



**CHATHAM AREA TRANSIT AUTHORITY
REQUEST FOR PROPOSALS**

PROJECT NO. RFP 2027-01

CAT CENTRAL AC REPLACEMENT

September 24, 2026

**PUBLIC NOTICE
CHATHAM AREA TRANSIT AUTHORITY**

Request for Proposals No. 2027-01
CAT CENTRAL AC REPLACEMENT

Notice is hereby given that the CHATHAM AREA TRANSIT AUTHORITY (CAT) is seeking responses for the following:

- Description:** Chatham Area Transit Authority (CAT) is soliciting responses from qualified vendors to PROVIDE PROPOSALS FOR AC REPLACEMENT.
- Proposals:** Proposal Packages are available at 900 E. Gwinnett Street, Savannah, Georgia, 31401, online at <https://www.catchacat.org/about-cat/doing-business/procurement/procurement-opportunities/>, or by email at victor.colon@catchacat.org.
- Questions:** All questions must be submitted in writing by: **Friday, October 09, 2026** to Victor Colon, Procurement Manager, Chatham Area Transit Authority, 900 East Gwinnett Street, Savannah, GA 31401, or by email at victor.colon@catchacat.org
- Submittal Deadline:** **Friday, October 23, 2026 at 2 p.m. EST**, CAT Central, 900 E. Gwinnett Street, Savannah, Georgia, 31401

Disadvantaged Business Enterprise (DBE) Requirements:

CAT, in accordance with 49 Code of Federal Regulations (CFR) Part 26, has an obligation to ensure nondiscrimination of DBE's in all aspects of competition, award and administration of federally funded contracts. Notice to all proposers is hereby provided, that in accordance with State and Federal laws, CAT will ensure that disadvantaged business enterprises are afforded full opportunity to submit offers and responses to this solicitation, and to participate in any contract consummated pursuant to this advertisement. Compliance with Federal and State laws on Equal Opportunity will also be asserted in consideration for the award of this contract. No proposer will be discriminated against because of age, sex, race, color, religion, national origin, or handicapping conditions.

CAT reserves the right to accept or reject any and all responses submitted. CAT also reserves the right to award a contract based on the submissions alone.

2027-01 Schedule of Events

<u>EVENT</u>	<u>DATE</u>
RFP Issued and Advertised	September 24, 2026
Vendor Inquiry Deadline	October 9, 2026
RFP Submission Deadline	October 23, 2026, 2:00 p.m. EST
Evaluation Committee's Recommendation To Board of Directors	November 17, 2026
Notification of Award to Proposer	November 18, 2026

**Chatham Area Transit Authority
RFP 2027-01 CAT CENTRAL AC REPLACEMENT**

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CHATHAM AREA TRANSIT AUTHORITY REQUEST FOR PROPOSALS

1.1 INTRODUCTION

Chatham Area Transit Authority (CAT) is soliciting proposals from qualified professionals to provide ac replacement . CAT anticipates awarding a 6 MONTHS contract to the selected vendor(s).

1.2 RESPONSE SUBMISSION

CAT will receive responses until **2 pm EST, Friday, October 23, 2026**. Any response delivered to CAT after the time specified will not be considered.

One (1) unbound original, three (3) copies, and an electronic copy of the response must be mailed or hand delivered to:

Victor Colon, Procurement Manager
Chatham Area Transit Authority
900 E. Gwinnett St.
Savannah, GA 31401
(912) 651-0453

If there are inconsistencies in the copies provided, the controlling document will be the original response submitted by proposer.

1.3 RESPONSE FORM REQUIREMENTS

All responses must state the full and correct name, address, and capacity of the proposer. If the proposer is an individual doing business under another name, the response shall so state. Partnerships, joint ventures, and corporations shall sign as is appropriate for their type of business. Any erasures, corrections, or other changes appearing on the response forms must be initialed by the persons signing the response.

Except as otherwise provided herein, CAT cannot accept any material marked confidential, trade secret or proprietary. Proposer understands that any material pertaining to this procurement is likely subject to disclosure through the Georgia Open Records Act, O.C.G.A. § 50-18-70.

1.4 INQUIRIES

Should a proposer have questions, please contact in writing:

Victor Colon, Procurement Manager
Chatham Area Transit Authority
900 E. Gwinnett St.
Savannah, GA 31401
(912) 651-0453
victor.colon@catchacat.org

Questions should be submitted to CAT by **Friday, October 09, 2026**. Communication via email will be considered a written inquiry. ANY VERBAL COMMUNICATION WILL NOT BE CONSIDERED BY CAT AS AN INQUIRY. All received inquiries will be responded to in writing after the question submission deadline and will be presented as an addendum to the solicitation and distributed to respondents.

1.5 ETHICS AND LOBBYING STATEMENT

CAT maintains a written code of ethics that governs the conduct of its employees and subcontractors. Any debarment and suspension pertaining to the proposer must be disclosed by attaching a copy of each to the response. Additionally, the successful proposer must complete the appropriate certifications relating to lobbying activities.

1.6 INDEMNIFICATION

(1) Contractor shall indemnify, defend, and hold harmless CAT and its officers, directors, and employees from and against all allegations, claims, actions, suits, demands, damages, liabilities, obligations, losses, settlements, judgments, costs and expenses (including without limitation attorneys' fees and costs) which arise out of, relate to, or result from any act or omission of Contractor.

(2) Contractor acknowledges that it is prohibited under the Laws of Georgia for a governmental entity to indemnify Contractor for any loss arising out of the provisions of this Contract. Accordingly, CAT does not make any indemnification to Contractor whatsoever under this Contract.

1.7 INTEREST OF MEMBERS OF, OR DELEGATES TO, CONGRESS

In accordance with 18 U.S.C. Subsection 431, no member of, or delegates to, the Congress of the United States shall be permitted to a share or part of this contract or to any benefit arising there from.

1.8 ETHICS

It is CAT's policy that all contractors shall be expected to have complied, and in the future to comply, with all ethics laws of the State of Georgia and to be free of conflicts of interest (as described in the following section) if awarded a CAT contract. Each proposer shall be deemed have acknowledged said policy. Any indication that a proposer has violated or given the appearance of violating an ethics law or is not free of actual or potential conflicts of interest will cause rejection of that bid. Any indication that, once awarded a contract, a contractor has violated or has given the appearance of violating an ethics law or is not free of actual or potential conflicts of interest may, in the sole discretion of CAT, constitutes grounds for termination of the contract.

1.9 CONFLICT OF INTEREST

No Board Member, employee, officer or agent, or employee of such agent of CAT shall participate in the selection, the award of, or the administration of a contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

- a. A Board Member, employee, officer or agent, or employee of such

- agent;
 - b. Any immediate family member of those listed in (a) above;
 - c. A partner; or an organization which employs, or is about to employ any of the above,
- has a direct or indirect, present or future financial or other interest in the firm selected for award.

CAT Board Members, officer, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential subcontractors or parties of sub-agreements.

1.10 PRIVACY ACT REQUIREMENTS

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

- a. The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understand that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.
- b. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

1.11 EXCLUSIONARY OR DISCRIMINATORY SPECIFICATIONS

Apart from inconsistent requirements imposed by federal statute or regulations, CAT will comply with the requirements of 49 U.S.C. § 5323(h) (2) by refraining from using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications.

1.12 GEOGRAPHIC RESTRICTIONS

Except as expressly mandated, encouraged, or permitted by FTA or Federal Statute, CAT will refrain from using state or local geographic preferences.

1.13 CONTRACTOR ASSURANCE

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 49 CFR 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, which may include, but is not limited to: (1) Withholding monthly

progress payments; (2) Assessing sanctions; (3) Liquidated damages; and/or (4) Disqualifying the contractor from future bidding as non-responsible

1.14 CONFIDENTIALITY

Contractor agrees that any and all information, in oral or written form, whether obtained from CAT, its agents or assigns, or other sources, or generated by Contractor pursuant to this contract shall not be used for any purpose other than fulfilling the requirements of this contract.

Contractor further agrees to keep in absolute confidence all data relative to the business of CAT, its agents or assigns. No news release, including but not limited to photographs and film, public announcement, denial or confirmation of any part of the subject matter of any phase of any program hereunder shall be made by Contractor without written approval of CAT.

1.15 GOVERNMENT WIDE DEBARMENT AND SUSPENSION

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractors, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945. If this contract is less than \$25,000 this clause does not apply.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into. By signing and submitting its bid or response, the bidder or proposer certifies as follows:

The certification clause contained in Attachment B is a material representation of fact relied upon by Chatham Area Transit Authority. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to Chatham Area Transit Authority, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

1.16 SUBCONTRACTS

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the FTA may by appropriate instructions require, 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 all the clauses contained in 29 CFR 5.5.

1.17 CONTRACT TERMINATION: DEBARMENT

A breach of the contract clauses in 29 CFR Section 5.5 may be grounds for termination on contract, and for Debarment as a contractor and a subcontractor as provided in 29 CFR Section 5.12.

1.18 STATE AND LOCAL LAW DISCLAIMER

The use of many of the Clauses herein are not governed by federal law, many of the clauses contained herein contain FTA suggested language in certain instances these clauses may be affected by State Law.

- a. If contractor is to physically perform services on CAT's premises, contractor will be required to affirmatively represent it's use of the federal work authorization program commonly known as E-Verify as required by O.C.G.A. §13-10-91(b)(1).

1.19 SUBMITTAL OF PROTESTS

- a. **Pre-Award Protests**
Protests concerning these instructions, contract requirements, or the RFP procedures must be submitted in writing to the Procurement Manager not less than five (5) days before the scheduled receipt of responses. The protest must:
 - 1) The name and address of the protestor.
 - 2) The name and number of the procurement solicitation.
 - 3) A detailed statement of the grounds for the protest, including all relevant facts and a citation to the Federal or State law, the provision of CAT procurement procedures, or specific term of the solicitation alleged to have been violated.
 - 4) Any relevant supporting documentation the protesting party desires CAT to consider in making its decision.
 - 5) The desired relief, action, or ruling sought by the protestor.
- b. **Post-Award Protests**
Protests concerning the award of this response must be submitted in writing to the Procurement Manager within no later than 72 hours after the protestor's receipt of CAT's written notice of its decision or intended decision to award a contract. CAT will have ten (10) working days after receipt of the formal protest package to evaluate, and issue a response, except in cases where the original response has been awarded by the Board of Directors. In such cases, the resolution of protest will be handled at the next regularly scheduled Board meeting, following completion of the staff review of the protest. The protest must:
 - 1) The name and address of the protestor.
 - 2) The name and number of the procurement solicitation.
 - 3) A detailed statement of the grounds for the protest, including all relevant facts and a citation to the Federal or State law, the provision of CAT procurement procedures, or specific term of the solicitation alleged to have been violated.
 - 4) Any relevant supporting documentation the protesting party desires CAT to consider in making its decision.
 - 5) The desired relief, action, or ruling sought by the protestor.

1.20 RESPONSE OFFER

Each response must be in CAT's possession by the deadline for submission noted above. It is the proposer's responsibility to ensure timely receipt by CAT of the response. The submitted response shall irrevocable offer for ninety (90) days from the solicitation due date.

1.21 RESPONSE AWARD

CAT reserves the right to reject any and all responses, and part or parts of a response, waive any -technicalities, and award any or the entire contract in a manner that is in the best interest of CAT. Contracts will be awarded to the highest ranked proposer when it is in the best interest of CAT.

1.22 RESPONSE WITHDRAWAL

Responses may be withdrawn by submitting a written request to CAT before the time fixed for response opening. Withdrawal of an offer will not prejudice the right of the proposer to submit a new response, provided that the latter is timely received as provided above.

1.23 SINGLE RESPONSE SITUATIONS

In the event a single response is received, CAT will conduct a price analysis or a cost analysis of the response. The sole proposer must cooperate with CAT if a price or cost analysis is conducted.

1.24 CERTIFICATIONS & DBE POLICY STATEMENT

CAT reserves the right to accept or reject any and all responses submitted. CAT also reserves the right to award a contract based on the submissions alone. The proposer, by signing the response forms, certifies that the response is offered by a business that is fully licensed to do the work relating to the specifications herein.

CAT, in accordance with 49 Code of Federal Regulations (CFR) Part 26, has an obligation to ensure nondiscrimination of DBE's in all aspects of competition, award and administration of federally funded contracts. Notice to all proposers is hereby provided, that in accordance with State and Federal laws, CAT will ensure that disadvantaged business enterprises are afforded full opportunity to submit offers and responses to this solicitation, and to participate in any contract consummated pursuant to this advertisement. Compliance with Federal and State laws on Equal Opportunity will also be asserted in consideration for the award of this contract. No proposer will be discriminated against because of age, sex, race, color, religion, national origin, or handicapping conditions.

CAT encourages the utilization of minority owned financial institutions, a list is provided below:

- Carver State Bank (Savannah);
- Citizens Trust Bank (Atlanta);
- Metro City Bank (Doraville);
- Quantum National Bank (Suwanee).

