications should apply to any acquired server:

- Redundant power supplies
- Redundant 1 GB / 10 GB NICS
- Redundant internal fans
- RAID controller w/ 256mb (or greater) cache and the ability to do RAID 5 or RAID 1 with a spare drive.
- Ability to be monitored down to the component level with SNMP
- Must be able to be monitored by HP Systems Insight Manager

24.13 Fail Over Services

The Rail Operations Control System shall have fail over capabilities with redundant services. A primary service and a secondary, dormant, service will exist. If the system senses that the primary service is not working correctly, the system will automatically shift to the secondary service and alert the Rail Controller with an alarm. The system shall be configured to send external alerts for any event. This fail over process accounts for the failure of a single process as well as for the failure of an entire suite of services. The failure of a server will send alerts to the Rail Controller and CATS Technology and any other configurable group requiring notification.

24.14 Database Standards

The Relational Database Management Systems (RDMS) shall follow procurement standards and guidelines for database systems for CATS. Databases range from simple text files and small workgroup databases to full RDMS. RDMS's include full feature development and maintenance tools, as well as enterprise class reliability, performance, and stability. Regardless of the sophistication of the system under consideration, CATS Technology should have an opportunity to review the technology as early as possible in order to make recommendations and plan for potential integration in the CATS environment.

24.14.1 Rail Operations Control Center (ROCC) Database Requirements

All database systems shall functionally integrate without significant limitation to performance or security within a Microsoft Windows centric, IP-based network environment. All server based database systems shall comply with best practices for security configurations and complex passwords support and support the National ITS Architecture standards.

Consistent with the City-wide goal of standardization on a single platform, the preferred RDMS is Microsoft SQL Server of the latest or next to latest version. When preferred vendors only support Oracle, the most recent supportable version is the next preferred RDMS.

24.15 ROCC Train Control System (See also Design Criteria Chapters 16 – *Signal Systems* and 17 – *Communications*)

24.15.1 Application

The ROCC Train Control System shall be compatible with Windows Server Operating System and will have graphic interfaces for all activities within the system. The ROCC Train Control System will directly interface with the centralized servers and will not have a third party interface controlling the application communications between differing operating systems.

24.15.2 Database

The database requirements for the ROCC Train Control System will be compatible with the server operating system chosen for use with the system. Current standards are Microsoft Server and Microsoft SQL server.

24.15.3 User Authentication

The ROCC Train Control System will utilize domain group based user authentication for system operation, supervision, and maintenance. User authentication will be utilized for all aspects of the ROCC Train Control System.

24.15.4 System Communications and Operations

The ROCC Train Control System will provide communications from field equipment, train control, internal servers and system utilities, providing a centralized system. The ROCC Train Control System will integrate with a Time Server receiving time from GPS, providing synchronized time to all devices within the rail system.

24.15.5 System Archiving

The ROCC Train Control System will maintain 90 days of operating activities and events in a database. Items older than 90 days will have the ability to be archived and purged from the system and moved to long term storage media. Recovery of archived data shall allow for a user to recover data from a date range even if data is stored daily. Graphic interfaces for system maintenance and manual archiving and recovery should be provided in addition to the necessary SQL steps to perform a bulk data archive and purge from the database while maintaining full data consistency. Alerts will be logged, alarms will be presented to the Rail Controllers, and automated alerts will be delivered via a selection of email, SMS, page, etc. Audible recording of Rail Controller communications will be recorded and archived for use with training, reporting, and accident investigations.

24.15.6 Development Environment

The ROCC Train Control System shall have a development environment which will allow for the testing of any updates, modifications, field device inputs, or any other changes deemed necessary. The development environment will be independent of the production environment with simulated train controls and field inputs. The development environment will in no way affect the production environment and will reside on separate hardware and network (VLAN). The development environment will have total separation from servers, databases, displays and yard movements and will be independent of the production system.

24.15.7 Playback

The ROCC Train Control System shall provide a means of displaying playback of all events within a defined period of time. All activities will be displayed in a visual means as if in the live system. The playback feature will show the logs for all Rail Controller activities through the ROCC Train Control System. The playback features for audio announcements (ad hoc, train control, and canned) are addressed through a separate system.

24.15.8 Reporting

The ROCC Train Control System will provide reports for all activities that occur within the system. Alarms, events, train movements, logins, controller activities, supervisor activities, and any changes within the system will be logged and can be viewed in

reports. Each event type shall be separated into distinct reports and also have the ability to be combined into multiple report presentations. Report configuration will be dynamic and shall utilize the current database reporting environment.

24.15.9 Infrastructure – Domain Integration

The ROCC Train Control System will utilize domain integrations for all operating systems and for user control within the application and on the operating system. Users will be controlled by groups. Groups are controlled by permissions defined by the domain and the domain policy.

24.15.10 Network and System Monitoring

The ROCC Train Control System shall utilize a network and system monitoring utility. The monitoring utility will monitor all services within the ROCC Train Control System as well as all services and devices within the field. Alerts will be delivered via email. The controlling alert criteria will be configurable via a graphic interface and stored within the system database. Reports can be generated to display the system configuration reports. Hardware will be monitored for up and down activities. Predictive analysis software will be provided to determine when a component may be operating out of specifications and requiring maintenance. The monitoring system shall display the system health in a web style graphical dashboard with drill down capabilities from high level display to component level. Viewing rights to the dashboard will be controlled by domain groups having appropriate permissions.

24.15.11 Alarm Processing / Alerting / Silencing

The ROCC Train Control System shall present alarms in real time to the rail controller and rail supervisor. Alarms will also be presented to the system dashboard or to external devices having the appropriate software and configuration to view alarms. Alarms will be configurable to change the tone, volume, audible alert sound, criticality, and external notification. Alarms shall have the ability to be delivered to external devices. Alarms connected to the ROCC Train Control System shall be manageable (i.e. added, removed, reconfigured, etc.) via the system configuration utility. Reports can be generated for specific alarms indicating mean failures and trends. Reports will also be generated for specific periods of time for statistical analysis.

24.16 Automated Passenger Counter (APC) System

The APC contains both infrared and temperature sensor technology to detect when passengers enter and exit the Light Rail Vehicle (LRV). The sensors are located above each door on each LRV. The APC sensors are only activated when the doors open and no motion (brake applied) is detected. Raw passenger count information (how many people enter and/or exit) is collected in addition to the stop coordinates (lat/long), which are then linked back to the rail station coordinates (lat/long). A computer onboard each vehicle stores the raw count data until it is transmitted via wireless connection to the iNiT mobile statistics database at the LRV facility. Mobile statistics software analyzes and smoothes the raw door count data collected to correct inconsistencies in the passenger data. A balancing algorithm is used to adjust the boardings and alightings to each rail station for use in ridership reporting.

If vehicles do not transmit APC data for 2 or more days, an email is automatically generated and sent to a distribution list comprised of Market Research, Light Rail Operations, and CATS

Technology. This email alerts Light Rail Maintenance to check on the vehicle and determine whether it's been out of service or truly has a lapse in APC data reporting. If the lapse has occurred, the data is manually retrieved from the onboard computer and loaded into the Mobile Statistics application. If the onboard computer has failed and APC data is not available, an estimate will be calculated based on the trips ran during the time period APC data was not collected. The estimate becomes final when approved by the CATS Director of Marketing and Communications.

24.17 Wireless Technologies

To protect its information resources from accidental or intentional intrusion, the City will require that equipment security features are included with all wireless hardware purchases. These purchases must meet the latest City standards for wireless equipment hardware. The City must review and approve the equipment security features. It is required that all access points must be designed to be connected to the City's wireless LAN controller, a device managed by City of Charlotte - BSS/IT, and must comply with the City's Lightweight Access Point protocol and Control and Provisioning of Wireless Access Points protocol.

24.18 Automated Parking Counter and Way Finding System

The automated parking counter and way finding system provides available parking lot space counts to motorists planning to ride the LYNX Light Rail System. The automated parking counter and way finding system will count vehicles entering and exiting at each parking location and provide the counts to a centralized system. The centralized system provides the count to information signs located at or near the entrance of each park and ride location, which display the amount of parking available. Each sign will also display the parking available at any lot adjacent to the current parking area as well as any parking location North or South of the current station. Displaying the parking availability at the adjacent North or South location will provide the way finding portion of the project. The system proposed for the BLE will have a similar interface and must be interfaced to provide data communications with the existing Blue Line system. The objectives of the system are to:

- Provide a system that will guide motorists to the nearest available light rail parking facility with available parking
- Support City and regional parking initiatives
- Provide light rail parking counts via variable message signs, webpage, mobile devices, and text messages
- Integrate current parking technologies and centralize the application and database
- Implement a way finding solution that will accommodate future additional parking facilities

END OF CHAPTER

4. PROPOSAL FORMAT.

The City desires all Proposals to be identical in format in order to facilitate comparison. While the City's format may represent departure from the Service Provider's preference, the City requires strict adherence to the format. The Proposal will be in the format described below:

- a. Cover letter;
- b. Executive Summary;
- c. Background and Experience as requested in Section 5;
- d. Proposed Solution as requested in Section 4;
- e. Proposal Forms set forth in Section 7;
- f. Exceptions to the RFP, including Terms and Conditions of the Sample Contract in Section 8.

All Proposals shall be 8 1/2" x 11" format with all standard text no smaller than eleven (11) points. All submissions should use tab dividers corresponding to the content requirements specified below. Proposals must include a digital file including the entire Proposal in a searchable format such as Adobe Acrobat.

Service Providers are required to organize the information requested in this RFP in accordance with the format outlined. Failure of the Service Provider to organize the information required by this RFP as outlined may result in the City, at its sole discretion, deeming the Proposal non-responsive to the requirements of this RFP. The Service Provider, however, may reduce the repetition of identical information within several sections of the Proposal by making the appropriate cross-references to other sections of the Proposal. Appendices for certain technical or financial information may be used to facilitate Proposal preparation.

4.1. Proposal Content.

4.1.1. Cover Letter.

The Proposal must include a letter of transmittal attesting to its accuracy, signed by an individual authorized to execute binding legal documents on behalf of the Service Provider as outlined in Section 1.6.3. The cover letter shall provide the name, address, and telephone number of the Service Provider along with the name, title, address, telephone number and email address of the executive that has the authority to contract with the City. The cover letter shall present the Service Provider's understanding of the Project, a summary of the approach to be undertaken to perform the Services, as well as a summary of the costs to provide the Services.

Each Service Provider shall make the following representations and warranty in its Proposal Cover Letter, the falsity of which might result in rejection of its Proposal: **"The information contained in this Proposal or any part thereof, including its Exhibits, Schedules, and other documents and instruments delivered or to be delivered to the City, is true, accurate, and complete. This Proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead the City as to any material facts."**

4.1.2. Executive Summary.

The Service Provider shall submit an executive summary, which outlines its Proposal, including the proposed general management philosophy. The executive summary shall, at a minimum, include an identification of the proposed project team, responsibilities of the project team, and a summary of the proposed Fare

Section 4

Proposal Format

Collection System. This section should highlight aspects of this Proposal, which make it superior or unique in addressing the needs of the City.

4.1.3. Background and Experience.

The Service Provider shall provide a concise description of the company, including origin, state of incorporation, background, and current size as requested in Section 5. Include information concerning general organization and staffing as well as experience with similar Fare Collection Systems as described in Section 3.

4.1.4. Proposed Solution.

Given the purpose of this project and the City's goals as stated in this RFP, provide a solution to meet such goals. Following is a framework and questions to guide your organization's suggested solution. Please address the following as completely as possible. **If you wish to add supplemental information, it shall be labeled "Supplemental Information."**

4.1.4.1. Process.

What steps will your organization take to ensure that the transition/implementation for the Project runs smoothly?

4.1.4.2. Transition Plan.

The Company shall prepare and submit to the City for approval a comprehensive and detailed Transition Plan, which describes in detail all tasks and resources associated with the transition of the Fare Collection System to the Company (the "Transition Plan") with minimum disruption to the City's operations. The Transition Plan is subject to the terms set forth in Section 8 of this RFP.

4.1.4.3. Project Plan.

Prepare and submit a draft Project Plan (preferably in MS Project format) to describe, to the best of your ability, all times, tasks and resources associated with the performance of Services. The Project Plan is subject to the terms set forth in Section 8 of this RFP.

4.1.4.4. Client Relationship Management.

Describe the communications scheme that your organization will use to keep the City informed about the progress of the Project.

4.1.4.5. Risk Management.

Describe the risks associated with this contract. What contingencies have been built in to mitigate those risks?

4.1.4.6. Specifications.

Each Proposal must meet or exceed the technical and performance specification set forth in the RFP. Exceptions to specifications must be fully described in the Exceptions section of the Service Provider's Proposal.

4.1.4.7. Pricing.

The City is requesting firm fixed price Agreement for BLE installation and firm fixed pricing for five (5) years to purchase option quantity of TVMs. Pricing **MUST** include all aspects of the Project. Please refer to Section 7 for a pricing worksheet to assist you. Additional pricing

Section 4

Proposal Format

options or information beyond the requirements of the RFP may be included as part of the Supplemental Information section of the Proposal.

- 4.1.5. Required Forms.
To be deemed responsive to this RFP, Service Providers must submit the Proposal Forms in Section 7.
- 4.1.6. Exceptions to the RFP.
Exceptions must be submitted in accordance with Section 1.6.19 of this RFP. If exceptions are not identified in your Proposal they may not be considered during Agreement negotiation and could result in Proposal being rejected from further consideration. **If legal council needs to review the Agreement before your Company can sign, reviews must be completed before your Proposal is submitted. Terms and Conditions mandated by municipal, state or federal law are non-negotiable.**

Section 5

Background and Experience

5. SERVICE PROVIDER'S BACKGROUND AND EXPERIENCE.

Please answer the following questions as completely as possible, placing your answer immediately after the question to which it applies. **If you wish to add supplemental information, it shall be labeled "Supplemental Information."**

5.1. Official Name.

Provide the legal name and address of the company and state of incorporation submitting the proposal. Also identify all subcontractors or joint venture partners.

5.2. Service Provider Background.

Provide an overview and history of your company. How long has the company been providing Fare Collection Systems? Describe the organization and ownership. Include an organization chart.

5.3. Proposing Organization's Structure.

- a. Describe your total organization, including any parent companies, subsidiaries, affiliates, and other related entities;
- b. Describe the ownership structure of your organization, including any significant or controlling equity holders;
- c. Provide a management organization chart of your overall organization, showing director and officer positions and names and the reporting structure. Provide detailed information for the Fare Collection business segments of your organization, showing the reporting structures within these segments and among these segments and the overall organization; and
- d. Describe any organizational changes such as divestitures, acquisitions, or spin-offs involving your Fare Collection business segments that have occurred in the latest two (2) years or are anticipated in the future.

5.4. Not used.

5.5. Guarantor.

The nature of the relationship between the Service Provider and its guarantor is crucial to protect the City in the event that the contracting Service Provider defaults on its obligations. If the parent company of a proposing Service Provider is serving as the guarantor, then the parent company **must indicate in a letter its willingness to guarantee all contractual obligations of the Service Provider**. If the Company that is serving as guarantor has a relationship with the Service Provider other than a parent/subsidiary relationship, then a detailed explanation of all past and present relationships between the Service Provider and its guarantor must be provided, in addition to a letter from the guarantor indicating its willingness to guarantee all contractual obligations of the Service Provider.

Any financial information requested of the Service Provider in the following section must similarly be provided for the guarantor. In the event of a joint submission or Proposal, all proposing entities must provide statements specifying the extent to which each entity will act as guarantor and provide all relevant financial documents for all entities involved in the joint venture. Additionally, if there is more than one (1) guarantor, then the guarantors must be jointly and separately obligated.

Section 5

Background and Experience

5.6. Not used.

5.7. Proposed Project Team.

If the Service Provider's proposal submission will be from a team composed of more than one (1) company or if any subcontractor will provide more than fifteen percent (15%) of the Services, all participating companies must be identified. Provide a description, which includes the teaming relationships, form of partnership, each team member's contribution, and the experience of each team member, which qualifies them to fulfill their responsibility. Provide descriptions and references for the projects on which team members have previously collaborated. Identify the extent, if any, of Disadvantaged Business Enterprise participation in this Project.

5.8. Past or Pending Judgments.

For purposes of this Section, the term "Related Entity" means any parent, subsidiary, affiliate or guarantor of the Service Provider. For all matters involving the Service Provider providing products or services to local, state or federal government, submit declarations of the current status of any past or pending criminal, civil, or administrative litigation against the Service Provider or any Related Entity. For all matters involving the Service Provider providing products or services to local, state or federal government, in addition, submit declarations of the current status of all pending criminal, civil or administrative litigation that commenced within the past five (5) years in North America, whether or not it involves local governments, against the Service Provider or Related Entity. (For the purpose of the declarations, current officer, shall be defined to include those individuals who are presently serving or who have served within the past two (2) years as an officer of the company.) State whether there are any cases pending against the Service Provider, a Related Entity, officer of either, that, if adversely resolved, would pose a material risk of insolvency to either the Service Provider or Guarantor or materially affect the Service Provider's or Guarantor's ability to perform their obligations.

The respondent may choose not to submit records for matters that were resolved prior to the time that the subsidiary or affiliate became associated with the parent company, as long as that subsidiary or affiliate will not be involved in the provision of Services to the City. All records for subsidiaries or affiliates of the parent company that may be involved in the provision of Services to the City must be included.

The City reserves the right to request additional information to explain any of the above citations/violations.

5.9. Management Approach.

- a. Describe your organization's customer service philosophy and describe how it is communicated and reinforced throughout the organization;
- b. Describe your organization's approach to total quality management, and describe your organization's total quality plan;
- c. Describe your organization's continuous improvement program and how your current customers benefit from your service improvements; and
- d. Describe your organization's experiences in adapting to changing technologies.

5.10. Personnel Management.

- a. Describe the key individuals, along with their qualifications, professional certifications and experience that would comprise your organization's team for providing Services to the City;

Section 5

Background and Experience

- b. Explain how your organization ensures that personnel performing technical support services are qualified and proficient;
- c. Describe your organization's approach, policies, and experience with respect to deployment of your personnel; and
- d. Has your organization been the subject of a dispute or strike by organized labor within the last five (5) years? Describe the circumstances and the resolution of the dispute.

5.11. Client List and References.

Provide a list of current clients and an organization name, address, contact name, and contact telephone number of five (5) customers of comparable size and scope of service that your Company has been under contract with to provide a Fare Collection System during the past two (2) years.

5.12. Financial and Legal Considerations.

The Service Provider must have the financial information requested in this section readily available and have the ability to provide it to the City, **without exception**, within two (2) working days upon the City's request during the Proposal evaluation process.

DO NOT INCLUDE THE FINANCIAL INFORMATION REQUESTED IN THIS SECTION WITH YOUR PROPOSAL SUBMISSION.

The evaluation of financial viability of the Service Providers was developed with one primary goal in mind: to protect the City from risk of default by a selected Service Provider due to financial instability. Various analytical techniques will be used to assess the financial strength and stability of each Service Provider, focusing on profitability, solvency, and efficiency. The analysis will include an evaluation of specific financial indices and ratios in an effort to maximize objectivity and provide measures that are more directly comparable among Service Providers.

Other factors which may impact the financial position of a Service Provider, or which provide additional evidence of the financial strength of a Service Provider, will also be assessed. These factors include years of experience in providing similar Services, and demonstration of the ability to obtain sufficient levels of liability and property damage insurance.

Relevant information regarding recent litigation and bankruptcy filings, which may materially affect a Service Provider's financial position, will be examined. In addition to credit ratings and credit reports, bank and vendor references will be used to evaluate the credit worthiness of each Service Provider.

If the audited financial statements requested in this section are not available, it is the responsibility of the Company to provide the City with information of sufficient quantity and with verifiable sources to ascertain that each entity identified is financially capable of performing the Services required by the Company in performance of the Services described in this RFP. Failure to provide adequate financial information may result in the exclusion of your Proposal from the procurement process.

- a. For each entity identified in Section 5.3a, specify the entity's total revenue, number of employees, products and services, affiliated companies, and other descriptive information;
- b. For each entity identified in Section 5.3a, provide relevant documents that describe the entity's financial status, such as audited financial statements, annual reports, or 10-K reports, and the DUNS number; and

Section 5

Background and Experience

- c. If your Company does not have the audited financial statements requested above, it is the responsibility of the Company to provide the City with information of sufficient quantity and with verifiable sources to ascertain that the Company is financially capable of performing the Services described in this RFP. Failure to provide adequate financial information may result in the exclusion of your Proposal from the procurement process.

6. PROPOSAL EVALUATION CRITERIA.

Proposals will be evaluated based on the Service Provider's ability to meet the performance requirements of this RFP. This section provides a description of the evaluation criteria that will be used to evaluate the Proposals. To be deemed responsive, it is important for the Service Provider to include appropriate detail to demonstrate satisfaction of each criterion and compliance with the performance provisions outlined in this RFP. The Service Provider's Proposal will be the primary source of information used in the evaluation process. Proposals must contain information specifically related to the proposed Services and requested herein. Failure of any Service Provider to submit information requested may result in the elimination of the Proposal from further evaluation.

Proposals will be assessed to determine the most comprehensive, competitive and best value solution for the City based on, but not limited to, the criteria below. The City reserves the right to modify the evaluation criteria or waive portions thereof. Proposals will be evaluated on the following major categories:

- a. Approach and Methodology;
- b. Technical Integration and Specifications;
- c. Similar Project Experience;
- d. Service Provider Resources; and
- e. Cost Effectiveness and Value.

6.1. Approach and Methodology. (20%)

Service Provider demonstrates an understanding of the project's goals and requirements as illustrated by the approach and methodology to implementing the project.

6.2. Technical Integration and Specifications. (20%)

The Service Provider's technical proposal provides an efficient and effective integration with current and potential fare collection systems on other CATS revenue vehicles/stations to create a seamless system for CATS customers. The Service Provider's Fare Collection System meets or exceeds technical and performance specifications and provides desirable maintenance support for CATS.

6.3. Similar Project Experience. (15%)

Service Provider demonstrates experience with similar projects through a list of active clients and reference checks.

6.4. Service Provider Resources. (15%)

Service Provider demonstrates the ability to design, develop, install, and maintain a Fare Collection System to meet CATS' needs.

6.5. Cost Effectiveness and Value. (30%)

- 6.5.1. Initial capital costs (40%)
- 6.5.2. Maintenance costs (40%)
- 6.5.3. Life-cycle costs (20%)

Section 7

Proposal Forms

7.1. REQUEST FOR PROPOSALS ACKNOWLEDGEMENT (OPTIONAL)

The Service Provider acknowledges receipt of the Request for Proposals for the City of Charlotte, North Carolina RFP #269-11-FARE, Fare Collection System. This form should be completed upon receipt of the City's Request for Proposals and faxed or emailed in time for the City to receive it by or before **JULY 1, 2014**. Submittal of this form is optional. Please fax or email the completed Request for Proposals Acknowledgement Form to the attention of:

James McLeod
CATS Procurement
Fax: 704-632-8480
Email: jmcleod@charlottenc.gov

Date: _____

Company Name: _____

Contact Name: _____

Title: _____

Contact E-mail address: _____

Please check the appropriate space below and provide the requested information:

_____ **We plan to attend the Pre-Proposal Conference and plan on submitting a Proposal**

Indicate number of attendees: _____

_____ **We do not plan to attend the Pre-Proposal Conference but plan on submitting a Proposal**

_____ **We do not plan to attend the Pre-Proposal Conference and do not plan on submitting a Proposal**

Please assist the City in understanding why your company has chosen not to participate:

7.2. ADDENDA RECEIPT CONFIRMATION

RFP # 269-11-FARE

Fare Collection System

Please acknowledge receipt of all addenda by including this form with your Proposal. All addenda will be posted to www.ips.state.nc.us.

ADDENDUM #:

DATE OBTAINED:

I certify that this Proposal complies with the General and Specific Specifications and conditions issued by the City except as clearly marked in the attached copy.

(Please Print Name)

Date

Authorized Signature

Title

Company Name

7.3. PROPOSAL SUBMISSION FORM

RFP # 269-11-FARE

Fare Collection System

This Proposal is submitted by:

Service Provider Name: _____

Representative (printed): _____

Representative (*signed*): _____

Address: _____

City/State/Zip: _____

Telephone: _____
(Area Code) Telephone Number

Facsimile: _____
(Area Code) Fax Number

Email: _____

It is understood by the Service Provider that the City reserves the right to reject any and all Proposals, to make awards on all items or on any items according to the best interest of the City, to waive formalities, technicalities, to recover and re-bid this RFP. Proposal is valid for one hundred and eighty (180) calendar days from the Proposal due date.

Service Provider

Date

Authorized Signature

Please type or print name

Section 7 Proposal Forms

7.4. PRICING WORKSHEET

Regardless of exceptions taken, Service Providers shall provide pricing based on the requirements and terms set forth in this RFP. Pricing must be all-inclusive and cover every aspect of the Project. Cost must be in United States dollars rounded to the nearest quarter of a dollar. **If there are additional costs associated with the Services, please add to this chart. Your Price Proposal must reflect all costs for which the City will be responsible.**

Bidder Name

Project #: Contract 11 – 269-11-FARE

Project Name: Blue Line Extension Fare Collection System

Do **NOT** include any North Carolina Sales and Use Tax that qualifies as eligible reimbursements per the Taxes section of the Sample Contract.

SECTION 1: INSTALLATION

<i>Item</i>	<i>Specification</i>	<i>ITEM DESCRIPTION</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price (\$)</i>	<i>Amount Bid (\$)</i>
1	01 71 13.01	MOBILIZATION	1	LS		
2	34 54 16.01	TICKET VENDING MACHINE	37	EA		
3	34 54 16.02	DATA COLLECTION AND REPORTING SYSTEM	1	LS		
Total						
Contingency (7.5% of Total)						
Total Installation						

SECTION 2: OPTIONAL EXTENDED MAINTENANCE

Refer to Section 4.3 of Sample Contract for description of Maintenance Fees for Extended Maintenance.

<i>Item</i>	<i>ITEM DESCRIPTION</i>	<i>Quantity</i>	<i>Unit</i>	<i>Amount Bid (\$)</i>
1	MAINTENANCE: PER YEAR	5	EA	
Total Optional Extended Maintenance				

Section 7 Proposal Forms

SECTION 3: OPTION ITEMS

Pricing for Option Items to remain fixed for five (5) years from the effective date of the contract.

<i>Item</i>	<i>Specification</i>	<i>ITEM DESCRIPTION</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price (\$)</i>	<i>Amount Bid (\$)</i>
1	01 71 13.01	MOBILIZATION	1	LS		
2	34 54 16.01	TICKET VENDING MACHINE	39	EA		
3		DISPOSAL	1	LS		
4		MAINTENANCE: PER YEAR	5	EA		
Total Optional Installation						

7.5. LIST OF SUBCONTRACTORS/SUPPLIERS – FORM A

List of Subcontractors – FORM A Instructions

Note: A correctly completed Form A will list **all subcontractors and suppliers** a bidder plans to directly utilize. Each company who will have 2nd or 3rd tier subcontractors or suppliers should submit individual Form A's. Only DBEs certified by NCDOT may be submitted to meet the contract goal.

Form A- Instructions to fill out form

1. **Bidder's Name** is the name of the company that will be entering into contract agreements or purchasing supplies and materials from the subcontractors listed in the document
2. **Project Name** is the name of the is listed on the solicitation
3. **Name and address** of each subcontractor/supplier that is intended to do work on the project :
 - a. "Annual Gross Receipts range" must be identified for each company according to the ranges provided
4. **Contact Person and Phone Number** (plus email address if available).
5. **Age of the Firm** approximate age of firm
6. **Description of the Work** or supplies to be provided by the subcontractor
7. **NAICS Code** (if available) for the work provided by the subcontractor
8. **NCDOT Reporting number #** (specifically for the DBE subcontractors and suppliers).
9. **Total Project \$** dollars that are projected to be spent with each subcontractor/supplier (Dollars committed to DBE subcontractor)
10. **% of the total Bid Amount** is the percent of dollars to be spent with each subcontractor or supplier.
 - a. Calculation = **Total Projected \$** divided by **Total Bid Amount**
 - b. DBE supplier utilization may only count 60% toward DBE goal
 - c. Total Bid Amount includes the contingency amount
11. Your company must **acknowledge** that you have **confirmed** that **each DBE submitted is certified** as such in the **NCDOT database** <http://partner.ncdot.gov/VENDORDIRECTORY/default>.
12. Print additional copies of the extended Form- A to list all subcontractors or suppliers which do not fit on one page. On each sheet the company with subcontractors and suppliers must **Print**:
 - a. The company name under "**Bidders Name**"
 - b. The solicitation title next to "**Project Name**".
13. The project totals including for all vendors listed on a company's Form A and extended Form A's must be listed on the 1st page including the following.
 - a. The **Total DBE Utilization** in \$ dollars
 - b. The **Total Bid Amount** in \$ dollars
 - c. **Percentage %** of total **DBE Utilization** (Total DBE Utilization/Total Bid Amount including contingency)
14. **Read the "Certification statement"** before signing your Form A.
15. An **Authorized Official** from your company must sign the Form. That official must then **Print**:
 - a. **Name**
 - b. **Title**
 - c. **Submittal Date**.
16. Additional questions on filling relating to the completion of the form should be directed to the contact provided included with the solicitation.

LIST OF SUBCONTRACTORS/SUPPLIERS - FORM A

Project DBE and non-DBE Subcontractor/Supplier Utilization Commitment

Federal Disadvantaged Business Opportunity Program. Note: This **MUST** be submitted with your Bid. Make copies as needed.

If you fail to meet the DBE Goal for this Project, you **MUST** complete FORM C and attach documentation of your Good Faith Efforts with your Bid package.

Bidders Name: _____ Project Name: _____

Below list **ALL SUBCONTRACTORS AND SUPPLIERS** (including DBEs) that you intend to use on this Contract. Continue listing on the supplemental form.