1.25 TAXES

CAT is exempt from payment of federal excise and transportation tax and Georgia Sales and Use taxes. These taxes are not to be included in the response price. Tax exemption information, upon request, will be provided to the successful proposer upon award of the contract.

1.26 CONTRACT TERMINATION

CAT may terminate this solicitation and any corresponding contract, in whole or in part, at any time by written notice to the Contractor when it is in CAT's best interest.

1.27 ASSIGNMENTS

The proposer shall not assign this contract, wholly or in part, without the prior written consent of CAT. No assignment shall relieve the contractor of any obligations under the contract.

1.28 ADDENDA

Any changes in these instructions or other requirements will be accomplished by a written addendum sent to all prospective proposers. All such addenda shall become a part of the contract. Failure to acknowledge receipt of all addenda may cause the response to be considered non-responsive, and therefore rejected.

1.29 PROHIBITED INTERESTS

No member, officer, or employee of CAT and/or member of, delegate to, the Congress of the United States shall, during his/her tenure, or for one year thereafter, have either a direct or an indirect interest in this contract or the proceeds thereof.

1.30 AUDIT & INSPECTION

The proposer agrees to allow CAT, the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination:

- 1.31.1 Inspect all work, materials, payrolls, and other data/records associated with the project; and
- 1.31.2 Audit the books, records, and accounts associated with the project.
- 1.31.3 In addition, the contractor must also agree to maintain all required records for a minimum of three (3) years after CAT makes final payments and all other pending matters are closed.

1.31 NOTICE TO PROCEED

The successful proposer shall not commence work under this ~~Choose an item.~~ until a written contract is awarded, proof of insurance has been received, and a Notice to Proceed is issued. If the successful proposer does commence any work or deliver items prior to receiving official notification, the proposer does so at its own risk.

1.32 SCOPE OF SERVICES

The proposer shall provide a solution to the scope of the request described in detail in Attachment A – Scope of Services.

In the case of goods, equipment, or services identified by a “brand name or equal” description, no preference will be given to responses offering to furnish the name brands over those offering accepted equal value and quality, and vice versa. Wherever in the specifications the name of a certain brand, make, manufacturer, or definite specification is utilized, these specifications are used only to denote the quality standard of product, style type, and character of product desired and do not restrict proposers to the specific brand, make, manufacturer or specification named. Equivalent products, which have been designated "approved equals" by CAT or its agents, shall be acceptable. Proposer must submit to CAT a written request for approval of all equivalent products by the inquiry deadline.

1.33 EVALUATION OF RESPONSES

Responses received that are determined to be responsive and responsible will be evaluated by members of a CAT Evaluation Committee in accordance with the criteria set forth below. The criteria are weighted by their relative degree of importance.

Evaluation Criteria:

Technical Capacity 30%

Maintenance and Operations 30%

Experience and References 20%

Price Cost Proposal 20%

For any DBE subcontractor use, please provide a summary of the percentage of use that you are committing to the DBE contractor in your price proposal

1.34 FEDERAL REGULATORY REQUIREMENTS

Federal Regulatory Requirements applicable to this request are listed in Attachment G. Proposer must sign the individual clauses that require separate signatures as well as sign the certification at the beginning of Attachment G. Proposer must return these signed federal clauses with its response.

1.35 ADDITIONAL RESPONSE REQUIREMENTS

Any response delivered to CAT that does not contain the following documents and/or information will be considered an unresponsive submission.

- 1.35.1 Most recent three (3) years comprehensive financial statements, audited version if your business structure requires such. These documents may be marked as “Trade Secret – Confidential Financial Data”, but must be accompanied by an attached affidavit affirmatively declaring that the specific information in the records constitute trade secrets pursuant to Article 2 of Chapter 1 of Title 10, Official Code of Georgia.
- 1.35.2 Statement regarding the staffing availability of your business to handle the scope of services in this solicitation.

- 1.35.3 Evidence of current Commercial General/Professional Liability insurance providing insurance for bodily injury, property damage, personal injury and advertising injury, with limits of not less than \$1,000,000.
- 1.35.4 Complete, sign, and return the pertinent portions of Attachments B – G.
Attachment A

SEE SCOPE PAGE 21

Attachment B
DBE, Non-Debarment, and EPA Certification

The firm submitting this response _____ IS or _____ IS NOT a Disadvantaged Business Enterprise.

The firm submitting this response _____ DOES or _____ DOES NOT use Disadvantaged Business Enterprise subcontractors.

For any DBE subcontractor use, please provide a summary of the percentage of use that you are committing to the DBE subcontractor in your price proposal.

All offerors must certify that they are not on the Comptroller General's list or any DOT List of Ineligible Proposers, List of Persons or Firms Currently Debarred for Violations of Various Contracts Incorporating Labor Standards Provisions, or that the facilities to be utilized in the performance of this project have not been listed on the Environmental Protection Agency's List of Violating Facilities. By signing the Certification Form, this certification is completed.

The signature below attests that the offeror's response is made with full understanding and acceptance of the provisions contained in this response.

Signature

Witness Signature

Print or Type:

Name & Title of Signing Officer

Company

Mailing Address

Date

City, State, Zip

Telephone

E-Mail Address

Attachment C References

CAT may contact references in an effort to obtain more information about the proposer. The references listed should be companies and individuals with whom the proposer has supplied equipment and/or performed services similar to those specified herein.

1. Company Name: _____

Contact Name: _____

Phone Number: _____

Description of Work: _____

2. Company Name: _____

Contact Name: _____

Phone Number: _____

Description of Work: _____

3. Company Name: _____

Contact Name: _____

Phone Number: _____

Description of Work: _____

Attachment D
Addendum Acknowledgment

The undersigned acknowledges receipt of the following addenda to the response documents.

NO ADDENDA WERE RECEIVED _____

(Give number and date of each):

Addendum No. 1 Dated _____

Addendum No. 2 Dated _____

Addendum No. 3 Dated _____

Addendum No. 4 Dated _____

Addendum No. 5 Dated _____

Failure to acknowledge receipt of all addenda may cause the response to be considered non-responsive.

Signature

Title

Attachment E
OFFEROR'S CHECKLIST
(To verify that all necessary documents are included)

This form **must be completed** and returned with the response. Failure to return the completed form may be cause for considering your response non-responsive.

Responses must be clearly marked with the response number and title, date and time of response opening, and company name. Below is a list of all materials and responses required for this response.

	Proposer <u>Check off</u>	CAT <u>Check off</u>
Proposer Contact Information	_____	_____
Financial Statement/Tax Return	_____	_____
Evidence of Gen. Liability Insurance	_____	_____
Attachment B – DBE Certification Form	_____	_____
Attachment C – Proposer's References	_____	_____
Attachment D – Addendum Acknowledgment	_____	_____
Attachment E – Offeror's Checklist	_____	_____
Attachment F – Proposer Information Form	_____	_____
Attachment G – Federal Clause Certification	_____	_____
Buy America Certification	_____	_____
Lobbying Certification	_____	_____

Signature

Title

Attachment F
PROPOSER INFORMATION FORM

All offerors are required to submit this information as a condition of submitting an offer to CAT. Offerors must insure that **ALL sub-contractors at all tiers, which are proposed to be used under any agreement issued by CAT, have also submitted an executed copy of this form.** CAT is required to maintain this information by the Federal Transit Administration and it is not subject to waiver.

Firm Name _____

Firm Address _____

Telephone Number _____

Fax Number _____

DUNS Number _____

E-Mail Address _____

Firm's status as Disadvantaged Business Enterprise
(DBE) or Non- DBE _____

Ethnicity of DBE Principle: _____

Gender of DBE Principle: _____

Year Firm Founded _____

Annual gross receipts of the firm:

___ < \$500K; ___ \$500K - \$1 million; ___ \$1-2 million; ___ \$2-5 million; ___ > \$5 million

Prime or Sub-Contractor _____

NAICS code(s) _____

I certify to the best of my knowledge that the above information is true and correct:

Signature: _____

Name & Title: _____

Date: _____

CAT Project No.: _____

FAILURE TO PROVIDE A COMPLETED COPY OF THIS FORM AS STIPULATED
HEREIN MAY PRECLUDE YOUR OFFER FROM CONSIDERATION FOR AWARD.

Attachment G
Federal Regulatory Requirements

**CONTRACTOR MUST REVIEW THESE REQUIREMENTS, SIGN THE
CERTIFICATION & APPLICABLE FEDERAL REGULATIONS, AND SUBMIT THIS
SECTION AS PART OF THE RESPONSE.**

FEDERAL CLAUSE CERTIFICATION

I have read and understand the federal clauses that are applicable to this solicitation and I
am duly authorized to execute this Certification on behalf of the entity submitting this response.

Proposer Name

By Its: _____
Title

Sign Name

Printed Name

Date

State of _____
County of _____

Signed and sworn to before me on _____, 20____
by _____ the _____ of Contractor and
duly authorized to execute this instrument on Contractor's behalf.

Notary Public

My Commission Expires

SCOPE OF WORK ELECTRICAL AND MECHANICAL

ELECTRICAL

A. GENERAL

1. THE WORK: ALL WORK SHALL BE NEW UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL PROVIDE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED FOR ITS INDIVIDUAL SECTIONS OF WORK. THE WORD "WORK" IS DEFINED AS ALL LABOR, TRANSPORTATION, MATERIAL, EQUIPMENT, TOOLS, INSTALLATION, SUPERVISION AND ANY OTHER INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS, WHICH SHALL BE PROVIDED BY THIS CONTRACTOR WHETHER OR NOT SPECIFICALLY INDICATED OR NOTED.

2. RESPONSIBILITY: THIS CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ACTIONS OF ITS PERSONNEL, SUPPLIERS, AND SUB-CONTRACTORS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERFORMANCE OF ALL WORK AS MAY BE REQUIRED TO ACCOMMODATE OR SUPPORT THE ELECTRICAL WORK. EXAMPLES: PAINTING, STRUCTURAL SUPPORTS, CUTTING AND PATCHING, EXCAVATION AND BACKFILL, CONCRETE PADS, ROOF JACKS, ETC. REQUIRING THIS CONTRACTOR'S ENGAGEMENT OF APPROPRIATE TRADES TO PERFORM SUCH WORK FOR THE PROPER INSTALLATION AND OPERATION OF COMPLETE ELECTRICAL SYSTEMS.

3. MINIMUM REQUIREMENTS: THESE SPECIFICATIONS ESTABLISH THE MINIMUM REQUIREMENTS FOR THE WORK AND MATERIALS, EQUIPMENT AND METHODS TO BE PROVIDED. THE DRAWINGS MAY INDICATE REQUIREMENTS WHICH EXCEED THESE MINIMUMS.

4. GENERAL CONDITIONS: ALL GENERAL CONDITIONS, SPECIAL REQUIREMENTS OR GENERAL REQUIREMENTS OF THE CONSTRUCTION SPECIFICATIONS ARE MADE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF COMPLETELY REPRODUCED.

5. DEFINITIONS:

AHJ: AUTHORITY HAVING JURISDICTION.

ASSEMBLY: AN INSTALLATION OR SYSTEM OF MULTIPLE COMPONENTS REQUIRING MULTIPLE CONNECTIONS. (EXAMPLES: TRASH COMPACTOR, MOTORIZED DOOR, HVAC SPLIT SYSTEM, ETC.).

EQUAL: ACCEPTED BY THE ENGINEER AS EQUAL.

FF&E: FURNISHINGS, FIXTURES AND EQUIPMENT - PROVIDED BY OTHERS AT JOBSITE.

RECEIVE, PROTECT, STORE, ASSEMBLE, INSTALL AND CONNECT. PROVIDE MINIMUM 5X STRUCTURAL BACKING. (EXAMPLES: CHANDELIERS, PROJECTORS, ETC.).

PROVIDE: FURNISH, INSTALL, ACTIVATE, AND COMMISSION.

6. CODES: ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AND ALL OTHER ADOPTED APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

7. PERMITS: PAY ALL FEES AND OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.

8. DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE, AND INDICATE THE TYPE, SIZE, ARRANGEMENT AND LOCATIONS OF MATERIALS AND EQUIPMENT. WORK INCLUDES CERTAIN COMPONENTS, APPURTENANCES, AND RELATED SPECIALTIES THAT MAY NOT BE SHOWN. PROVIDE ALL NECESSARY ITEMS TO COMPLETE THE WORK ACCORDING TO INDUSTRY STANDARDS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO REQUIRE FINISHED WORK, TESTED AND READY FOR OPERATION. DO NOT SCALE DRAWINGS. ARRANGEMENT OF EQUIPMENT AND ROUTING OF FEEDERS AND BRANCH CIRCUITING SHALL BE PLUMB AND AT RIGHT ANGLES TO BUILDING CONSTRUCTION, AND MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS REQUIRING ONSITE REVISIONS DURING CONSTRUCTION. (SEE ALSO "BIDDING").

9. COORDINATION: THIS PROJECT REQUIRES A HIGH LEVEL OF COORDINATION AND COOPERATION WITH OWNER, ARCHITECT, OTHER TRADES, VENDORS, AND SPECIALTY CONTRACTORS. CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, SHOP DRAWINGS, ETC. FOR ALL GENERAL CONSTRUCTION, STRUCTURAL,

MECHANICAL, PLUMBING, ELECTRICAL, AND SPECIALTY CONTRACTOR WORK. PRIOR TO ROUGH-IN, COORDINATE THE WORK WITH ALL OTHER TRADES, TAKING RESPONSIBILITY FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS PLANNED WITHOUT INTERFERENCE WITH OTHER WORK. ESTABLISH AND VERIFY LOCATIONS, HEIGHTS, CONNECTION METHODS, ETC. WITH EQUIPMENT INSTALLER (AND OWNER, ARCHITECT, AND/OR INTERIOR DESIGNER FOR FF&E ITEMS), AND MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES IN ORDER TO PROVIDE ACCESS FOR THE PROPER EXECUTION OF THE WORK.

10. IDENTICAL: ALL WORK REQUIRED FOR IDENTICAL ITEMS AND ASSEMBLIES OF THE PROJECT SHALL BE PROVIDED, ALTHOUGH EACH SPECIFIC IDENTICAL ITEM MAY NOT BE SHOWN IN DETAIL.

11. VERIFICATION: CHECK AND VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATION(S) OR PROBLEM(S) SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.

12. CONNECTIONS: CONNECT ALL EQUIPMENT, SYSTEMS, AND ASSEMBLIES PROVIDED BY OTHERS INCLUDING CONTROLS, SAFETY DEVICES AND INTERCONNECTIONS. EXCEPTION: DO NOT INTERCONNECT THE CONTROL SYSTEMS OF THOSE MECHANICAL AND PLUMBING SYSTEMS WHICH ARE SPECIFICALLY NOTED TO BE THE RESPONSIBILITY OF THOSE TRADES. PROVIDE FUSIBLE DISCONNECT SWITCHES AND MOTOR STARTERS FOR ALL EQUIPMENT EXCEPT THOSE ITEMS WHICH ARE SPECIFICALLY LISTED WITH INTEGRAL STARTERS/DISCONNECT SWITCHES. WHERE STARTERS AND/OR DISCONNECT SWITCHES ARE FURNISHED TOGETHER WITH EQUIPMENT, RECEIVE, INSTALL, AND CONNECT THOSE ITEMS.

13. SUBMITTAL: SUBMIT TO THE ENGINEER COMPLETE ELECTRONIC SETS OF SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR ALL EQUIPMENT AND MATERIALS SPECIFIED HEREIN. THE ENGINEER SHALL REVIEW SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ISSUE A WRITTEN ASSESSMENT TO THE OWNER PRIOR TO COMMENCEMENT OF WORK. THE ENGINEER'S FAILURE TO CORRECT ERRORS IN THE SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO PERFORM THE WORK AS SHOWN AND/OR SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING FEES NECESSARY TO CHANGE PROJECT DOCUMENTS BASED ON ALTERNATE SUBMITTAL PACKAGES/EQUIPMENT SUBSTITUTIONS.

14. OR-EQUAL SUBSTITUTIONS: ALL PROPOSED "OR EQUAL" SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION PRIOR TO BIDDING AND AFTER ALL REQUIREMENTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT AND/OR MATERIALS HAVE BEEN COORDINATED WITH OTHER BUILDING TRADES, INCLUDING ALL MECHANICAL, STRUCTURAL, AND/OR ARCHITECTURAL ELEMENTS. THE OWNER'S REPRESENTATIVE SHALL PRE-APPROVE ANY PROPOSED SUBSTITUTION IN WRITING. IDENTIFY AND ANNOTATE ALL REVISED REQUIREMENTS PER BUILDING TRADE ON THE SHOP DRAWINGS. ALSO IDENTIFY ALL COST DEBITS OR CREDITS IN WRITING FOR THE PROPOSED CHANGES PER BUILDING TRADE AND SUMMARIZE THESE AS A TOTAL NET-TO-OWNER CHARGE OR CREDIT FOR CONSIDERATION.

15. AS-BUILT: UPON COMPLETION OF CONSTRUCTION, SUPPLY THE ENGINEER WITH AS-BUILT DOCUMENTS ACCURATELY SHOWING THE MATERIALS AND EQUIPMENT AS INSTALLED. PROVIDE OPERATION AND MAINTENANCE MANUAL(S) CONTAINING APPROVED SHOP DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTION FOR SWITCHGEAR, LIGHTING FIXTURES, CONTROLS, AND SPECIALTY EQUIPMENT.

16. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER (LONGER IF REQUIRED BY GENERAL AND/OR SPECIAL CONDITIONS). IN ADDITION, THE INSTALLATION SHALL BE GUARANTEED TO PERFORM AS SPECIFIED AND FULFILL EACH AND EVERY REQUIREMENT OF THE DRAWINGS AND SPECIFICATIONS WHEN OPERATED IN ACCORDANCE WITH THE CONTRACTOR'S INSTRUCTIONS. SHOULD THE INSTALLATION IN ANY WAY FAIL TO DO SO, THE CONTRACTOR WILL, WITHOUT DELAY AND WITHOUT COST TO THE OWNER, PROVIDE WHATEVER ADDITIONAL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO CORRECT THE DEFICIENCY AND COMPLY WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. WHERE SPECIFIED EQUIPMENT HAS A LONGER GUARANTEE PERIOD, THE TERMS OF THAT GUARANTEE SHALL GOVERN (EXAMPLE: LED SYSTEM WITH 5 YEAR GUARANTEE). INCANDESCENT LAMPS ARE EXEMPT BUT SHALL BE NEW AND UNUSED AT THE TIME OF FINAL ACCEPTANCE.

18. IECC COMPLIANCE: COMPLY WITH ALL REQUIREMENTS SET FORTH IN THE IECC COMPLIANCE

CERTIFICATE INCLUDED IN THESE DOCUMENTS. HIRE A COMMISSIONING AGENT TO COMPLY WITH AND PERFORM ALL ASPECTS OF SECTION C408 OF THE IECC.

B. BIDDING

1. SITE VISIT: CONTRACT DOCUMENTS INDICATE NEW WORK TO BE PERFORMED AND DO NOT PURPORT TO SHOW ALL EXISTING CONDITIONS. VISIT THE SITE PRIOR TO SUBMITTING A BID TO BECOME FAMILIAR WITH EXISTING CONDITIONS. COMPARE THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS AGAINST EXISTING CONDITIONS, AND IDENTIFY AND ANNOTATE ALL WORK OR CONDITIONS THAT ARE DIFFERENT FROM THE CONTRACT DOCUMENTS OR THEIR INTENT. UPON DISCOVERY, IMMEDIATELY NOTIFY AND REPORT IN WRITING ANY DISCREPANCIES TO THE ENGINEER. NO EXTRAS OR CHANGE ORDERS WILL BE ALLOWED FOR FAILURE TO PERFORM THE PRE-BID SITE VISIT.
2. BASIS OF PROPOSAL: PROPOSAL SHALL BE BASED ON MANUFACTURERS AND MODELS AS LISTED UNLESS "OR EQUAL" IS INDICATED. PROVIDE SUBSTITUTION REQUESTS A MINIMUM OF FIVE (5) BUSINESS DAYS PRIOR TO BID DATE CLOSING TO ALLOW TIME FOR DUE CONSIDERATION OF PROPOSED ALTERNATE AND SUBSEQUENT NOTIFICATION TO ALL OTHER BIDDERS IN THE EVENT SUBSTITUTION IS DEEMED ACCEPTABLE. DETERMINATION OF SUBSTITUTION EQUALITY RESTS SOLELY WITH THE ENGINEER.
3. VALUE ENGINEERING (V.E.) INITIATIVES: IN ADDITION TO THE "AS SPECIFIED/OR EQUAL" BASE BID, A COST REDUCTION INITIATIVE(S) MAY BE PROPOSED BASED ON SUBSTITUTIONS OF EQUIPMENT, MATERIALS, AND/OR METHODS. EACH SUCH PROPOSAL SHALL INCLUDE A DATA SHEET(S) ON THE SPECIFIED ITEM(S), THE PROPOSED SUBSTITUTE(S), AND THE NET CREDIT TO THE OWNER, INCLUDING ALL CREDITS AND CHARGES FROM ALL MEMBERS OF THE CONSTRUCTION TEAM. THE ENGINEER WILL REVIEW AND RENDER AN OPINION TO THE OWNER. IF THE V.E. INITIATIVE IS DECLINED, PROVIDE THE SPECIFIED EQUIPMENT/MATERIAL/METHOD. IF THE V.E. INITIATIVE IS ACCEPTED, AND IF SUCH ACCEPTANCE RESULTS IN A REQUIREMENT TO REVISE ANY DESIGN DOCUMENTS, THE CHARGES FOR THESE REVISIONS SHALL BE BILLED TO THE CONTRACTOR AND THE INVOICING SHALL BE SETTLED BEFORE THE PROJECT IS SIGNED OFF FOR FINAL ACCEPTANCE.
4. BIDDING: THE CIVIL, ARCHITECTURAL, MECHANICAL, KITCHEN, AND/OR INTERIOR DRAWINGS CONTAIN DETAILED DESCRIPTIONS, CIRCUITING, AND CONNECTION REQUIREMENTS WHICH ARE PART OF THIS CONTRACTOR'S RESPONSIBILITIES. DO NOT SUBMIT BIDS ON THIS PROJECT PRIOR TO REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS, AND ADDENDA.
5. SPECIFICATIONS BOOK: THE SPECIFICATIONS CONTAIN SIGNIFICANT INFORMATION, CONDITIONS, AND PROCEDURES WHICH MAY HAVE A SUBSTANTIAL IMPACT ON THIS CONTRACTOR'S COSTS. DO NOT SUBMIT A BID ON THIS PROJECT UNLESS THE SPECIFICATIONS HAVE BEEN THOROUGHLY REVIEWED. THE GENERAL NOTES CONTAINED HEREIN ARE COMPLIMENTARY TO THE SPECIFICATIONS BOOK, AND IN COMPARISON THE MORE STRINGENT REQUIREMENT(S) SHALL GOVERN.

C. PRODUCTS

1. EQUIPMENT STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). EQUIPMENT SHALL BE CONSTRUCTED TO NEMA STANDARDS AND SHALL BE LABELED FOR THEIR INTENDED PURPOSE BY A RECOGNIZED TESTING AGENCY ACCEPTABLE TO THE AHJ (U.L., CSA, ETL, ETC.).
2. ACCEPTABLE MANUFACTURERS AND SUPPLIERS: WHERE EQUIPMENT AND MATERIALS ARE NOT SPECIFIED BY NAME THEY ARE DEEMED TO BE GENERIC, SUBJECT TO THE REQUIREMENTS LISTED HEREIN. THESE MANUFACTURERS ARE CONSIDERED CAPABLE OF OFFERING EQUIVALENT PRODUCTS. MINIMUM STANDARD IN ALL INSTANCES IS COMMERCIAL GRADE:
SWITCHGEAR: EATON, GENERAL ELECTRIC, SIEMENS, SQUARE D
LIGHT FIXTURES: ACUITY, COOPER, HUBBELL, THOMAS
WIRING DEVICES: HUBBELL, LEVITON, LEGRAND, WIREMOLD
3. CIRCUITING: ALL WIRING SHALL BE IN CONDUIT, CONCEALED WHERE POSSIBLE EXCEPT FOR BRANCH CIRCUITS WITHIN EACH RESIDENTIAL UNIT. EMT WITH STEEL INSULATED THROAT SET SCREW FITTINGS MAY BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM -24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. IMC OR RIGID CONDUIT BELOW GRADE

SHALL BE HALF-LAP WRAPPED WITH 20 MIL PVC TAPE. TYPE ENT RACEWAY IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES, MOTORIZED AND/OR VIBRATING EQUIPMENT WITH STEEL FLEX OR SEALTITE CONDUIT. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY.

4. MC CABLE: MC CABLE MAY BE USED ONLY WITH SPECIFIC PERMISSION FROM THE ENGINEER. MC CABLE USE SHALL BE LIMITED TO CIRCUITING SOLUTIONS IN TIGHT CONDITIONS WHERE CONDUIT AND WIRE CIRCUITING CANNOT FIT. HOMERUNS AND FEEDERS SHALL BE CONDUIT AND WIRE.

5. WIRING: ALL WIRE SHALL BE COPPER UNLESS OTHERWISE NOTED. ALL WIRE SHALL BE STRANDED IN SIZES #8 AWG AND LARGER. SINGLE PHASE BRANCH CIRCUITS SHALL INCLUDE A SEPARATE NEUTRAL WIRE WITH EACH PHASE WIRE. NEUTRAL SHALL BE WHITE WITH COLOR STRIPE MATCHING COLOR OF PHASE WIRE. HOMERUNS TO PANELBOARDS SHALL BE MINIMUM #12 AWG CU IN 3/4" CONDUIT UNLESS OTHERWISE NOTED.