Subcontractor/Supplier's Name & Address	Contact Person & Phone #	Age of Firm	Description of Work	NAICS Code	NCDOT Reporting #	Total Projected \$	% of Bid Amount
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							

☐ I acknowledge that I have confirmed the certification of each DBE listed above on <https://partner.ncdot.gov/VendorDirectory/default.html>

Total DBE Utilization \$ _____ Total Bid Amount \$ _____ Percent DBE Utilization (Total DBE Utilization/Total Bid Amount) _____ %

Please read the following "Certification" statement before signing. "The undersigned certifies that he/she has read, understands, and agrees to be bound by the DBE Program Requirements, including these accompanying FORM(s) A, and the other terms and conditions in the Notice to Bidders. The undersigned further certifies that he/she is legally authorized by the Bidder to make the statements and representations and that said statements and representations are true and correct to the best of his/her knowledge and belief. It is the intent by the undersigned to enter into formal agreement(s) with subcontractors/suppliers named on this Form conditioned upon execution of a contract with the City. All DBE subcontractors/suppliers must provide proof of their DBE status or receive confirmation of their status from the City's Civil Rights Officer prior to contract award. The undersigned understands and agrees that if any of the statements and representations are made by the Bidder knowing them to be false, or if there is a failure of the successful Bidder (i.e., the Contractor) to implement any of the stated agreements, intentions, objectives, goals, commitments and substitutions set forth herein without prior approval by the Civil Rights Officer or a designee, then in any of such events the Contractor's act or failure to act, as the case may be, shall constitute a material breach of the contract, entitling the City to terminate the contract for default. The right to so terminate shall be in addition to, and not in lieu of, any other rights and remedies the City may have for other defaults under the contract, or otherwise. Additionally, the Contractor will be subject to the loss of any future contract awards".

Signature of Authorized Official _____ Printed Name _____ Title _____ Submittal Date _____

LIST OF SUBCONTRACTORS/SUPPLIERS - FORM A

Project DBE and non-DBE Subcontractor/Supplier Utilization Commitment

Federal Disadvantaged Business Opportunity Program. Note: This **MUST** be submitted with your Bid. Make copies as needed.

If you fail to meet the DBE Goal for this Project, you **MUST** complete FORM C and attach documentation of your Good Faith Efforts with your Bid package.

Bidders Name: _____

Project Name: _____

Subcontractor/Supplier's Name & Address	Contact Person	Age of Firm	Description of Work	NAICS Code	NCDOT Reporting #	Total Projected \$	% of Bid Amount
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							
Annual Gross Receipts: <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> \$500,000 - \$1M <input type="checkbox"/> \$1-2M <input type="checkbox"/> \$2-5M <input type="checkbox"/> Over \$5M							

Section 7 Proposal Forms

7.6. EVIDENCE OF GOOD FAITH EFFORTS – FORM C

This completed form **and** supporting documentation **must** be submitted with the Bid Package if the information on FORM A indicates you cannot meet the DBE Goal established for this Contract.

Bidder Name:	
Project Name:	Project #:
Contact Person:	
Mailing Address:	
Phone:	Email:
Printed Name:	Title:
Signature:	

To determine whether a Bidder has demonstrated Good Faith Efforts to reach the DBE utilization goal(s) on the above-referenced project, the DBELO will consider, **AT A MINIMUM**, evidence of GOOD FAITH EFFORTS as described in the table below together with the required supporting documentation. All supporting documentation and evidence of good faith efforts must be clearly labeled and submitted with this form.

The list below is not a mandatory checklist, nor is it intended exclusive or exhaustive. Efforts under each listed category are not determinative and the totality of the efforts will be evaluated applying the standards set forth in 49 C.F.R. Part 26 and the DBE Program.

YES (✓)	NO (✓)	EVIDENCE OF GOOD FAITH EFFORTS
		PRE-BID MEETING(S): The Bidder attended all pre-bid meetings scheduled by the City to inform DBEs of contracting and subcontracting opportunities.
		ADVERTISEMENT: The Bidder advertised in general circulation and/or trade association publications concerning subcontracting opportunities, and allowed DBEs reasonable time to respond.
		WRITTEN NOTICE(S): The Bidder took the necessary steps to provide written notice in a manner reasonably calculated to inform DBEs of subcontracting opportunities and allowed sufficient time for them to participate effectively.
		INFORMATION: The Bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the subcontract.
		GOOD FAITH NEGOTIATIONS: The Bidder negotiated in good faith with interested DBEs and did not reject DBEs as unqualified without sound business reasons based on a thorough investigation of their capabilities.
		CONTRACT RECORDS: The Bidder has maintained the following records for each DBE that has bid on the subcontracting opportunity: <ul style="list-style-type: none"> 1. Name, address, and telephone number; 2. A description of information provided by the Bidder or subcontractor; and 3. A statement of whether an agreement was reached, and if not, why not, including any reasons for concluding that the DBE was unqualified to perform the job.
		COMMUNITY RESOURCES: The Bidder used the services of available community organizations, small and/or disadvantaged business assistance offices and other organizations that provided assistance in the recruitment and placement of DBE firms.
		SMALL CONTRACT(S): The Bidder selected specific portions of the Work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation).
		GOOD FAITH NEGOTIATIONS: The Bidder negotiated in good faith with interested DBEs and did not reject DBEs as unqualified without sound business reasons based on a thorough investigation of their capabilities.
		FOLLOW-UP: The Bidder followed-up initial indications of interest by DBEs by contacting those DBEs to determine with certainty if they remained interested in bidding.

Section 7 Proposal Forms

7.7. CONFLICT OF INTEREST

Except as may be identified and explained below, the undersigned hereby certifies that, no member of the Charlotte City Council, Mecklenburg Board of County Commissioners, Metropolitan Transit Commission, officer, employee, or former employee of the City, AND

no elected, appointed, or employed official or employee of the State of North Carolina or of a governing body, instrumentality, or political subdivision within the territory comprising Mecklenburg County, AND

no relative of persons described above, AND

no member of or delegate to the Congress of the United States

has an interest whatsoever (regardless of how indirect and how remote that interest may be) in the Bidder's organization and/or in the proceeds of any contract and/or agreement which might be made between the Bidder and the City as result of the successful bid/proposal accompanied by this certification; no person who is or who during the past twelve (12) months has been a member of the Charlotte City Council, Mecklenburg Board of County Commissioners, Metropolitan Transit Commission, an officer or employee of the City is employed by or on behalf of the Bidder's organization; and that until acceptance of all work or services to be performed under any resulting contract or agreement, the Bidder shall not enter into any contract involving services or property, whether or not related to the performance of any resulting contract or agreement, with any of the aforementioned persons or with any business in which any such person has an interest, direct or indirect.

Except as identified and explained below and with City's prior approval the Bidder shall not engage in any activity, or accept any employment, interest or contribution that would create an appearance of a conflict of interest (personal or organizational) or reasonably appear to compromise the Bidder's judgment with respect to all work or services to be performed under any resulting contract or agreement.

The undersigned certifies that he is legally authorized by the Bidder to make the above representation, and that the representation is true to the best of his knowledge and belief and without deliberate omission of any inquiry which would to the best of his belief tend to change the above representation. The undersigned understands that any representation made knowing it to be false may be cause to disqualify the Bidder from competing for award for the contract at hand, may be cause to terminate the resulting contract and disqualify the Bidder from being awarded future contracts by the City.

The Bidder certifies that neither he nor any agent, representative, or other party acting on his behalf has offered or given any gratuity or gratuities, in the form of gifts, entertainment, or otherwise, to any director, officer, or employee of the City or of any person, firm, consultant or contractor retained by the City, with a view to securing the contract or of securing favorable treatment with respect to the award hereof, and the Bidder further certifies that neither he nor any agent, representative, or other party acting on his behalf will offer or give any such gratuity to any director, officer, or employee of the City or of any such consultant or contractor with a view to securing favorable treatment with respect to any change or amendment to the contract, or to any other action with respect to the performance hereof [N.C. Gen. Stat. §133-32].

The Bidder further understands that in addition to submitting this certification at the time of bid/proposal submission to the City, the Bidder shall also be required to submit a similar certification at the time of execution of any resulting contract.

NOTE: THIS CERTIFICATION MUST BE SIGNED AND SUBMITTED WITH THE BID/PROPOSAL

Signature: _____

Title: _____ Date of Signing: _____

Firm or Corporate Name: _____

Address: _____

Telephone Number: _____

7.8. COMMERCIAL NON-DISCRIMINATION CERTIFICATION

PROJECT TITLE: **Fare Collection System**

SERVICE PROVIDER: _____

The undersigned Bidder hereby certifies and agrees that the following information is correct:

1. In preparing the enclosed bid, the Bidder has considered all bids submitted from qualified, potential subcontractors and suppliers and has not engaged in discrimination as defined in Section 2.
2. For purposes of this certification *discrimination* means discrimination in the solicitation, selection, or treatment of any subcontractor, vendor, supplier or commercial customer on the basis of race, ethnicity, gender, age, religion, national origin, disability or any other unlawful form of discrimination. Without limiting the foregoing, *discrimination* also includes retaliating against any person or other entity for reporting any incident of prohibited discrimination.
3. Without limiting any other remedies that the City may have for a false certification, it is understood and agreed that, if this certification is false, such false certification will constitute grounds for the City to reject the bid submitted with this certification and terminate any contract awarded based on such bid. It shall also constitute a violation of the City's Commercial Non-Discrimination Ordinance and shall subject the Bidder to any remedies allowed thereunder, including possible disqualification from participating in City contracts or bid processes for up to two years.
4. As a condition of contracting with the City, the Bidder agrees to promptly provide to the City all information and documentation that may be requested by the City from time to time regarding the solicitation and selection of subcontractors in connection with this solicitation process. Failure to maintain or failure to provide such information shall constitute grounds for the City to reject the bid submitted by the Bidder and terminate any contract awarded on such bid. It shall also constitute a violation of the City's Commercial Non-Discrimination Ordinance and shall subject the Bidder to any remedies allowed thereunder.
5. As part of its bid, the Bidder shall provide to the City a list of all instances within the past ten years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that the Bidder discriminated against its subcontractors, vendors, suppliers, or commercial customers, and a description of the status or resolution of that complaint, including any remedial action taken.
6. As a condition of submitting a proposal to the City, the Bidder agrees to comply with the City's Commercial Non-Discrimination Policy as described in Section 2, Article V of the Charlotte City Code, and consents to be bound by the award of any arbitration conducted thereunder.

By: _____
Signature of Authorized Official

Title: _____

7.9. E-VERIFY CERTIFICATION

PROJECT TITLE: **Fare Collection System**

SERVICE PROVIDER: _____

This E-Verify Certification is provided to the City of Charlotte (the "City") by the company signing below ("Company") as a prerequisite to the City considering Company for award of a City contract (the "Contract").

1. Company understands that:
 - a. E-Verify is the federal program operated by the United States Department of Homeland Security and other federal agencies to enable employers to verify the work authorization of employees pursuant to federal law, as modified from time to time.
 - b. Article 2 of Chapter 64 of the North Carolina General Statutes requires employers that transact business in this state and employ 25 or more employees in this state to: (i) verify the work authorization of newly hired employees who will be performing work in North Carolina through E-Verify; and (ii) maintain records of such verification (the "E-Verify Requirements").
 - c. North Carolina General Statute §160A-20.1(b) prohibits the City from entering into contracts unless the contractor and all subcontractors comply with the E-Verify Requirements.
2. As a condition of being considered for the Contract, Company certifies that:
 - a. If Company has 25 or more employees working in North Carolina (whether now or at any time during the term of the Contract), Company has complied and will comply with the E-Verify Requirements with respect to Company employees working in North Carolina; and
 - b. Regardless of how many employees Company has working in North Carolina; Company will take appropriate steps to ensure that each subcontractor performing work on the Contract that has 25 or more employees working in North Carolina complies with the E-Verify Requirements.
3. Company acknowledges that the City will be relying on this Certification in entering into the Contract, and that the City may incur expenses and damages if the City enters into the Contract with Company and Company or any subcontractor fails to comply with the E-Verify Requirements. Company agrees to indemnify and save the City harmless from and against all losses, damages, costs, expenses (including reasonable attorney's fees) obligations, duties, fines and penalties (collectively "Losses") arising directly or indirectly from violation of the E-Verify Requirements by Company or any of its subcontractors, including without limitation any Losses incurred as a result of the Contract being deemed void.

Signature of Company's Authorized Representative

Date

Print Name and Title: _____

7.10. BUY AMERICA CERTIFICATION

COMPLIANCE FORM

Certificate for Compliance with 49 U.S.C. 5323(j) (1)
(Procurement of Steel, Iron, or Manufactured Products)

The Bidder hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date: _____
Signature: _____
Company Name: _____
Title: _____

NON COMPLIANCE FORM

Certificate for Non-Compliance with 49 U.S.C. 5323(j) (1)
(Procurement of Steel, Iron, or Manufactured Products)

The Bidder hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j) (1) and 49 CFR 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j) (2) (A), 5323(j) (2) (B), or 5323(j) (2) (D), and 49 CFR 661.7.

Date: _____
Signature: _____
Company Name: _____
Title: _____

Identify items that are non-compliant in the space below:

_____	_____	_____
_____	_____	_____
_____	_____	_____

7.11. LOBBYING CERTIFICATION

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal 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 a member of the Metropolitan Transit Commission, Charlotte City Council, officer or employee of the Charlotte Area Transit System, or any elected, appointed, or employed official or employee of the State of North Carolina, 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, or the amendment or modification of any Federal Contract.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence a member of the Metropolitan Transit Commission, Charlotte City Council, officer or employee of the Charlotte Area Transit System, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal Contract, the undersigned shall complete and submit 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 of all subcontracts anticipated to be of a value of one hundred thousand dollars (\$100,000.00) or more and that all subcontractors 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 31 U.S.C. §1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than ten thousand dollars (\$10,000.00) and not more than one hundred thousand dollars (\$100,000.00) for each such failure.

Signature: _____ Date: _____

Title: _____ Telephone No. (____) _____

Firm or Corporate Name: _____

Address: _____

7.12. DISCLOSURE FORM TO REPORT LOBBYING

**INSTRUCTIONS FOR COMPLETION OF SF-LLL,
DISCLOSURE OF LOBBYING ACTIVITIES**

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal Action, or a material change to a previous filing, pursuant to the 31 U.S.C. §1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity 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 a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is an/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and Contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loan, and loan commitments.
8. Enter the most appropriate Federal Identifying number available for the Federal action identified in Item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the Contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
 - a. Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.
 - b. Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

Section 7

Proposal Forms

10. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (Item 10). Indicate whether the payment has been made (actual) or will be made (pleased). Check all boxes that apply. If this is a material change report, enter the cumulated amount of payment made or planned to be made.
11. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
12. Check the appropriate box(es) that apply. If other, specify nature.
13. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
14. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.
15. The certifying officer shall sign and date the form; print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average thirty (30) minutes per response including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget.

Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

Section 7 Proposal Forms

<p align="center">DISCLOSURE OF LOBBYING ACTIVITIES</p> <p align="center">Complete this form to disclose lobbying activities pursuant to 31 U.S.C. §1352 (See below for public burden disclosure)</p>		<p align="center">Approved by OMB 0348-0046</p>	
1. Type of Federal Action: <input type="checkbox"/> a. Contract <input type="checkbox"/> b. Grant <input type="checkbox"/> c. Cooperative agreement <input type="checkbox"/> d. Loan <input type="checkbox"/> e. Loan guarantee <input type="checkbox"/> f. Loan insurance		2. Status of Federal Action: <input type="checkbox"/> a. Bid/offer/application <input type="checkbox"/> b. Initial award <input type="checkbox"/> c. Post-award	
		3. Report Type: <input type="checkbox"/> a. Initial filing <input type="checkbox"/> b. Material change For Material Change Only: year_____ quarter date of last report	
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier_____, if known: Congressional District, if known:		5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency: 		7. Federal Program Name/Description: CFDA Number if applicable:	
8. Federal Action Number, if known:		9. Award Amount, if known:	
10. a. Name and address of Lobbying Entity <i>(if individual, last name, first name, MI):</i>		b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>	
<p align="center">(attach Continuation Sheet(s) SF-LLL-A, if necessary)</p>			
11. Amount of Payment (check all that apply): \$_____ <input type="checkbox"/> actual <input type="checkbox"/> planned		13. Type of Payment (check all that apply): <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other; specify:	
12. Form of Payment (check all that apply): <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature value			

Section 7 Proposal Forms

14. Brief Description of Services Performed or to be Performed and Date(s) of service, including officer(s), employee(s), or Members contacted, for Payment Indicated in Item 11:		
<i>(attach Continuation Sheet(s) SF-LLL-A, if necessary)</i>		
15. Continuation Sheet(s) SF-LLL-A attached: <input type="checkbox"/> Yes <input type="checkbox"/> No		
16. Information requested through this form is authorized by 31 U.S.C. §1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. §1352. This information will be reported to the Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000.00 and not more than \$100,000.00 for each such failure.	Signature: Print Name: Title: Telephone No.: _____ Date:	
Federal Use Only:		Authorized for Local Reproduction Standard Form-LLL

Section 7
Proposal Forms

DISCLOSURE OF LOBBYING ACTIVITIES CONTINUATION SHEET	Approved by OMB 0348-0046
<div>Reporting Entity:</div> <div></div>	

Page ____ of

7.13. SUSPENSION & DEBARMENT (PRIMARY PARTICIPANT)

**CERTIFICATION OF PRIMARY PARTICIPANT 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 (3) year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or 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, of Local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three (3) year period preceding this application/proposal had one (1) or more public transactions (Federal, State or local) terminated for cause or default.

(If the primary participant 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. SECTIONS 3801 ET SEQ. ARE APPLICABLE THERETO.

Signature and Title of Authorized Official

Date

7.14. SUSPENSION & DEBARMENT (SUBCONTRACTOR/SUPPLIER)

**CERTIFICATION OF LOWER-TIER PARTICIPANTS REGARDING
DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

The Lower-Tier Participant (potential sub-Contractor 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 is unable to certify to any of the statements in this certification, such participant shall attach an explanation to this proposal.)

IF LOWER-TIER PARTICIPANT (POTENTIAL CONTRACTOR 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

Date

SAMPLE CITY CONTRACT

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

MASTER CONTRACT FOR SYSTEM INTEGRATION

This Master Contract for System Integration (the "Contract" or the "MCSI") is entered into as of this _____ day of [MONTH], [2014] (the "Effective Date"), by and between [COMPANY NAME], a [STATE OF INCORPORATION] corporation doing business in North Carolina (the "Company" or the "Contractor"), and the City of Charlotte, North Carolina (the "City").

Statement of Background and Intent

- A. The City advertised a Request for Proposals for Fare Collection System, 269-11-FARE dated JUNE 24, 2014 requesting proposals from qualified vendors to provide the City with a Fare Collection System per City requirements. This Request for Proposals, together with all attachments and amendments, is referred to herein as the "RFP".
- B. In response to the RFP, the Company submitted to the City a proposal dated **DATE, 2014**. This proposal, together with all attachments and separately sealed confidential trade secrets, is referred to herein as the "Proposal."
- C. The City and the Company have negotiated and now desire to enter into an arrangement for the Company to design, supply, install, customize, configure, test, commission and maintain a Fare Collection System for the City, all in accordance with the terms and conditions set forth herein.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in further consideration of the covenants and conditions contained in this Contract, the parties agree as follows:

CONTRACT

- 1. INTERPRETATION..** The following Supplementary Conditions, Exhibits and Appendices are attached to this Contract and incorporated into and made a part of this Contract by reference:

Supplementary Conditions A:	Federal Contracting Requirements
Exhibit A:	Price Schedule and List of System Components
Exhibit B:	Milestone Plan
Exhibit C:	Scope of Implementation Services
Exhibit D:	Project Schedule
Exhibit E:	Scope of Maintenance Services
Exhibit F:	License
Exhibit G:	Mutual Confidentiality Agreement
Exhibit H:	Certifications and Forms

Each reference to this Contract shall be deemed to include all attachments. Any conflict between any provisions of this Contract shall be resolved as follows:

- A. The Federal Contracting Requirements of this Contract and any clause required by Federal law shall control over all Contract provisions;

- B. The General Conditions shall control over all other Contract provisions except for the Federal Contracting Requirements.
- C. All Exhibits shall be inferior to the General Conditions and each Exhibit shall control over each subsequent Exhibit as delineated by this subsection, except the Federal Certifications shall control over all other Exhibits.
- D. Any reference to contractor in the Supplementary Conditions and/or Exhibits or Appendices shall be deemed to mean the Company.
- E. The Contract Documents constitute the entire Contract between the parties, and exclude and supersede any statement or undertaking, oral or written, not included therein. The Contract Documents cannot be changed, modified, or amended except by a writing signed on behalf of the City by its duly authorized representative.

2. DEFINITIONS. The following terms shall have the following meanings for purposes of this Contract (including all Exhibits):

- 2.1. **“Affiliates”** means all departments or units of the City and all other governmental units, towns, boards, committees or municipalities for which the City processes data or performs Services that involve the System.
- 2.2. **“Contract”** means the reciprocal undertakings, obligations, and rights of the City and the Company. The Contract represents the entire and integrated agreement between the Parties and supersedes all prior negotiations, representations or agreements either written or oral. When referring to this document, the terms “Contract” and “Agreement” are synonymous.
- 2.3. **“Contract Documents”** means the several writings that evidence the Contract. They consist of these General Conditions and all attachments referenced herein, which are hereby incorporated by reference and attached to this Contract.
- 2.4. **“Company Software”** and **“[COMPANY NICKNAME] Software”** shall be used interchangeably to mean all pre-existing software owned by the Company or any of its Related Entities which the Company provides or is required to provide under this Contract, and all New Releases and New Versions of the foregoing.
- 2.5. **“Current Release”** means the latest version of the Software offered for general commercial distribution at a given point in time, including all New Releases.
- 2.6. **“Customizations”** means all newly-developed software created by the Company and/or its subcontractors pursuant to this Contract, including but not limited to all interfaces between different components of the System and between the System and other systems. Customizations will not include New Releases and New Versions that become part of the company Software.
- 2.7. **“Defect”** means any failure of the System or any component thereof to fully conform to the Specifications and Requirements. A non-conformity is not a Defect if it results directly from the City’s improper use or damage, unless it is reasonably likely that such non-conformity would have occurred on that or another occasion even without the City’s improper use or damage.
- 2.8. **“Deliverables”** means all tasks, reports, information, designs, plans and other items that the Company is required to complete and deliver to the City in connection with this Contract, other than the Products.

- 2.9. **“Documentation”** means all written, electronic, or recorded works, that describe the use, functions, features, or purpose of the System or any component thereof, and which are published or provided to the City by the Company or its subcontractors, including without limitation all end user manuals, training manuals, guides, program listings, data models, flow charts, logic diagrams, and other materials related to or for use with the System.
- 2.10. **“Effective Date”** means the date stated in the first sentence of this Contract.
- 2.11. **“Hardware”** means all hardware, equipment and materials that the Company actually provides or is required to provide under the terms of this Contract (whether now or in the future).
- 2.12. **“Implementation Services”** means the Services described in **Exhibit C**.
- 2.13. **“License”** means the license agreement attached to this Contract as **Exhibit F**.
- 2.14. **“Maintenance Services”** means the Services described in **Exhibit E**.
- 2.15. **“Milestones”** means the benchmarks of performance (consisting of an identified deadline for the completion of specific services and/or the acceptance of identified Deliverables), as specified in **Exhibit B** and the Project Plan.
- 2.16. **“New Version”** means any products, parts of products, improvements, additions or materials not included in the Products as of the Effective Date that significantly modify the Products to provide a function or feature not originally offered or an improvement in function. New Versions are typically identified by a new version number that changes the number left of the decimal point. For example, a change from Version 5.0 to Version 6.0 would likely represent a New Version.
- 2.17. **“New Release”** means any change issued by the Company or its subcontractors to the Products or the Documentation that is not a New Version. New Releases are typically identified by changing the number to the right of the decimal point (e.g., going from Version 5.1 to 5.2).
- 2.18. **“Project”** refers to the project for the Company to design, supply, install, configure, test, commission and maintain the System for the City in accordance with the terms and conditions in this Contract.
- 2.19. **“Project Plan”** means the detailed plan for implementation of the System as described in **Exhibit C**, in the form accepted in writing by the City.
- 2.20. **“Products”** means all Software and all Hardware (both as herein defined).
- 2.21. **“Project Schedule”** means the Project Schedule attached to this Contract mean **Exhibit D**.
- 2.22. **“Related Entity”** means any person or entity that is directly or indirectly in control of, controlled by, or under common control with the Company, including but not limited to any parent, subsidiary, and affiliate entities. The word, "control," as used in this context, shall mean ownership of a sufficient percentage (not necessarily a majority) of the outstanding voting interests in an entity so as to afford effective control of the management of the entity.
- 2.23. **"Services"** means all services that the Company provides or is required to provide under this Contract, including all Implementation Services and all Maintenance Services now or in the future.
- 2.24. **“Software”** means: (i) all Company Software; (ii) all Customizations; (iii) all Third Party Software; and (iv) all New Releases and New Versions of any of the foregoing.
- 2.25. **"Source Code"** means the human readable form of a computer program and all algorithms, flow charts, logic diagrams, structure descriptions or diagrams, data format or layout

descriptions, pseudo-code, code listings (including comments), and other technical documentation relating to such program.

- 2.26. **“Specifications and Requirements”** means all definitions, descriptions, requirements, criteria, warranties and performance standards relating to the Products or System which are set forth or referenced in: (i) this Contract, including the Appendix; (ii) the main body of this Contract; (iii) other Exhibits to this Contract; (iv) the Documentation; and (v) any functional and/or technical specifications which are published or provided by the Company or its licensors or suppliers from time to time with respect to all or any part of the Products or the System. Any conflict between the requirements or specifications referenced in subparts (i), (ii) (iii) (iv) or (v) of this definition shall be resolved in the order of priority in which they are listed; provided, however, that the City may, at its option, disregard the order of listing to resolve any such conflicts in a manner that takes advantage of new or enhanced functionality or features.
- 2.27. **“System”** means a Fare Collection System to be designed, supplied, installed, configured, tested, commissioned and maintained by the Company under this Contract, including but not limited to all Products.
- 2.28. **“System Acceptance”** means acceptance by the City of the complete System as provided in **Exhibit C** of this Contract.
- 2.29. **“Third Party Software”** means all software included within the System or required for the System to function in full compliance with the Specifications and Requirements that is provided by the Company under this Contract and was not manufactured, developed or otherwise created by the Company, any Related Entity of the Company, or any of the Company’s subcontractors.
- 2.30. **“Warranty Period”** means the twelve (12)-month period following System Acceptance by the City.
- 2.31. **“Workaround”** means a reasonable change in the procedures followed or data supplied to avoid a Defect that does not impair the performance of the System or increase the cost of using the System.
- 2.32. **“Work Product”** means the Deliverables and all other programs, algorithms, reports, information, designs, plans and other items developed by the Company in connection with this Contract, and all partial, intermediate or preliminary versions of any of the foregoing.
- 3. GENERAL DESCRIPTION OF SERVICES.** The Company shall provide the Implementation Services described in **Exhibit C** and any other design, development, supply, installation, consulting, System integration, Software development, project management, training, technical and other Services necessary to deliver and implement the System so that it is in production at the City in full compliance with the Specifications and Requirements on or before **[PLANNED ACCEPTANCE DATE]**. The Company shall also provide the Maintenance Services described in **Exhibit E**. The Company shall perform the Implementation Services on site at the City’s facilities in Charlotte, North Carolina, except as otherwise stated in this Contract or agreed in writing by the City.
- 4. COMPENSATION.**
- 4.1. **PURCHASE PRICE.** The City shall pay the Company a fixed price of **[PURCHASE PRICE]** (the “Purchase Price”) as full and complete consideration for the satisfactory performance of all the requirements of this Contract other than Maintenance Services beyond the Warranty Period (“Extended Maintenance Services”). The Purchase Price is allocated to the Products and Services in accordance with **Exhibit A**, and shall be payable in accordance with **Exhibit B** (the “Milestone Plan”). The amount of the Purchase Price referenced in this Section constitutes the total fees, charges and expenses payable to the Company under this Contract for everything other than the Extended Maintenance Services, and shall not be

increased except by a written instrument duly executed by the City, which expressly states that it amends this Section of this Contract.

- 4.2. *MILESTONE PAYMENT PLAN.* The Company shall invoice the City for the Purchase Price in accordance with the Milestone Plan attached as **Exhibit B**. The Company shall not invoice the City for any Products or Services within a particular Milestone until all Products and Services required in connection with that Milestone have been fully delivered, completed and accepted by the City.
- 4.3. *MAINTENANCE FEES FOR EXTENDED MAINTENANCE.* The Maintenance Services shall be provided to the City at no charge for a period of one (1) year after System Acceptance (the "Warranty Period"). After the Warranty Period, the City shall have three (3) plus two (2) one (1)-year options to purchase Extended Maintenance Services from the Company at a price of **[ANNUAL MAINTENANCE FEE]** per year (the "Maintenance Fees." The City shall be entitled to exercise its option to buy Extended Maintenance Service for a given one (1)-year option period by: (a) providing written notice to the Company at any time prior to or within sixty days following the beginning of such one-year option period; or (b) payment of the Company's invoice for such one-year option period. The Company shall invoice the City for Maintenance Fees on an annual basis, but not more than sixty (60) days before the one (1)-year extended maintenance term being billed for begins.
- 4.4. *INVOICES.*
- 1.1.1. Each invoice sent by the Company shall detail all Services performed and delivered which are necessary to entitle the Company to the requested payment under the terms of this Contract.
- 1.1.2. The Company shall email all invoices to cocap@ci.charlotte.nc.us

OR

The Company shall mail all invoices to:

City of Charlotte AP
Attn: DEPARTMENT/CONTACT NAME
P. O. Box 37979
Charlotte, NC 28237-7979

For either option, Accounts Payable (or AP) must be in the first line. On the Attn: line, you must indicate the department or area, along with the appropriate contact name.

Invoices that are addressed directly to City departments and not to Accounts Payable may not be handled as quickly as invoices that are addressed correctly.

- 4.5. *DUE DATE OF INVOICES.* Payment of invoices shall be due within thirty (30) days after the later of: (a) receipt of an undisputed properly submitted invoice by the City; or (b) acceptance by the City of the Milestone to which the invoice applies. For Extended Maintenance Service fees, only subpart (a) of the preceding sentence shall apply.
- 4.6. *ADDITIONAL PURCHASES.* For a period of eighteen (18) months after the date of this Contract, the City shall have the right to purchase and the Company shall sell to the City all Hardware and Software listed in **Exhibit A** as optional items at the prices set forth in **Exhibit A**.
- 4.7. *PRE-CONTRACT COSTS.* The City shall not be charged for any Services or other work performed by the Company prior to the Effective Date.
- 4.8. *AUDIT.* During the term of this Contract and for a period of two years after termination of this Contract, the City shall have the right to audit, either itself or through an independent

auditor, all books and records and facilities of the Company necessary to evaluate Company's compliance with the terms and conditions of this Contract or the City's payment obligations. The City shall pay its own expenses, relating to such audits, but shall not have to pay any expenses or additional costs of the Company. However, if non-compliance is found that would have cost the City in excess of \$10,000 but for the audit, then the Company shall be required to reimburse the City for the cost of the audit.