6. FUSES AND CIRCUIT BREAKERS: FUSES AND CIRCUIT BREAKERS SHALL BE SIZED PER ACTUAL RESPECTIVE APPLICATION (i.e., MOTOR CIRCUIT PROTECTOR, GROUND FAULT CIRCUIT INTERRUPTER, ARC FAULT CIRCUIT INTERRUPTER, ETC.). FUSES SHALL BE DUAL ELEMENT, CURRENT-LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. PROVIDE LOCKABLE SPARE FUSE CABINET WITH (3) SPARE FUSES OF EACH SIZE USED.

7. DISTRIBUTION SWITCHGEAR: SWITCHGEAR SHALL HAVE COPPER BUS AND HEAVY GAUGE HOUSINGS. SWITCHGEAR IN LOCATIONS OTHER THAN LOCKED ELECTRIC ROOMS SHALL HAVE LOCKABLE COVERS. SWITCHGEAR SHALL HAVE NO LESS THAN 20% SPARE BUSSED AND USABLE SPACE, MEASURED AS A PERCENTAGE OF THE SPACE OCCUPIED BY SPECIFIED CIRCUIT BREAKERS, SWITCHES, ETC.

8. SERVICE SWITCHGEAR: IN ADDITION TO THE ABOVE, SERVICE SWITCHGEAR SHALL MEET THE REQUIREMENTS OF THE SERVING UTILITY.

9. PANELBOARDS: PANELS SHALL HAVE COPPER BUS AND HARDWARE, BOLT-ON CIRCUIT BREAKERS, FLUSH MONO-FLAT TRIM, PIANO HINGED DOORS AND COVER (DOOR-IN-DOOR) WITH LOCKABLE MASTER-KEYED FLUSH LATCHES. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: (1) 3/4" CONDUIT FOR EACH THREE (3) SPARE/SPACE CIRCUITS.

10. SAFETY SWITCHES: SWITCHES SHALL BE GENERAL DUTY UP TO 250 VOLTS, HEAVY DUTY ABOVE 250 VOLTS. FUSIBLE SWITCHES SHALL BE FUSED PER THE NAMEPLATE REQUIREMENTS OF THE EQUIPMENT BEING CONNECTED.

11. MOTOR STARTERS: STARTERS SHALL BE MINIMUM NEMA SIZE 1 WITH INTEGRAL CONTROL TRANSFORMER, RED NEON "RUN" PILOT LIGHT AND "ON-OFF-AUTO" SELECTOR SWITCH ON COVER. OVERLOAD DEVICES SHALL BE SIZED PER THE NAMEPLATE AMPERAGE OF THE EQUIPMENT BEING CONTROLLED.

12. CONTACTORS: CONTACTORS SHALL BE ELECTRICALLY HELD WITH "ON-OFF-AUTO" SELECTOR SWITCH ON COVER.

13. RATINGS: ALL ELECTRICAL EQUIPMENT SHALL BE FULLY RATED FOR BRACING IN EXCESS OF THE MAXIMUM AVAILABLE FAULT CURRENT CALCULATED AND SHOWN AT THE EQUIPMENT CONNECTION POINT WITHIN THE DISTRIBUTION SYSTEM. MINIMUM RATING SHALL BE 10K AIC.

14. WIRING DEVICES: WIRING DEVICES (SWITCHES, RECEPTACLES, ETC.) SHALL BE SPECIFICATION GRADE "DECORA" STYLE, MINIMUM 20-AMP RATED. COVER PLATES SHALL BE NYLON. DEVICE AND PLATE COLOR(S) SHALL BE AS SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER - VERIFY PRIOR TO COMMENCEMENT OF WORK. WIRING DEVICES EXPOSED TO THE ELEMENTS SHALL HAVE WEATHERPROOF-IN-USE LOCKABLE COVERS. RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS. REFER TO FOOD SERVICE NOTES (IF APPLICABLE TO THIS PROJECT) FOR ADDITIONAL REQUIREMENTS.

15. TRANSFORMERS: TRANSFORMERS SHALL BE TYPE TP-1 MINIMUM, WITH ALUMINUM WINDINGS, RATED FOR 150°C RISE (UNLESS OTHERWISE NOTED), MOUNTED ON RUBBER-IN-SHEAR VIBRATION ISOLATORS, CONNECTED WITH FLEXIBLE CONDUIT. PUBLISHED AND MEASURED NOISE RATING SHALL NOT EXCEED NEMA TP-20 MAXIMUM.

16. LIGHTING FIXTURES: LIGHT FIXTURES SHALL BE PROVIDED WITH ALL ASSOCIATED HARDWARE (HANGER BARS, PENDANTS, STEMS, RESTRAINTS, CHAINS, CORDS, LAMPS, ETC.). LENSES SHALL BE ACRYLIC, REFLECTORS SHALL BE ANODIZED. FLUORESCENT BALLASTS SHALL BE ELECTRONIC, PROGRAM RAPID START, THD LESS THAN 10%. FLUORESCENT LAMPS SHALL

HAVE MINIMUM CRI OF 80%. INCANDESCENT LAMPS SHALL BE 120 VOLT, INSIDE FROST, MINIMUM 2000 HOUR LIFE. LOW VOLTAGE INCANDESCENT LAMPS SHALL BE HIR HALOGEN, MINIMUM 3000 HOUR LIFE. EXTERIOR LIGHTING FIXTURES SHALL BE INSTALLED TO PREVENT WATER, DUST AND INSECT INTRUSION, WITH GASKETING FOR DOOR/BACKPLATE AND SEALANT AT THE WIRING ENTRY POINT. REFER TO LIGHTING FIXTURE SCHEDULE WITHIN PLAN SET FOR ADDITIONAL REQUIREMENTS (LED CRITERIA, ETC.).

17. TAMPERPROOF: ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE DEMONSTRATED TO BE TAMPERPROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PAD LOCKABLE.

D. EXECUTION

1. GROUNDING: GROUND ALL EQUIPMENT AND SYSTEM NEUTRAL IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 250. PROVIDE CODE-SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDERS AND BRANCH CIRCUIT RACEWAYS. WHERE ISOLATED GROUNDS ARE INDICATED, PROVIDE INSULATED CONDUCTOR (GREEN WITH YELLOW STRIPE).

2. UTILITY SERVICES: PROVIDE POWER AND COMMUNICATIONS SYSTEM SERVICES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING UTILITIES. CONTRACTOR TO PROVIDE ARC FLASH STUDY AND LABELING ON ALL NEW EQUIPMENT IN ACCORDANCE WITH NEC. PROVIDE EXCAVATION, RACEWAY, STRUCTURES, GROUNDING, ETC. AS DIRECTED. POWER SERVICES AND DISTRIBUTION SYSTEM AIC RATING SHALL EXCEED MAXIMUM AVAILABLE FAULT CURRENT THROUGH UTILITY SERVICE TRANSFORMER. CONTACT SERVING UTILITIES AND OBTAIN THEIR REQUIREMENTS PRIOR TO BID. (UTILITY SERVICE AND LINE EXTENSION CHARGES PAID BY OTHERS).

3. TEMPORARY CONSTRUCTION POWER: PROVIDE TEMPORARY ELECTRICAL POWER DISTRIBUTION AND LIGHTING AS REQUIRED FOR ALL TRADES THAT REQUIRE SERVICE DURING THE COURSE OF THIS PROJECT IN COMPLIANCE WITH ALL NEC AND OSHA REQUIREMENTS. OWNER SHALL NOT BE RESPONSIBLE FOR TEMPORARY POWER CHARGES.

4. LOCATIONS: INDICATED LOCATIONS OF ALL OUTLETS AND EQUIPMENT ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OUTLET, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER AT NO ADDED COST.

5. WORKMANSHIP: THE WORK SHALL BE INSTALLED PARALLEL AND AT RIGHT ANGLES TO THE BUILDING LINES, LEVEL AND PLUMB. THE WORK SHALL BE WELL SUPPORTED AND SOLIDLY MOUNTED. DRESS AND TIE WIRING IN PANELBOARDS AND SWITCHGEAR. THE WORK SHALL BE LEFT CLEAN WITH NO DIRT, DENTS, ABRASIONS, PAINT SPLATTERS, OR OTHER IRREGULARITIES.

6. FIRE STOPPING: ALL PENETRATED FIRE RATED SURFACES SHALL BE FIRE SEALED WITH APPROVED U.L. LISTED SEALANTS AS LISTED WITHIN ARCHITECTURAL SPECIFICATIONS. DO NOT EXCEED MAXIMUM ALLOWABLE SURFACE PENETRATIONS DEPENDENT ON RATING OF SURFACES. REFER TO ARCHITECTURAL DRAWINGS FOR DETERMINATION OF PENETRATION LOCATIONS THROUGH FIRE RATED ASSEMBLIES.

7. SUPPORTS AND HANGERS: PROVIDE 3" HIGH HOUSEKEEPING CONCRETE PAD BENEATH FLOOR MOUNTED EQUIPMENT, EXTENDING 3" BEYOND EQUIPMENT FOOTPRINT. SUPPORT AND ALIGN ALL RACEWAYS, CABINETS, BOXES, BACK BOXES, FIXTURES, AND EQUIPMENT FROM STRUCTURE. SECURE ALL SUPPORTING METHODS BY MEANS OF TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION BOLTS IN SOLID MASONRY, CONCRETE PRESET INSERTS OR EXPANSION BOLTS IN CONCRETE, MACHINE SCREWS OR BOLTS IN METAL, AND WOOD SCREWS IN WOOD CONSTRUCTION. ALL SUPPORTING SYSTEMS AND COMPONENTS SHALL BE RATED FOR A MINIMUM OF FIVE (5) TIMES THE ACTUAL LOAD.

8. SLEEVES AND PENETRATIONS: PENETRATIONS OF ALL SURFACES SHALL BE PROVIDED WITH SLEEVES THAT SHALL BE SEALED WITH LIKE MATERIALS AND SHALL BE FINISHED WITH ESCUTCHEON PLATES. PENETRATIONS BELOW GRADE LEVEL SHALL BE WATERTIGHT. PENETRATIONS AT EXTERIOR WALLS SHALL BE WEATHERPROOF. ROOF PENETRATIONS SHALL BE FLASHED AND COUNTER FLASHED.

9. EXPANSION AND CONTRACTION: RACEWAYS PASSING THROUGH BUILDING EXPANSION JOINTS, ON ROOF, AND IN AREAS OF TEMPERATURE VARIATIONS GREATER THAN 30°F SHALL BE INSTALLED WITH EXPANSION FITTINGS.

10. IDENTIFICATION: IDENTIFY ALL EQUIPMENT, SWITCHBOARD CIRCUITS AND ELECTRICALLY CONNECTED

EQUIPMENT WITH ENGRAVED NAMEPLATES. BOXES SHALL BE MARKED WITH

PANEL AND CIRCUIT NUMBERS (PERMANENT PEN ACCEPTABLE ABOVE CEILING). NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) SCREWS. PANEL DIRECTORIES SHALL BE TYPED. CONDUCTORS SHALL BE TAGGED WITH CIRCUIT NUMBERS AT SOURCE, JUNCTION BOXES, AND ALL OUTLET BOXES WITH PERMANENT ADHESIVE MARKER STRIP. PANEL DIRECTORIES SHALL BE TYPED. IDENTIFY WIRING DEVICES WITH SELF ADHESIVE CLEAR SATIN FINISH LABELS WITH SOURCE AND CIRCUIT NUMBER.

11. ELECTRIC ROOM CODE COMPLIANCE: DUE TO THE DIAGRAMMATIC NATURE OF THE DESIGN DOCUMENTS (ELECTRICAL, MECHANICAL, PLUMBING, FIRE SPRINKLER, ETC.), COORDINATE WITH ALL OTHER SUBCONTRACTORS AT THE START OF THIS PROJECT TO INFORM AND VERIFY THAT NO FOREIGN SYSTEMS OR EQUIPMENT ARE MOUNTED ABOVE ELECTRICAL EQUIPMENT OR PASS THROUGH THE DESIGNATED ELECTRIC ROOMS, AND THAT A MINIMUM OF 7'-0" IS PROVIDED AS CLEAR HEADROOM ALONG ACCESS PATHS TO ELECTRIC ROOMS. ANY REROUTING OR RELOCATION OF SYSTEMS THAT A SUBCONTRACTOR FEELS WILL COMPROMISE THE DESIGN INTENT SHALL BE DESCRIBED IN WRITING AND FORWARDED TO THE DESIGN ENGINEER FOR FURTHER REVIEW. ALL PIPING TO HVAC UNITS THAT COOL ELECTRIC ROOMS SHALL BE LOCATED ABOVE ENTRY DOOR. THE SPRINKLER PIPING TO PROVIDE PROTECTION FOR THE ELECTRIC ROOM IS PREFERRED TO ENTER THE ROOM ABOVE THE ENTRY DOOR AND RUN DOWN THE AISLE SPACES OF THE ROOM. ALL INSTALLATIONS SHALL BE FULLY COORDINATED AMONGST ALL TRADES.

12. ELECTRICALLY-OPERATED EQUIPMENT: VERIFICATION AND SUBSTITUTION: FEEDERS AND OVER-CURRENT DEVICES (INCLUDING STARTERS, DISCONNECTS, ETC.) HAVE BEEN DESIGNED BASED ON INFORMATION PROVIDED BY THE RESPONSIBLE CONSULTANT AND/OR DESIGNATED SUPPLIER. PRIOR TO ROUGH-IN, COORDINATE WITH THE APPROPRIATE TRADE AND/OR INSTALLER TO DETERMINE THAT THE ACTUAL NAMEPLATE ELECTRICAL REQUIREMENTS MATCH THIS DESIGN. ALL ADDITIONAL ELECTRICAL COSTS RELATED TO THE CONNECTION OF EQUIPMENT WHICH VARIES FROM THE ORIGINAL SPECIFICATIONS SHALL BE RESOLVED WITHIN THE CONSTRUCTION TEAM AT NO ADDITIONAL COST TO THE OWNER.

13. ADDITIONAL SYSTEMS AND EQUIPMENT CONNECTIONS: IN ADDITION TO EQUIPMENT POWER FEEDERS AND CONNECTIONS INDICATED ON THE ELECTRICAL DRAWINGS, PROVIDE 120V CONTROL POWER CONNECTIONS TO SMOKE/FIRE DAMPERS, VAV BOXES, TEMPERATURE CONTROL, FIRE ALARM PANELS, DOOR HOLDING/LATCHING DEVICES, ETC. AS INDICATED IN THE PROJECT DRAWINGS AND SPECIFICATIONS AS WELL AS ALL DESIGN-BUILD SYSTEM DRAWING.

MAX NO. PER PROVIDE SMOKE

ITEM POWER SOURCE 20A CIRCUIT DETECTORS

FIRE/SMOKE DAMPER EMERGENCY 10 YES

VAV TERMINAL (NO FAN) NORMAL (VERIFY) 10 NO

TEMPERATURE CONTROL PANEL EMERGENCY (VERIFY) 1 NO

FIRE ALARM PANEL EMERGENCY 1 NO

DOOR HOLDING/LATCHING DEVICES EMERGENCY 10 NO

14. HOURS OF OPERATION: CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING BUSINESS OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT, AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF, AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS, AND/OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY OWNER OR RESIDENT ENGINEER. OUTAGES SHALL BE MOMENTARY IN NATURE, EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN ACCIDENTAL OUTAGE) SHALL BE SCHEDULED A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.

15. COMMUNICATIONS SYSTEMS: THE ELECTRICAL CONTRACTOR SHALL PROVIDE OUTLETS AND RACEWAYS FOR COMMUNICATION SYSTEMS AS INDICATED HEREIN, INCLUDING TELEPHONE, DATA, POINT-OF-SALE, SOUND, SECURITY, AUDIO/VISUAL, CCTV, MATV, ETC. CABLING AND DEVICES SHALL BE INSTALLED AND TERMINATED BY OTHERS.

E. SPECIAL SYSTEMS

1. THIRD PARTY TESTING: PROVIDE ALL ASSOCIATED COSTS FOR THIRD PARTY TESTING OF ALL EQUIPMENT, CONDUCTORS, GROUND FAULT, GROUND FAULT COORDINATION STUDY WITH REPORT PREPARATION, ETC. AS REQUIRED BY THE NEC, AHJ, AND ALL OTHER GOVERNING

MECHANICAL

A. GENERAL

1. THE WORK: ALL WORK SHALL BE NEW UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL PROVIDE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED FOR ITS INDIVIDUAL SECTIONS OF WORK. THE WORD "WORK" IS DEFINED AS ALL LABOR, TRANSPORTATION, MATERIAL, EQUIPMENT, TOOLS, INSTALLATION, SUPERVISION AND ANY OTHER INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS, WHICH SHALL BE PROVIDED BY THIS CONTRACTOR WHETHER OR NOT SPECIFICALLY INDICATED OR NOTED.

2. RESPONSIBILITY: THIS CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ACTIONS OF ITS PERSONNEL, SUPPLIERS, AND SUB-CONTRACTORS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERFORMANCE OF ALL WORK AS MAY BE REQUIRED TO ACCOMMODATE OR SUPPORT THE ELECTRICAL WORK. EXAMPLES: PAINTING, STRUCTURAL SUPPORTS, CUTTING AND PATCHING, EXCAVATION AND BACKFILL, CONCRETE PADS, ROOF JACKS, ETC. REQUIRING THIS CONTRACTOR'S ENGAGEMENT OF APPROPRIATE TRADES TO PERFORM SUCH WORK FOR THE PROPER INSTALLATION AND OPERATION OF COMPLETE ELECTRICAL SYSTEMS.

3. MINIMUM REQUIREMENTS: THESE SPECIFICATIONS ESTABLISH THE MINIMUM REQUIREMENTS FOR THE WORK AND MATERIALS, EQUIPMENT AND METHODS TO BE PROVIDED. THE DRAWINGS MAY INDICATE REQUIREMENTS WHICH EXCEED THESE MINIMUMS.

4. GENERAL CONDITIONS: ALL GENERAL CONDITIONS, SPECIAL REQUIREMENTS OR GENERAL REQUIREMENTS OF THE CONSTRUCTION SPECIFICATIONS ARE MADE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF COMPLETELY REPRODUCED.

5. DEFINITIONS:

AHJ: AUTHORITY HAVING JURISDICTION.

ASSEMBLY: AN INSTALLATION OR SYSTEM OF MULTIPLE COMPONENTS REQUIRING MULTIPLE CONNECTIONS. (EXAMPLES: TRASH COMPACTOR, MOTORIZED DOOR, HVAC SPLIT SYSTEM, ETC.).

EQUAL: ACCEPTED BY THE ENGINEER AS EQUAL.

FF&E: FURNISHINGS, FIXTURES AND EQUIPMENT - PROVIDED BY OTHERS AT JOBSITE.

RECEIVE, PROTECT, STORE, ASSEMBLE, INSTALL AND CONNECT. PROVIDE MINIMUM 5X STRUCTURAL BACKING. (EXAMPLES: CHANDELIERS, PROJECTORS, ETC.).

PROVIDE: FURNISH, INSTALL, ACTIVATE, AND COMMISSION.

6. CODES: ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AND ALL OTHER ADOPTED APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

7. PERMITS: PAY ALL FEES AND OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.

8. DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE, AND INDICATE THE TYPE, SIZE, ARRANGEMENT AND LOCATIONS OF MATERIALS AND EQUIPMENT. WORK INCLUDES CERTAIN COMPONENTS, APPURTENANCES, AND RELATED SPECIALTIES THAT MAY NOT BE SHOWN. PROVIDE ALL NECESSARY ITEMS TO COMPLETE THE WORK ACCORDING TO INDUSTRY STANDARDS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO REQUIRE FINISHED WORK, TESTED AND READY FOR OPERATION. DO NOT SCALE DRAWINGS. ARRANGEMENT OF EQUIPMENT AND ROUTING OF FEEDERS AND BRANCH CIRCUITING SHALL BE PLUMB AND AT RIGHT ANGLES TO BUILDING CONSTRUCTION, AND MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS REQUIRING ONSITE REVISIONS DURING CONSTRUCTION. (SEE ALSO "BIDDING").

9. COORDINATION: THIS PROJECT REQUIRES A HIGH LEVEL OF COORDINATION AND COOPERATION WITH OWNER, ARCHITECT, OTHER TRADES, VENDORS, AND SPECIALTY CONTRACTORS. CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, SHOP DRAWINGS, ETC. FOR ALL GENERAL CONSTRUCTION, STRUCTURAL,

MECHANICAL, PLUMBING, ELECTRICAL, AND SPECIALTY CONTRACTOR WORK. PRIOR TO ROUGH-IN, COORDINATE THE WORK WITH ALL OTHER TRADES, TAKING RESPONSIBILITY FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS PLANNED WITHOUT INTERFERENCE WITH OTHER WORK. ESTABLISH AND VERIFY LOCATIONS, HEIGHTS, CONNECTION METHODS, ETC. WITH EQUIPMENT INSTALLER (AND OWNER, ARCHITECT, AND/OR INTERIOR DESIGNER FOR FF&E ITEMS), AND MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES IN ORDER TO PROVIDE ACCESS FOR THE PROPER EXECUTION OF THE WORK.

10. IDENTICAL: ALL WORK REQUIRED FOR IDENTICAL ITEMS AND ASSEMBLIES OF THE PROJECT SHALL BE PROVIDED, ALTHOUGH EACH SPECIFIC IDENTICAL ITEM MAY NOT BE SHOWN IN DETAIL.

11. VERIFICATION: CHECK AND VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATION(S) OR PROBLEM(S) SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.

12. CONNECTIONS: CONNECT ALL EQUIPMENT, SYSTEMS, AND ASSEMBLIES PROVIDED BY OTHERS INCLUDING CONTROLS, SAFETY DEVICES AND INTERCONNECTIONS. EXCEPTION: DO NOT INTERCONNECT THE CONTROL SYSTEMS OF THOSE MECHANICAL AND PLUMBING SYSTEMS WHICH ARE SPECIFICALLY NOTED TO BE THE RESPONSIBILITY OF THOSE TRADES. PROVIDE FUSIBLE DISCONNECT SWITCHES AND MOTOR STARTERS FOR ALL EQUIPMENT EXCEPT THOSE ITEMS WHICH ARE SPECIFICALLY LISTED WITH INTEGRAL STARTERS/DISCONNECT SWITCHES. WHERE STARTERS AND/OR DISCONNECT SWITCHES ARE FURNISHED TOGETHER WITH EQUIPMENT, RECEIVE, INSTALL, AND CONNECT THOSE ITEMS.

13. SUBMITTAL: SUBMIT TO THE ENGINEER COMPLETE ELECTRONIC SETS OF SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR ALL EQUIPMENT AND MATERIALS SPECIFIED HEREIN. THE ENGINEER SHALL REVIEW SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ISSUE A WRITTEN ASSESSMENT TO THE OWNER PRIOR TO COMMENCEMENT OF WORK. THE ENGINEER'S FAILURE TO CORRECT ERRORS IN THE SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO PERFORM THE WORK AS SHOWN AND/OR SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING FEES NECESSARY TO CHANGE PROJECT DOCUMENTS BASED ON ALTERNATE SUBMITTAL PACKAGES/EQUIPMENT SUBSTITUTIONS.

14. OR-EQUAL SUBSTITUTIONS: ALL PROPOSED "OR EQUAL" SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION PRIOR TO BIDDING AND AFTER ALL REQUIREMENTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT AND/OR MATERIALS HAVE BEEN COORDINATED WITH OTHER BUILDING TRADES, INCLUDING ALL MECHANICAL, STRUCTURAL, AND/OR ARCHITECTURAL ELEMENTS. THE OWNER'S REPRESENTATIVE SHALL PRE-APPROVE ANY PROPOSED SUBSTITUTION IN WRITING. IDENTIFY AND ANNOTATE ALL REVISED REQUIREMENTS PER BUILDING TRADE ON THE SHOP DRAWINGS. ALSO IDENTIFY ALL COST DEBITS OR CREDITS IN WRITING FOR THE PROPOSED CHANGES PER BUILDING TRADE AND SUMMARIZE THESE AS A TOTAL NET-TO-OWNER CHARGE OR CREDIT FOR CONSIDERATION.

15. AS-BUILT: UPON COMPLETION OF CONSTRUCTION, SUPPLY THE ENGINEER WITH AS-BUILT DOCUMENTS ACCURATELY SHOWING THE MATERIALS AND EQUIPMENT AS INSTALLED. PROVIDE OPERATION AND MAINTENANCE MANUAL(S) CONTAINING APPROVED SHOP DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTION FOR SWITCHGEAR, LIGHTING FIXTURES, CONTROLS, AND SPECIALTY EQUIPMENT.

16. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER (LONGER IF REQUIRED BY GENERAL AND/OR SPECIAL CONDITIONS). IN ADDITION, THE INSTALLATION SHALL BE GUARANTEED TO PERFORM AS SPECIFIED AND FULFILL EACH AND EVERY REQUIREMENT OF THE DRAWINGS AND SPECIFICATIONS WHEN OPERATED IN ACCORDANCE WITH THE CONTRACTOR'S INSTRUCTIONS. SHOULD THE INSTALLATION IN ANY WAY FAIL TO DO SO, THE CONTRACTOR WILL, WITHOUT DELAY AND WITHOUT COST TO THE OWNER, PROVIDE WHATEVER ADDITIONAL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO CORRECT THE DEFICIENCY AND COMPLY WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. WHERE SPECIFIED EQUIPMENT HAS A LONGER GUARANTEE PERIOD, THE TERMS OF THAT GUARANTEE SHALL GOVERN (EXAMPLE: LED SYSTEM WITH 5 YEAR GUARANTEE). INCANDESCENT LAMPS ARE EXEMPT BUT SHALL BE NEW AND UNUSED AT THE TIME OF FINAL ACCEPTANCE.

18. IECC COMPLIANCE: COMPLY WITH ALL REQUIREMENTS SET FORTH IN THE IECC COMPLIANCE

CERTIFICATE INCLUDED IN THESE DOCUMENTS. HIRE A COMMISSIONING AGENT TO COMPLY WITH AND PERFORM ALL ASPECTS OF SECTION C408 OF THE IECC.

B. BIDDING

1. SITE VISIT: CONTRACT DOCUMENTS INDICATE NEW WORK TO BE PERFORMED AND DO NOT PURPORT TO SHOW ALL EXISTING CONDITIONS. VISIT THE SITE PRIOR TO SUBMITTING A BID TO BECOME FAMILIAR WITH EXISTING CONDITIONS. COMPARE THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS AGAINST EXISTING CONDITIONS, AND IDENTIFY AND ANNOTATE ALL WORK OR CONDITIONS THAT ARE DIFFERENT FROM THE CONTRACT DOCUMENTS OR THEIR INTENT. UPON DISCOVERY, IMMEDIATELY NOTIFY AND REPORT IN WRITING ANY DISCREPANCIES TO THE ENGINEER. NO EXTRAS OR CHANGE ORDERS WILL BE ALLOWED FOR FAILURE TO PERFORM THE PRE-BID SITE VISIT.
2. BASIS OF PROPOSAL: PROPOSAL SHALL BE BASED ON MANUFACTURERS AND MODELS AS LISTED UNLESS "OR EQUAL" IS INDICATED. PROVIDE SUBSTITUTION REQUESTS A MINIMUM OF FIVE (5) BUSINESS DAYS PRIOR TO BID DATE CLOSING TO ALLOW TIME FOR DUE CONSIDERATION OF PROPOSED ALTERNATE AND SUBSEQUENT NOTIFICATION TO ALL OTHER BIDDERS IN THE EVENT SUBSTITUTION IS DEEMED ACCEPTABLE. DETERMINATION OF SUBSTITUTION EQUALITY RESTS SOLELY WITH THE ENGINEER.
3. VALUE ENGINEERING (V.E.) INITIATIVES: IN ADDITION TO THE "AS SPECIFIED/OR EQUAL" BASE BID, A COST REDUCTION INITIATIVE(S) MAY BE PROPOSED BASED ON SUBSTITUTIONS OF EQUIPMENT, MATERIALS, AND/OR METHODS. EACH SUCH PROPOSAL SHALL INCLUDE A DATA SHEET(S) ON THE SPECIFIED ITEM(S), THE PROPOSED SUBSTITUTE(S), AND THE NET CREDIT TO THE OWNER, INCLUDING ALL CREDITS AND CHARGES FROM ALL MEMBERS OF THE CONSTRUCTION TEAM. THE ENGINEER WILL REVIEW AND RENDER AN OPINION TO THE OWNER. IF THE V.E. INITIATIVE IS DECLINED, PROVIDE THE SPECIFIED EQUIPMENT/MATERIAL/METHOD. IF THE V.E. INITIATIVE IS ACCEPTED, AND IF SUCH ACCEPTANCE RESULTS IN A REQUIREMENT TO REVISE ANY DESIGN DOCUMENTS, THE CHARGES FOR THESE REVISIONS SHALL BE BILLED TO THE CONTRACTOR AND THE INVOICING SHALL BE SETTLED BEFORE THE PROJECT IS SIGNED OFF FOR FINAL ACCEPTANCE.
4. BIDDING: THE CIVIL, ARCHITECTURAL, MECHANICAL, KITCHEN, AND/OR INTERIOR DRAWINGS CONTAIN DETAILED DESCRIPTIONS, CIRCUITING, AND CONNECTION REQUIREMENTS WHICH ARE PART OF THIS CONTRACTOR'S RESPONSIBILITIES. DO NOT SUBMIT BIDS ON THIS PROJECT PRIOR TO REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS, AND ADDENDA.
5. SPECIFICATIONS BOOK: THE SPECIFICATIONS CONTAIN SIGNIFICANT INFORMATION, CONDITIONS, AND PROCEDURES WHICH MAY HAVE A SUBSTANTIAL IMPACT ON THIS CONTRACTOR'S COSTS. DO NOT SUBMIT A BID ON THIS PROJECT UNLESS THE SPECIFICATIONS HAVE BEEN THOROUGHLY REVIEWED. THE GENERAL NOTES CONTAINED HEREIN ARE COMPLIMENTARY TO THE SPECIFICATIONS BOOK, AND IN COMPARISON THE MORE STRINGENT REQUIREMENT(S) SHALL GOVERN.

C. PRODUCTS

1. EQUIPMENT STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). EQUIPMENT SHALL BE CONSTRUCTED TO NEMA STANDARDS AND SHALL BE LABELED FOR THEIR INTENDED PURPOSE BY A RECOGNIZED TESTING AGENCY ACCEPTABLE TO THE AHJ (U.L., CSA, ETL, ETC.).
2. ACCEPTABLE MANUFACTURERS AND SUPPLIERS: WHERE EQUIPMENT AND MATERIALS ARE NOT SPECIFIED BY NAME THEY ARE DEEMED TO BE GENERIC, SUBJECT TO THE REQUIREMENTS LISTED HEREIN. THESE MANUFACTURERS ARE CONSIDERED CAPABLE OF OFFERING EQUIVALENT PRODUCTS. MINIMUM STANDARD IN ALL INSTANCES IS COMMERCIAL GRADE:
SWITCHGEAR: EATON, GENERAL ELECTRIC, SIEMENS, SQUARE D
LIGHT FIXTURES: ACUITY, COOPER, HUBBELL, THOMAS
WIRING DEVICES: HUBBELL, LEVITON, LEGRAND, WIREMOLD
3. CIRCUITING: ALL WIRING SHALL BE IN CONDUIT, CONCEALED WHERE POSSIBLE EXCEPT FOR BRANCH CIRCUITS WITHIN EACH RESIDENTIAL UNIT. EMT WITH STEEL INSULATED THROAT SET SCREW FITTINGS MAY BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM -24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. IMC OR RIGID CONDUIT BELOW GRADE

SHALL BE HALF-LAP WRAPPED WITH 20 MIL PVC TAPE. TYPE ENT RACEWAY IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES, MOTORIZED AND/OR VIBRATING EQUIPMENT WITH STEEL FLEX OR SEALTITE CONDUIT. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY.

4. MC CABLE: MC CABLE MAY BE USED ONLY WITH SPECIFIC PERMISSION FROM THE ENGINEER. MC CABLE USE SHALL BE LIMITED TO CIRCUITING SOLUTIONS IN TIGHT CONDITIONS WHERE CONDUIT AND WIRE CIRCUITING CANNOT FIT. HOMERUNS AND FEEDERS SHALL BE CONDUIT AND WIRE.

5. WIRING: ALL WIRE SHALL BE COPPER UNLESS OTHERWISE NOTED. ALL WIRE SHALL BE STRANDED IN SIZES #8 AWG AND LARGER. SINGLE PHASE BRANCH CIRCUITS SHALL INCLUDE A SEPARATE NEUTRAL WIRE WITH EACH PHASE WIRE. NEUTRAL SHALL BE WHITE WITH COLOR STRIPE MATCHING COLOR OF PHASE WIRE. HOMERUNS TO PANELBOARDS SHALL BE MINIMUM #12 AWG CU IN 3/4" CONDUIT UNLESS OTHERWISE NOTED.

6. FUSES AND CIRCUIT BREAKERS: FUSES AND CIRCUIT BREAKERS SHALL BE SIZED PER ACTUAL RESPECTIVE APPLICATION (i.e., MOTOR CIRCUIT PROTECTOR, GROUND FAULT CIRCUIT INTERRUPTER, ARC FAULT CIRCUIT INTERRUPTER, ETC.). FUSES SHALL BE DUAL ELEMENT, CURRENT-LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. PROVIDE LOCKABLE SPARE FUSE CABINET WITH (3) SPARE FUSES OF EACH SIZE USED.

7. DISTRIBUTION SWITCHGEAR: SWITCHGEAR SHALL HAVE COPPER BUS AND HEAVY GAUGE HOUSINGS. SWITCHGEAR IN LOCATIONS OTHER THAN LOCKED ELECTRIC ROOMS SHALL HAVE LOCKABLE COVERS. SWITCHGEAR SHALL HAVE NO LESS THAN 20% SPARE BUSSED AND USABLE SPACE, MEASURED AS A PERCENTAGE OF THE SPACE OCCUPIED BY SPECIFIED CIRCUIT BREAKERS, SWITCHES, ETC.

8. SERVICE SWITCHGEAR: IN ADDITION TO THE ABOVE, SERVICE SWITCHGEAR SHALL MEET THE REQUIREMENTS OF THE SERVING UTILITY.

9. PANELBOARDS: PANELS SHALL HAVE COPPER BUS AND HARDWARE, BOLT-ON CIRCUIT BREAKERS, FLUSH MONO-FLAT TRIM, PIANO HINGED DOORS AND COVER (DOOR-IN-DOOR) WITH LOCKABLE MASTER-KEYED FLUSH LATCHES. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: (1) 3/4" CONDUIT FOR EACH THREE (3) SPARE/SPACE CIRCUITS.

10. SAFETY SWITCHES: SWITCHES SHALL BE GENERAL DUTY UP TO 250 VOLTS, HEAVY DUTY ABOVE 250 VOLTS. FUSIBLE SWITCHES SHALL BE FUSED PER THE NAMEPLATE REQUIREMENTS OF THE EQUIPMENT BEING CONNECTED.

11. MOTOR STARTERS: STARTERS SHALL BE MINIMUM NEMA SIZE 1 WITH INTEGRAL CONTROL TRANSFORMER, RED NEON "RUN" PILOT LIGHT AND "ON-OFF-AUTO" SELECTOR SWITCH ON COVER. OVERLOAD DEVICES SHALL BE SIZED PER THE NAMEPLATE AMPERAGE OF THE EQUIPMENT BEING CONTROLLED.

12. CONTACTORS: CONTACTORS SHALL BE ELECTRICALLY HELD WITH "ON-OFF-AUTO" SELECTOR SWITCH ON COVER.

13. RATINGS: ALL ELECTRICAL EQUIPMENT SHALL BE FULLY RATED FOR BRACING IN EXCESS OF THE MAXIMUM AVAILABLE FAULT CURRENT CALCULATED AND SHOWN AT THE EQUIPMENT CONNECTION POINT WITHIN THE DISTRIBUTION SYSTEM. MINIMUM RATING SHALL BE 10K AIC.

14. WIRING DEVICES: WIRING DEVICES (SWITCHES, RECEPTACLES, ETC.) SHALL BE SPECIFICATION GRADE "DECORA" STYLE, MINIMUM 20-AMP RATED. COVER PLATES SHALL BE NYLON. DEVICE AND PLATE COLOR(S) SHALL BE AS SPECIFIED BY ARCHITECT OR INTERIOR DESIGNER - VERIFY PRIOR TO COMMENCEMENT OF WORK. WIRING DEVICES EXPOSED TO THE ELEMENTS SHALL HAVE WEATHERPROOF-IN-USE LOCKABLE COVERS. RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS. REFER TO FOOD SERVICE NOTES (IF APPLICABLE TO THIS PROJECT) FOR ADDITIONAL REQUIREMENTS.

15. TRANSFORMERS: TRANSFORMERS SHALL BE TYPE TP-1 MINIMUM, WITH ALUMINUM WINDINGS, RATED FOR 150°C RISE (UNLESS OTHERWISE NOTED), MOUNTED ON RUBBER-IN-SHEAR VIBRATION ISOLATORS, CONNECTED WITH FLEXIBLE CONDUIT. PUBLISHED AND MEASURED NOISE RATING SHALL NOT EXCEED NEMA TP-20 MAXIMUM.