5. TIME IS OF THE ESSENCE. Time is of the essence in having the Company perform all Services and deliver all Products within the time frames provided by this Contract and the Project Plan, including all completion dates, response times and resolution times (the "Completion Dates"). Except as specifically stated in this Contract, there shall be no extensions of the Completion Dates. All references to days in this Contract (including the Exhibits) shall refer to calendar days rather than business days, unless this Contract provides otherwise for a specific situation.

6. PRODUCT PURCHASE AND DELIVERY.

6.1. *COMPANY TO PROVIDE ALL HARDWARE AND SOFTWARE.* As part of the Purchase Price, the Company shall provide all Hardware, Software, labor, equipment and materials required by the City in order for the Fare Collection System to perform in accordance with the Specifications and Requirements, except for those items that are specifically listed in **Exhibit C** as a City responsibility.

6.2. *DELIVERY SCHEDULE.* The Company shall deliver the Products by the delivery dates set forth in the Project Schedule, as may be modified by the parties' mutual consent in the Project Plan. Delivery shall be to various City Fire facilities unless otherwise agreed in writing by the City.

6.3. *TITLE / RISK OF LOSS.* Except for loss or damage occurring in connection with the Company's performance of services under this Contract, title and risk of loss of all Hardware shall pass to the City upon delivery of the Hardware to the City's premises.

6.4. *DELIVERY AND INSTALLATION COSTS.* All delivery and installation costs associated with the Hardware and the Software shall be borne by the Company.

6.5. *SOFTWARE LICENSE FOR EMBEDDED SOFTWARE.* The Company grants to the City the right to use all software which is embedded in or included with the Hardware ("Embedded Software") to the full extent necessary for the City to use the Hardware in the manner contemplated by this Contract. The City agrees to be bound by the terms and limitations of any licenses for Embedded Software which have been: (i) provided to the City in writing preceding delivery of such Hardware; and (ii) accepted by the City in writing. Notwithstanding the foregoing, in no event shall any terms or conditions of such licenses restrict the City from using the Hardware in the manner contemplated by this Contract, nor shall such terms or conditions in any way modify the City's rights under the License.

6.6. *TRANSFER OF WARRANTIES.* Without limiting the Company's obligations to provide warranty Services or the Maintenance Services, the Company hereby assigns and transfers to the City all of the Company's warranties from the Company's suppliers covering the Hardware, the Embedded Software and Third Party Software. The Company will provide copies of such warranties to the City with delivery of the applicable Hardware or Software. While the Company shall be entitled to make arrangements to have such warranty work performed by the supplier, nothing herein shall relieve the Company of its obligation to correct Defects in the Hardware or the Software or to meet the time deadlines provided in this Contract for the correction of such Defects.

6.7. *REPLACEMENT EQUIPMENT.* The Company shall execute all documents necessary to evidence the City's title to the Hardware, including Hardware replaced pursuant to warranty provisions or pursuant to the Maintenance and Support Contract.

7. DUTY OF COMPANY TO IDENTIFY AND REQUEST INFORMATION, PERSONNEL AND FACILITIES.

Throughout the duration of this Contract, the Company shall identify and request in writing from the City Project Manager all City resources that may reasonably be required by the Company to perform the Services (the "City Resources"), including all information, City staff, equipment, facility or materials needed by the Company. The Company shall request City Resources far enough in advance to allow adequate planning and availability on the City's part and to avoid unnecessary expense or overtime. Notwithstanding the foregoing, the Company shall not be entitled to request that the City provide City Resources other than those identified as a City responsibility in **Exhibit C** (with respect to the Implementation Services) or **Exhibit E** (with respect to the Maintenance Services) unless the City can do so at no significant cost. If the City Project Manager fails to provide within a reasonable time period a City Resource that this Contract requires the City to provide, the Company will notify the responsible City Department Head of such failure. The Company shall not be relieved of any failure to perform under this Contract by virtue of the City's failure to provide any City resource: (i) that the Company failed to identify and request in writing from the City pursuant to this Section; or (ii) which the City is not required to provide pursuant to this Contract. To the extent the Company is excused from performance under the terms of this Section, the Company will only be excused for delays that occur after it has given notice to the City Department Head of the City's failure.

8. BACKGROUND CHECKS, REMOVAL, REPLACEMENT AND PROMOTION OF COMPANY PERSONNEL.

8.1. BACKGROUND CHECKS. Prior to starting work under the Agreement, the Service Provider is required to conduct a background check on each Service Provider employee assigned to work under the Agreement, and shall require its subcontractors (if any) to perform a background check on each of their employees assigned to work under the Agreement (collectively, the "Background Checks"). Each Background Check must include at a minimum:

- (a) Criminal records search;
- (b) Identification verification; and
- (c) Proof of authorization to work in the United States

After starting work under the Agreement, the Service Provider shall be required to, on an annual basis, perform a Background Check for each Service Provider employee assigned to work under the Agreement during that year, and shall require its subcontractors (if any) to do the same for each of their employees. If the Service Provider undertakes a new project under the Agreement, then prior to commencing performance of the project the Service Provider shall perform a Background Check for each Service Provider employee assigned to work on the project, and shall require its subcontractors (if any) to do the same for each of their employees.

If a person's duties under the Agreement fall within the categories described below, the Background Checks that the Service Provider will be required to perform (and to have its subcontractors perform) shall also include the following additional investigation:

- If the job duties require driving: A motor vehicle records check.
- If the job duties include responsibility for initiating or affecting financial transactions: A credit history check.
- If job duties include entering a private household or interaction with children: A sexual offender registry check.

The Service Provider must follow all State and Federal laws when conducting Background Checks, including but not limited to the Fair Credit Reporting Act requirements, and shall require its subcontractors to do the same.

The Service Provider agrees that if any personnel do not meet the background qualifications, he/she shall not be assigned to perform services under this Contract. The Service Provider will

notify the City immediately if a background check reveals any conviction(s). If there is any question as to whether any personnel meets the background qualifications, prior to assignment of any Services under this Contract, the Service Provider shall contact the City immediately.

The City may conduct its own background checks on principals of the Service Provider as the City deems appropriate. By operation of the public records law, background checks conducted by the City are subject to public review upon request.

- 8.2. **REMOVAL, REPLACEMENT AND PROMOTION OF COMPANY PERSONNEL** .The City will have the right to require the removal and replacement of any personnel of the Company or the Company's subcontractors who are assigned to provide Services to the City. The City shall be entitled to exercise such right in its sole discretion by providing written notice to the Company.

The City must approve in writing any hires or transfers of personnel to "Key Personnel" positions on the Project, and the City shall have the right to interview all personnel that the Company proposes to hire or transfer to such positions. As used in this Contract, the term "Key Personnel" shall mean the Company Project Manager, and any other personnel of the Company or its subcontractors who are identified as Key Personnel in an Exhibit to the Contract, or whom the City from time to time designates in writing to the Company as fulfilling a key role in the Project. Unless approved by the City in writing, the Company will not: (i) remove the Company's Key Personnel from the Project or permit its subcontractors to remove Key Personnel from the Project; or (ii) materially reduce the involvement of the Company's Key Personnel in the Project or allow its subcontractors to materially reduce the involvement of Key Personnel in the Project.

The Company will replace any personnel who leave the Project with equivalently qualified persons. The Company will replace such personnel as soon as reasonably possible, and in any event within thirty days after the Company first receives notice that the person will be leaving the Project.

If the Company gets more than 7 days behind in completing any Deliverable required by this Contract or the Project Plan, the Company will devote all personnel assigned to the Project to working on the Project on a first priority basis.

As used in this Contract, the term "personnel" includes all staff provided by the Company or its subcontractors, including but not limited to Key Personnel.

9. REPRESENTATIONS AND WARRANTIES OF COMPANY.

- 9.1. **SPECIFIC WARRANTIES.** Company represents, warrants and covenants that:

- (a) For a period of twelve (12) months after System Acceptance (the "Warranty Period"), the System will fully comply with the Specifications and Requirements, and all federal, state and local laws, regulations, codes and guidelines that apply to it (including any changes to such laws, etc.).
- (b) All Products and Services delivered after System Acceptance shall fully conform to the Specifications and Requirements for a period of one year after acceptance of such Product or Service by the City.
- (c) For as long as the City exercises its options to purchase Extended Maintenance Services, the System will fully comply with the Specifications and Requirements, and all federal, state and local laws, regulations, codes and guidelines that apply to it (including changes to such laws, etc.).
- (d) All Software provided by the Company or its subcontractors is and will be free of viruses, worms and Trojan horses, and any code designed to disable the Software because of the

passage of time, alleged failure to make payments due, or otherwise (except for documented security measures such as password expiration functions);

- (e) All Software and Hardware is and will be Year 2000 Compliant (as defined below).
- (f) In accordance with the North Carolina electronic data-processing records law N.C.G.S. §132-6-1:
 - 9.1.f.1. All Software and Documentation provided by the Company or its subcontractors will have sufficient information and capabilities to enable the City to permit the public inspection and examination and to provide electronic copies of public records stored, manipulated or retrieved by the System; and
 - 9.1.f.2. All Software and Documentation provided by the Company or its subcontractors will have sufficient information to enable the City to create an index containing the following information with respect to each database used by the System without extraordinary commitments of staff or resources: (i) annotated list of data fields: name, description, and restricted field indicator; (ii) description of the format or record layout; (iii) frequency with which the database is updated; (iv) list of any data fields to which public access is restricted; (v) description of each form in which the database can be copied or reproduced; (vi) title of the database; (vii) owner of the data; (viii) narrative description of the database; (ix) person creating the index; and (x) purpose of the database. The Company agrees that the City may copy and disclose the information listed above in response to requests for database information under the North Carolina General Statutes.
- (g) All Documentation for the Products and the System is and will be in all material respects complete and accurate, and will enable data processing professionals and other City employees with ordinary skills and experience to utilize the Products and the System for the expressed purpose for which they are being acquired by the City;
- (h) All work performed by the Company and/or its subcontractors pursuant to this Contract shall meet the highest industry standards and shall be performed in a professional and workmanlike manner by staff with the necessary skills, experience and knowledge;
- (i) Neither the Services, nor the Products nor any Deliverables provided by the Company under this Contract will violate, infringe or misappropriate any patent, copyright, trademark or trade secret rights of any third party, or any other third party rights (including without limitation non-compete agreements); and
- (j) All Hardware shall be delivered and shall remain free and clear of all liens and encumbrances. The Company shall not place or allow to be placed on the Software any third party lien or encumbrance of any kind at any time which could conceivably interfere with the City's use of the Software or the Company's maintenance of the Software.

For purposes of this Contract, the term "Year 2000 Compliant" means that software will: (a) store all date-related information and process all data interfaces involving dates in a manner that unambiguously identifies the century, for all date values before, during and after the Year 2000; (b) calculate, sort, report and otherwise operate correctly and in a consistent manner for all date information processed by the software, whether before, during or after the Year 2000; (c) calculate, sort, report and otherwise operate correctly, in a consistent manner and without interruption regardless whether the date on which the software is operated or executed is before, during or after the Year 2000; (d) report and display all dates with a four-digit date so that the century is unambiguously identified; and (e) handle all leap years, including but not limited to the Year 2000 leap year, correctly;

Prior to System Acceptance, the Company will correct all Defects in the System and the components thereof within the time frames set forth in **Exhibit C** and the Project Plan.

During the Warranty Period and at all times during which the City has purchased Extended Maintenance Services, the Company will correct all Defects and provide Maintenance Services pursuant to the **Exhibit E**.

If the Company breaches the warranty set forth in **Section 9.1(a)**, the City, without limiting any other remedies it may have under this Contract or at law, shall be entitled to an immediate refund of all amounts paid to the Company or its subcontractors or licensors under this Contract.

9.2. *ADDITIONAL WARRANTIES.* Company further represents and warrants that:

- (a) It is a corporation duly incorporated, validly existing and in good standing under the laws of the state of **[STATE OF INCORPORATION]**;
- (b) It has all the requisite corporate power and authority to execute, deliver and perform its obligations under this Contract;
- (c) The execution, delivery, and performance of this Contract have been duly authorized by the Company;
- (d) No approval, authorization or consent of any governmental or regulatory authority is required to be obtained or made by it in order for it to enter into and perform its obligations under this Contract;
- (e) In connection with its obligations under this Contract, it shall comply with all applicable federal, state and local laws and regulations and shall obtain all applicable permits and licenses; and
- (f) The Company shall not violate any agreement with any third party by entering into or performing this Contract.

10. REMEDIES.

10.1. *RIGHT TO COVER.* If the Company fails to meet any completion date or resolution time set forth in this Contract (including the Exhibits) or the Project Plan, the City may take any of the following actions with or without terminating this Contract, and in addition to and without limiting any other remedies it may have:

- (a) Employ such means as it may deem advisable and appropriate to perform itself or obtain the Services from a third party until the matter is resolved and the Company is again able to resume performance under this Contract; and
- (b) Deduct any and all expenses incurred by the City in obtaining or performing the Services from any money then due or to become due the Company and, should the City's cost of obtaining or performing the services exceed the amount due the Company, collect the amount due from the Company.

10.2. *RIGHT TO WITHHOLD PAYMENT.* If the Company breaches any provision of this Contract, the City shall have a right to withhold all payments due to the Company until such breach has been fully cured.

10.3. *SPECIFIC PERFORMANCE AND INJUNCTIVE RELIEF.* The Company agrees that monetary damages are not an adequate remedy for the Company's failure to provide the Products, Services or System as required by this Contract, nor could monetary damages be the equivalent of the performance of such obligation. Accordingly, the Company hereby consents to an order granting specific performance of such obligations of the Company in a court of competent jurisdiction within the State of North Carolina. The Company further consents to the City obtaining injunctive relief (including a temporary restraining order) to assure performance in the event the Company breaches the Contract.

- 10.4. *SETOFF*. Each party shall be entitled to setoff and deduct from any amounts owed to the other party pursuant to this Contract all damages and expenses incurred as a result of the other party's breach of this Contract.
- 10.5. *LIQUIDATED DAMAGES*. The City and the Company acknowledge and agree that the City will incur costs if the Company fails to meet one or more of the time frames for delivering Services and Products under this Contract and the Project Plan, including all completion dates, response times and resolution times (the "Completion Dates"). The parties further acknowledge and agree that the costs that the City might reasonably be anticipated to accrue as a result of such failures are difficult to ascertain due to their indefiniteness and uncertainty.

<< Liquidated Damages to be provided via addendum. >>

The liquidated damages referenced above are not intended to compensate the City for any costs other than inconvenience and delay in the implementation or loss of use of the System. The existence or recovery of such delay costs shall not preclude the City from recovering other amounts which the City can document as being attributable to a failure to meet such Completion Dates, including but not limited to the cost of internal staff hours or amounts paid to third parties (such as other vendors or independent contractors) as a result of such failure.

- 10.6. *OTHER REMEDIES*. Upon breach of this Contract, each party may seek all legal and equitable remedies to which it is entitled. The remedies set forth herein shall be deemed cumulative and not exclusive and may be exercised successively or concurrently, in addition to any other available remedy.
- 10.7. *VIOLATION OF FEDERAL CONTRACTING REQUIREMENTS*. A violation, or failure to avoid a violation, of any of the Federal contracting requirements, Federal Transit Administration (FTA) terms, or any term of Federal law or regulations applicable to this Project and Contract, specifically including but not limited to all certification of compliance and reporting requirements of any nature, shall constitute a material breach of this Contract and shall entitle the City to: (1) Exercise all rights and remedies that it may have at law or at equity for violation of the Contract; (2) Terminate the Contract for default; (3) Suspend the Contract for default; (4) Withhold all payments due to the Contractor under the Contract until such violation has been fully cured or the City and the Contractor have reached a mutually agreeable resolution; (5) Assess Liquidated Damages and/or (6) Offset any Liquidated Damages and/or any amounts necessary to cure any such violation from any retainage being held by the City on the Contract, or from any other amounts due to the Contractor under the Contract.

The remedies set forth herein shall be deemed cumulative and not exclusive, and may be exercised successively or concurrently, in addition to any other available remedy.

The City and the Contractor acknowledge and agree that the City will incur damages if the Contractor or any subcontractor of any tier to the Contractor, violates the Federal contracting requirements, FTA terms, or any term of Federal law or regulations applicable to this Project and Contract as set forth above and in this Contract as a whole in one or more of the ways set forth below, including but not limited to loss of goodwill popularly and specifically with Federal agencies including the FTA, detrimental impact on economic development and diversion of internal staff resources. The parties further acknowledge and agree that the damages the City might reasonably be anticipated to accrue as a result of such failures are difficult to ascertain due to their indefiniteness and uncertainty. Accordingly, the Contractor agrees to pay the Liquidated Damages assessed by the City at the rates set forth below for each specified violation of the DBE Program. The Contractor further agrees that for each specified violation the agreed upon Liquidated Damages are reasonably proximate to the loss the City will incur as a result of such violation:

Failure to Meet DBE Goal

If the City determines upon completion or termination of a Contract that the Contractor did not meet the committed DBE goal and that such failure is not otherwise excusable, the City may, in its sole discretion, assess a liquidated damage in the amount of (a) thirty thousand dollars (\$30,000.00) or (b) an amount up to the dollar difference between the committed DBE goal and the contractor's actual DBE utilization amount;

Using DBE as a Conduit

If the Contractor lists a DBE to receive credit toward a committed DBE Goal with knowledge that the DBE will be acting as a conduit or will not be performing a commercially useful function reasonably commensurate with the payment amount for which the Contractor will be seeking credit, the City may assess the lesser of: (a) twenty thousand dollars (\$20,000.00) or (b) the dollar amount the Contractor indicated that it would pay such DBE in the DBE's contract (or if no contract has been signed, the DBE's letter of intent);

Wrongful Termination or Replacement of DBE Services

If the Contractor terminates or replaces a DBE in violation of the DBE regulations and program applicable to this contract, the City may assess the lesser of: (1) twenty thousand dollars (\$20,000.00) or (2) the dollar amount of the work remaining to be performed by the terminated DBE at the time it was terminated (or if the DBE was not terminated because it was never retained, then, the dollar amount that the Contractor indicated it would pay the DBE in the DBE's letter of intent);

False Statements and Misrepresentations

If the Contractor makes a false statement, material misrepresentation or material misleading omission regarding any matter relevant to the DBE regulations and program or the Buy America provisions applicable to this Contract the City may assess the lesser of: (1) twenty-five thousand dollars (\$25,000.00); or (2) if the misrepresentation relates to payment, the dollar difference between what the Contractor represented and the truth;

Failure to Respond to Request for Information

If the Contractor fails to provide any report, documentation, affidavit, certification or written submission required under the DBE regulations and program, within the time period set forth therein, the City may assess twenty-five dollars (\$25.00) per day for each day that such report, documentation or written submission is overdue.

All Other Violations

If the Contractor causes or fails to avoid any other violation of any of the Federal contracting requirements, FTA terms, or any term of Federal law or regulations applicable to this Project and Contract, specifically including but not limited to all certification of compliance and reporting requirements of any nature, as well as violations of Article 8 of this Contract the City may assess the lesser of: (a) twenty-five thousand dollars (\$25,000.00); or (b) the remaining retainage due the Contractor. This amount shall increase by ten percent (10%) for each subsequent violation, excluding the continuing violations subject to Liquidated Damages of this Section.

- 11. REGENERATION OF LOST OR DAMAGED DATA.** With respect to any data which has been lost or damaged due to an act or omission of the Company or its subcontractors, the Company shall, at its own expense: (a) promptly replace or regenerate such data from the City's machine-readable supporting material, or (b) obtain a new machine-readable copy of lost or damaged data from the City's data sources. The Company shall further reload and restore such data at the Company's

expense. The Company shall not be responsible for any expenses that are the result of the failure of the City to maintain backup data in accordance with the City's regular schedule.

12. TERMINATION.

12.1. *TERM.* Unless terminated in accordance with its terms, this Contract shall commence on the Effective Date, and shall continue until the License and/or Maintenance Services has terminated.

12.2. *TERMINATION WITHOUT CAUSE.* The City may terminate this Contract at any time without cause by giving thirty (30) days written notice to the Company. As soon as practicable after receipt of a written notice of termination without cause, Company shall submit a statement to the City showing in detail the Services performed under this Contract through the date of termination. In the event of termination without cause pursuant to this Section, the City agrees to: (i) pay the Company a pro rata amount of the purchase price for Implementation Services rendered through the termination date based on percentage of completion of the applicable payment Milestones; and (ii) return all Hardware which the City elects not to keep, and (iii) pay the Company for any Hardware received by the City which the City has elected to keep, or which has been damaged by the City so as to preclude return. The forgoing payment obligation is contingent upon: (i) the Company having fully complied with **Section 12-7**; and (ii) the Company having provided the City with written documentation reasonably adequate to verify the number of hours of Services rendered by each person through the termination date and the percentage of completion of each task.

12.3. *TERMINATION FOR DEFAULT BY EITHER PARTY.* By giving written notice to the other party, either party may terminate this Contract upon the occurrence of one or more of the following events:

- (a) The other party violates or fails to perform any covenant, provision, obligation, term or condition contained in this Contract, provided that, unless otherwise stated in this Contract, such failure or violation shall not be cause for termination if both of the following conditions are satisfied: (i) such default is reasonably susceptible to cure; and (ii) the other party cures such default within thirty (30) days of receipt of written notice of default from the non-defaulting party; or
- (b) The other party ceases to do business as a going concern, makes an assignment for the benefit of creditors, admits in writing its inability to pay debts as they become due, files a petition in bankruptcy or has an involuntary bankruptcy petition filed against it (except in connection with a reorganization under which the business of such party is continued and performance of all its obligations under this Contract shall continue), or if a receiver, trustee or liquidator is appointed for it or any substantial part of other party's assets or properties.

Any notice of default pursuant to this **Section 12.3** shall identify this Section of this Contract and shall state the party's intent to terminate this Contract if the default is not cured within the specified period.

12.4. *ADDITIONAL GROUNDS FOR DEFAULT TERMINATION BY THE CITY.* By giving written notice to the Company, the City may also terminate this Contract upon the occurrence of one or more of the following events (which shall each constitute grounds for termination without a cure period and without the occurrence of any of the other events of default previously listed):

- (a) Failure of the Company to complete and deliver a particular Product, Deliverable or Service by the completion date set forth in this Contract (including the Exhibits) or the Project Plan;

- (b) Failure of the Company to correct all Defects and deficiencies identified by the City with respect to a Deliverable within the time period set forth in **Exhibit C**;
 - (c) Failure of the Company to correct all items identified in a Rejection Notice within the time period specified in **Exhibit C**;
 - (d) Failure of the Company to resolve a problem within the time set forth in **Exhibit E** regarding Maintenance Services (whether during the Warranty Period or during Extended Maintenance Services);
 - (e) The Company makes or allows to be made any material written misrepresentation or provides any materially misleading written information in connection with this Contract, Company's Proposal, or any covenant, agreement, obligation, term or condition contained in this Contract; or
 - (f) The Company takes or fails to take any action which constitutes grounds for immediate termination under the terms of this Contract, including but not limited to failure to obtain or maintain the insurance policies and endorsements as required by this Contract, or failure to provide the proof of insurance as required by this Contract.
- 12.5. **TERMINATION FOR FAILURE TO AGREE ON PROJECT PLAN.** If the parties have not finalized and agreed upon the Project Plan by the date set forth in the Project Schedule, the City shall be entitled to terminate this Contract and receive a refund of all amounts paid to the Company.
- 12.6. **CROSS TERMINATION.** A default by the City under **Exhibit E** shall constitute grounds for terminating the Maintenance Services if not cured as provided above, but shall not constitute a basis for the Company to terminate the License or any other obligations the Company may have under this Contract. A default by the City under **Exhibit C** shall constitute grounds for terminating the Implementation Services if not cured as provided above, but shall not constitute a basis for the Company to terminate the License, the Maintenance Services or any other obligations the Company may have under this Contract. Otherwise, a default by either party under any Exhibit or Attachment of this Contract, or the main body of this Contract, shall be regarded as a default under the entire Contract
- 12.7. **OBLIGATIONS UPON EXPIRATION OR TERMINATION.** Upon expiration or termination of this Contract, the Company shall promptly (a) return to the City all computer programs, files, documentation, data, media, related material and any other material and equipment that is owned by the City; (b) deliver to the City all Work Product; (c) allow the City or a new service provider access to the systems, software, infrastructure, or processes of the Company that are necessary to mitigate the Services to a new service provider; and (d) refund to the City all pre-paid Maintenance Fees based on a pro-rata as determined by the City.
- 12.8. **NO SUSPENSION.** In the event that the City disputes in good faith an allegation of default by the Company, notwithstanding anything to the contrary in this Contract, the Company agrees that it will not terminate this Contract or suspend or limit the delivery of Products or Services or any warranties or repossess, disable or render unusable any Software supplied by the Company, unless (i) the parties agree in writing, or (ii) an order of a court of competent jurisdiction determines otherwise.
- 12.9. **AUTHORITY TO TERMINATE.** The following persons are authorized to terminate this Contract on behalf of the City: (a) the City Manager, any Assistant City Manager or any designee of the City Manager; (b) the Department Head of the City Key Business Unit responsible for administering this Contract.

13. TRANSITION SERVICES UPON TERMINATION. Upon termination or expiration of this Contract, the Company shall cooperate with the City to assist with the orderly transfer of the Services, functions and operations provided by the Company hereunder to another provider or to the City as

determined by the City in its sole discretion. The transition services that the Company shall perform if requested by the City include but are not limited to:

- 13.1. Working with the City to jointly develop a mutually agreed upon transition services plan to facilitate the termination of the Services;
- 13.2. Notifying all affected service providers and subcontractors of the Company of transition activities;
- 13.3. Performing the transition service plan activities;
- 13.4. Answering questions on an as-needed basis; and
- 13.5. Providing such other reasonable services needed to effectuate an orderly transition to a new system.

14. CHANGES. In the event changes to the Services (collectively “Change”), become necessary or desirable to the parties, the parties shall follow the procedures set forth in this Section. A Change shall be effective only when documented by a written, dated agreement executed by both parties which expressly references this Contract (a “Change Statement”). The Change Statement shall set forth in detail: (i) the Change requested, including all modifications of the duties of the parties; (ii) the reason for the proposed Change; and (iii) a detailed analysis of the impact of the Change on the results of the Services and time for completion of the Services, including the impact on all Milestones and delivery dates and any associated price.

In the event either party desires a Change, the Project Manager for such party shall submit to the other party’s Project Manager a proposed Change Statement. If the receiving party does not accept the Change Statement in writing within ten (10) days, the receiving party shall be deemed to have rejected the Change Statement. If the parties cannot reach agreement on a proposed Change, the Company shall nevertheless continue to render performance under this Contract in accordance with its (unchanged) terms and conditions.

Changes that involve or increase in the amounts payable by the City may require execution by a Department Head, the City Manager, or an Assistant City Manager; depending on the amount. Some increases may also require approval by City Council.

15. INTELLECTUAL PROPERTY.

- 15.1. *COMPANY OWNERSHIP.* The Company shall have exclusive ownership of intellectual property rights in all Company Software and related Documentation, including but not limited to all copyrights, patents and trade secrets (collectively “Company Intellectual Property”). The Company grants the City a perpetual, royalty-free, non-exclusive license to use and copy the Company Intellectual Property for all purposes of the City and the Affiliates in accordance with the terms of the License.
- 15.2. *CITY OWNERSHIP.* The City shall have exclusive ownership of all intellectual property rights in all Customizations, Deliverables and other Work Product created by the Company or its subcontractors in connection with this Contract, including all modifications, Updates, Enhancements and Documentation relating thereto, and including but not limited to all copyrights, patents and trade secrets (collectively “City Intellectual Property”). The Company hereby assigns and transfers all rights in the City Intellectual Property to the City. The Company further agrees to execute and deliver such assignments and other documents as the City may later require to perfect, maintain and enforce the City’s rights as sole owner of the City Intellectual Property, including all rights under patent and copyright law. The Company hereby appoints the City as attorney in fact to execute all such assignments and instruments and agree that its appointment of the City as an attorney in fact is coupled with an interest and is irrevocable.

The City Intellectual Property shall not include Deliverables created by the Company for other customers prior to the date of this Contract, provided that the Company shall notify the City in writing of any Deliverables that are not City Intellectual Property at the time it submits such Deliverables. The City grants the Company a royalty-free, non-exclusive license to use and copy the City Intellectual Property to the extent necessary to perform this Contract. The Company shall not be entitled to use the City Intellectual Property for other purposes without the City's prior written consent, and shall treat the City Intellectual Property as "Confidential Information" under the Confidentiality Contract.

- 15.3. *COMPANY WILL NOT SELL OR DISCLOSE DATA.* The Company will treat as Confidential Information under the Confidentiality Agreement all data provided by or processed for the City in connection with this Contract or use of the Software (including metadata). Such data shall remain the exclusive property of the City. The Company will not reproduce, copy, duplicate, disclose, or in any way treat the data supplied by the City in any manner except that contemplated by this Contract.

16. OTHER OBLIGATIONS OF COMPANY.

- 16.1. *WORK ON CITY'S PREMISES.* The Company will ensure that its employees and agents shall, whenever on the City's premises, obey all instructions and directions issued by the City with respect to rules, regulations, policies and security procedures applicable to work on the City's premises. The Company agrees that its personnel and the personnel of its subcontractors will comply with all such rules, regulations and security procedures when on the City's premises.
- 16.2. *DAMAGE TO EQUIPMENT OR FACILITIES.* The Company shall be responsible for any damage to or loss of the City's equipment or facilities arising out of the negligent or willful act or omission of the Company or its subcontractors.
- 16.3. *RESPECTFUL AND COURTEOUS BEHAVIOR.* The Company shall assure that its employees interact with City employees and with the public in a courteous, helpful and impartial manner. All employees of the Company in both field and office shall refrain from belligerent behavior and/or profanity. Correction of any such behavior and language shall be the responsibility of the Company.
- 16.4 *COORDINATION WITH THIRD PARTIES.* No additional measurement and payment will be awarded for compliance with public or private utility company requirements, Railroad Company requirements, or requirements identified by the City such as requirements, standards, codes, or manuals published by the City or the State. No additional compensation or Contract Time will be awarded to the Company resulting from enforcement of "Coordination with Third Parties."

Building Demolition may require disconnection and decommissioning of utility services. The Contractor shall coordinate disconnections with private utility companies and comply fully with each company's requirements and restrictions. The Contractor shall assess need for decommissioning as part of means and methods. When decommissioning is required, the Contractor shall devise sequence of shut down required to prevent explosion, electrocutions, and other safety concerns affecting workers, the City, and the general public and surrounding properties.

The Contractor shall:

1. Coordinate Work to ensure timely disconnection and relocation of utility services.
2. Relocate, remove, and protect existing utility services that are to remain. No utility outages on nearby properties will be permitted.
3. Coordinate Work to ensure maintenance of utility services to surrounding and adjacent facilities not subject to Work.

4. Establish means to reroute utility services or arrange with utility owners to ensure continuity of services.
5. Comply with instructions of Engineer in the event outages cannot be avoided.

The Company and subcontractors are required to read and comply with all applicable requirements in the following executed agreements: (i) North Carolina Railroad – City Lease Agreement (NCRR-City Lease), (ii) Norfolk Southern – City Construction & Reimbursement Contract (NSR-City Contract), and (iii) CSX Transportation – City Agreement for Reimbursement of Project Expenses (CSXT-City Contract). These agreements are incorporated into this Contract by reference. Copies of these agreements are available at: <http://epmcontracts.charmeck.org>.

17. NEW TECHNOLOGY. The parties recognize that technology may change during the term of this Contract. Accordingly, the parties agree as follows:

- 17.1. The Company shall provide the City with prompt written notice of all upgrades, enhancements and modifications to the Products or Services that become available during the term of this agreement (the “New Technology”).
- 17.2. Unless specified in writing by the City in a specific instance, all Products provided by the Company will be the latest, most recent version available as of the time of installation. The Company will schedule installation of all Products as late in the process as is reasonably practicable to meet the Project Plan deadlines. Unless specified in writing by the City in a specific instance, the Company will continually update the Software after installation at no additional cost and it shall be a condition of System Acceptance that all Software be the latest, most current version available as of the date of System Acceptance.
- 17.3. If the Company causes a delay in the Project of six months or more, it shall be a condition of System Acceptance (at the City’s option) that the Hardware is the latest, most recent version available as of six months prior to the date of System Acceptance.
- 17.4. Notwithstanding anything contained in this Contract to the contrary, the City shall have the option to reject proposed New Technology and to accept less that the most current version of the Products by providing written notice to the Company.
- 17.5. The Company shall make the New Technology available to the City at no additional cost if required by this Contract, or if New Technology is generally commercially available to the Company’s customers at no additional cost. Notwithstanding the foregoing, there shall be no additional charges for providing the most recent version of the Hardware as required by **Section 17.2 or 17.3.**
- 17.6. The Company shall provide additional details and estimated prices to the City at the request of the City, if the City wants to consider further the possible addition of the New Technology.
- 17.7. Notwithstanding anything contained herein to the contrary, neither the acceptance of proposed New Technology by the City nor the amendment of this Contract to incorporate New Technology shall relieve the Company from its obligations under this Contract to satisfy the Specifications and Requirements.

18. INDEMNIFICATION. To the fullest extent permitted by law, the Company shall indemnify, defend and hold harmless each of the “Indemnitees” (as defined below) from and against any and all “Charges” (as defined below) paid or incurred any of them as a result of any claims, demands, lawsuits, actions, or proceedings: (i) alleging violation, misappropriation or infringement of any copyright, trademark, patent, trade secret or other proprietary rights with respect to the Work or any products or deliverables provided to the City pursuant to this Contract (“Infringement Claims”); (ii) seeking payment for labor or materials purchased or supplied by the Company or its subcontractors in connection with this Contract; or (iii) arising from the Company’s failure to perform its obligations

under this Contract, or from any act of negligence or willful misconduct by the Company or any of its agents, employees or subcontractors relating to this Contract, including but not limited to any liability caused by an accident or other occurrence resulting in bodily injury, death, sickness or disease to any person(s) or damage or destruction to any property, real or personal, tangible or intangible; or (iv) arising from the Company's violation of any law (including without limitation immigration laws); or (v) any claim that the Company or an employee or subcontractor of the Company is an employee of the City, including but not limited to claims relating to worker's compensation, failure to withhold taxes and the like. For purposes of this Section: (a) the term "Indemnitees" means the City and each of the City's officers, officials, employees, agents and independent contractors (excluding the Company); and (b) the term "Charges" means any and all losses, damages, costs, expenses (including reasonable attorneys' fees), obligations, duties, fines, penalties, royalties, interest charges and other liabilities (including settlement amounts).

If an Infringement Claim occurs, the Company shall either: (i) procure for the City the right to continue using the affected Product or Service; or (ii) repair or replace the infringing Product or Service so that it becomes non-infringing, provided that the performance of the overall Product(s) and Service(s) provided to the City shall not be adversely affected by such replacement or modification. If the Company is unable to comply with the preceding sentence within thirty days after the City is directed to cease use of a Product or Service, the Company shall promptly refund to the City all amounts paid under this Contract.

19. INSURANCE. << *Insurance requirements to be provided via addendum* >>

20. LICENSING. The Company shall provide copies of all valid licenses and certificates required for performance of the Services. The copies shall be delivered to the City no later than ten (10) days after the Company receives the notice of award from the City. Current copies of licenses and certificates shall be provided to the City within twenty-four (24) hours of demand at any time during the contract term. Licenses and certificates required for this contract include, by way of illustration and not limitation, the following: 1) a business license valid in North Carolina; 2) any additional licenses pertaining to or that may be required to be held by field professionals participating in the contract work.

Failure to obtain a valid Charlotte Business License within thirty (30) days of receiving contract award notification will result in garnishment by the Tax Office from any payments made to the Company.

21. RELATIONSHIP OF THE PARTIES. The relationship of the parties established by this Contract is solely that of independent contractors, and nothing contained in this Contract shall be construed to (i) give any party the power to direct or control the day-to-day activities of the other; (ii) constitute such parties as partners, joint venturers, co-owners or otherwise as participants in a joint or common undertaking; (iii) make either party an agent of the other for any purpose whatsoever, or (iv) give either party the authority to act for, bind, or otherwise create or assume any obligation on behalf of the other. Nothing herein shall be deemed to eliminate any fiduciary duty on the part of the Company to the City that may arise under law or under the terms of this Contract.

22. SUBCONTRACTING. The Contractor shall be responsible for supervising, managing, and coordinating the Work of his subcontractors, and for resolving any conflicts that may arise among them, and any disputes concerning their respective responsibilities or the scope of their Work. The City shall have the right to approve all subcontractors, except that, if the solicitation of Bids for the Contract required or authorized certain subcontractors to be under contract at the time it is entered into, such subcontractors shall be considered to have been approved.

The Contractor shall not execute any subcontract without the prior review and written approval of that specific subcontract from the City. Each specific subcontract shall contain a clause incorporating by reference all terms and conditions of this Contract. The Contractor shall provide to the City a copy of each executed subcontract. In the event the Contractor does execute a subcontract without the prior

written approval of that specific subcontract from the City, Liquidated Damages may be assessed against the Contractor in addition to any other damages that the City may be entitled to for such a breach of this Article. The City may also require the Contractor to renegotiate a subcontract executed in violation of this Article to add any subcontract provisions required by this Contract that may have been omitted from such subcontract. Each subcontract agreement shall contain the applicable FTA Contracting Requirements as provided in Supplementary Conditions A: Federal Contracting Requirement section of this Contract.

Before any subcontractor performs any Work on the site, the Contractor shall obtain the City's approval of the subcontractor and submit any certificates required including but not limited to insurance, debarment, Equal Employment Opportunity, and DBE. The Contractor shall ensure that all subcontractors supply relevant information on the same forms as the Contractor.

The Contractor, in paying his subcontractors and suppliers, shall fully and strictly comply with N.C. GEN. STAT. § 143-134.1, and shall, by means of appropriate provisions in all subcontracts and orders for materials, supplies, or equipment, and by all other appropriate means, ensure that all subcontractors and suppliers fully and strictly comply with N.C. GEN. STAT. § 143-134.1.

It is the policy of the City that prompt payment for all purchases and services satisfactorily rendered are to be made to all subcontractors. The Contractor is required to pay subcontractors for satisfactory performance of their contracts within seven (7) days after the City has paid the Contractor for such Work. If the Contractor withholds any retainage pending final completion of any subcontractor's Work, the Contractor is required to pay the retainage so withheld within seven (7) days after such subcontractor completes his Work satisfactorily. The Contractor's failure to pay subcontractors as provided herein shall be a material breach for which the City may cancel the Contract.

Nothing provided herein or elsewhere in the Contract shall be construed as creating privity of contract between the City and any subcontractor, or as limiting or diminishing any rights or remedies that the City may have against the Contractor arising out of the Contract, or as relieving the Contractor of any responsibility for performance of the Contract because of any action, or of any failure to act, by the City.

In the event the Contractor does not manage his subcontractors, Liquidated Damages may be assessed against the Contractor in addition to any other damages that the City may be entitled to for such a breach of this Article.

- 23. CONFIDENTIALITY AGREEMENT.** The parties acknowledge that they have executed and entered into a Confidentiality Agreement prior to the execution of this Contract (the "Confidentiality Agreement"), and that they are bound by all terms contained in the Confidentiality Agreement with respect to any Confidential Information which either of them obtains access to in connection with this Contract.
- 24. NON-DISCRIMINATION.** The City has adopted a Commercial Non-Discrimination Policy that is described in Section 2, Article V of the Charlotte City Code, and is available for review on the City's website (the "Non-Discrimination Policy"). The Company agrees to comply with the Non-Discrimination Policy, and consents to be bound by the award of any arbitration conducted thereunder. As part of such compliance, the Company shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, suppliers, or commercial customers in connection with a City contract or contract solicitation process, nor shall the Company retaliate against any person or entity for reporting instances of such discrimination. The Company shall provide equal opportunity for subcontractors, vendors and suppliers to participate in all of its subcontracting and supply opportunities on City contracts, provided that nothing contained in this clause shall prohibit or limit otherwise lawful efforts to remedy the effects of marketplace discrimination that has occurred or is occurring in the marketplace. The Company understands and agrees that a violation of this clause

shall be considered a material breach of this Contract and may result in termination of this Contract, disqualification of the Company from participating in City contracts or other sanctions.

As a condition of entering into this Contract, the Company agrees to: (a) promptly provide to the City all information and documentation that may be requested by the City from time to time regarding the solicitation, selection, treatment and payment of subcontractors in connection with this Contract; and (b) if requested, provide to the City within sixty days after the request a truthful and complete list of the names of all subcontractors, vendors, and suppliers that Company has used on City contracts in the past five years, including the total dollar amount paid by Contractor on each subcontract or supply contract. The Company further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Non-Discrimination Policy as set forth in Section 2, Article V of the City Code, to provide any documents relevant to such investigation that are requested by the City, and to be bound by the award of any arbitration conducted under such Policy. The Company understands and agrees that violation of this clause shall be considered a material breach of this Contract and may result in contract termination, disqualification of the Company from participating in City contracts and other sanctions.

The Company further agrees to provide to the City from time to time on the City's request, payment affidavits detailing the amounts paid by Company to subcontractors and suppliers in connection with this Contract within a certain period of time. Such affidavits shall be in the format provided by the City.

25. DRUG-FREE WORKPLACE. The City is a drug-free workplace employer. The Company hereby certifies that it has or it will within thirty (30) days after execution of this Contract:

- 24.1. Notify employees that the unlawful manufacture, distribution, dispensation, possession, or use of controlled substance is prohibited in the workplace and specifying actions that will be taken for violations of such prohibition.
- 24.2. establish a drug-free awareness program to inform employees about (i) the dangers of drug abuse in the workplace, (ii) the Company's policy of maintaining a drug-free workplace, (iii) any available drug counseling, rehabilitation, and employee assistance programs, and (iv) the penalties that may be imposed upon employees for drug abuse violations;
- 24.3. notify each employee that as a condition of employment, the employee will (i) abide by the terms of the prohibition outlines in (a) above, and (ii) notify the Company of any criminal drug statute conviction for a violation occurring in the workplace not later than five days after such conviction;
- 24.4. impose a sanction on, or requiring the satisfactory participation in a drug counseling, rehabilitation or abuse program by, an employee convicted of a drug crime;
- 24.5. make a good faith effort to continue to maintain a drug-free workplace for employees; and
- 24.6. require any party to which it subcontracts any portion of the work under the contract to comply with the provisions of this Section.

A false certification or the failure to comply with the above drug-free workplace requirements during the performance of this Contract shall be ground for suspension, termination or debarment.

26. SOURCE CODE. Company shall cause the Source Code for all Software, New Releases and New Versions to be delivered to the source code escrow agent identified in the Source Code Escrow Contract, at the times set forth therein. The City shall be given such Source Code under the conditions stated in the Source Code Escrow Contract. The Company shall deliver the Source Code for all Customizations to the City prior to System Acceptance. The Company shall deliver the Source Code for all New Releases and New Versions to Customizations to the City within ten (10) days after delivery of each New Release and New Version.

27. NOTICES. Any notice, consent or other communication required or contemplated by this Contract shall be in writing, and shall be delivered in person, by U.S. mail, by overnight courier, by electronic mail or by telefax to the intended recipient at the address set forth below. Notice shall be effective upon the date of receipt by the intended recipient; provided that any notice which is sent by telefax or electronic mail shall also be simultaneously sent by mail deposited with the U.S. Postal Service or by overnight courier. Each party may change its address for notification purposes by giving the other party written notice of the new address and the date upon which it shall become effective.

27.1. Communications that relate to any breach, default, termination, delay in performance, prevention of performance, modification, extension, amendment, or waiver of any provision of this Contract shall be sent to:

For the City:

[NAME]

City of Charlotte / CATS

600 E. 4th St., 9th Fl.

Charlotte, NC 28202

Phone:

Email:

For the Company:

[NAME]

[COMPANY]

[ADDRESS]

[CITY, ST ZIP]

Phone:

Email:

With Copy to:

[NAME]

City Attorney's Office

600 E. 4th St., 9th Fl.

Charlotte, NC 28202

Phone:

Email:

27.2. All other notices shall be sent to the other party's Project Manager at the most recent address provided in writing by the other party.

28. PERFORMANCE BOND. Within ten business days after execution of this Contract, the Company shall provide the City with a performance bond for the full amount of the Purchase Price (the "Performance Bond"). The Performance Bond shall be from a U.S. federally registered surety or bonding agency that is registered to conduct business in the State of North Carolina.

The Performance Bond shall be conditioned upon the full and faithful performance of each and every term, condition and provision of this Contract, and shall be subject to City approval as to form and content. The Company shall keep the Performance Bond for two years after System Acceptance, provided that on the one-year anniversary date of System Acceptance the Company may reduce the amount of Performance Bond by forty percent. The Company shall pay all premiums chargeable for the bond, and the bond shall contain a provision that it shall not terminate prior to thirty (30) days after written notice to that effect is given to the City.

In the event the Company fails to maintain the Performance Bond as required by this Contract, the City may terminate this Contract for default and, without limiting any other remedies it may have, obtain a refund of all amounts paid to the Company under this Contract.

29. MISCELLANEOUS.

29.1. *ENTIRE AGREEMENT.* This Contract, (including all Exhibits and Attachments), the Confidentiality Agreement and the Source Code Escrow Contract constitute the entire agreement between the parties with respect to the subject matter herein. There are no other representations, understandings, or agreements between the parties with respect to such

subject matter. This Contract supersedes all prior agreements, negotiations, representations and proposals, written or oral.

- 28.2. *AMENDMENT.* No amendment or change to this Contract shall be valid unless in writing and signed by the party against whom enforcement is sought.
- 28.3. *GOVERNING LAW AND VENUE.* North Carolina law shall govern the interpretation and enforcement of this Contract, and any other matters relating to this Contract (all without regard to North Carolina conflicts of law principles). All legal actions or other proceedings relating to this Contract shall be brought in a state or federal court sitting in Mecklenburg County, North Carolina. By execution of this Contract, the parties submit to the jurisdiction of said courts and hereby irrevocably waive any and all objections they may have with respect to venue in any court sitting in Mecklenburg County, North Carolina.
- 28.4. *BINDING NATURE AND ASSIGNMENT.* This Contract shall bind the parties and their successors and permitted assigns. Neither party may assign this Contract without the prior written consent of the other. Any assignment attempted without the written consent of the other party shall be void. For purposes of this Section, a Change in Control, as defined in **Section 28.12** shall constitute an assignment.
- 28.5. *NO DELAY DAMAGES.* Under no circumstances shall the City be liable to the Company for any damages arising from delay, whether caused by the City or not.
- 28.6. *FORCE MAJEURE PRIOR TO SYSTEM ACCEPTANCE.* The following force majeure provisions shall apply to the Company prior to System Acceptance and to the City at all times. Neither party shall be liable for any failure or delay in the performance of its obligations pursuant to this Contract, and such failure or delay shall not be deemed a default of this Contract or grounds for termination hereunder if all of the following conditions are satisfied:
- (a) if such failure or delay:
 - 1. could not have been prevented by reasonable precaution;
 - 2. cannot reasonably be circumvented by the non-performing party through the use of alternate sources, work-around plans, or other means; and
 - 3. if, and to the extent, such failure or delay is caused, directly or indirectly, by fire, flood, earthquake, hurricane, elements of nature or acts of God, acts of war, terrorism, riots, civil disorders, rebellions or revolutions or court order.
 - (b) An event which satisfies all of the conditions set forth above shall be referred to as a "Force Majeure Event." Upon the occurrence of a Force Majeure Event, the affected party shall be excused from any further performance of those of its obligations which are affected by the Force Majeure Event for as long as (a) such Force Majeure Event continues and (b) the affected party continues to use reasonable efforts to recommence performance whenever and to whatever extent possible without delay.
 - (c) Upon the occurrence of a Force Majeure Event, the affected party shall promptly notify the other by telephone (to be confirmed by written notice within five (5) days of the inception of the failure or delay) of the occurrence of a Force Majeure Event and shall describe in reasonable detail the nature of the Force Majeure Event. If any Force Majeure Event prevents the Company from performing its obligations for more than fifteen (15) days, the City shall have the right to terminate this Contract by written notice to the Company.
 - (d) Notwithstanding anything contained herein to the contrary, strikes, slow-downs, walkouts, lockouts, and industrial disputes of the Company or its subcontractors shall not constitute "Force Majeure Events" and are not excused under this provision. The parties

expressly acknowledge that Year 2000-related interruptions in operations or in the supply of the products or services of the Company or its not excused under this provision. Nothing in the preceding Force Majeure provisions shall relieve the Company of any obligation it may have regarding disaster recovery, whether under this Contract or at law.

- 28.7. *FORCE MAJEURE AFTER SYSTEM ACCEPTANCE.* The following force majeure provisions shall apply to the Company after System Acceptance. After System Acceptance, the Company shall not be excused from performance under this Contract by virtue of force Majeure events. The Company shall take precautions sufficient to ensure that force Majeure events (including but not limited to fire, flood, earthquake, hurricane, elements of nature, strikes, labor disputes, terrorism and acts of God) do not result in any failure or delay in the performance of the Company's obligations pursuant to this Contract. Failure to comply with this provision will constitute a default under this Contract, and grounds for immediate termination.
- 28.8. *SEVERABILITY.* The invalidity of one or more of the phrases, sentences, clauses or sections contained in this Contract shall not affect the validity of the remaining portion of this Contract so long as the material purposes of this Contract can be determined and effectuated. If any provision of this Contract is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision, but only to the extent that such provision is unenforceable, and this Contract shall be deemed amended by modifying such provision to the extent necessary to make it enforceable while preserving its intent.
- 28.9. *NO PUBLICITY.* No advertising, sales promotion or other materials of the Company or its agents or representations may identify or reference this Contract or the City in any manner without the prior written consent of the City. Notwithstanding the forgoing, the parties agree that the Company may list the City as a reference in responses to requests for proposals, and may identify the City as a customer in presentations to potential customers.
- 28.10. *WAIVER.* No delay or omission by either party to exercise any right or power it has under this Contract shall impair or be construed as a waiver of such right or power. A waiver by either party of any covenant or breach of this Contract shall not constitute or operate as a waiver of any succeeding breach of that covenant or of any other covenant. No waiver of any provision of this Contract shall be effective unless in writing and signed by the party waiving the rights.
- 28.11. *SURVIVAL OF PROVISIONS.* Those Sections of this Contract and the Exhibits which by their nature would reasonably be expected to continue after the termination of this Contract shall survive the termination of this Contract, including but not limited all definitions and each of the following:
- | | |
|-------------|--|
| Section 2 | Definitions |
| Section 4.6 | Additional Purchases |
| Section 4.8 | Audit |
| Section 6.5 | Software License for Embedded Software |
| Section 6.6 | Transfer of Warranties |
| Section 6.7 | Replacement Equipment |
| Section 9 | Representations and Warranties |
| Section 12 | Termination |
| Section 15 | Intellectual Property |
| Section 18 | Indemnification |
| Section 23 | Non-Discrimination |
| Section 26 | Notices |
| Section 28 | Miscellaneous |
- 28.12. *CHANGE IN CONTROL.* In the event of a change in "Control" of the Company (as defined below), the City shall have the option of terminating this Contract by written notice to the

Company. The Company shall notify the City within ten days of the occurrence of a change in control. As used in this Contract, the term "Control" shall mean the possession, direct or indirect, of either (i) the ownership of or ability to direct the voting of, as the case may be fifty-one percent (51%) or more of the equity interests, value or voting power in the Company or (ii) the power to direct or cause the direction of the management and policies of the Company whether through the ownership of voting securities, by contract or otherwise.

- 28.13. *NO BRIBERY.* The Company certifies that neither it, any of its affiliates or subcontractors, nor any employees of any of the forgoing has bribed or attempted to bribe an officer or employee of the City in connection with this Contract.
- 28.14. *FAMILIARITY AND COMPLIANCE WITH LAWS AND ORDINANCES.* The Company agrees to make itself aware of and comply with all local, state and federal ordinances, statutes, laws, rules and regulations applicable to the Services. The Company further agrees that it will at all times during the term of this Contract be in compliance with all applicable federal, state and/or local laws regarding employment practices. Such laws will include, but shall not be limited to workers' compensation, the Fair Labor Standards Act (FLSA), the Americans with Disabilities Act (ADA), the Family and Medical Leave Act (FMLA) and all OSHA regulations applicable to the work.
- 28.15 *TAXES.* The City is NOT exempt from applicable sales or use taxes assessed by North Carolina or other states. However, the North Carolina Department of Revenue does reimburse the City for the North Carolina sales or use taxes the City pays for certain construction related goods. Therefore, the City utilizes the below procedures for such sales tax. The Company agrees to follow the procedures set forth below for all sales or use taxes related to the Work and any other work performed pursuant to this contract.

"Eligible Taxes" are defined as North Carolina sales or use taxes paid by the Company for buildings, materials, supplies, fixtures and equipment that become a part of or annexed to any building or structure that is owned or leased by the City and is being erected, altered or repaired by the City (North Carolina GS 105-164-14(c)).

"Non-Eligible Taxes" are defined as all other sales or use taxes including those paid to states other than North Carolina, or sales or use taxes paid to North Carolina on purchases or rental of tools, equipment, and disposable supplies, including fuel, used in the Work.

Non-Eligible Taxes

Non-Eligible Taxes shall be included in the Proposal and will be included in the Contract Amount. The Contract Amount as shown in Exhibit A: Price Schedule and List of System Components includes full and complete compensation for the Contractor for any and all Non-Eligible Taxes paid by the Contractor in the prosecution of the Work and any other work performed pursuant to this Contract.

Eligible Taxes

Eligible Taxes **shall not** be included in the Bid and will **not** be included in the Contract Amount. Eligible Taxes will be reimbursed separately pursuant to the procedures below.

Prior to Award of the Contract, the Contractor shall provide the City with the estimated amount of total Eligible Taxes for the Contract. This estimated amount of total Eligible Taxes will be used solely for the purpose of the City's budget planning for the Project and will **not** be included in the Contract Amount.

The Contract Amount as shown in Exhibit A: Price Schedule and List of System Components excludes Eligible Taxes. The Contractor shall invoice the City for Eligible Taxes as set forth below and the City will reimburse the Contractor for those Eligible Taxes pursuant to the procedures below.

In the event the Contractor fails to materially follow the procedures set forth by this Article, and/or fails to properly document its payment of Eligible Taxes, the City will not be liable to the Contractor in any way for the payment of such Eligible Taxes.

In order to receive the reimbursement for Eligible Taxes, the Contractor shall provide a detailed listing of Eligible Taxes on the Sales/Use Tax Statement ("Tax Statement") provided in the Contract Documents. Tax Statements must be submitted with each payment request and shall include invoices documenting the Eligible Taxes and the underlying purchases made by the Contractor or by the Contractor's subcontractor.

Tax Statements must indicate whether such Eligible Taxes was paid by the Contractor or by the Contractor's subcontractor.

If no Eligible Taxes have been paid for the period in which a payment request is being submitted by the Contractor, then the Contractor shall indicate "No Eligible Taxes paid this period" and submit the Tax Statement accordingly.

Tax Statements must be completed and signed by the Contractor/subcontractor's company officer submitting the statement and certified by a Notary Public.

Tax Statement must list in detail the Eligible Taxes paid for each individual invoice paid by the Contractor/subcontractor. No lump sum, running total, or copies of previously reported statements will be accepted.

Tax Statements must show separately the portion of Eligible Taxes that are paid to the State of North Carolina and the applicable North Carolina county, identifying the county accordingly.

Tax Statements will be reviewed and approved by the City prior to paying the Eligible Taxes reimbursement. Such approval will not be unreasonably withheld.

- 28.16. *TITLES OF SECTIONS.* The section headings inserted herein are for convenience only, and are not intended to be used as aids to interpretation and are not binding on the parties.
- 28.17. *CONSTRUCTION OF TERMS.* Each of the parties has agreed to the use of the particular language of the provisions of this Contract and any questions of doubtful interpretation shall not be resolved by any rule or interpretation against the drafters, but rather in accordance with the fair meaning thereof, having due regard to the benefits and rights intended to be conferred upon the parties.
- 28.18 *DISPUTE RESOLUTION.*

First Meeting in Good Faith

For all disputes, the parties shall first meet in good faith to resolve the matters. If the parties are unsuccessful in settling the dispute, such meeting shall be followed by non-binding mediation conducted pursuant to the conditions set forth in this Article. Full compliance with this Article is a precondition to any party to a dispute initiating litigation of any type concerning the dispute.

Parties in Interest

Any party to this Project that is a party to an issue or claim in which the amount in controversy is at least fifteen thousand dollars (\$15,000.00) may require other parties that are party to the issue or claim and this Project to participate in the dispute resolution process as set forth in this Article. Unless otherwise directed by the City, the Consultant shall continue performance under this Contract while matters in dispute are being resolved. The process set forth by this Article may be foregone upon the mutual written agreement of all parties in interest to the individual matters. Otherwise, full compliance with this Article is a precondition for any party to initiating any form of litigation concerning the dispute.

Subcontract Inclusion

The Consultant shall and hereby agrees to include this Article in every subcontract or any other agreement it enters into with any party that will be involved in this Project.

Parties at Issue & Required Notice

If the City is not a party to the issue or claim, the party requesting dispute resolution must notify the City, in writing, of the requested dispute resolution and must include a brief summary of the issue including the alleged monetary value of the issue. The written notice must be sent to the City prior to the service of the request for dispute resolution upon the parties to the issue.

- A. If the party requesting dispute resolution is a subconsultant, it must first submit its claim to the Consultant. If the matter is not resolved through the Consultant's informal involvement, then the matter becomes ripe for the dispute resolution process under this Article, and the party may submit its written notice of dispute resolution to the City.
- B. The City is under no obligation to secure or enforce compliance with this Article for matters in which the City is not a party. The City is entitled to notice of the matter as required by this Article, but has no obligation to administer, mediate, negotiate, or defray any costs of matters in which the City is not a party, but for the selection of a mediator as set forth below.
- C. If the City is a party to the issue, the party requesting dispute resolution must submit a written request to the City for such dispute resolution.
- D. Upon receipt of a written request for dispute resolution that fully complies with the requirements of this Article, the parties to the matter shall follow the process as set forth in this Article in good-faith. The costs of the process shall be divided equally among the parties.

Good Faith Meeting

As required by Article 11.1, representatives of each party shall meet as soon as reasonable to attempt in good-faith to resolve the matter. If the City is a party to the matter, all other parties must be represented by a person with the authority to settle the matter on behalf of their respective parties. The parties may by agreement and in good-faith conduct further meetings as necessary to resolve the matter. If resolution is not achieved, the parties shall initiate mediation as set forth below.

A. Mediation

The parties to a matter that is ripe for mediation under this Article shall proceed in the following manner:

i. Selection of Mediator

The parties shall in good-faith select a mediator certified in accordance with the rules of mediator certification in Superior Court in North Carolina. If the parties desire a mediator not so certified, the City's consent to such a mediator must first be obtained in writing. If the parties cannot agree to a mediator within a reasonable time, the City shall have the right to unilaterally select a certified mediator if the City is a party to the matter, or if the City is not a party to the matter, but is requested to do so by a party to the matter.

ii. Mediation Agreement

Upon selection of a mediator, the parties to the matter shall in good-faith enter into a mediation agreement that shall include terms governing the time, place, scope, and procedural rules of the mediation including those set forth in Article 11.5.A.iii below.

The agreement shall also include terms governing the compensation, disqualification, and removal of the mediator. All terms of the mediation agreement must be consistent with the terms of this Article and Contract, as well as all applicable laws. If the parties fail to agree to the procedural rules to be used, then the American Arbitration Association Construction Industry Mediation Rules shall be used to the extent such rules are consistent with this Contract and applicable law.

iii. Stalemate

If after all reasonable good-faith attempts to resolve the matter have been made, it appears to the mediator that the parties are at a stalemate with no significant likelihood of reaching resolution, the mediator shall so inform the parties and shall issue a written notice of stalemate, which shall conclude the matter resolution process, unless the parties agree otherwise.