16. LIGHTING FIXTURES: LIGHT FIXTURES SHALL BE PROVIDED WITH ALL ASSOCIATED HARDWARE (HANGER BARS, PENDANTS, STEMS, RESTRAINTS, CHAINS, CORDS, LAMPS, ETC.). LENSES SHALL BE ACRYLIC, REFLECTORS SHALL BE ANODIZED. FLUORESCENT BALLASTS SHALL BE ELECTRONIC, PROGRAM RAPID START, THD LESS THAN 10%. FLUORESCENT LAMPS SHALL

HAVE MINIMUM CRI OF 80%. INCANDESCENT LAMPS SHALL BE 120 VOLT, INSIDE FROST, MINIMUM 2000 HOUR LIFE. LOW VOLTAGE INCANDESCENT LAMPS SHALL BE HIR HALOGEN, MINIMUM 3000 HOUR LIFE. EXTERIOR LIGHTING FIXTURES SHALL BE INSTALLED TO PREVENT WATER, DUST AND INSECT INTRUSION, WITH GASKETING FOR DOOR/BACKPLATE AND SEALANT AT THE WIRING ENTRY POINT. REFER TO LIGHTING FIXTURE SCHEDULE WITHIN PLAN SET FOR ADDITIONAL REQUIREMENTS (LED CRITERIA, ETC.).

17. TAMPERPROOF: ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE DEMONSTRATED TO BE TAMPERPROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PAD LOCKABLE.

D. EXECUTION

1. GROUNDING: GROUND ALL EQUIPMENT AND SYSTEM NEUTRAL IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 250. PROVIDE CODE-SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDERS AND BRANCH CIRCUIT RACEWAYS. WHERE ISOLATED GROUNDS ARE INDICATED, PROVIDE INSULATED CONDUCTOR (GREEN WITH YELLOW STRIPE).

2. UTILITY SERVICES: PROVIDE POWER AND COMMUNICATIONS SYSTEM SERVICES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SERVING UTILITIES. CONTRACTOR TO PROVIDE ARC FLASH STUDY AND LABELING ON ALL NEW EQUIPMENT IN ACCORDANCE WITH NEC. PROVIDE EXCAVATION, RACEWAY, STRUCTURES, GROUNDING, ETC. AS DIRECTED. POWER SERVICES AND DISTRIBUTION SYSTEM AIC RATING SHALL EXCEED MAXIMUM AVAILABLE FAULT CURRENT THROUGH UTILITY SERVICE TRANSFORMER. CONTACT SERVING UTILITIES AND OBTAIN THEIR REQUIREMENTS PRIOR TO BID. (UTILITY SERVICE AND LINE EXTENSION CHARGES PAID BY OTHERS).

3. TEMPORARY CONSTRUCTION POWER: PROVIDE TEMPORARY ELECTRICAL POWER DISTRIBUTION AND LIGHTING AS REQUIRED FOR ALL TRADES THAT REQUIRE SERVICE DURING THE COURSE OF THIS PROJECT IN COMPLIANCE WITH ALL NEC AND OSHA REQUIREMENTS. OWNER SHALL NOT BE RESPONSIBLE FOR TEMPORARY POWER CHARGES.

4. LOCATIONS: INDICATED LOCATIONS OF ALL OUTLETS AND EQUIPMENT ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OUTLET, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER AT NO ADDED COST.

5. WORKMANSHIP: THE WORK SHALL BE INSTALLED PARALLEL AND AT RIGHT ANGLES TO THE BUILDING LINES, LEVEL AND PLUMB. THE WORK SHALL BE WELL SUPPORTED AND SOLIDLY MOUNTED. DRESS AND TIE WIRING IN PANELBOARDS AND SWITCHGEAR. THE WORK SHALL BE LEFT CLEAN WITH NO DIRT, DENTS, ABRASIONS, PAINT SPLATTERS, OR OTHER IRREGULARITIES.

6. FIRE STOPPING: ALL PENETRATED FIRE RATED SURFACES SHALL BE FIRE SEALED WITH APPROVED U.L. LISTED SEALANTS AS LISTED WITHIN ARCHITECTURAL SPECIFICATIONS. DO NOT EXCEED MAXIMUM ALLOWABLE SURFACE PENETRATIONS DEPENDENT ON RATING OF SURFACES. REFER TO ARCHITECTURAL DRAWINGS FOR DETERMINATION OF PENETRATION LOCATIONS THROUGH FIRE RATED ASSEMBLIES.

7. SUPPORTS AND HANGERS: PROVIDE 3" HIGH HOUSEKEEPING CONCRETE PAD BENEATH FLOOR MOUNTED EQUIPMENT, EXTENDING 3" BEYOND EQUIPMENT FOOTPRINT. SUPPORT AND ALIGN ALL RACEWAYS, CABINETS, BOXES, BACK BOXES, FIXTURES, AND EQUIPMENT FROM STRUCTURE. SECURE ALL SUPPORTING METHODS BY MEANS OF TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION BOLTS IN SOLID MASONRY, CONCRETE PRESET INSERTS OR EXPANSION BOLTS IN CONCRETE, MACHINE SCREWS OR BOLTS IN METAL, AND WOOD SCREWS IN WOOD CONSTRUCTION. ALL SUPPORTING SYSTEMS AND COMPONENTS SHALL BE RATED FOR A MINIMUM OF FIVE (5) TIMES THE ACTUAL LOAD.

8. SLEEVES AND PENETRATIONS: PENETRATIONS OF ALL SURFACES SHALL BE PROVIDED WITH SLEEVES THAT SHALL BE SEALED WITH LIKE MATERIALS AND SHALL BE FINISHED WITH ESCUTCHEON PLATES. PENETRATIONS BELOW GRADE LEVEL SHALL BE WATERTIGHT. PENETRATIONS AT EXTERIOR WALLS SHALL BE WEATHERPROOF. ROOF PENETRATIONS SHALL BE FLASHED AND COUNTER FLASHED.

9. EXPANSION AND CONTRACTION: RACEWAYS PASSING THROUGH BUILDING EXPANSION JOINTS, ON ROOF, AND IN AREAS OF TEMPERATURE VARIATIONS GREATER THAN 30°F SHALL BE INSTALLED WITH EXPANSION FITTINGS.

10. IDENTIFICATION: IDENTIFY ALL EQUIPMENT, SWITCHBOARD CIRCUITS AND ELECTRICALLY CONNECTED

EQUIPMENT WITH ENGRAVED NAMEPLATES. BOXES SHALL BE MARKED WITH

PANEL AND CIRCUIT NUMBERS (PERMANENT PEN ACCEPTABLE ABOVE CEILING). NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) SCREWS. PANEL DIRECTORIES SHALL BE TYPED. CONDUCTORS SHALL BE TAGGED WITH CIRCUIT NUMBERS AT SOURCE, JUNCTION BOXES, AND ALL OUTLET BOXES WITH PERMANENT ADHESIVE MARKER STRIP. PANEL DIRECTORIES SHALL BE TYPED. IDENTIFY WIRING DEVICES WITH SELF ADHESIVE CLEAR SATIN FINISH LABELS WITH SOURCE AND CIRCUIT NUMBER.

11. ELECTRIC ROOM CODE COMPLIANCE: DUE TO THE DIAGRAMMATIC NATURE OF THE DESIGN DOCUMENTS (ELECTRICAL, MECHANICAL, PLUMBING, FIRE SPRINKLER, ETC.), COORDINATE WITH ALL OTHER SUBCONTRACTORS AT THE START OF THIS PROJECT TO INFORM AND VERIFY THAT NO FOREIGN SYSTEMS OR EQUIPMENT ARE MOUNTED ABOVE ELECTRICAL EQUIPMENT OR PASS THROUGH THE DESIGNATED ELECTRIC ROOMS, AND THAT A MINIMUM OF 7'-0" IS PROVIDED AS CLEAR HEADROOM ALONG ACCESS PATHS TO ELECTRIC ROOMS. ANY REROUTING OR RELOCATION OF SYSTEMS THAT A SUBCONTRACTOR FEELS WILL COMPROMISE THE DESIGN INTENT SHALL BE DESCRIBED IN WRITING AND FORWARDED TO THE DESIGN ENGINEER FOR FURTHER REVIEW. ALL PIPING TO HVAC UNITS THAT COOL ELECTRIC ROOMS SHALL BE LOCATED ABOVE ENTRY DOOR. THE SPRINKLER PIPING TO PROVIDE PROTECTION FOR THE ELECTRIC ROOM IS PREFERRED TO ENTER THE ROOM ABOVE THE ENTRY DOOR AND RUN DOWN THE AISLE SPACES OF THE ROOM. ALL INSTALLATIONS SHALL BE FULLY COORDINATED AMONGST ALL TRADES.

12. ELECTRICALLY-OPERATED EQUIPMENT: VERIFICATION AND SUBSTITUTION: FEEDERS AND OVER-CURRENT DEVICES (INCLUDING STARTERS, DISCONNECTS, ETC.) HAVE BEEN DESIGNED BASED ON INFORMATION PROVIDED BY THE RESPONSIBLE CONSULTANT AND/OR DESIGNATED SUPPLIER. PRIOR TO ROUGH-IN, COORDINATE WITH THE APPROPRIATE TRADE AND/OR INSTALLER TO DETERMINE THAT THE ACTUAL NAMEPLATE ELECTRICAL REQUIREMENTS MATCH THIS DESIGN. ALL ADDITIONAL ELECTRICAL COSTS RELATED TO THE CONNECTION OF EQUIPMENT WHICH VARIES FROM THE ORIGINAL SPECIFICATIONS SHALL BE RESOLVED WITHIN THE CONSTRUCTION TEAM AT NO ADDITIONAL COST TO THE OWNER.

13. ADDITIONAL SYSTEMS AND EQUIPMENT CONNECTIONS: IN ADDITION TO EQUIPMENT POWER FEEDERS AND CONNECTIONS INDICATED ON THE ELECTRICAL DRAWINGS, PROVIDE 120V CONTROL POWER CONNECTIONS TO SMOKE/FIRE DAMPERS, VAV BOXES, TEMPERATURE CONTROL, FIRE ALARM PANELS, DOOR HOLDING/LATCHING DEVICES, ETC. AS INDICATED IN THE PROJECT DRAWINGS AND SPECIFICATIONS AS WELL AS ALL DESIGN-BUILD SYSTEM DRAWING.

MAX NO. PER PROVIDE SMOKE

ITEM POWER SOURCE 20A CIRCUIT DETECTORS

FIRE/SMOKE DAMPER EMERGENCY 10 YES

VAV TERMINAL (NO FAN) NORMAL (VERIFY) 10 NO

TEMPERATURE CONTROL PANEL EMERGENCY (VERIFY) 1 NO

FIRE ALARM PANEL EMERGENCY 1 NO

DOOR HOLDING/LATCHING DEVICES EMERGENCY 10 NO

14. HOURS OF OPERATION: CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING BUSINESS OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT, AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF, AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS, AND/OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY OWNER OR RESIDENT ENGINEER. OUTAGES SHALL BE MOMENTARY IN NATURE, EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN ACCIDENTAL OUTAGE) SHALL BE SCHEDULED A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.

15. COMMUNICATIONS SYSTEMS: THE ELECTRICAL CONTRACTOR SHALL PROVIDE OUTLETS AND RACEWAYS FOR COMMUNICATION SYSTEMS AS INDICATED HEREIN, INCLUDING TELEPHONE, DATA, POINT-OF-SALE, SOUND, SECURITY, AUDIO/VISUAL, CCTV, MATV, ETC. CABLING AND DEVICES SHALL BE INSTALLED AND TERMINATED BY OTHERS.

E. SPECIAL SYSTEMS

1. THIRD PARTY TESTING: PROVIDE ALL ASSOCIATED COSTS FOR THIRD PARTY TESTING OF ALL EQUIPMENT, CONDUCTORS, GROUND FAULT, GROUND FAULT COORDINATION STUDY WITH REPORT PREPARATION, ETC. AS REQUIRED BY THE NEC, AHJ, AND ALL OTHER GOVERNING AUTHORITIES.

A. ELECTRICAL WORK IS LIMITED TO ROOFTOP UNIT REPLACEMENT AND ASSOCIATED BRANCH CIRCUITS ONLY.

B. COORDINATE ALL FINAL MECHANICAL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL DRAWINGS AND EQUIPMENT MANUFACTURER.

C. RTUS ARE SPECIFIED WITH FACTORY-INSTALLED VFDs (REFER TO MECHANICAL EQUIPMENT SCHEDULE). BRANCH CIRCUIT OVERCURRENT PROTECTION, CONDUCTORS, AND DISCONNECTING MEANS SHALL COMPLY WITH MANUFACTURER REQUIREMENTS.

D. EXISTING ELECTRICAL LOADS ARE EVALUATED BASED ON RECORD DRAWINGS AND LIMITED SITE INVESTIGATION.

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CLIENT PROJECT INFO

NO:	DATE	DRAWING ISSUE DESCRIPTION
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DESIGNED BY: JDM
DRAWN BY: JDM
CHECKED BY: IPF
SCALE: As indicated
DATE: 03/17/26
PROJECT NO: 241114003

Project Status

E101

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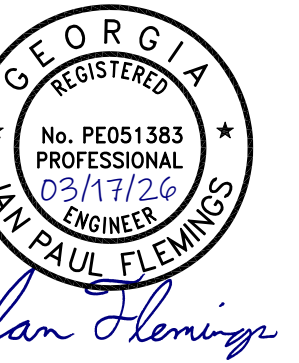
D. EXISTING ELECTRICAL LOADS ARE EVALUATED BASED ON RECORD DRAWINGS AND LIMITED SITE INVESTIGATION.