28.19 *E-VERIFY.*

As a condition for payment under this Contract, Company shall: (i) comply with the E-Verify requirements set forth in Article 2 of Chapter 64 of the North Carolina General Statutes (the "E-Verify Requirements"); and (ii) cause each subcontractor under this Contract to comply with such E-Verify Requirements as well. Company will indemnify and save harmless the City from all losses, damages, costs, expenses (including reasonable attorneys' fees), obligations, duties, fines, penalties, interest charges and other liabilities (including settlement amounts) incurred on account of any failure by Company or any subcontractor to comply with the E-Verify Requirements.

[INSERT SIGNATURES]

Supplementary Conditions A: Federal Contracting Requirements

ARTICLE 1: FEDERAL CONTRACTING REQUIREMENTS

1.1 FEDERAL APPLICABILITY

The Work to be performed under this Contract will be financed in whole or in part with Federal funds. As such, Federal laws, regulations, policies, and related administrative practices apply to this Contract. The most recent of such Federal requirements, including any amendments made after the execution of this Contract, shall govern this Contract, unless the Federal Government determines otherwise.

To the extent applicable, the Federal requirements contained in the most recent version of the FTA Master Agreement, including any certifications and contractual provisions required by any Federal statutes or regulations referenced therein to be included in this Contract, are deemed incorporated into this Contract by reference and shall be incorporated into any subcontract or subcontract executed by the Company pursuant to its obligations under this Contract. The Company and its subcontractors, if any, hereby represent and covenant that they have complied and shall comply in the future with the applicable provisions of the Master Agreement then in effect and with all applicable Federal, State and local laws, regulations, and rules and local policies and procedures, as amended from time to time, relating to the Work to be performed under this Contract. 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 Contract. The Company shall not perform any act, fail to perform any act, or refuse to comply with any City requests, which would cause the City to be in violation of the FTA terms and conditions.

1.2 FLY AMERICA

The Company understands and agrees that the Federal Government will not participate in the costs of international air transportation of any individuals involved in or property acquired for the Project unless that air transportation is provided by U.S.-flag air carriers to the extent such service is available, in compliance with §5 of the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 U.S.C. §40118, and U.S. GSA regulations, "Use of U.S. Flag Air Carriers," 41 CFR §§ 301-10.131 through 301-10.143.

The Company agrees to include the above clause in each subcontract, and it is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to the provision.

1.3 BUY AMERICA

All iron, steel and manufactured products provided by the Contractor shall be of domestic manufacture or origin, except as otherwise approved by the City. The Contractor agrees to comply with 49 U.S.C. §5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.

<< See Section 7 of this RFP for the required certification to be included at the time of Proposal submission. >>

This requirement extends to all third party contractors and their contracts at every tier and this clause shall be included in all such subcontracts. Contractors shall require any subcontractors providing iron, steel or manufactured products to provide certification of Buy America compliance.

In addition to the certification required at the time of Bid submission, the Contractor shall be required to submit additional Buy America certifications throughout the term of the Contract, specifically with each

submittal, payment request and at final completion. See Exhibit H – Certifications and Forms for the required certifications.

Whenever the Contractor provides a product the Contractor shall first ensure that the product is of domestic manufacture or origin. The Contractor shall submit certification with documentation of Buy America compliance, which shall include a certified letter from the manufacturer of the product stating such compliance for all iron, steel or manufactured products, *prior* to the incorporation of such product into the Project. This certification shall be submitted with each Submittal from the Contractor to the Engineer. Similar certifications are required with each payment request and final completion, less an additional certified letter from the manufacturer since such letter shall already have been obtained.

Should the Contractor find it necessary to provide iron, steel, or manufactured products, which are not produced in the U.S. in sufficient and reasonably available quantities, then the Contractor shall submit a written justification to the Engineer describing in detail the product, its estimated cost, the rationale for its use in the Project and the basis for the Contractor's belief that the product is of limited domestic availability. The City, in its sole discretion, will determine whether to seek a waiver of the Buy America requirements from the U.S. Secretary of Transportation. Should the City determine that there is insufficient basis for seeking a waiver, or if a waiver request is denied by US-DOT, the Contractor shall redesign the Project to conform with Buy America requirements at no additional cost to the City. See Exhibit H – Certifications and Forms for certification.

The City may investigate the Contractor's and any subcontractors' or suppliers' compliance with this Article. If an investigation is initiated, the Contractor shall document his compliance and cooperate with the investigation. The Contractor shall include the terms of this Article in every subcontract or purchase order as necessary to enforce such provision.

The Contractor's non-compliance with all or any portion of this Article shall constitute a material breach of contract for which the City may, in addition to all other remedies provided by law by the Contract, or otherwise, terminate this Contract for default. The Contractor further agrees to indemnify and hold the City free and harmless from and against any and all liability, loss, costs, claims, demands, damage, or expense of every kind or nature whatsoever (including, without limitation, reasonable attorneys' fees and costs of litigation) that the City suffers or incurs arising from, or out of, or by reason of the Contractor's non-compliance or alleged non-compliance with any provision of this Article.

1.4 CARGO PREFERENCE

The Company shall use privately owned U.S.-flag commercial vessels to ship at least fifty percent (50%) of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for U.S.- flag commercial vessels. The Company shall furnish within twenty (20) days after the date of loading for shipments originating within the U.S. or within thirty (30) days after the date of leading for shipments originating outside the U.S., a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment to this Project to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the City (through the Company in the case of a subcontractor's bill-of-lading).

The Company agrees to include the above clause in each subcontract, and it is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to the provision.

1.5 RESERVED

1.6 ENERGY CONSERVATION

The Contractor agrees to comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321, *et seq.*

This requirement extends to all third party contractors and their contracts at every tier and this clause shall be included in all such subcontracts.

1.7 CLEAN WATER

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251, *et seq.* The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding one hundred thousand dollars (\$100,000.00) financed in whole or in part with Federal assistance provided by FTA.

1.8 LOBBYING

The Contractor agrees to comply with the provisions of Title 31, U.S.C. 1352, The Byrd Anti-Lobbying Amendment, as in force or as it may hereafter be amended. The Contractor and all subcontractor tiers shall file the certification required by 49 CFR Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant, or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the City.

<< See Section 7 of this RFP for the required certification to be included at the time of Proposal submission. >>

The Contractor further agrees to secure like undertakings from all subcontractor tiers whose subcontracts are expected to be of a value of one hundred thousand dollars (\$100,000.00) or more.

1.9 ACCESS TO RECORDS & REPORTS

The Contractor agrees that, during the course of this Contract and any extensions thereof, and for a period of not less than three (3) years after the date of termination or expiration of this Contract, it will maintain intact and readily accessible all data, documents, reports, records, books, contracts, and supporting materials relating to this Contract. In the event of litigation or settlement of claims arising from the performance of this Contract, the Contractor agrees to maintain same until all such litigation, appeals, claims or exceptions related thereto have been disposed of. Reference 49 CFR 18.39(i)(11).

In accordance with 49 CFR Part 18.36(i), the Contractor shall permit access to the City, the FTA Administrator, the Comptroller General of the U.S. and, as applicable, the State of North Carolina Department of Transportation or any of their authorized representative to any books, documents, papers, and records of the Contractor for the purposes of making audits examinations, excerpts or transcriptions. The Contractor also agrees to provide the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project as defined at 49 U.S.C. §5302(a)1.

The Contractor shall permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The Contractor agrees to include the above clauses in each subcontract, and it is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

1.10 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 Master Agreement between the City and FTA, 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.

This requirement extends to all third party contractors and their contracts at every tier and this clause shall be included in all such subcontracts.

1.11 CLEAN AIR

The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401, et seq. The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding one hundred thousand dollars (\$100,000.00) financed in whole or in part with Federal assistance provided by FTA.

1.12 RECYCLED PRODUCTS

The Contractor agrees to comply with all the requirements of the Resource Conservation and Recovery Act (RCRA) §6002, as amended and now cited as 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.

This requirement extends to all third party contractors and their contracts at every tier.

1.13 DAVIS-BACON & COPELAND ANTI-KICKBACKS ACTS

The Contractor shall comply with the Labor Standards Provisions, including the minimum wage rates that are included in the Contract Documents and by this reference are made a part thereof.

A. Minimum Wages

All laborers and mechanics employed or working upon the site of the Work (or under the U.S. Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the Project), shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the regulations issued by the Secretary of Labor under the Copeland Act (29CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under §1 (b)(2) of the Davis Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers and mechanics, subject to the provisions of paragraph 1.6; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, shall be deemed to be constructively made or incurred during such weekly period. Such laborers and

mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of Work actually performed, without regard to skill, except as provided in 29 CFR §5.5(a)(4). Laborers or mechanics performing Work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: provided that the employers' payroll records accurately set forth the time spent in each classification in which Work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(l) of 29 CFR §5.5) and the Davis-Bacon Poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the Worksite in a prominent and accessible place where it can be easily seen by the workers.

1. The City will require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The City will approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - i. The Work to be performed by the classification requested is not performed by a classification in the wage determination;
 - ii. The classification is utilized in the area by construction industry; and
 - iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
2. If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the City agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of action taken will be sent by the City to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within thirty (30) days of receipt and so advise the City or will notify the City within the thirty (30) day period that additional time is necessary.
3. In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the City do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the City will refer the questions, including the views of all interested parties and the recommendation of the City, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within thirty (30) days of receipt and so advise the City or will notify the City within the thirty (30) day period that additional time is necessary.
4. The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a) (l)(B) or (C) of 29 CFR §5.5, shall be paid to all workers performing Work in the classification under this Contract from the first day in which Work is performed in the classification.
5. Whenever the minimum wage rate prescribed in the Contract for class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
6. If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs

reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside a separate account assets for the meeting of obligations under the plan program.

B. Withholding

The City 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 the Contractor under this Contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon Act prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the Work, (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the Project), all or part of the wages required by the Contract, the City may after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

C. Payrolls & Basic Records

1. Payrolls and basic records relating thereto shall be maintained by the Contractor during the *course of the Work and preserved for a period of three (3) years* thereafter for all laborers and mechanics working at the site of the Work (or under the U.S. Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the Project). Such records shall contain the name, address, and social security number of each worker, his or her correct classification, hourly rates of wages paid including rates of contributions or costs anticipated for bona fide fringe benefits, or cash equivalents thereof of the types described in §1 (b)(2)(B) of the Davis-Bacon Act, daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found under (29 CFR §5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated In providing benefits under a plan or program described in §1 (b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or actual cost incurred is providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
2. The Contractor shall submit weekly for each week in which any Contract Work is performed two (2) copies of all payrolls to the City. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR Part 5. This information may be submitted in any form desired. Optional form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-0014-1), U.S Government Printing Office, Washington, D.C. 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

3. Each payroll submitted shall be accompanied by a "Statement of Compliance" signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:
 - i. That the payroll for the payroll period contains the information required to be maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR Part 5 and that such information is correct and complete;
 - ii. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid weekly wages earned without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly, from the full wages earned, other than permissible deductions as set forth in Regulations, CFR Part 3;
 - iii. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.
4. The weekly submission of a properly executed certification set forth on the reverse side of optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by Paragraph (a)(3)(ii)(8) 29 CFR §5.5.
5. The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under §1001 of Title 18 §231 of Title 31 of the U.S. Code.
6. The Contractor or subcontractor shall make the records required under Paragraph (a)(3)(i) of CFR §5.5 available for inspection, copying, or transcription by authorized representatives of the City or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or make them available, the City may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR §5.12.

D. Apprentices, Trainees, & Helpers

1. Apprentices will be permitted to work at less than the predetermined rate for the Work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his or her first ninety (90) days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on the payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing Work on the Worksite in excess of the ratio permitted under the registered

program shall be paid not less than the applicable wage determination for the Work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman's hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship Training or a State Apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the Work performed until an acceptable program is approved.

2. Trainees. Except as provided in 29 CFR §5.16, trainees will not be permitted to work at less than the predetermined rate for the Work performed unless they are employed pursuant to and individually registered in a program which had received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the jobsite shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level in progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of Work actually performed. In addition, any trainee performing Work on the Worksite in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
3. Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the Equal Employment Opportunity requirements of Executive Order 11246, as amended and 29 CFR Part 30.

E. Compliance with Copeland Act Requirements

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this Contract.

F. Contract Termination: Debarment

A breach of the Contract clauses in 29 CFR §5.5 may be grounds for termination of the Contract, and for debarment as a Contractor and a subcontractor as provided in 29 CFR §5.12.

G. Compliance with Davis-Bacon & Related Act Requirements

All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this Contract.

H. Disputes Concerning Labor Standards

Disputes arising out of the Labor Standards provisions of this Contract shall not be subject to the general disputes clause of this Contract, such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the City, the U.S. Department of Labor, or the employees or their representatives.

I. Certification of Eligibility

1. By entering into this Contract, the Contractor certifies that neither it nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of §3(a) of the Davis-Bacon Act or 29 CFR §5.12(a)(i).
2. No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of §3(a) of the Davis-Bacon Act or 29 CFR §5.12(a)(1).
3. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. §1001.

J. Overtime Requirements

No Contractor or subcontractor contracting for Work which may require or involve the employment of laborers, mechanics, watchmen or guards (including apprentices and trainees described in subsection D above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he or she is employed on such Work, to Work in excess of forty (40) hours in such workweek unless laborer, mechanic, watchman, or guard receives compensation at a rate not less than one and one-half times his or her basic *rate of pay for all hours worked in excess of forty (40) hours in such workweek*.

K. Violation: Liability for Unpaid Wages Liquidated Damages

In the event of any violation of the clause set forth in the Davis-Bacon & Copeland Kickback Acts, the Contractor and any subcontractor responsible therefore shall be liable to any affected employee for his or her unpaid wages. In addition, such Contractor or subcontractor shall be liable to the U.S. (in 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, mechanic, watchman, or guard employed in violation of the clause set forth in the Davis-Bacon & Copeland Kickback Acts, in the sum of ten dollars (\$10.00) for each calendar day on which such employee was required or permitted to Work in excess of the standard workweek of forty (40) hours without payment of the overtime wages required by the clause set forth in the Davis-Bacon & Copeland Kickback Acts.

L. Withholding for Unpaid Wages & Liquidated Damages

The City 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 monies payable on account of Work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any 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 subparagraph (b)(2) of 29 CFR §5.5.

M. Non-Construction Contracts

In addition to the clauses contained in 29 CFR §5.5(b) or Supplementary Conditions A herein, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any other statutes cited in 29 CFR §5.1, the Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of Work and shall preserve them for a period of three (3) years from the completion of the Contract for all laborers and mechanics, including guards and watchmen, working on the Contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Contractor shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the City and the Department of Labor, and the Contractor or subcontractor shall permit such representatives to interview employees during working hours on the job.

N. Notice to the City of Labor Disputes

Whenever the Contractor or his subcontractors has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of the Work, the Contractor and the subcontractor through the Contractor shall immediately give written notice thereof, including all relevant information with respect thereto, to the City.

O. Final Labor Summary

The Contractor shall furnish for himself and his subcontractors, to the City upon completion of the Contract, a summary of all employment indicating, for the completed Project, the total hours worked and the total amount earned.

P. Subcontractors

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in items from page 00 55 00 – 1 (Federal Applicability) through page 00 55 00 – 5 (Recycled Products) of these provisions and also a clause requiring the subcontractor 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 all the contract clauses set forth in items from page 00 55 00 – 1 (Federal Applicability) through page 00 55 00 – 5 (Recycled Products) of this document.

Q. Minimum Wage Rates

The Minimum Wage Rates are those established, for the listed trade working at the Worksite, by the U.S. Secretary of Labor. The rates have been established in accordance with the stipulations contained in the Davis-Bacon Act, as amended, and have been established as being the rates for the corresponding classes of workmen employed for projects of a similar character in the locality where the Work is to be performed. The Contractor shall pay wages and fringe benefits at rates not less than those stipulated for each listed trade. A mistake in the indicated wages and fringe benefits will not entitle the Contractor to cancel the Project, to increase the Contract price, and to additional payments and recoveries.

GENERAL DECISION NUMBER: NC140037 01/03/2014 NC37

Date: June 24, 2014

General Decision Number: NC140037 01/03/2014 NC37

Superseded General Decision Number: NC20130037

State: North Carolina

Construction Type: Building

County: Mecklenburg County in North Carolina.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Modification Number	Publication Date		
0	01/03/2014		
		Rates	Fringes
* ELEC0379-009 09/02/2013			
ELECTRICIAN.....		\$ 23.40	13%+5.70
On smokestacks where electrical work performed is above 40 ft. from the ground: \$0.50 per hour additional. Work from swinging scaffolds, bosun chairs, or raw structural steel: \$0.50 per hour additional.			
IRON0848-005 12/01/2012			
IRONWORKER, STRUCTURAL.....		\$ 21.80	9.75
PLUM0421-002 07/01/2013			
PLUMBER/PIPEFITTER (Excluding HVAC System Installation)		\$ 24.85	9.65
SUNC2011-018 08/24/2011			
BRICKLAYER		\$ 19.75	9.18
CARPENTER, Excludes Drywall Hanging, and Form Work.....		\$ 15.41	0.00
CEMENT MASON/CONCRETE FINISHER		\$ 16.41	0.00
DRYWALL HANGER		\$ 13.83	0.00
FORM WORKER		\$ 14.09	0.00
HVAC MECHANIC (Installation of HVAC Unit Only, Excludes Installation of HVAC Pipe and Duct)		\$ 17.36	2.23
LABORER:			
Common or General		\$ 12.00	2.40
Landscape & Irrigation.....		\$ 9.13	0.28
Pipelayer.....		\$ 13.35	2.80
Mason Tender-Brick/Cement/Concrete.....		\$ 12.00	0.00
OPERATOR:			
Backhoe/Excavator/Trackhoe.....		\$ 16.00	2.48
Bulldozer		\$ 16.00	1.87
Crane		\$ 19.77	4.48
Forklift.....		\$ 13.86	0.00
Grader/Blade		\$ 15.72	1.49
Loader.....		\$ 16.17	0.25

PAINTER: Brush, Roller and Spray	\$ 14.13	2.88
ROOFER	\$ 13.16	0.74
SHEET METAL WORKER (HVAC Duct Installation Only)	\$ 17.70	1.68
SHEET METAL WORKER, Excludes HVAC Duct and Unit Installation.....	\$ 15.96	1.01
SPRINKLER FITTER (Fire Sprinklers)	\$ 15.52	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

1.14 CONTRACT WORK HOURS & SAFETY STANDARDS ACT

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 (40) 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 (40) hours in such workweek.

Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph above of this section the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the U.S. 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 the paragraph above of this section, in the sum of ten dollars (\$10.00) for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty (40) hours without payment of the overtime wages required by the clause set forth in the paragraph above of this section.

Withholding for unpaid wages and liquidated damages - The City 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 the paragraph above of this section.

Subcontracts - The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in the paragraphs above 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 in the paragraphs above of this section.

1.15 NO GOVERNMENT OBLIGATION TO THIRD PARTIES

The City 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 the City, the Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractors who will be subject to its provisions.

1.16 PROGRAM FRAUD & FALSE OR FRAUDULENT STATEMENTS & RELATED ACTS

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§3801, *et seq.* and US-DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying Contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying Contract or the FTA-assisted project for which this Contract Work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the

penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. §5307, the Government reserves the right to impose the penalties of 18 U.S.C. §1001 and 49 U.S.C. §5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

1.17 GOVERNMENT-WIDE DEBARMENT & SUSPENSION

This Contract is a covered transaction for purposes of 2 CFR Part 1200.220, and 2 CFR Part 180.200, which replaces the requirements and guidelines of the previously controlling 49 CFR Part 29. As such, the Contractor is required to verify that neither it, nor its principals (as defined at 2 CFR 180.995) or affiliates (as defined at 2 CFR 180.905) is excluded (as defined at 2 CFR 180.940) or disqualified (as defined at 2 CFR 180.935). The Contractor, pursuant to 2 CFR 180.330(a) – (b), must also include a term or condition in lower-tier transactions requiring lower-tier participants to comply with requirement in subpart C in 2 CFR 180, and require lower-tier participants to pass the requirement to comply with 2 CFR subpart C to each person with whom the lower-tier participant enters into a covered transaction at the next lower tier. Subpart C of 2 CFR 180 requirements (Contractor and lower-tier participants must comply):

Verification

The Contractor and all lower-tier participants must verify that the person with whom the Contractor or lower-tier participant intends to do business with is not excluded, pursuant to the definition set out in 2 CFR 180.940, or disqualified, pursuant to the definition in 2 CFR 180.935. The Contractor and all lower-tier participants may do this by either: (a) checking the Excluded Parties List System (EPLS), found at <https://www.sam.gov/portal/public/SAM/>, (b) collecting the certification form from the lower-tier participant, or (c) adding a clause or condition to the covered transaction with that lower-tier participant.

Disclosing Information

The Contractor and all lower-tier participants, before entering into a covered transaction, must notify the higher-tiered participant if they are presently excluded or disqualified, or any of their principals are excluded or disqualified, pursuant to 2 CFR 180.355.

<< See Section 7 of this RFP for the required certification to be included at the time of Proposal submission. >>

1.18 CIVIL RIGHTS REQUIREMENTS

Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 et seq., section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12101, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

- (1) Race, Color, Creed, National Origin, or Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. §2000e, and Federal transit laws at 49 U.S.C. §5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. §2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Contract. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. 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. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- (2) Age - In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. §623 and Federal transit law at 49 U.S.C. §5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- (3) Disabilities - In accordance with Section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. §12112, the Contractor agrees that it will comply with the requirements of 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, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

Access for Individuals with Disabilities - The Contractor agrees to comply with 49 U.S.C. §5301(d), which states the Federal policy that elderly individuals and individuals with disabilities have the same right as other individuals to use public transportation services and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly individuals and individuals with disabilities. The Contractor also agrees to comply with all applicable provisions of Section 504 of the Rehabilitation Act of 1973, as amended, with 29 U.S.C. §794, which prohibits discrimination on the basis of disability; with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to individuals with disabilities; and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to individuals with disabilities. In addition, the Contractor agrees to comply with applicable Federal regulations and directives and any subsequent amendments thereto, except to the extent the Federal Government determines otherwise in writing, as follows:

- (i) U.S. DOT regulations "Transportation Services for Individuals with Disabilities (ADA)" 49 CFR Part 37;
- (ii) U.S. DOT regulations "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 CFR Part 27;
- (iii) Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB) U.S. DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38;
- (iv) U.S. DOJ regulations "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 CFR Part 35;

- (v) U.S. DOJ regulations "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities." 28 CFR Part 36;
- (vi) U.S. GSA regulations "Accommodations for the Physically Handicapped," 41 CFR Subpart 101-19;
- (v) U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630;
- (vi) U.S. Federal Communications Commission regulations "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 49 CFR Part 64, Subpart F;
- (vii) U.S. Architectural and Transportation Barriers Compliance Board regulations, "Electronic and Information Technology Accessibility Standards." 36 CFR Part 1194;
- (viii) FTA regulations, "Transportation of Elderly and Handicapped Persons," 49 CFR part 609; and
- (ix) Federal civil rights and nondiscrimination directives implementing the foregoing Federal laws and regulations, except to the extent the Federal Government determines otherwise in writing.

Access to Services for Persons with Limited English Proficiency. The Contractor agrees to comply with Executive Order No. 13166, "Improving Access to Services for Persons with Limited English Proficiency," 42 U.S.C. §2000d-1 note, and U.S. DOT Notice, "DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficiency (LEP) Persons," 70 Fed. Reg. 74087, December 14, 2005, except to the extent that the Federal Government determines otherwise in writing.

Environmental Justice. The Contractor agrees to comply 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.

Drug or Alcohol Abuse Confidentiality and Other Civil Rights Protections. To the extent applicable, the Contractor agrees to comply with the confidentiality and other civil rights protections of the Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. §§ 1101 et seq., with the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, as amended, 42 U.S.C. §§ 4541 et seq., and with the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 290dd through 290dd-2, and any amendments thereto.

Other Nondiscrimination Laws. The Contractor agrees to comply with applicable provisions of other Federal laws and regulations, and follow applicable directives prohibiting discrimination, except to the extent that the Federal Government determines otherwise in writing.

The Contractor also agrees to include the above requirements in all subcontracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the City deems appropriate.

1.19 INCORPORATION OF FTA TERMS

The provisions of this Contract include, in part, certain standard terms and conditions required by the US-DOT, whether or not expressly set forth in the Contract provisions. All applicable contractual provisions required by US-DOT, as set forth in FTA Circular 4220.1F or Federal law, 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 Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any City requests, which would cause the City to be in violation of the FTA terms and conditions.

The Contractor also agrees to include the requirements of this Article in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

1.20 FEDERAL ACQUISITION REGULATIONS (F.A.R.) COMPLIANCE

Any adjustment to the Contractor's compensation under the Contract shall include only costs and other compensation that are allowable, allocable and reasonable as provided elsewhere herein, or otherwise by law, and that are allowable, allocable and reasonable under the Contract Cost Principles of the Federal Acquisition Regulations (F.A.R.) System, 48 CFR, Ch.1, Pt.31, and any implementing guidelines or regulations issued by the said Administration.

1.21 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 to 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.

1.22 SENSITIVE SECURITY INFORMATION

The Contractor shall take all appropriate measures to protect "sensitive security information" made available during the course of its performance hereunder, in accordance with the provisions of 49 U.S.C. §40119(b); the implementing U.S. Department of Transportation regulations at 49 CFR Part 15; 49 U.S.C. §114(s); and the implementing U.S. Department of Homeland Security regulations at 49 CFR Part 1520. The Contractor shall ensure, and require its subcontractors to ensure, that the requirements of this section be included in subcontracts at all tiers.

1.23 SEAT BELT USE

The Contractor is encouraged to adopt and promote on-the-job use of seat belts, and to include this provision in its subcontracts at all tiers, in accordance with Executive Order No. 13043, "Increasing Seat Belt Use in the United States," 04-16-1997, 23 U.S.C. §402 note.

1.24 TEXTING WHILE DRIVING AND DISTRACTED DRIVING

Consistent with Executive Order No. 13513, "Federal Leadership on Reducing Text Messaging While Driving," October 1, 2009, 23 U.S.C. §402 note, and DOT Order 3902.10, "Text Messaging While Driving," December 30, 2009, the Contractor agrees to promote policies and initiatives for its employees and other personnel that adopt and promote safety policies to decrease crashes by distracted drivers, including policies to ban text messaging while driving, and to encourage each subcontractor to do the same.

ARTICLE 2: DISADVANTAGED BUSINESS ENTERPRISE

City Of Charlotte: Charlotte Area Transit System (CATS) DISADVANTAGED BUSINESS ENTERPRISE (DBE) CONTRACT PROVISIONS & FORMS

THE DBE GOAL FOR THIS CONTRACT IS: TBD%
<< DBE goal to be provided via addendum >>

This Contract is subject to the requirements of 49 C.F.R. Part 26 *Participation by DBE in Department of Transportation Financial Assistance Programs.*

I. POLICY

As a recipient of funds from the Federal Transit Administration (“FTA”), the City has established a Disadvantaged Business Enterprise Program (“DBE Program”) in accordance with regulations of the U.S. Department of Transportation (“DOT”), 49 C.F.R. Part 26 and has committed to ensuring compliance on all FTA-funded projects through monitoring, reporting, and goal-setting.

The DBE Program is incorporated into and made a part of the Bidding Documents and resulting Contract. Copies of the DBE Program may be obtained online at: <http://charmeck.org/city/charlotte/cats/about/Business/procurement/Pages/dbesbe.aspx>; under “City of Charlotte’s DBE Program (document)” on the www.ridetransit.org “Doing Business with CATS as a DBE/SBE” page.

It is the policy of the City to ensure that DBEs, as defined in 49 C.F.R. Part 26, have an equal opportunity to receive and participate in DOT-assisted contracts. The City’s objectives are as follows:

1. To ensure nondiscrimination in the award and administration of DOT-assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;
3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 C.F.R. Part 26 eligibility standards are permitted to participate as DBEs;
5. To help remove barriers to the participation of DBEs in DOT-assisted contracts; and
6. To assist the development of firms that can compete successfully in the market place outside the DBE Program.

The CATS Civil Rights Officer has been designated as the DBE Liaison Officer (“DBELO”). In that capacity, he/she is responsible for implementing all aspects of the DBE Program. Implementation of the DBE Program is accorded the same priority as compliance with all other legal obligations incurred by the City in its financial assistance agreements with the DOT.

II. APPLICATION

Pursuant to 49 C.F.R. Part 26 and the DBE Program, all Bidders must affirmatively ensure that in any contract entered into with the City, DBEs will be afforded equal opportunity to participate in subcontracting opportunities.

A Bid will not be considered responsive unless the Bidder complies with 49 C.F.R. Part 26 and the DBE Program. Failure to carry out the pre-award requirements stated in the DBE Contract Provisions will be sufficient grounds to reject the Bid. Moreover, failure by the Contractor to comply with 49 C.F.R. Part 26 and the DBE Program after award shall constitute a breach of Contract.

The Bidder shall thoroughly examine and be familiar with provisions of 49 C.F.R. Part 26 and the DBE Program. Submission of a Bid shall constitute an acknowledgment upon which the City may rely that the Bidder has thoroughly examined, and is familiar with said regulations and contract requirements. Failure or neglect of a Bidder to receive or examine any of these government regulations and contract requirements shall in no way relieve him from any obligations with respect to his Bid or this Contract.

III. REQUIREMENTS

The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 C.F.R. Part 26 and the DBE Program in the award and administration of this DOT-assisted contract. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the City deems appropriate. Each subcontract the Contractor signs with a subcontractor (both DBE and non-DBE subcontractors) must include the assurance in this paragraph. Such contract language is located in Section VIII below. (See 49 C.F.R. §26.13(b)).

Bidders are required to document sufficient DBE participation to meet the goal established for this Contract or, alternatively, document adequate Good Faith Efforts to do so, as provided for in 49 C.F.R. §26.55. Specifics regarding Good Faith Efforts is located in Section VI below. Award of this Contract is conditioned upon the submission of the following concurrent with and accompanying the sealed Bid:

1. The names and addresses of DBE firms that will participate in this Contract;
2. A description of the work each DBE will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written documentation of the Bidder's commitment to use a DBE subcontractor whose participation it submits to meet the Contract goal;
5. Written confirmation from the DBE that it is participating in the Contract as provided in the Contractor's commitment; and
6. If the Contract goal is not met, evidence of Good Faith Efforts to do so.

Bidders must present the information required above as a matter of responsiveness with the Bid submission. Additional information on all required documentation is specified in Section VII below. (See 49 C.F.R. §26.53 (3)). By submitting a Bid, the Bidder gives assurances that he/she will meet the Contract goal for DBE participation in performance of this Contract, or as an alternative, that the Bidder has made such Good Faith Efforts as required in Section VI below.

The Contractor is required to pay each subcontractor under this Contract for satisfactory performance of its contract no later than seven (7) days from the receipt of each progress payment or final payment the full amount the Contractor receives from the City for each subcontractor's work and materials under the subcontract. Any delay or postponement of payment from the above referenced time frame may result in liquidated damages and/or sanctions as stipulated in Contract Documents. Exceptions may occur only for good cause following written approval by the City. This clause applies to both DBE and non-DBE subcontractors.

The Contractor is required to return retainage payments to each subcontractor within seven (7) days after the subcontractors 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 the City. This clause applies to both DBE and non-DBE subcontractors.

For purposes of this Section, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the City. When the City has made incremental acceptance of a portion of the Contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

The Contractor's failure to pay subcontractors as provided shall be a material breach for which the City may cancel this Contract.

The Contractor may not hold retainage from its subcontractors once the City has provided notice that the work completed by the subcontractors has been completed and has been accepted.

To terminate a DBE subcontractor, the Contractor must follow the procedure stated in Section 26.53(f) of the DBE Program. The Contractor shall not terminate a DBE subcontractor **without prior written consent of the City**. Prior written consent will only be provided where there is "good cause" for termination of the DBE

firm, as established by Section 26.53(f)(3) of the DBE Program. In those instances where “good cause” exists to terminate a DBE subcontractor, the City will require the Contractor to make good faith efforts to replace a DBE that is terminated or has otherwise failed to complete its work on a contract with another certified DBE, to the extent needed to meet the Contract goal. The Contractor shall notify the DBELO immediately of the DBE’s inability or unwillingness to perform and provide reasonable documentation.

If the Contractor fails or refuses to comply, the Contracting Officer will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the Contractor still fails to comply, the Contracting Officer may terminate the Contract.

IV. REQUIRED DOCUMENTATION

A Bid will not be considered responsive unless the Bidder complies with 49 C.F.R. Part 26 and the City’s DBE Program. The applicable forms in this section **MUST** be completed and included with the Bid (or specified timeframe) if a Bidder is to be considered responsive. If these forms are not submitted as such, the Bidder will be considered non-responsive and the Bid rejected. The required forms are listed below.

1. LIST OF SUBCONTRACTORS/SUPPLIERS – FORM A

The Bidder must submit its proposed DBE and non-DBE utilization on FORM A (List of Subcontractors/Suppliers) listing **ALL** subcontractors and suppliers that will be providing goods or services under the Contract. This form is to include all subcontractors the Bidder proposes to use, not just the DBE subcontractors. Bidders are required to list the names, contact information, annual gross receipts, age of firm, respective scope of work/service to be performed, NAICS Code, NCDOT Reporting Number, the dollar values of each subcontract that the Bidder proposes for participation in the Contract work, and the dollar value of total DBE participation for the Contract.

Blank forms will be deemed to represent zero participation. Forms without a signature will be considered non-responsive.

2. EVIDENCE OF GOOD FAITH EFFORTS – FORM C

If the information submitted in FORM A indicates that the City’s goal will not be met, the Bidder shall also submit evidence sufficient to show to the City’s satisfaction that the Bidder has in good faith made every reasonable effort, in the City’s judgment, to meet such goal prior to contract award. FORM C (Evidence of Good Faith Efforts) must be completed and all accompanying documentation provided to show DBE firms that were contacted, but were not utilized. More information relating to Good Faiths Efforts is located in Section VI below.

Blank forms will be deemed to represent zero Good Faith Efforts. Completed forms without accompanying documentation will be considered non-responsive.

3. LETTER OF INTENT – FORM D

The Letter of Intent (FORM D) must be completed for **EACH** DBE listed on FORM A. Letters of Intent are not required to be submitted with the Bid, but can be submitted with the Bid. However, the apparent low Bidder will be required to submit Letters of Intent within three (3) business days from the time the City makes the request.

All documentation submitted at time of Bid, as well as additional data provided by the successful Bidder, is considered part of the Contract Documents. Any alterations, substitutions, deletions, etc., to data provided at time of submission of Bid must have prior approval of the DBELO.

V. DBE PARTICIPATION TOWARDS DBE GOAL

In accordance with 49 C.F.R. Part 26 and the DBE Program, the City may set contract specific goals. The degree of goal attainment by DBE contractors and DBE suppliers should be calculated as follows:

1. When a DBE participates in a contract, only the value of the work actually performed by the DBE counts toward the DBE goal and shall be calculated as follows:

- A. Count the entire amount of that portion of a construction contract (or other contract not covered by paragraph 2 of this Section) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).
 - B. Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided you determine the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.
 - C. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.
2. When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.
 3. Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.
 - A. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.
 - B. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, you must examine similar transactions, particularly those in which DBEs do not participate.
 - C. If a DBE does not perform or exercise responsibility for at least thirty percent (30%) of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not performing a commercially useful function.
 - D. When a DBE is presumed not to be performing a commercially useful function as provided in this Section, the DBE may present evidence to rebut this presumption. You may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.
 - E. Your decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to DOT.
 4. Use the following factors in determining whether a DBE trucking company is performing a commercially useful function:
 - A. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
 - B. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

- C. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
 - D. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - E. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement. If a recipient chooses this approach, it must obtain written consent from the appropriate Department Operating Administration.
 - F. Example: DBE Firm X uses two (2) of its own trucks on a contract. It leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six (6) trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight (8) trucks. With respect to the other two (2) trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.
 - G. For purposes of this Section, a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.
5. Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:
- A. If the materials or supplies are obtained from a DBE manufacturer, count one hundred percent (100%) of the cost of the materials or supplies toward DBE goals. For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.
 - B. If the materials or supplies are purchased from a DBE regular dealer, count sixty percent (60%) of the cost of the materials or supplies toward DBE goals. For purposes of this paragraph, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
 - 1) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
 - 2) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.
 - 3) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph.
 - C. With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily

allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.

6. If a firm is not currently certified as a DBE in accordance with the standards of this Section at the time of the execution of the contract, do not count the firm's participation toward any DBE goals, except as provided for in 49 C.F.R. §26.87(i).
7. Do not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward your overall goal.
8. Do not count the participation of a DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE.

VI. DOCUMENTATION OF GOOD FAITH EFFORTS

In order to be responsive, a Bidder must make good faith efforts to meet the DBE participation goal set forth in the Contract. The Bidder must document the good faith efforts it made in that regard. Thus, the Bid submitted to the City must be accompanied by written documentation prepared by the Bidder evidencing all of its sufficient and reasonable good faith efforts toward fulfilling the goal. These efforts must be active steps, and ones, which 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 DBELO. The DBELO shall be responsible for determining whether the Bidder satisfied the good faith efforts.

Good faith efforts require that the Bidder consider all qualified DBEs, who express an interest in performing work under the Contract. This means that the Bidder cannot reject a DBE as unqualified unless the Bidder 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 are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the Contract DBE participation goal. The following list, which is not exclusive or exhaustive, sets forth the types of actions, which indicate good faith efforts on the part of a Bidder to meet the DBE goal.

1. Attendance at a pre-bid meeting, if any, scheduled by the City to inform DBEs of subcontracting opportunities under a given solicitation.
2. Advertisement in general circulation media, trade association publications, and minority-focus media for at least twenty (20) days before Bids are due. If twenty (20) days are not available, publication for a shorter reasonable time is acceptable.
3. Written notification to capable DBEs that their interest in the Contract is solicited.
4. Documentation of efforts to negotiate in good faith with interested DBEs for specific subcontracts. It is the Bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers, so as to facilitate DBE participation. Such documentation includes at a minimum:
 - A. The names, addresses, and telephone numbers of DBEs that were contacted and the date(s) of contact;
 - B. A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed;
 - C. A statement explaining why additional agreements with DBEs were not reached;
 - D. For each DBE the Bidder contacted but rejected as unqualified, the reason for the Bidder's conclusion; and
 - E. Documentation of efforts made to assist the DBEs contacted that needed assistance in obtaining bonding or insurance required by the Bidder or the City.

NOTE: A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for Bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a contractor to perform the work of a contract with its own organization does not relieve the Bidder of the responsibility to make GFEs. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

5. Documentation of efforts to utilize the services of available minority/women community organizations; minority/women contractor's groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
6. Documentation that the Bidder has broken out Contract work items into economically feasible units in fields where there are available DBE firms to perform the work in order to increase the likelihood that DBEs goals will be achieved.
7. 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 with sufficient time to allow the DBEs to respond to the solicitation.
8. Documentation of efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

Bidders must present the information required above as a matter of responsiveness on FORM C together with accompanying documentation. (See 49 C.F.R. §26.53 (b)(3)(i)).

VII. DBE REPORTING AND RECORD KEEPING REQUIREMENTS

Once a Bidder has been awarded a Contract, there are continuing obligations under the DBE Program. The City shall verify the veracity and accuracy of representations made by the Contractor as well as to ensure their compliance with these requirements. To ensure that all such obligations and representations are met, the City will conduct periodic reviews of the Contractor's DBE involvement efforts during Contract performance. These procedures will include, but not be limited to, the following:

1. The Contractor shall submit a monthly report on DBE Participation with each request for payment from the City. Such information shall be provided on **MONTHLY PAYMENT TO SUBCONTRACTORS/SUPPLIERS – FORM B**. Failure to submit this form with every request for payment will result in delays in payment.
2. The Contractor shall bring to the attention of the DBELO any situation in which regularly scheduled progress payments are not made to DBE subcontractors.
3. The Contractor shall maintain their books, records, and accounts for three (3) years following the performance of this Contract. These records shall be maintained by the Contractor in a fashion, which is readily accessible to the City and shall be made available for inspection upon request by any authorized representative of the City or FTA. This reporting requirement also extends to any subcontractor.
4. The Contractor shall make good faith efforts to replace a DBE subcontractor that is unable to perform successfully with another DBE. The Contractor shall not terminate a DBE subcontractor without DBELO's prior consent. To terminate a DBE subcontractor, the Contractor must follow the procedure stated in Section 26.53(f) of the DBE Program.
5. Any alterations, substitutions, deletions, etc., to data provided to the City must have prior approval of the DBELO.
6. The City will monitor the progress of DBE work through on-site visits, communication with DBEs, and review reports regarding employment as well as DBE participation.
7. The City will perform interim audits of contract payments to DBEs. The audit will review payments to DBE subcontractors to ensure that the actual amount paid to DBE subcontractors equals or exceeds the dollar amounts stated in the schedule of DBE participation.
8. The City will track and report the extent of the Contractor's race-neutral business assistance efforts. For reporting purposes, race-neutral DBE participation includes, but is not limited to, the following: (i) DBE participation through a prime contract, a DBE obtains through customary competitive procurement procedures; (ii) DBE participation through a subcontract on a prime contract that does not carry a DBE goal; DBE participation on a prime contract exceeding a contract goal; and (iii) DBE participation through a subcontract from a prime contract that did not consider a firm's DBE status in making the award.

VIII. CONTRACT CLAUSES

The Contractor ***shall*** include the following in each subcontract the Contractor signs with a subcontractor (both DBE and non-DBE subcontractors):

1. The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 46 C.F.R. Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.
2. The Contractor is required to pay each subcontractor (DBEs and non-DBEs) under this Contract for satisfactory performance of its contract no later than seven (7) days from the receipt of each progress payment or final payment the full amount the Contractor receives from the City for each subcontractor's work and materials under the subcontract. Any delay or postponement of payment from the above referenced time frame may result in liquidated damages and/or sanctions as stipulated in Contract Documents. Exceptions may occur only for good cause following written approval by the City.
3. The Contractor is required to return retainage payments to each subcontractor within seven (7) days after the subcontractors 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 the City. This clause applies to both DBE and non-DBE subcontractors.

IX. INFORMATION

If you have any questions concerning the required documentation listed above, or concerning the DBE requirements in general, contact:

CATS Civil Rights Officer

Arlanda Rouse
Charlotte Area Transit System
600 East Fourth Street
Charlotte, NC 28202
704-432-2566
arouse@charlottenc.gov

Sample City Contract Exhibit A

PRICE SCHEDULE AND COMPONENTS KNOWN AS OF THE EFFECTIVE DATE

This Exhibit is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and [INSERT COMPANY NAME] (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the main body of the MCSI.

1. **PURCHASE PRICE.** The City shall pay the Company a fixed price of \$_____ as full and complete consideration for the performance of all obligations of the Company under the MCSI (the “Purchase Price”), other than Maintenance Services beyond the Warranty Period (“Extended Maintenance Services”). The Purchase Price is allocated to the Products and Services in accordance with this Exhibit, and shall be payable only in accordance with the Milestone Plan.
2. **MAINTENANCE FEE.** The Company shall provide the Maintenance Services at no additional charge during the Warranty Period. After the Warranty Period, the City shall have three (3) year plus two (2) (1)-year options to purchase Extended Maintenance Services a price of \$_____ per year. The City shall be entitled to exercise its option to buy Extended Maintenance Service for a given one (1)-year option period by: (a) providing written notice to the Company at any time prior to or within sixty days following the beginning of such one-year option period; or (b) payment of the Company’s invoice for such one-year option period.

3. **PURCHASE SCHEDULE FOR SOFTWARE**

<u>Item</u>	<u>Quantity</u>	<u>Price</u>
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4. **PURCHASE SCHEDULE FOR HARDWARE**

<u>Item</u>	<u>Quantity</u>	<u>Price</u>
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5. **PURCHASE SCHEDULE FOR SERVICES**

<u>Item</u>	<u>Quantity</u>	<u>Price</u>
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6. **OPTIONAL ITEMS.** The items listed below are not required under the MCSI, and are not necessary for the System or any of its components to perform in accordance with the MCSI. However, the Company has agreed that for a period of eighteen (18) months after the date of this Contract, the City shall have the right to purchase and the Company shall sell to the City the following items at the prices set forth below:

<u>Item</u>	<u>Quantity</u>	<u>Price</u>
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Nothing in this Exhibit shall be deemed to eliminate the Company’s obligation to provide alternative or updated Products to the extent required by **Exhibit C** or other provisions of the MCSI.

Sample City Contract Exhibit B

MILESTONE PLAN

This Milestone Plan is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and [INSERT COMPANY NAME] (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the MCSI, including but not limited to **Exhibit C**.

The Company shall invoice the City for the Purchase Price in accordance with the Milestone Plan set forth below. The Company shall not invoice the City for any Products, Services or Deliverables within a particular Milestone until all Services and Deliverables required in connection with that Milestone have been fully completed and accepted by the City.

5% (\$ _____) shall be paid within thirty (30) days after execution of this Contract by both parties;

10% (\$ _____) shall be paid within thirty (30) days after the later of: (i) receipt by the City of an undisputed and properly submitted invoice for completion of Phase 1 of the Project as described in **Exhibit C** (the “Define Phase”); or (ii) acceptance by the City of all Products, Services and Deliverables required in Phase 1 of the Project;

15% (\$ _____) shall be paid within thirty (30) days after the later of: (i) receipt by the City of an undisputed and properly submitted invoice for completion of Phase 2 of the Project as described in **Exhibit C** (the “Design Phase”); or (ii) acceptance by the City of all Products, Services and Deliverables required in Phase 2 of the Project;

20% (\$ _____) shall be paid within thirty (30) days after the later of: (i) receipt by the City of an undisputed and properly submitted invoice for completion of Phase 3 of the Project as described in **Exhibit C** (the “Build Phase”); or (ii) acceptance by the City of all Products, Services and Deliverables required in Phase 3 of the Project;

20% (\$ _____) shall be paid within thirty (30) days after the later of: (i) receipt by the City of an undisputed and properly submitted invoice for completion of all tasks in Phase 4 of the Project as described in **Exhibit C** (the “Deliver Phase”); or (ii) acceptance by the City of all Products, Services and Deliverables required in Phase 4 of the Project.

30% (\$ _____) shall be paid within thirty (30) days after the later of: (i) receipt by the City of an undisputed and properly submitted invoice for the completion of System Acceptance; or (ii) successful completion of System Acceptance at the conclusion of the Test Period.

Sample City Contract Exhibit C

SCOPE OF IMPLEMENTATION SERVICES

This Scope of Implementation Services is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and **[INSERT COMPANY NAME]** (the “Company”). Unless otherwise defined herein, capitalized terms in this Scope of Implementation Services shall have the same meanings as are assigned to such terms in the main body of the MCSI. Each reference to the MCSI includes this Scope of Implementation Services and all other Exhibits and Appendices to the MCSI. The Services described in this Exhibit are collectively referred to as the Implementation Services.

1. COMPANY RESPONSIBILITIES.

The Company shall design, supply, implement, install, configure, test and commission a Fare Collection System that fully complies with the Specifications and Requirements. Except for the “City Responsibilities” specifically identified in this Scope of Implementation Services, the Company shall furnish all equipment, Services, Products and supplies necessary to achieve full compliance with the Specifications and Requirements. The fact that a particular service, item of equipment or material is not listed in the MCSI does not release the Company for its obligation to provide it, if such service, equipment or material is necessary to design, supply, implement, install, configure, test and commission the System so that it fully complies with the Specifications and Requirements. Without limiting or shifting to the City the obligations of the Company which are acknowledged in the preceding two sentences, the Company shall provide to the City the specific system components and services which are itemized in **Exhibit A** to the MCSI, or any newer versions that the Company is required to provide under the MCSI.

In the event any of the System components or services listed on **Exhibit A** (or any newer version that the Company is required to provide) are insufficient for the Company to deliver to the City a System which fully complies with the Specifications and Requirements, the Company shall immediately provide the City with written notice (a “Deficiency Notice”): (i) describing the deficient components and/or services and the probable impact on the System; and (ii) proposing such other or additional components or services as are necessary for the System to meet all Specifications and Requirements (the “Substitute Components/Services”). Substitute Components/Services must be equal or better in all respects to the deficient components/Services. The City shall within fifteen (15) days after receipt of a Deficiency Notice, give the Company written notice to either proceed with the current components and/or services, or to proceed with the Substitute Components and Services.

In the event the City elects to proceed with the Substitute Components and Services, the Company shall provide the Substitute Components and Services at no additional charge to the City. In the event the City elects to proceed with the current components and/or Services, the Company shall not be responsible for Defects which are solely attributable to the deficiency identified by the Company in the Deficiency Notice with respect to such components and Services.

2. PROJECT SCHEDULE.

Time is of the essence in having the Company perform the Implementation Services. The Company shall perform all Implementation Services within the time periods set forth in the Project Schedule and the Project Plan. There shall be no extensions of such time periods without the mutual written consent of both parties; provided, however, that:

- 2.1. if the City fails to complete any task assigned to it by the completion date set forth in the Project Schedule or Project Plan, and if such failure is reasonably likely to cause a delay in the completion of the remaining tasks, then the Company shall give the City written notice that its delay is causing the Company to fall behind (a “Delay Notice”). The completion dates for all remaining tasks shall be automatically extended by the number of business days

between the date the City receives the Delay Notice and the date the City completes the overdue task identified in the Delay Notice;

- 2.2. if the Company fails to meet a completion date set forth in the Project Schedule or the Project Plan, the completion dates for tasks assigned to the City shall be automatically extended by the number of business days between the date the task should have been completed and the date the Company actually completes such task; and
- 2.3. The City shall in its sole discretion be entitled to postpone the Project at any time for any reason by giving written notice to the Company. This postponement shall result in the extension of all deadlines set forth in the Project Schedule, the Project Plan and the MCSI, provided that such extensions shall not total more than six (6) months in the aggregate without the Company's prior written consent.

The failure by the Company to meet a given completion date in the Project Schedule or Project Plan shall not entitle the Company to receive an extension for the completion of any other task assigned to the Company, even if such failure has caused the City to delay in completing one or more tasks as allowed under Section 3.2 above.

3. CITY PROVIDED EQUIPMENT, FACILITIES AND SERVICES.

The City shall be responsible for supplying the following equipment, services and facilities for the implementation of the System (collectively referred to herein as the "City Responsibilities"):

- 3.1. Physical space and electrical power necessary for the installation of all Products (hardware, software and interconnections) by the Company;
- 3.2. A facility to accommodate Company training of City personnel, equipped with up to **(Insert Here)** workstations at any given facility; and
- 3.3. Office facilities for up to **(Insert Here)** Company staff, consisting of
 - 3.3.1. work space (consisting of a table, desk or cube, as the City may elect);
 - 3.3.2. a telephone;
 - 3.3.3. a modem line;
 - 3.3.4. access to a copier or, in the City's discretion, City staff to make copies; and
 - 3.3.5. access to a fax or, in the City's discretion, City staff to send faxes.
- 3.4. Company staff will be allowed reasonable use of the City's break room facilities when they are on City premises. The Company's employees shall not venture outside those areas where the City Project Manager has specifically authorized them to go. Access to the City's facilities outside normal business hours is restricted; necessary access must be arranged each day as needed with the City Project Manager.
- 3.5. City staff will perform the tasks assigned to the City in this Scope of Implementation Services.

4. PROJECT MANAGERS.

- 4.1. **COMPANY PROJECT MANAGER.** **(Insert Here)** shall be the "Company Project Manager" under this Contract. The duties of the Company Project Manager include, but are not limited to:
 - 4.1.1. Direct the Project as the Company contact with responsibility for Project performance from initiation to closure, including planning, organizing, managing, and controlling all aspects of the Project to ensure that Project tasks are performed according to the approved Project Schedule and Project Plan.
 - 4.1.2. Coordinate and schedule all Company resource assignments.

- 4.1.3. Identify all known items that may impact the availability of City resources during the Project, and coordinate with the City Project Manager to avoid delays.
- 4.1.4. Ensure that all necessary subcontractor commitments are in place and monitor subcontractor commitments.
- 4.1.5. Initiate and maintain Project reporting and filing systems to ensure that Project documentation is up-to-date, organized and readily accessible by appropriate Company and City staff.
- 4.1.6. Obtain from the City a system network configuration diagram and update it regularly to ensure that the system network configuration diagram accurately reflects the City architecture as it may change during the implementation of the project.
- 4.1.7. Arrange for the delivery and installation of all Products and Services in accordance with the Project Schedule.
- 4.1.8. Coordinate Company logistics for all on-site activities.
- 4.1.9. Mutually agree and clarify with the City the training logistics considerations such as schedules and classroom resources.
- 4.1.10. Provide the City Project Manager and Company upper management with the weekly progress reports described in this Scope of Implementation Services.
- 4.1.11. Maintain a “punch list” of all Defects, incomplete requirements or unresolved issues that occur over the course the Project, including date and manner of resolution.
- 4.1.12. Communicate with the City Project Manager on a daily or weekly basis, as needed, regarding Project progress and activities, and ensure adequate communication between members of the Company’s and City implementation staffs.
- 4.1.13. Monitor and follow-up to ensure that the Implementation Services are completed in compliance with the MCSI and the dates set forth in the Project Schedule and Project Plan.
- 4.1.14. Promptly consult with the City’s Project Manager when Project Plan deviations occur, and document all such plan deviations in accordance with agreed upon change control procedures;
- 4.1.15. Provide consultation and advice to the City on matters related to Project implementation strategies, key decisions and approaches, and Project operational concerns/issues, and acting as a conduit to the Company’s specialist resources that may be needed to supplement the Company’s normal implementation staff;
- 4.1.16. Act as the Company’s point of contact for all aspects of contract administration, including invoicing for services, and status reporting;
- 4.1.17. Facilitate review meetings and conferences between the City and the Company’s executives when requested by the City;
- 4.1.18. Identify and provide the City with timely written notice of all issues that may threaten the implementation, operation or performance of the System (with “timely” meaning immediately after the Company becomes aware of them);
- 4.1.19. Employ project management procedures that ensure a mutual understanding and agreement of the tasks to be completed and the schedule to be observed.
- 4.1.20. Employ project planning methods that document the City’s expectations so that there are no false starts or wasted effort.
- 4.1.21. Maintain a complete record of the Project’s history.

- 4.1.22. Ensure that adequate quality assurance procedures are in place throughout the Project, and that the System complies with the Specifications and Requirements; and
 - 4.1.23. Meet with other vendors working on City technology projects as necessary to resolve problems and coordinate the work that is included within the scope of this Project.
 - 4.1.24. The Company Project Manager shall remain onsite at the City throughout the duration of the Project, except for instances where the City has specifically agreed in writing that the Company Project Manager need not be present.
- 4.2. **CITY PROJECT MANAGER. (Insert Name or Title Here)** shall be the “City Project Manager” under this Contract. The duties of the City Project Manager are: (i) coordinating to fulfill the City’s obligations pursuant to this Contract; (ii) promptly responding to the Company’s Project Manager when consulted in writing or by E-mail with respect to project issues; and (3) acting as the City’s point of contact for all aspects of the Project, including contract administration and coordination of communication with the City’s staff. The City shall be allowed to change staffing for the City Project Manager position on one (1) business days’ notice to the Company.
- 4.3. In the event of vacation, illness or training, the Project Manager for each party shall appoint a designee to serve in his or her temporary absence.

5. PROGRESS REPORTS.

Throughout the Project, the Company shall prepare and submit weekly written reports to the City Project Manager. The weekly reports shall:

- 5.1. Update the Project Plan indicating progress for each task;
- 5.2. Identify and report the status of all tasks that have fallen behind schedule, the reason for the delay, and the projected completion date;
- 5.3. Identify and summarize all risks and problems identified by the Company which may affect the Project;
- 5.4. For each risk and problem, identify the action and person(s) responsible for mitigating the risk and resolving the problem;
- 5.5. For each risk and problem identified, state the impact on the Project Plan; and
- 5.6. Identify all personnel, equipment, facilities and resources of the City that will be required for the Company to perform the Implementation Services at least (2) weeks in advance of the need.

6. REVIEW AND CORRECTION OF INTERIM DELIVERABLES.

Upon completion of each Deliverable and Milestone, the Company shall give the City a written notice of completion. Within a reasonable time after receiving such completion notice, the City shall notify the Company in writing of the City’s acceptance or rejection of the applicable Deliverable or Milestone. The City shall be entitled to reject the Deliverable or Milestone if it fails in any way to comply with the MCSI (including this Scope of Implementation Services), or if it fails to comply with the highest industry standards, or if it contains time periods that are not reasonably attainable. If the City fails to accept or reject the Deliverable or Milestone within a reasonable time period, then: (a) the Deliverable or Milestone shall be deemed rejected; (b) the Company shall give the City written notice of such failure to accept or reject; and (c) work on all contingent tasks shall cease until all issues about the Deliverable or Milestone have been resolved and the City has issued an acceptance. As used in this paragraph, the term “reasonable time” means the time reasonably necessary to review and evaluate the Deliverable or Milestone based on its length, complexity and the number of people who need to review it. Under no circumstances shall the “reasonable time” be less than fifteen business days, unless the City has agreed in writing to a shorter review time.

If the City rejects a Deliverable or Milestone, the Company shall: (a) act diligently and continuously to correct all Defects and deficiencies identified by the City, and (b) immediately upon completing such corrections give the City a written, dated certification that all Defects and deficiencies have been corrected (the "Certification"). In the event the Company fails to correct all Defects and deficiencies identified in by the City and provide a Certification within a reasonable time after receipt of the Rejection Notice (which time shall in no event exceed fifteen business days), the City shall be entitled to terminate this Contract for default without further obligation to the Company.

Upon the City's receipt of the corrected Deliverable or Milestone, or a Certification, whichever is later, the above-described acceptance procedure shall recommence. The City shall not be obligated to allow the Company to recommence curative action with respect to any Defect or deficiency previously identified by the City or more than twice for any given Deliverable or Milestone (and shall be entitled to terminate this Contract for default if the criteria for acceptance are not met within this time frame).

Under no circumstances shall the City's acceptance of a Deliverable or Milestone be deemed to constitute a waiver of any of the Specifications and Requirements, the completion dates in the Project Plan, or any of the Company's other obligations under this Contract. No such waiver shall be effective unless specifically agreed to in writing by a City Department Head. Likewise, the Company shall not be relieved of such obligations by any Defect or deficiency in the Deliverable, nor by any failure on the part of the Company or City to detect such Defect or deficiency.

7. PROJECT PHASES.

The Company will design, install, configure, deliver, test and commission the System in the following five phases, each of which is described in detail in the subsequent Sections of this Scope of Implementation Services:

Phase I: Define Phase

Phase II: Design Phase

Phase III: Build Phase

Phase IV: Deliver Phase

Phase V: Trial Period

8. PHASE I: DEFINE PHASE.

The Define Phase will consist of the following tasks and Deliverables:

8.1. PROJECT PLAN.

8.1.1. Within thirty (30) days after the Effective Date, the Company shall prepare and submit to the City for approval a comprehensive and detailed project plan that identifies all tasks, steps and resources needed for delivery of the System in full compliance with the Specifications and Requirements within the time periods set forth in the Project Schedule (the "Project Plan").

8.1.2. The Project Plan shall clearly identify in detail all steps, tasks, activities, events, milestones and resources necessary for the Company to: (i) design, supply, configure, install, test and commission a System which fully complies with the Specifications and Requirements, and (ii) provide for a smooth and efficient transition from the existing system, to the new System, with minimum disruption to City operations. The Project Plan shall clearly define all hardware, software, deliverables and tasks required for each Milestone in each Phase of the Project. The Project Plan shall include a chart in Microsoft Project format that clearly identifies the schedule, order, completion date, number of day's duration, responsible party

and prerequisites for all such activities, events, tasks, Milestones and Deliverables.

- 8.1.3. The Project Plan will be developed in a manner so that the City and Company Project team can use it as a stand-alone document.
- 8.1.4. The Project Plan will contain a schedule, overall strategy and methodology for the mapping, data conversion and the loading of data from the current City system(s) to the System.
- 8.1.5. The Project Plan will contain a schedule for all training courses needed by the City to fully and productively use the System.
- 8.1.6. The Project Plan will identify when each type of Hardware and Software component will be installed.
- 8.1.7. The Company shall maintain the Project Plan. The Microsoft Project schedule contained within the Project Plan and shall be updated and submitted to the City on a weekly basis throughout the Project (until System Acceptance), to reflect the current status of all work. Aside from updates to show mutually agreed upon status changes, no changes to the Project Plan shall be made without the prior written approval of the City.

8.2. TRAINING PLAN.

- 8.2.1. Within the time periods and by the completion dates set forth in the Project Schedule, the Company shall prepare and provide to the City for approval a written comprehensive training program that shall outline the content, sequence and duration of each segment of each training session necessary to thoroughly and comprehensively train City personnel to fully utilize the System (the “Training Plan”). The Training Plan will outline all subjects necessary to train City staff to fully understand and utilize all user functions of the System, and to train the designated “trainers” to effectively train other City personnel to fully understand and utilize the user functions of such software on the System.
- 8.2.2. The Training Plan shall require the Company to provide the operator training and comprehensive “train the trainer” training for the numbers of City designated personnel listed in the chart identified in Section 9.2.4. In the Training Plan, the Company will schedule the training classes and modules according to their appropriate phase of the Project. For example, the classes for building tables must be scheduled before the City begins building the tables, and operator training must be scheduled to ensure a smooth transition to live operations. The Training Plans described below will also take into account classroom resources and personnel scheduling.
- 8.2.3. In the Training Plan, the Company shall provide the City with a written description of the types of the precise training classes that will be conducted, the number of persons that can be trained in each session, and the total number of hours required for each person to be trained. The Training Plan shall provide for rotating shift operations. All training will be conducted on-site in City facilities.
- 8.2.4. Without limiting the Company’s obligations hereunder, the Company will provide and the Training Plan will include each of the courses described in the Training Courses List which is attached to this Scope of Implementation Services as Attachment I and incorporated herein by reference to the numbers of students set forth below:

<u>CLASS</u>
• System Overview
• System Administration
• System Management Reporting
• Supervisor Functions
• End User
• Report Creation

The cost of all training referenced in this Exhibit is included in the Purchase Price.

- 8.2.5. The System Administration and Management Reporting courses shall contain all information and materials necessary to enable City designated staff to become fully proficient to:
- troubleshoot and identify the area or System component within the System that is causing any problem(s);
 - modify existing System management reports;
 - identify sources of statistical data that can be used to assess trends in System operations (use) and performance; and
 - demonstrate configuration of the System terminal display forms.
- 8.2.6. The Company will provide a documentation template so that the City can replicate all training material and pass it out to City staff and other authorized users of the System.
- 8.2.7. The Training Plan provided by the Company during the Project will include the following information:
- Course summary/outline;
 - Duration of training for each module;
 - Location of training; and
 - Student prerequisites.
- 8.2.8. After approval of the Training Plan by the City, the Company shall prepare and provide to the City for approval, the instructor's course notes, which shall contain all information and materials necessary that will be presented in each course to be provided as part of the Training Plan (the "Lesson Plan").
- 8.2.9. The Company shall supply all training aids and course materials for the training, for: (i) the "train the trainer" training described above; and (ii) all operator training. For each course referenced in the chart included in this Section, the Company shall provide, at a minimum, the number of complete sets of all course materials and training aids for each class equal to the number of students shown on the chart (other than the videotapes).
- 8.2.10. The City shall be entitled (but not required) to videotape all training classes provided by the Company, and to use the videotapes as a permanent training aid as part of the ongoing City training program.

- 8.2.11. The City shall have royalty free unrestricted rights to reproduce an unlimited number of copies of the Training Program, the Course Lesson Plan and all Company supplied course materials and training aids (including the videotapes), for use by the City as part of the City's ongoing training.

9. PHASE II: DESIGN PHASE.

The Design Phase will consist of the following tasks and Deliverables:

9.1. SYSTEM DESIGN

- 9.1.1. Within the time period and by the completion dates set forth in the Project Schedule and the Project Plan, the Company shall prepare and submit to the City for approval the detailed design documentation described below (the "Design Documentation").
- 9.1.2. The Company shall prepare and submit to the City for approval interface and map construction documentation in the form of, product specifications, installation, and/or other types of documentation that will enable the City to clearly determine, whether the System as proposed by the Company will fully satisfy the Specifications and Requirements. The Design Documentation shall include, without limitation, the following:
 - 9.1.2.1. Interface Designs for all interfaces to the System. The Company will provide a design for all interfaces specified in **Exhibit [Insert Here]** sufficient to ensure compliance with the Specifications and Requirements. The interface designs will specify all links, protocols and interfaces that need to be created to link the System to required data sources and other systems.
 - 9.1.2.2. Map Importation Design. The Company will provide specifications for all map importation so as to ensure compliance with the Specifications and Requirements. The map specifications will contain overall strategy and methodology for the mapping, conversion and loading of data from the current City system(s) to the System. The Company will specify a methodology for cleaning and verifying old data before migration, including but not limited to a contingency plan for handling data that cannot be converted (e.g., fields with data elements that have changed their meaning over time). The Schedule for the map activities will be part of the overall project schedule.
 - 9.1.2.3. Manuals, Documentation and/or on-line help capability for all third-party products used for interfaces or map importation (which documentation shall be sufficient to enable trained City users to fully utilize the System and identify problems).

The parties acknowledge that the City will require Design Documentation which meets the City's written approval prior to allowing the implementation of the System by the Company to proceed, except as agreed in writing by the City for specific items.

9.2. CONFIGURATION PLAN.

- 9.2.1. Within the time period and by the completion dates set forth in the Project Schedule and the Project Plan, the Company shall prepare, and submit to the City for approval a configuration plan in Visio format compatible with the City's software for all System Hardware and Software Deliverables. The Configuration Plan will include the following:

- Visio Diagrams, including both system level and components; and
 - A System overview (written documentation to document Visio Diagrams).
- 9.2.2. The Configuration Plan shall clearly identify all the Hardware to be delivered as part of the System, as well as the respective Software for each piece of Hardware. The Configuration Plan will provide system administrators and other City personnel with a clear understanding of the overall System Hardware/Software configuration.
- 9.2.3. All references to the Project Plan in the MCSI or the Exhibits thereto shall be deemed to include to the Configuration Plan.

10. CONVERSION PLAN.

- 10.1. Within the time period and by the completion dates set forth in the Project Schedule and the Project Plan, the Company shall prepare and submit to the City for approval, a conversion plan for converting all data necessary to transfer all operations from the old system to the new System (“Conversion Plan”).
- 10.2. The Conversion Plan shall clearly identify in detail all steps, tasks, activities, events, milestones and resources necessary for the Company to convert data to the System in a manner so that the System will operate in full compliance with the Specifications and Requirements. The Company will be responsible for all data conversion activities.
- 10.3. All references to the Project Plan in the MCSI or the Exhibits thereto shall be deemed to include to the Conversion Plan.

11. CUT-OVER PLAN.

- 11.1. Within the time period and by the completion dates set forth in the Project Schedule and the Project Plan, the Company shall prepare and submit to the City for approval a cut-over plan the (“Cut-Over Plan”).
- 11.2. The Cut-Over Plan shall clearly identify in detail all steps, tasks, activities, events, milestones and resources necessary for the Company and the City, to cut over to the System in a manner so that it fully complies with the Specifications and Requirements. The Cut-Over Plan shall ensure a smooth and efficient transition from the City’s current systems to the System with minimum disruption to current operations. The Cut-Over Plan will identify those operations which cannot be interrupted by implementation and provide a methodology to ensure continual delivery of service. The Company will work with the City to ensure that at the time of cut-over, the System is functioning with equivalent or better performance to the configuration currently used by the City.
- 11.3. All references to the Project Plan in the MCSI or the Exhibits thereto shall be deemed to include to the Conversion Plan.

12. ACCEPTANCE TEST PLAN AND PROCEDURES.

- 12.1. Within the time period and by the completion date set forth in the Project Schedule and the Project Plan, the Company shall prepare and provide to the City comprehensive acceptance test plans and procedures that will clearly and conclusively demonstrate to the City’s satisfaction whether the entire System and each component thereof meets all Specifications and Requirements (the “Test Plan and Procedures”).
- 12.2. The Test Plan and Procedures shall clearly specify and describe all tests, test methods and inspections necessary to clearly and conclusively demonstrate to the City’s satisfaction whether or not the complete System and each component thereof meets and satisfies all Specifications and Requirements. The acceptance testing shall include peak-load processing and on-line processing, as well as all links, protocols and interfaces. The Test Plan and

Procedures shall require the Company to perform the following tests in conjunction with City personnel prior to cut-over:

- 12.2.1. Sub-system testing to ensure that collections of modules which have been integrated into sub-systems operate correctly together (including tests sufficient to detect all interface errors);
 - 12.2.2. System-wide testing to ensure that the entire System operates correctly as a whole. These tests will validate whether the System as a whole fully complies with the Specifications and Requirements; and
 - 12.2.3. City Data Testing to ensure that the System performs in full compliance with the Specifications and Requirements with data supplied by the City.
- 12.3. The Test Plan and Procedures shall further include detailed descriptions of each test to be conducted, and the minimum acceptable limits and tolerances clearly identified for each test. The Test Plan and Procedures shall identify all tests which shall occur as a condition for the end of Phase IV and the beginning of cut-over. Additionally, the Test Plan and Procedures shall specify for each test a written results record form that will be completed by the Company as witnessed and acknowledged by the City, after each test is completed. The Test Plan and Procedures shall further include a list of all test equipment, software and facilities that will be required to complete all tests.
- 12.4. The Test Plan and Procedures shall clearly identify the sequence of all tests and the schedule for conducting all tests to comply with the Project Plan.
- 12.5. The City shall have the right to witness and object to each test performed pursuant to the Test Plan and Procedures. The Company shall provide the City reasonable notice of and opportunity to witness and object to each test performed pursuant to the Test Plan and Procedures. No test shall be deemed to be completed unless the City receives reasonable notice of such test, and was provided with an opportunity to plainly observe such test.
- 12.6. The Test Plan and Procedures shall include a description of tests for system security requirements that will occur, including but not limited to attempted break-ins. The Test Plan and Procedures shall also specify all testing software tools that are planned for use and which party will use such products in the testing. Finally, the Test Plan and Procedures will describe how and where test plans and results will be stored, including a 10-year storage requirement.
- 12.7. The Company shall conduct all tests included in the Test Plan and Procedures and shall be responsible for providing all test equipment (hardware and software), all test routines, and personnel for setting up and conducting all such tests.
- 12.8. Neither the Test Plan and Procedures nor the Test Procedures shall be revised without the prior approval of the City.

13. PHASE III: BUILD PHASE.

During the Build Phase, the Company will gather input and perform System configuration activities to support the City's unique operational workflow. The Company will populate the database and construct the maps during this phase. The Company's key responsibilities during this phase include the following:

13.1. SYSTEM DEVELOPMENT.

During System Development, the Company will translate the Specifications and Requirements and the Design Documentation into usable hardware components, adaptable interfaces, and appropriate code.

13.2. STAGING AND TESTING.

The Company will perform integration consisting of staging the System, preparing the test platform, and testing the System. Together with development, these activities will produce the required System.

13.3. DOCUMENTATION CUSTOMIZATION.

The Company will provide Documentation sufficient for the City to fully utilize the System and each of the Products.

13.4. CONFIGURATION MANAGEMENT.

The Company will build the System in accordance with the approved Configuration Plan. The Company's configuration management responsibilities include maintaining baseline documentation, System configuration details and baseline software. They also include managing change. The Company Project Manager will be responsible for processing and maintaining Change Statements throughout the life of the Project and will also be responsible for updating the initial configuration diagram. By instituting an active configuration management process, the Company will ensure that the System development effort will move ahead, that critical baseline information will be rigorously maintained, and that change requests are properly evaluated and effectively implemented when appropriate.

13.5. DATA COLLECTION.

The Company will work closely with the City to ensure that the data collection activities meet the System's requirements.

13.6. COMPLETED SYSTEM.

The Build Phase culminates in the creation of the System.

14. PHASE IV: DELIVER SYSTEM.

During the Deliver Phase, the System will be tested and placed into live operation. The Test Plan and Procedures will serve as a foundation for the System to be rigorously tested for correct operation prior to its actual use. The Company's key responsibilities during this phase include the following:

14.1. OVERVIEW OF OPERATING ENVIRONMENT CREATION.

To create the System operating environment, Company will perform the following:

14.1.1. Install the System at the City's site.

14.1.2. Establish the baseline operating environment.

14.1.3. Set up the System with all Product-related data, such as product administration accounts and product schema definitions.

14.1.4. Initialize the System and bring it on-line according to the start-up instructions.

14.1.5. Load converted data and verify connection to any other external systems as required.

14.1.6. Create, configure, and customize, as appropriate, the required user accounts.

The Deliverable for this task is that the System will be ready for the System-wide functional acceptance tests which confirm that the entire System functions in full compliance with the Specifications and Requirements using City data.

14.2. DELIVERY OF PRODUCTS.

14.2.1. The Company shall deliver all Products within the time periods set forth in the Project Schedule.

- 14.2.2. All Company supplied Hardware will be staged and tested at the Company's facilities prior to delivery to the City's site. Prior to delivery of Software, the Company will perform factory acceptance tests using the Software to be delivered. The Software loaded and tested will be the latest certified version.
- 14.2.3. The City shall not be required to make any inspection of the Products. However, the City shall be entitled to inspect the Products as they are delivered and to reject all or any of the Products for any failure to comply with the descriptions, specifications, requirements and performance standards set forth in the MCSI, including but not limited to the requirement that all Hardware shall be new, undamaged and in good working order (any such failure to comply being referred to as a "Product Deficiency").
- 14.2.4. Within a reasonable time period, the City shall give the Company written notice of any Product Deficiencies which the City wants corrected based on the City's initial inspection. Failure by the City to give written notice of any Product Deficiencies shall not in any way relieve the Company from or shift to the City any of the Company's obligations under the Contract Documents, including but not limited to the Company's obligation to design, supply, install, configure, test and commission the System in accordance with the Specifications and Requirements. Likewise, the Company shall not be relieved of such obligations by any Defects in the Products, nor by any failure on the part of the Company or City to detect such Defects.
- 14.2.5. Upon receipt of notice that the City has rejected any of the Products, the Company shall promptly replace all such rejected Products. In the event the Company fails to provide replacement Products with all Product Deficiencies identified by the City corrected (and no new Product Deficiencies created) within five (5) business days after receipt of the City's notice of rejection, the City shall be entitled to terminate this MCSI without further obligation to Company. Rejection of all or part of the Product delivery by the City shall not result in any extension of the completion dates or time periods set forth in the Project Schedule unless specifically agreed in writing by a City Department Head with respect to a particular rejection notice.
- 14.3. **INSTALLATION AND CONFIGURATION OF SYSTEM.**
Within the time period and by the completion date set forth in the Project Plan, the Company shall install and configure the complete System Hardware and Software in full compliance with the Specifications and Requirements.
- 14.4. **WORKMANSHIP AND INSTALLATION STANDARDS.**
The Company and its subcontractors shall perform all installation work in accordance with the highest industry standards and shall comply with all local, state and federal government codes and regulations.
 - A. The installation, location and methods of installation of all Hardware shall be subject to the prior written approval of the City.
 - B. The Company shall route all wiring and cables from computer terminal connection points to City-provided connection points to avoid obstructing passage of personnel and shall include safeguards against inadvertent harm to personnel, the general public, or damage to the equipment and facilities of the City and its vendors.
 - C. All installation work performed by the Company and its subcontractors shall be carried out by qualified, skilled trades people.

- D. The Company shall be responsible for determining all minimum installation standards for all sites, and shall obtain the City's written approval, prior to and after completion of all installation work.

14.5. SECURITY AND WAREHOUSING OF EQUIPMENT.

The Company shall be responsible for the security and warehousing of all equipment supplied by the Company (or its subcontractors) pending installation of the equipment in the City facilities.

14.6. RESTORATION OF PREMESIS.

After implementation and prior to the expiration of the Trial Period, the Company shall restore the City's premises to their original condition. This includes removal of debris, restoring areas affected in the course of implementation, and repairing all damage. The Company Project Manager will be responsible for inspecting all areas before work starts and reporting any pre-existing damage to the City Project Manager.

15. TRAINING.

Training will be completed under the schedule set forth in the Project Plan.

15.1. OPERATION.

At the end of the Deliver Phase, the System will be operational and in full conformance with the Specifications and Requirements and will be ready for use in live operations. The Company will work with the City to ensure that the System will function with equivalent or better performance to the configuration currently used by the City immediately after cut-over.

15.2. TESTING.

By the end of the Build Phase, the Company will complete all acceptance tests set forth in the Test Plan and Procedures, so as to establish that the System is ready to go into production. All acceptance tests shall be conducted in strict compliance with the Test Plan and Procedures with the City present during all such Tests to witness and verify such Tests. The Company will provide the City with copies of all acceptance test results immediately upon completion. After the acceptance tests have been successfully completed, the City can choose the timing for taking the System into full production use.

During the course of acceptance testing, the City may give the Company written notice of any Defects it observes in the performance of the System as a whole or any component. Failure to provide such notice shall not in any way relieve the Company from or shift to the City any of the Company's obligations under the MCSI, including but not limited to the Specifications and Requirements. Likewise, the Company shall not be relieved of such obligations by any errors or omissions in the acceptance tests.

Upon receipt of notice of Defects or deficiencies in all or any portion of the System, the Company shall act diligently and promptly to correct all Defects and deficiencies identified by the City, and shall immediately upon completing such corrections give City a written certification to that effect (a "Certification"). In the event the Company fails to correct all Defects and deficiencies identified by the City within ten (10) business days after receipt of the City's notice, the City shall be entitled to terminate the MCSI for default without further obligation to Company and without limiting any other remedies it may have. Rejection of all or part of the System by the City shall not result in any extension of the completion dates or time periods set forth in the Project Plan unless specifically agreed in writing by the City with respect to a particular rejection notice.

Upon correction of the Defects and deficiencies identified by the City and the City's receipt of a Certification, whichever is later, the System shall be re-tested and the City shall again have an opportunity to notify the Company of any Defects or deficiencies with the System or any component thereof. Upon the Company's receipt of such notice, the above-described procedure shall re-commence. Regardless of the number of Defects and deficiencies identified or the number of attempts to cure, the Company shall be required to cure all Defects and deficiencies within twenty (20) business days after receipt of the City's first notice of rejection (excluding the number of days which the City evaluate the System after each Certification). In the event the Company fails to cure all Defects and deficiencies within such period, the City shall be entitled to immediately terminate the MCSI for default, without limiting any other remedies it may have.

15.3. PRODUCTION SYSTEM (Deliverable).

The Deliverable for completion of the Deliver Phase is the installed, functional, tested, and signed-off System in full conformance with the Specifications and Requirements ready to go into production and begin the Trial Period.

15.4. DOCUMENTATION.

Within the time frame and by the completion date set forth in the Project Plan and prior to the end of Phase IV, the Company shall provide to the City all user manuals and other Documentation necessary for the City to fully utilize the System. The Documentation shall satisfy all descriptions, requirements, specifications and standards set forth in Exhibit B to the MCSI.

15.5. CUT-OVER ACCEPTANCE FORM (Exit Criterion).

The exit criterion for the Deliver Phase will be a cut-over acceptance form signed by the City and the Company stating that the entire System and each component, module and sub-system have successfully passed acceptance tests to verify full compliance with the Specifications and Requirements and are ready to go into production, and that the Company has provided all required Documentation (the "Cut-Over Acceptance Form").

15.6. CUT-OVER TO OPERATION SUPPORT.

After completion of the above-referenced cut-over acceptance tests and delivery of the Documentation, the development portion of the Project will be complete. The next step in the Project management methodology is a transition to operations and support mode. This process will begin immediately after the above-referenced Cut-Over Acceptance Form is delivered to the Company, and will be conducted in accordance with the Cut-Over Plan.

15.7. NO WAIVER.

Under no circumstances shall the City's acceptance of the Project Plan, Design Documentation, Configuration Plan, Conversion Plan, Cut-Over Plan, Acceptance Test Plan and Procedures or other Deliverable constitute a waiver of the Specifications and Requirements the completion dates in the Project Plan, or any of the Company's other obligations under this Contract. No such waiver shall be effective unless specifically agreed to in writing by a City Department Head. Likewise, the Company shall not be relieved of such obligations by any Defect or deficiency in the Deliverable, nor by any failure on the part of the Company or City to detect such Defect or deficiency.

16. PHASE V: TRIAL PERIOD.

16.1. SYSTEM ACCEPTANCE.

16.1.1. System Acceptance shall occur when the entire System has been in production use with live data for all departments and users in full compliance with the Specifications and Requirements for at least sixty (60) continuous days (the

“Trial Period). The Trial Period shall begin upon cut-over, after the completion of Phase IV.

During the Trial Period, the Company will correct Defects with the System within the time frames established in the Scope of Maintenance Services attached to the MCSI as Exhibit E, even though the Maintenance Services do not officially begin until System Acceptance. If the Company fails to comply with such time frames, the City shall be entitled to terminate the MCSI for default, in addition to any other remedies that may be available under the MCSI or at law.

16.1.2. During the Trial Period, the City shall also be entitled to give the Company written Rejection Notices, of the following, each of which shall be deemed a Defect:

- Any failure of the System or any component thereof to fully meet and comply with the Specifications and Requirements; or
- If the Company has not certified in writing that all Products and Services delivered to the City by the Company, are in full compliance with all Specifications and Requirements, and with all laws, regulations and industry specified standards; or
- If the Company has not certified in writing that all deficiencies, problems and variances, whether or not revealed as part of the testing and inspection process, have been corrected to meet all Specifications and Requirements; or
- If the Company has failed to satisfy all of the training obligations referenced in this Scope of Implementation Services in accordance with the requirements set forth herein; or
- If the Company has failed to provide Documentation that satisfies the description, specifications and requirements set forth in the MCSI (including all Exhibits); or

16.1.3. Upon receipt of a Rejection Notice during the Trial Period, the Company: (a) shall act diligently and continuously to correct the Defects identified in the Rejection Notice; and (b) shall immediately upon completing such corrections give the City a Certification that all Defects have been corrected. In the event the Company fails to correct all Defects identified in the Rejection Notice and provide a Certification within thirty (30) days after receipt of the Rejection Notice, the City shall be entitled to terminate this Contract for default without further obligation to Company. The Trial Period shall begin again each time the City submits a Rejection Notice to the Company, provided that the starting date of the new Trial Period shall be on the date the Company certifies that the Defect(s) identified in the Rejection Notice have been corrected. The City shall not be obligated to allow the Company to restart the Trial Period more than twice, and shall be entitled to terminate this Contract for default in the event the Trial Period is not successfully completed on the third try.

17. SYSTEM ACCEPTANCE BY THE CITY.

17.1. System Acceptance shall be deemed to occur only after the City has given the Company written notice of final acceptance of the System, after successful completion of the Trial Period (including the completion of all training and Documentation). Any instance of non-acceptance will be documented and submitted in writing to the Company Project Manager.

17.2. No warranty period for any of the Products or the System shall begin to run, nor shall the Maintenance and Support Contract become effective, until System Acceptance by the City has occurred.

- 17.3. Until System Acceptance, the Company shall continue to provide all required Products, Services, and resources necessary to correct all System Defects deficiencies and problems in a timely , forthright, and cooperative manner so as to comply with the time periods and completion dates set forth in the Project Plan.

Sample City Contract Exhibit D

PROJECT SCHEDULE

This Exhibit is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and [INSERT COMPANY NAME] (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the main body of the MCSI.

The Company shall deliver all Products and perform all Services in accordance with the attached Project Schedule (which is incorporated herein by reference). The dates on the attached Project Schedule shall be incorporated into the Project Plan, unless revised by the mutual written agreement of the parties.

Sample City Contract Exhibit E

MAINTENANCE SERVICES

This Exhibit is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and [INSERT COMPANY NAME] (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the main body of the MASI.

1. GENERAL DESCRIPTION OF COMPANY RESPONSIBILITIES.

Beginning on the date of System Acceptance and continuing throughout the term of this Contract (and any renewal period thereof), the Company shall provide to the City the services specified in the following provisions of this Contract (all of which are collectively referred to in this Contract as the “Maintenance Services”).

2. PREVENTION AND CORRECTION OF DEFECTS.

2.1. SYSTEM. The Company shall respond to and correct all Defects in the System within the time frames set forth in **Section 2.15** of this Exhibit. The Company shall further take all actions reasonably necessary to prevent Defects, and to cause the System to reliably and consistently operate in conformance with the Specifications and Requirements.

2.2. SOFTWARE. Without limiting any of its other obligations under this Contract, the Company shall correct Defects in the Software within the time frames set forth in **Section 2.15** of this Contract, and take such actions as are necessary to ensure that the Software fully conforms to the Specifications and Requirements. The Company’s obligations hereunder extend to Third Party Software and Customizations, as well as other Software (including Upgrades and New Versions to Third Party Software and Customizations).

2.3. HARDWARE. Without limiting any of its other obligations under this Contract, the Company will correct Defects in the Hardware within the time frames set forth in **Section 2.15** of this Contract, and maintain all Hardware in a manner so that: (i) the manufacturer warranty shall remain in full force and effect; (ii) such Hardware shall be qualified for coverage under the manufacturer’s maintenance program, if available; and (iii) so as to ensure that the Hardware operates in conformity with the Specifications and Requirements. During the term of this Contract, the Company shall be responsible for correcting all Defects in the Hardware (whether covered by manufacturer warranty or not). The Company shall supply all parts and labor required to perform its obligations under this Subsection at no charge beyond the Maintenance Fee.

2.4. HIGHEST INDUSTRY STANDARDS. All work performed by the Company and/or its subcontractors pursuant to this Contract shall meet the highest industry standards for professional quality and workmanship, and shall be performed by qualified staff using quality products and materials.

2.5. SOFTWARE NEW RELEASES AND NEW VERSIONS. The Company shall provide to the City all New Releases and all New Versions to all Software (including Third Party Software) as soon as reasonably possible following their commercial release at no charge beyond the Maintenance Fee. The New Versions and New Releases provided by the Company to the City will incorporate Customizations at no charge beyond the Maintenance Fee. If requested by the City, the Company shall install New Releases and New Versions at no charge beyond the Maintenance Fee. All New Releases and New Versions provided to the City under this Contract will become part of the Software, and will be maintained by the Company under the terms of this Contract.

The Company will test and certify all New Releases and New Versions before providing them to the City.

Throughout the duration of the Maintenance Services, the Company will provide compatibility in new versions of the Company's Software with the Products that comprise the City's System.

- 2.6. **HARDWARE NEW RELEASES AND NEW VERSIONS.** The Company will provide and install at no charge beyond the Maintenance Fee all New Releases and New Versions to Hardware (including engineering changes) which are: (a) necessary to correct Defects or enable the System or any component to function at an optimum level; or (b) required by the manufacturer. This includes mandatory engineering change orders (ECOs).
- 2.7. **COMPLIANCE WITH LAWS.** The Company will promptly develop and provide at no charge beyond the Maintenance Fee all changes and additions to the Software and the Hardware that are required to achieve compliance with local, state or federal laws, regulations, codes and guidelines (including all changes to such laws, regulations, codes and guidelines). The Company will develop New Releases as necessary to improve ease of use and correct
- 2.8. **TRAINING AND DOCUMENTATION FOR MAJOR UPDATES AND ENHANCEMENTS.** The Company will provide at no charge beyond the Maintenance Fee all training and Documentation that is necessary for the City to fully utilize all major New Releases and New Versions.
- 2.9. **REPORTING OF DEFECTS.** The Company shall serve as a single source to address all Defects in the System. Notwithstanding the notice provisions contained in this Contract, the City shall be entitled to report Defects to the Company by telephone, E-mail, or other means, provided that all Defects which require immediate attention shall first be reported by telephone. Notice of Defects need not be in writing, and shall be deemed effective when first received by the Company. The City shall not be required to follow up in-person, telephone, E-mail or telefax notices of Defects with a hard copy by mail or other means.
- 2.10. **TELEPHONE SUPPORT.** The Company shall provide toll free "single point of call" telephone support to the City with respect to the use of the Products and the correction of Defects. Such support will be available from Monday through Friday 7:00 a.m. until 6:00 p.m. Eastern Time ("Regular Business Hours"). During Regular Business Hours, the Company will provide sufficient, qualified help desk personnel to ensure that City problems are addressed immediately. At all other times, a recording will advise the City representative the appropriate pager number to utilize. The Company will respond to each page within one hour.
- 2.11. **REMOTE SUPPORT.** The Company shall provide remote diagnostic and repair service to the City with respect to the use of the Products and the correction of Defects, ("Remote Services"). The Company will make Remote Services available to the City both during Regular business through the help desk, and at other times through the Company staff who respond to pages. The Company shall comply with the security measures set forth on in this Exhibit regarding remote access, and any other security measures provided by the City in writing from time to time regarding access to the System.

The Remote Services to be provided by the Company include but are not limited to the following:

- Software diagnostics;
- Database diagnostics;
- CPU monitoring and diagnostics;
- Memory usage and performance monitoring;
- Operating system parameters analysis and diagnostics;

- Remote downloading of software (fixes and features releases); and
 - Immediate response to calls.
- 2.12. **ON-SITE SERVICES.** Company shall provide on-site maintenance and support to the extent necessary to correct any Defect in the Products, or the System, or to carry out any of the Company's other obligations under this Contract. There shall be no charge for such on-site services, other than the Maintenance Fees provided in this Contract.
- 2.13. **CHANGE CONTROL PROCEDURES.** In performing remote support and other Maintenance Services, the Company will comply with the change control procedures established by the City from time to time, provided that the City shall give the Company notice of such procedures.
- 2.14. **ACCESS TO FACILITIES AND PERSONNEL.** In the event Company provides on-site support, the City shall provide the Company with reasonable access, without charge, to the City's facilities, appropriate personnel, and any other information reasonably requested by Company so as to enable Company to provide Services, provided that the City can do so at no significant cost to the City.
- 2.15. **SEVERITY LEVELS, RESPONSE TIMES AND RESOLUTION TIMES.** The Company will comply with the response times, resolution time and resolution procedures set forth in this Section for each of the priority levels of problems described herein. The City shall assign an initial priority level for each problem reported, either verbally or in writing, based on the conditions described below. The Company will work with the City to upgrade or reduce the level of a particular problem to a different priority level, if after examining the problem there is reason to do so. Notwithstanding the foregoing, the Company shall not upgrade or reduce the level of priority of a particular error to a different priority without the City's consent, which consent may not be unreasonably withheld.

Priority One Critical	Priority One applies if the problem could: Prevent the accomplishment of an operational or mission essential function, OR Causes loss of data or data corruption, OR Jeopardize safety or security
Response Time	Immediately, if the problem is reported during Regular Business Hours Within one hour of notification if the problem is reported after Regular Business Hours. If on-site repair is required, the Company will be on-site within two hours after notification.
Resolution Time	Within 12 hours after the problem is first reported by the City.
Liquidated Damages	Ten percent (10%) of the annual Maintenance Fees paid or payable by the City for each instance where the Company fails to resolve a Priority One problem within the resolution time specified above. For each twelve hours that a Priority One problem continues after the resolution time specified above, the Company shall pay additional liquidated damages equal to ten percent (10%) of the annual Maintenance Fees paid or payable by the City
Termination Trigger	The City may exercise the right to terminate this Contract immediately for default upon written notice to the Company in the event that a Priority One problem continues in duration for more than 24hours after it is first reported by the City.

Priority Two	Priority Two applies if the problem could: Adversely affect (but not prevent) the accomplishment of an operational or
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	<p>mission essential function, and no Workaround is available, OR</p> <p>Adversely affect technical or cost risks to the life cycle support of the System, and no Workaround is available.</p> <p>Priority Two problems include aborts, but not loss of data or data corruption.</p>
Response Time	<p>Immediately, if the problem is reported during Regular Business Hours</p> <p>Within one hour of notification if the problem is reported after Regular Business Hours.</p> <p>If on-site repair is required, the Company will be on-site within two hours after notification.</p>
Resolution Time	Within 48 hours after the problem is first reported to the City
Liquidated Damages	Ten percent (10%) of the annual Maintenance Fees paid or payable by the City for each instance where the Company fails to resolve a Priority Two problem within the resolution time specified above. For each forty-eight hours that a Priority Two problem continues after the resolution time specified above, the Company shall pay additional liquidated damages equal to ten percent (10%) of the annual Maintenance Fees paid or payable by the City
Termination Trigger	The City may exercise the right to terminate this Contract immediately for default in the event that a Priority Two problem continues in duration for more than forty-eight (48) hours after it is first reported by the City.
Priority Three	<p>Priority Three applies if the problem could:</p> <p>Adversely affect (but not prevent) the accomplishment of an operational or mission essential function, but a Workaround is available, OR</p> <p>Adversely affect technical or cost risks to the life cycle support of the System, but a Workaround is available.</p> <p>Priority Three problems do not include aborts or loss of data.</p>
Response Time	<p>Immediately, if the problem is reported during Regular Business Hours.</p> <p>Within eight hours of notification if the problem is reported after normal working hours.</p>
Resolution Time	Resolution within sixty (60) days.
Liquidated Damages	Five percent (5%) of the annual Maintenance Fees paid or payable by the City for each instance where the Company fails to resolve a Priority Three problem within the resolution time specified above. For each twenty days that a Priority Three problem continues after the resolution time specified above, the Company shall pay additional liquidated damages equal to five percent (5%) of the annual maintenance fees paid or payable by the City
Termination Trigger	The City may exercise the right to terminate this Contract in the event that a Priority Three problem continues in duration for sixty (60) or more calendar days after the resolution time specified above.
Priority Four Minor	Any problem related to the System which does not fall within Priority One, Two or Three
Response Time	<p>Immediately, if the problem is reported during Regular Business Hours</p> <p>Within two days of notification if the problem is reported after Regular Business Hours.</p>

Resolution Time	Resolution within the next two New Releases.
Liquidated Damages	Five percent (5%) of the annual Maintenance Fees paid or payable by the City for each instance where the Company fails to resolve a Priority Four problem within the resolution time specified above. For each thirty days that a Priority Four problem continues after the resolution time specified above, the Company shall pay additional liquidated damages equal to five percent (5%) of the annual maintenance fees paid or payable by the City

- 2.16. **DISASTER RECOVERY.** In the event of a disaster, the Services shall be provided to the City and/or a disaster recovery services vendor at the location of the disaster recovery efforts. Upon the occurrence of a disaster, the Company shall assist the City in performing disaster recovery activities to restore the System to operational service.
- 2.17. **PHONE LOGS.** Company will keep detailed records of telephone calls, Remote Services, on-site visits and other information necessary to readily identify the date a problem is reported, a summary of procedures followed by the Company to correct the problem and any follow up calls relating to such problem. Each month, the Company will send the City a report containing such information.
- 2.18. **TECHNICAL RECORDS.** The Company shall produce and maintain during the term of the MASI and for a period of five (5) years thereafter detailed technical records with respect to all Maintenance Services performed under the MASI, including but not limited to engineering notebooks, development commentary, flow charts, logic diagrams and other materials related to the System (the "Technical Records"). The Company shall provide the City with copies of the Technical Records as requested in writing from time to time by the City.
- 2.19. **PREVENTIVE MAINTENANCE.** The Company shall take all reasonable actions necessary to prevent Defects, and to cause the System to reliably and consistently operate in conformance with the Specifications and Requirements.
3. **CITY'S RIGHT TO RANDOM AND PERIODIC VALIDATION.**
Throughout the life of the System, the City shall have the right to, on its own or through any auditor or agent, randomly and periodically perform such tests, verifications or technical validations which the City deems necessary to determine whether the System or the Products are in conformance with the Specifications and Requirements, or to verify the results of any test(s) performed by the Company or its agents.
4. **ASSURANCE OF CONTINUED MAINTENANCE AND SUPPORT.**
Without limiting any of the Company's other obligations under this Contract, the Company shall support the immediately preceding version of a Current Release of the Software for at least twenty four (24) months following issuance of such Current Release of the Software, provided that if a Current Release requires the City to incur significant integration costs or significant costs in replacing hardware or software (including operating system software), then the Company shall support the immediately preceding version for at least forty-eight (48) months following issuance of the Current Release.
5. **SECURITY MEASURES FOR REMOTE ACCESS.**
The Company will not allow any person or entity to have remote access to the System other than those individuals whom the City has consented in writing to allow access to ("Authorized Personnel"). The Company shall take appropriate steps to insure that all Authorized Personnel who have access to the System shall use such access only for the purpose of correcting Defects in the System or providing New Releases or New Versions to the System. The Company shall take appropriate steps to ensure that all Authorized Personnel comply with this restriction, including but not limited to having such persons execute a written agreement to that effect.

The Company will take such steps as are necessary to ensure that only Authorized Personnel have access to the System.

The Company builds and maintains such “firewalls” as are reasonably necessary to insure that access to the System is restricted in accordance with this Contract, and that Company’s access will not create an opportunity for sabotage or improper use of the System.

Sample City Contract Exhibit F

LICENSE

This Exhibit is incorporated into and made a part of the Master Contract for System Integration (“MCSI”) between the City of Charlotte (the “City”) and [INSERT COMPANY NAME] (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the main body of the MCSI. For purposes of this Exhibit only, the term “Software” shall not be deemed to include Customizations, given that the Customizations are owned by the City and require no license.

1. GRANT OF LICENSE

- 1.1. *GRANT OF LICENSE.* Subject to the restrictions set forth in **Section 1.2** below, the Company grants to City and the Affiliates a perpetual, nonexclusive, irrevocable, nontransferable, royalty-free license to:
 - (a) Use the Software and the Documentation for all purposes set forth or referenced in the MCSI or the City’s RFP or the Company’s Proposal, including but not limited to: (a) the operation and use of the System, (b) internal training and testing, (c) development, (d) disaster recovery, backup, archive and restore testing and implementation purposes and (e) any other purpose related to the above; and
 - (b) Allow direct and remote access to the Software and Documentation by an unlimited number of users and departments of: (a) the City; (b) any Affiliate, (c) any other entity to which the City provides services through use of the System; and (d) any other person or entity to which the City needs to allow access in order to provide services to any of the above through the System;
 - (c) Modify, improve, enhance, update, integrate and make derivative works of the Software and the Documentation on its own or through a third party; and
 - (d) Make as many copies of the Software and Documentation as it desires in support of its authorized use of the Software, provided that said copies shall include the Company's or the third party owner's copyright and other proprietary notices (as the case may be).
- 1.2. *RESTRICTIONS ON USE.* The City shall not use, copy, disclose or distribute the Software except as permitted by this License.
- 1.3. *THIRD PARTY ACCESS.* The City may: (a) allow access to the Software and Documentation by third party contractors to modify, improve, enhance, update, integrate and make derivative works of the Software and the Documentation, and (b) make and provide a copy of the Software and Documentation to third parties to whom the City has outsourced disaster recovery functions, operations of human resources, or Year 2000 testing; provided that such third parties execute an agreement containing provisions substantially similar to those set forth in the Confidentiality Agreement.
- 1.4. *SOURCE CODE.* Company shall cause the Source Code for all Customizations (and Updates and Enhancements thereof) to be delivered to the City within ten days after delivery of the Customization. Company shall cause the Source Code for all Company Software (including Updates and Enhancements) to be delivered to the source code escrow agent identified in the Source Code Escrow Agreement. The City shall be given the Source Code under the conditions stated in the Source Code Escrow Agreement.

2. DELIVERY, TESTING AND ACCEPTANCE.

- 2.1. *DELIVERY.* The Company shall cause the Software to be delivered, configured and integrated at the times set forth in Exhibit C, the Project Schedule and the Project Plan. Any breach by the Company under the MCSI shall constitute a breach of this License.

- 2.2. *ACCEPTANCE*. The Software shall not be deemed to have been accepted by the City until System Acceptance has occurred
- 2.3. *ENHANCEMENTS AND UPDATES*. Company shall provide Enhancements and Updates to the City for so long as the Maintenance Services are in effect. Upon delivery to the City, such Enhancements and Updates of the Company Software and Third Party Software shall be deemed incorporated into and made part of the Company Software or the Third Party Software (as the case may be).

Sample City Contract Exhibit G

REQUIREMENTS

These Requirements are incorporated into and made a part of the Master Agreement for System Integration (“MASI”) between the City of Charlotte (the “City”) and **[INSERT COMPANY NAME]** (the “Company”). Unless otherwise defined herein, capitalized terms in this Exhibit shall have the same meanings as are assigned to such terms in the main body of the MASI.

[TO BE DEFINED AFTER SERVICE PROVIDER SELECTION]

Sample City Contract Exhibit H
CERTIFICATIONS AND FORMS

[INSERT FORMS SUBMITTED WITH PROPOSAL]
[INSERT PERFORMANCE BOND]

LETTER OF INTENT – FORM D

LETTER OF INTENT FROM DBE TO PERFORM AS A SUBCONTRACTOR OR SUPPLIER

Disadvantage Business Enterprise

(This page shall be submitted for each DBE firm)

DBE Firm: DBE Firm: _____ Address: _____

City: _____ State: _____ Zip: _____

NCDOT Reporting #: _____ Expiration Date of Certification: _____

DBE Contact Person: Name: _____ Phone: (____) _____

Bidder: Name: _____ Address: _____

City: _____ State: _____ Zip: _____

Contracting Firm: Name: _____

(If different than Bidder)

DBE Subcontractor Classification: ☐ Subcontractor ☐ Manufacturer ☐ Supplier

Work item(s) to be performed by DBE	Description of Work Item	Quantity	Total Dollar Value

The Bidder is committed to utilizing the above-named DBE firm for the work described above. The estimated participation is as follows:

DBE contract amount: \$ _____ Percent of total contract: _____ %

Dollar value of the DBE's subcontract that will be sublet to non-DBE contractors: \$ _____

Dollar value of the DBE's subcontract that will be sublet to DBE contractors: \$ _____

*If DBE will not be subcontracting any of the work described above, a zero must be shown in each blank.

CERTIFICATION:

The above-named DBE firm certifies that it will perform that portion of the contract with the Bidder or Contracting Firm (as applicable) for the estimated dollar value as stated herein above.

By: _____
(Signature) (Title) (Date)

U.S. Department of Labor
Wage and Hour Division

PAYROLL
(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)



Rev. Dec. 2008

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

OMB No.: 1235-0008
Expires: 01/31/2015

NAME OF CONTRACTOR	OR SUBCONTRACTOR	ADDRESS
PAYROLL NO.		PROJECT OR CONTRACT NO.
FOR WEEK ENDING		PROJECT AND LOCATION

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING DEDUCTIONS	(3) WORK CLASSIFICATION	(4) DAY AND DATE OT GRIET HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK
							FICA	WITH- HOLDING TAX		OTHER	TOTAL DEDUCTIONS	
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(i) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room 93502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

MONTHLY PAYMENTS TO SUBCONTRACTORS/SUPPLIERS – FORM B

The following form has been designed to track Contractor's commitments and actual monthly payments to subcontractors/suppliers on a City project. The form has been formatted to allow the Contractor's representatives to print or type in the requested information. (Typing is preferred.)

Note: An electronic version that can be typed into will be posted on <http://charmeck.org/city/charlotte/cats/about/Business/procurement/Pages/dbesbe.aspx>

Submit this form with your company's monthly invoices for payment for work by your company on the City contract.

Contract Number#: List the project's assigned contract number if it is not already listed.

Project Name: List the official name of the project if it does not already appear.

Contractor Name: List your company's name.

Non-DBE or DBE Contractor: Check ☒ whether your company (as the contractor) is a DBE certified firm.

Reporting Month/Year: Identify the month of the transactions that is being reported.

Dollars Paid to Contractor: Identify all payments that have been made to your company from this contract since the notice to proceed.

List all Subcontractors, Subconsultants, and Material Suppliers that have worked and/or that your company intends to use on the project.

Note: the "☒" check box column is for City staff use only.

<input checked="" type="checkbox"/>	Company, Contact Person, Email and Phone.	Work performed or materials provided	Total Dollars Commitment	Dollars Paid this Month	Total Dollars Paid since NTP
-------------------------------------	---	--------------------------------------	--------------------------	-------------------------	------------------------------

Company, Contact Person, Email and Phone: List the subcontractor/supplier companies' names, contact persons, email addresses and phone numbers.

Work performed or materials provided: Identify what type of work or materials that were supplied by the subcontractor/supplier companies.

Total Dollars Commitment: Identify the company's total project estimated dollar commitment to the subcontractor/supplier companies.

Dollars Paid this Month: List the total amount of actual payments made to each subcontractor/supplier company in the reporting month listed.

Total Dollars Paid since NTP: List the total amount of actual payments made to the subcontractor/supplier company since the Notice to Proceed.

That official authorized and responsible for certifying payments listed on the form should:

Print his or her name and title.

Type or print the phone number of the representative responsible for certifying subcontractor payments.

Sign and date the form in the presence of a notary. Have the notary certify the representative's signature.

MONTHLY PAYMENTS TO SUBCONTRACTORS/SUPPLIERS – FORM B

Contractor Name: _____

Non-DBE : ☐

DBE: ☐

Reporting Month/Year: _____ Contract No.: _____ Dollars Paid to Contractor: _____

Submit this form with invoice. Below list **all Subcontractors, Subconsultants, and Material Suppliers** that have worked and/or that your company intends to use on this Project. List actual payments made in the reporting month listed above.

√	Company, Contact Person, Email and Phone.	Work performed or materials provided	Total Dollars Commitment	Dollars Paid this Month	Total Dollars Paid Since NTP

Contractor Name: _____

Non-DBE : ☐

DBE: ☐

Reporting Month/Year: _____ Contract No.: _____ Dollars Paid to Contractor: _____

√	Company, Contact Person, Email and Phone.	Work performed or materials provided	Total Dollars Commitment	Dollars Paid this month	Total Dollars Paid Since NTP

I certify that this information accurately reflects actual payments made to Subcontractors, Subconsultants, and Material Suppliers on the above referenced Project, and that all Suppliers providing goods under this Contract have been listed in the Sales Tax Statements submitted to the City in connection with this Payment Affidavit. If no subcontractors or suppliers are listed on the preceding chart or Sales Tax Statements, the Contractor certifies that no subcontractors or suppliers were used in performing the Project/Contract for the payment period indicated.

Signature of Authorized Official

Printed Name

Title

Date

Phone Number of Signer

NOTARY CERTIFICATION

STATE OF _____

COUNTY OF _____



Subscribed and sworn to and subscribed before me this _____ day of _____, 20____,

Print Name of Notary Public

Signature of Notary Public

My Commission Expires _____

CONTRACTOR'S AFFIDAVIT - RELEASE AND WAIVER OF CLAIM

STATE OF: _____ COUNTY OF: _____

_____,
(Name) (Title)
_____, being first duly sworn, deposes and says that:
(Contractor)

1. The undersigned is authorized to execute this Affidavit, Release and Waiver of Claim on behalf of the Contractor and has personal knowledge of all facts set forth herein;
2. This Affidavit, Release and Waiver of Claim, is made concerning the construction of the following project:

Project Name: _____

Project No.: _____

3. All payrolls, material bills, sales tax, social security tax, state and federal unemployment insurance, and all other liabilities and taxes owed by the Contractor and arising in any manner from the above-described project have been paid in full;
4. No claim or lien exists in favor of any supplier of materials or labor or in favor of any subcontractor furnishing materials or labor on the above-described project;
5. Notwithstanding the foregoing, if the City of Charlotte or property of the City of Charlotte is subject to any claim or lien which arises in any manner from the failure of the Contractor to pay any liability described above, the Contractor will indemnify and hold the City of Charlotte harmless for any amount which the City of Charlotte is required to pay to discharge such lien or settle such claim and further will pay the City of Charlotte's expenses, costs, and attorney fees incurred in connection therewith;
6. All claims, suits, and proceedings of every name, description, or nature arising out of the above project against the City of Charlotte, its officers, employees and agents have been settled;
7. The Contractor releases and waives any and all claims of every type and description which the Contractor may have against the City of Charlotte arising in any manner from the construction of the above-described project.

(Contractors Signature)

Subscribed and sworn to before me this _____ day of _____ 201__

Signature of Notary Public _____

of _____ County

State of _____

My Commission Expires: _____

STATE/COUNTY SALES/USE TAX STATEMENT

PROJECT: _____

CONTRACTOR/ SUBCONTRACTOR: _____

PERIOD COVERED: _____ thru _____

Invoice No.	Invoice Date	Vendor's Name	City Vendor No.	Type of Materials Purchased	SCC Code	Total Amount of Invoice	Taxable Amount of Invoice	NC Sales Tax	NC County Sales Tax	Total Tax

Total for this period:	\$	-	\$	-	\$	-	\$	-	\$	-
------------------------	----	---	----	---	----	---	----	---	----	---

I certify that the above listed vendors were paid sales tax upon purchases of building material during the period covered by the construction estimate, and the property upon which such taxes were paid with or will be used in the performance of this contract. No tax on purchases of tangible personal property purchased by such contractors for use in performing the contract which does not annex to, affix to, or in some manner become a part of the project, building, structure or repairs is included in the above list.

Signed: _____

Subscribed and sworn to before me this _____ day of _____ 201__

Signature of Notary Public _____

of _____ County

State of _____

My Commission Expires: _____

CHARLOTTE AREA TRANSIT SYSTEM
600 East Fourth Street, Charlotte, NC 28202



Change Order No. 0

Contract Name: Civil A
Contract Number: CC1399999
Contract Effective Date: 00/00/2013

Contractor: ABC Contractor
Contractor Address: 1234 Hand Street
Charlotte, NC 34744

CHANGE ORDER

DESCRIPTION OF CHANGE:
Enter Description Here.

TOTAL AMOUNT OF THIS CHANGE ORDER			
BASE CONTRACT:		CONTINGENCY:	
Original Base Contract Amount: ...\$	000,000.00	Original Contingency Amount:\$	00,000.00
Changes Approved to Date:\$	00000.00	Contingency Changes Approved to Date.\$	00000.00
Base Contract Prior to this Change.....\$	000,000.00	Contingency Balance Prior to this Change.....\$	00,000.00
Amount of this Change:.....\$	00000.00	Contingency Change:.....\$	00000.00
Revised Base Contract Amount:....\$	00,000.00	Revised Contingency:.....\$	00,000.00

CONTRACT:

Total Contract Prior to this Change:\$ 000,000.00
Total Change Amount:\$ 0.00
Revised Total Contract:\$ 000,000.00
Current Substantial Completion Date: ----- 00/00/2013
Authorized Schedule Impact (Calendar Days): ----- 0
Date of Substantial Completion as of this Change: ----- 00/00/2013

ACCEPTED:

Contractor

By: ABC Contractor
Contractor

Date: _____

APPROVED:

Charlotte Area Transit System

NO INCREASE TO TOTAL CONTRACT VALUE

Changes up to \$25,000

By: Electronically Signed By:
Construction Manager

Date: _____

Changes up to \$50,000

By: Electronically Signed By:
Manager of Construction

Date: _____

Changes Over \$50,000

By: Electronically Signed By:

Date: _____

e-Builder Inc.

01/2013

Project Director

INCREASE TO TOTAL CONTRACT VALUE

Changes up to \$10,000

By: Electronically Signed By:
Project Director

Date: _____

Changes up to \$50,000

By: Electronically Signed By:
Department Director or Deputy Director

Date: _____

Changes up to \$100,000

By: _____
City Manager or Assistant City Manager

Date: _____

Changes over \$100,000 with Council Approval (Attach RCA)

By: _____
Department Director

Date: _____

RAIL TRANSIT PROJECT - CONSTRUCTION SAFETY AND SECURITY SURVEY FORM C-21

Contract Number: _____

Contractor: _____

Report Number: _____

Item Number	Finding and Recommendation	Regulation Reference	Action Taken and Date Completed
<p>Survey Performed:</p> <p>_____</p> <p>Date</p> <p>_____</p> <p>Performed By (Print)</p> <p>_____</p> <p>Organization/Title</p> <p>_____</p> <p>Signature</p>		<p>Survey Reviewed:</p> <p>_____ Date: _____</p> <p>Contractor's Project Manager (Signature)</p> <p>_____ Date: _____</p> <p>Owner's Representative (Signature)</p>	

**Rail Transit Project
Construction Safety and Security Survey
Form C-21 Instructions**

Form C-21 is for recording Contractor nonconformance with safety or environmental regulations, rules or procedures. The Contractor's Safety Superintendent (officer/coordinator) is to use Form C-21 to record observations during required daily safety inspections. Form C-21 is also to be used by the owner's representative or owner's safety oversight staff when conducting oversight safety, security or environmental management audits of the project's work sites.

A. Contractor's Safety Superintendent

This form is used to report the results of the required daily safety and security inspections performed by the Contractor's Safety and Security Superintendent in accordance with contract specifications. Any nonconformance with safety and security regulations, rules or procedures detected during safety and security inspections, or at any other time, is to be corrected immediately and recorded and reported on this form.

Completed copies indicating action taken and date completed will be submitted to the owner's representative for review and verification of completion of required action. The owner's representative will be responsible for forwarding copies of the completed forms to its internal safety and security oversight staff.

B. Owner's Representative

Form C-21 is also used by the owner's representative and designees to record any nonconformance with safety, security or environmental regulations, rules or procedures during tours or oversight safety and security audits of project work sites. The owner's representative will advise the Contractor's Safety Superintendent and or Project Manager of recommendations to implement immediate corrective actions.

The Contractor will enter the action taken on the form and return a copy of the Form C-21 to the owner's representative within 48 hours of the observation or identification of the nonconformance.

The owner's representative will submit a copy of Form C-21 to its safety and security oversight staff indicating abatement action taken and expected Completion Date. The owner's representative will follow up on action taken by the contractor and verify resolution by documenting it on the "Action Taken" column. A copy of the completed Form C-21 will be forwarded to the owner's safety and security oversight staff.

SUBMITTAL BUY AMERICA CERTIFICATION

Project Name: _____ (Contract #: _____)

General Contractor Submittal Certifications

The General Contractor, _____, has complied with Buy-America requirements as stated in its Contract Documents, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver.

The General Contractor certifies to the City of Charlotte, as owner, that all of the steel, iron and manufactured products included among the proposed materials detailed below to be incorporated into this Project are produced in the United States, and comply with the Buy-America requirements as stated in the Contractor's Contract Documents, or has a waiver granted by FTA or the product is subject to a general waiver.

The Contractor acknowledges that non-compliance with all or any portion of these Buy America requirements shall constitute a material breach of contract for which the City may, in addition to all other remedies provided by law, by the Contract, or otherwise, terminate the Contract for default. The Contractor further agrees to indemnify and hold the City free and harmless from and against any and all liability, loss, costs, claims, demands, damage, or expense of every kind or nature whatsoever (including, without limitation, reasonable attorneys' fees and costs of litigation) that the City suffers or incurs arising from, or out of, or by reason of the Contractor's non-compliance or alleged non-compliance with any provision of these Buy America requirements.

Each submittal certification shall be accompanied with completed Buy America certification(s) from the Manufacturer(s) supplying iron, steel, and/or manufactured products for the Project. Submit project form, "MANUFACTURER'S CERTIFICATION OF BUY AMERICA COMPLIANCE" or submit letter of certification that contains at a minimum manufacturer's contact information, specific project, specific product--model number, specific manufacturing location, statement certifying Buy America compliance, and signature from authorized representative of manufacturer.

Subcontractor/Supplier providing equipment: _____

Address: _____

COMPONENT / ITEM	MANUFACTURER/SUPPLIER	ORIGIN

Authorized Representative: _____
(Signature) (Print)

Date: _____ Submittal #: _____

MANUFACTURER'S CERTIFICATION OF BUY AMERICA COMPLIANCE

For Steel, Iron and/or Manufactured Products for the Blue Line Extension North Corridor Project

Instructions: Manufacturer to complete the Buy America Certification listed below. This Certification MUST BE submitted with the shop drawings and product data.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The manufacturer hereby certifies that the iron, steel and/or manufactured products listed below comply with the Buy America requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations at 49 CFR Part 661 and any amendments thereto.

The General Requirements for Iron, Steel and Manufactured Products include the following:

1. Except as provided in Part 661, no funds may be obligated by FTA for a grantee project unless all iron, steel, and manufactured products used in the project are produced in the United States.
2. All steel and iron manufacturing processes must take place in the United States, except metallurgical processes involving the refinement of steel additives.
3. The steel and iron requirements apply to all construction materials made primarily of steel or iron.
4. For a manufactured product to be considered produced in the United States:
 - (a) All of the manufacturing processes for the product must take place in the U.S.; and
 - (b) All components used in the product must be of United States origin.

The full statute can be found @ www.fta.dot.gov

Iron, Steel and/or Manufactured Product(s) used for the project (attach additional sheets if necessary):

Model Number	Description	Manufacturing Location

Certification by Manufacturer

I certify that this information is true and accurate to the best of my knowledge

Authorized Representative: _____
(print) (sign)

Title: _____ Date: _____

Co. Name: _____ Mfg. Location: _____

Contact #: _____ E-mail Address: _____

PAYMENT BUY AMERICA CERTIFICATION

Project Name: _____ (Contract #: _____)

General Contractor Payment Request Certifications

The General Contractor, _____, has complied with Buy-America requirements as stated in its Contract Documents, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver.

The General Contractor certifies to the City of Charlotte, as owner, that all of the steel, iron and manufactured products included as components of the attached payment request and incorporated into this Project conform to its product, equipment and supplies submittals previously approved by the City and comply with the Buy-America requirements as stated in the Contract Documents, or has a waiver granted by FTA or the product is subject to a general waiver.

The Contractor acknowledges that non-compliance with all or any portion of these Buy America requirements shall constitute a material breach of contract for which the City may, in addition to all other remedies provided by law, by the Contract, or otherwise, terminate the Contract for default. The Contractor further agrees to indemnify and hold the City free and harmless from and against any and all liability, loss, costs, claims, demands, damage, or expense of every kind or nature whatsoever (including, without limitation, reasonable attorneys' fees and costs of litigation) that the City suffers or incurs arising from, or out of, or by reason of the Contractor's non-compliance or alleged non-compliance with any provision of these Buy America requirements.

SUBCONTRACTOR/SUPPLIER PROVIDING EQUIPMENT	ADDRESS	COMPONENT / ITEM	MANUFACTURER/ SUPPLIER	ORIGIN

Authorized Representative: _____
(Signature) (Print)

Date: _____ Payment Request #: _____

PAYMENT BUY AMERICA CERTIFICATION

Project Name: _____ (Contract #: _____)

General Contractor Payment Request Certifications (continued)

SUBCONTRACTOR/SUPPLIER PROVIDING EQUIPMENT	ADDRESS	COMPONENT / ITEM	MANUFACTURER/ SUPPLIER	ORIGIN

Authorized Representative: _____
(Signature) (Print)

Date: _____ Payment Request #: _____

FINAL COMPLETION BUY AMERICA CERTIFICATION

Project Name: _____ (Contract #: _____)

General Contractor Final Completion Certifications

The General Contractor, _____, has complied with Buy-America requirements as stated in its Contract Documents, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver.

The General Contractor certifies to the City of Charlotte, as owner, that all of the steel, iron and manufactured products incorporated into this Project conform to its product, equipment and supplies submittals and pay requests previously approved by the City and comply with the Buy-America requirements as stated in the Contract Documents, or has a waiver granted by FTA or the product is subject to a general waiver.

The Contractor acknowledges that non-compliance with all or any portion of these Buy America requirements shall constitute a material breach of contract for which the City may, in addition to all other remedies provided by law, by the Contract, or otherwise, require removal and replacement of non-compliant products at the Contractor's sole expense. The Contractor further agrees to indemnify and hold the City free and harmless from and against any and all liability, loss, costs, claims, demands, damage, or expense of every kind or nature whatsoever (including, without limitation, reasonable attorneys' fees and costs of litigation) that the City suffers or incurs arising from, or out of, or by reason of the Contractor's non-compliance or alleged non-compliance with any provision of these Buy America requirements.

SUBCONTRACTOR/SUPPLIER PROVIDING EQUIPMENT	ADDRESS	COMPONENT / ITEM	MANUFACTURER/ SUPPLIER	ORIGIN

Authorized Representative: _____
(Signature) (Print)

Date: _____ Pay Application #: _____

FINAL COMPLETION BUY AMERICA CERTIFICATION

Project Name: _____ (Contract #: _____)

General Contractor Final Completion Certifications (continued)

SUBCONTRACTOR/SUPPLIER PROVIDING EQUIPMENT	ADDRESS	COMPONENT / ITEM	MANUFACTURER/ SUPPLIER	ORIGIN

Authorized Representative: _____
(Signature) (Print)

Date: _____ Pay Application #: _____