	KEYNOTES
	1. EXISTING PANEL DP2 TO REMAIN. SEE PANEL SCHEDULE FOR BRANCH CIRCUIT MODIFICATIONS.
	2. CIRCUIT TO NEW RTU. REFER TO PANEL SCHEDULE FOR NEW CONDUCTOR AND COORDINATING DEVICES AS REQUIRED.
	3. CONTRACTOR SHALL FIELD-VERIFY CONDITION, SIZE, AND CODE COMPLIANCE OF EXISTING CONDUIT AND RACEWAYS SERVING ROOFTOP UNITS. REPAIR, REPLACE, OR MODIFY RACEWAYS AS REQUIRED.
	4. CONTRACTOR SHALL FIELD-VERIFY EXISTING DISCONNECT SWITCH RATINGS, ENCLOSURE TYPE, AND CONDITION. REPAIR OR REPLACE UNITS WHERE NOT SUITABLE FOR NEW EQUIPMENT, VFD REQUIREMENTS, OR IF OWNER PREFERENCES NEW.

3 BULL STREET, #505,
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PHONE: 912-231-4384

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DEALS



CLIENT PROJECT INFO

[illegible]

DESIGNED BY: JDM
DRAWN BY: JDM
CHECKED BY: IPF
SCALE: As indicated
DATE: 03/17/26
PROJECT NO: 241114003

Project Status

E102

—ELECTRICAL SYSTEM IN THIS AREA IS EXISTING TO REMAIN UNO

1 ELECTRICAL RENOVATION PLAN - LEVEL 2

A. ELECTRICAL WORK IS LIMITED TO ROOFTOP UNIT REPLACEMENT AND ASSOCIATED BRANCH CIRCUITS ONLY.

B. COORDINATE ALL FINAL MECHANICAL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL DRAWINGS AND EQUIPMENT MANUFACTURER.

C. RTUS ARE SPECIFIED WITH FACTORY-INSTALLED VFDs (REFER TO MECHANICAL EQUIPMENT SCHEDULE). BRANCH CIRCUIT OVERCURRENT PROTECTION, CONDUCTORS, AND DISCONNECTING MEANS SHALL COMPLY WITH MANUFACTURER REQUIREMENTS.

D. EXISTING ELECTRICAL LOADS ARE EVALUATED BASED ON RECORD DRAWINGS AND LIMITED SITE INVESTIGATION.

#	KEYNOTES
1	CIRCUIT TO NEW RTU. REFER TO DP2Z PANEL SCHEDULE FOR NEW CONDUCTOR AND OCP SIZING. REPLACE AS REQUIRED.
2	CONTRACTOR SHALL FIELD-VERIFY CONDITION, SIZE, AND CODE COMPLIANCE OF EXISTING CONDUIT AND RACEWAYS SERVING ROOFTOP UNITS. REPAIR, REPLACE, OR MODIFY RACEWAYS AS REQUIRED.
3	CONTRACTOR SHALL FIELD-VERIFY EXISTING DISCONNECT SWITCH RATINGS, ENCLOSURE TYPE, AND CONDITION. REPLACE DISCONNECTS WHERE NOT SUITABLE FOR NEW EQUIPMENT, VFD REQUIREMENTS, OR IF OWNER PREFERS NEW.

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SEALS



CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

CLIENT PROJECT INFO

[illegible]

DESIGNED BY: JDM
DRAWN BY: JDM
CHECKED BY: IPF
SCALE: As indicated
DATE: 03/17/26
PROJECT NO: 241114003

ELECTRICAL RENOVATION PLAN - ROOF

Project Status

E103

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CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

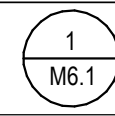
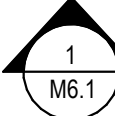
EXISTING PANEL: DP2										VOLTS: 277/480V		AIC RATING: 65K		
LOCATION: ELEC RM 204										PHASES: 3		MAINS TYPE: MCB		
SUPPLY FROM: MSB										WIRES: 4		MAINS RATING: 400 A		
MOUNTING: SURFACE												MCB RATING: 400 A		
ENCLOSURE: NEMA 1														
NOTES	CKT	CIRCUIT DESCRIPTION	LOAD TYPE	TRIP	POLES	A (VA)	B (VA)	C (VA)	POLES	TRIP	LOAD TYPE	CIRCUIT DESCRIPTION	CKT	NOTES
1,3	1	RTU A-1	H	45	3	9,147	5,000				H	RTU M-1	2	
	3		H				9,147	5,000			H		4	
	5		H					9,147	5,000		H		6	
1,3	7	RTU A-2	H	40	3	8,313	9,147				H	RTU M-2	8	1,3
	9		H				8,313	9,147			H		10	
	11		H					8,313	9,147		H		12	
	13	VAV 2-1	M	20		2,500	6,097	2,500	6,097		3	25	H	RTU M-3
	15		M					2,500	6,097			H		16
	17	VAV 2-2	M	20				1,500	6,097			H		18
	19		M			1,500	2,000	2,500	2,000		3	20	M	VAV 2-4
	21	VAV 2-3	M	20				2,500	2,000			M		22
	23		M									M		24
	25	VAV 2-5, 2-6	M	20		2,500	2,300	2,500	2,300			M	VAV 2-8	26
	27		M								20	M		28
	29	VAV 2-7	M	20				2,500	1,300			M	VAV 2-9	30
	31		M			2,500	1,300					M		32
	33	SPARE		20							20		SPD	34
	35	SPARE		20										36
	37	SPARE		20										38
	39	SPARE		20							20		SPARE	40
	41	SPARE		20										42
TOTAL LOAD:						52,304 VA	49,504 VA	47,504 VA						
TOTAL AMPS:						188.8 A	178.7 A	171.5 A						
LOAD CLASSIFICATION						CONNECTED LOAD: (VA)	DEMAND FACTOR	EST. DEMAND (VA)	PANEL TOTALS					
LARGEST MOTOR LOAD (M)						8000	125.00%	7500	TOTAL CONN. LOAD (VA): 149,312					
HVAC (H) & ALL OTHER MOTORS (M)						143312	100.00%	143312	TOTAL EST. DEMAND (VA): 150,812					
RECEPTACLE (R)						0	100.00%	0	TOTAL CONN. (A): 179.7					
LIGHTING (L)						0	125.00%	0	TOTAL EST. DEMAND (A): 181.5					
EQUIPMENT (E)						0	100.00%	0						
OTHER (O) (SEE NOTES)						0	0.00%	0						

[illegible]

ELECTRICAL SCHEDULES AND SINGLE-LINE DIAGRAM

E200

MECHANICAL ANNOTATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
		DETAIL REFERENCE CALLOUT: TOP-DETAIL NUMBER, BOTTOM- DRAWING NUMBER SHOWN ON
		SECTION VIEW CALLOUT: TOP-DETAIL NUMBER, BOTTOM- DRAWING NUMBER SHOWN ON
	POC	CONNECT TO EXISTING
		DEMOLISH TO POINT INDICATED
		SHEET KEY NOTES
		REVISION TAG
	AP	ACCESS PANEL
	TSTAT	THERMOSTAT
	HSTAT	HUMIDISTAT
		CARBON MONOXIDE SENSOR
		CARBON DIOXIDE SENSOR
		NITROGEN DIOXIDE SENSOR
		BACKDRAFT DAMPER
		DUCT MOUNTED SMOKE DETECTOR
		TEMPERATURE CONTROL PANEL
		TEMPERATURE SENSOR
		HUMIDITY SENSOR
		DIFFERENTIAL PRESSURE SENSOR
		STATIC PRESSURE SENSOR
		FLOW SWITCH
		EMERGENCY SHUTDOWN SWITCH
		AIRFLOW DOOR UNDERCUT

SOME SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

MECHANICAL SYMBOLS AND LEGEND - AIR SIDE

SYMBOL	ABBREVIATION	DESCRIPTION (DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE)
 CD-1 60x50		SUPPLY AIR CEILING DIFFUSER, NECK SIZE AND AIR QUANTITY
 RG-1 10x19/50		RETURN AIR CEILING GRILL, NECK SIZE AND AIR QUANTITY
 EG-1 10x19/50		EXHAUST AIR CEILING GRILL, NECK SIZE AND AIR QUANTITY
 CD-1 24x6/50		SUPPLY AIR SIDEWALL DIFFUSER, NECK SIZE AND AIR QUANTITY
		ROUND FLEX DUCT
 FD	FD	FIRE DAMPER
 SD	SD	SMOKE DAMPER
 FSD	FSD	COMBINATION FIRE/SMOKE DAMPER
 14x8		RECTANGULAR DUCT SIZE, FIRST DIMENSION IS SIDE SHOWN
 14x8		OVAL DUCT SIZE, FIRST DIMENSION IS SIDE SHOWN
 140		ROUND DUCT SIZE
 (E) 18x6	(E)	EXISTING DUCT
 MVD	MVD	MANUAL VOLUME/BALANCING DAMPER
 MD	MD	MOTORIZED DAMPER
 AFMS	AFMS	AIRFLOW MONITORING STATION
		DUCT WITH INTERNAL INSULATION
		SQUARE TO ROUND DUCT TRANSITION
		MITERED ELBOW WITH TURNING VANES
	SA/OA	SUPPLY AIR DUCT UP/DOWN
	RA	RETURN AIR DUCT UP/DOWN
	EA	EXHAUST AIR DUCT UP/DOWN
	VAV	VAV BOX WITH ELECTRIC HEATING COIL
		VAV BOX WITH HOT WATER COIL
		VAV BOX WITH COOLING ONLY

MECHANICAL EQUIPMENT TAGS

DIFFUSER / GRILLE / REGISTER TAG	
EXAMPLE: CD-1 12"Ø / 500	DESCRIPTION: <u> </u> (TYPE) (NECK SIZE) / (CFM)
EQUIPMENT TAG	
EXAMPLE: AHU-1	DESCRIPTION: AHU - (UNIT NUMBER)
VAV BOX TAG	
EXAMPLE: VAV-1-1	DESCRIPTION: VAV - (AHU NUMBER) - (VAV BOX NUMBER)

MECHANICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AABC	AMERICAN AIR BALANCE COUNCIL
ADA	AMERICAN WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AFMS	AIRFLOW MONITORING STATION
APD	AIR PRESSURE DROP
BAK	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSE POWER
BMS	BUILDING MANAGEMENT SYSTEM
BTU/H	BRITISH THERMAL UNIT PER HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
COF	COEFFICIENT OF PERFORMANCE
CT	COOLING TOWER
CU	CONDENSING UNIT
CVF	CONSTANT AIR VOLUME
(D)	DEMOLISHED
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROLS
DAE	DIAETER
DL	DOOR LOUVER
DN	DOWN
DOAS	DEDICATED OUTSIDE AIR HANDLING UNIT
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EFF	EXHAUST FAN
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
EW	ENTERING WATER TEMPERATURE
TF	DEGREES FAHRENHEIT
FA	FROM ABOVE
FB	FROM BELOW
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
GA	GAGE OR GAUGE
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD PRESSURE
HP	HORSEPOWER
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
HYLS	HIGH LINE LOW SPEED
IBC	INTERNATIONAL BUILDING CODE
IMC	INTERNATIONAL MECHANICAL CODE
IPC	INTERNAL PLUMBING CODE
IE	INVERT ELEVATION BELOW FINISHED FLOOR
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MCH	ONE THOUSAND BTU/H
MBJ	MINIMUM CIRCUIT AMPS
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NS	NOT IN SCOPE
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PD	PRESSURE DROP
PDU	PACKAGED DEHUMIDIFICATION UNIT
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
RU	ROOF TOP AIR HANDLING UNIT
S	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
SS	STAINLESS STEEL
TDA	TOTAL DYNAMIC HEAD
TF	TO FLOOR ABOVE
TBF	TO FLOOR BELOW
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
ULC	UNIFORM BUILDING CODE
UC	UNDER CUT
UL	UNDERWRITERS LABORATORIES, INC.
UMC	UNIFORM MECHANICAL CODE
UPC	UNIFORM PLUMBING CODE
V	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

MECHANICAL GENERAL NOTES

1. THE INFORMATION INDICATED WITHIN THE DRAWINGS AS EXISTING WAS TAKEN FROM CLIENT PROVIDED INFORMATION SUCH AS AS-BUILT DRAWINGS, SITE PHOTOS, OR OBSERVED BY THE DESIGN TEAM DURING SITE VISITS. THE ACCURACY OF THE DRAWING IS NOT GUARANTEED BUT ONLY FOR INFORMATION, TO THE BEST OF OUR KNOWLEDGE, THE EXISTING SYSTEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND FIELD VERIFY SYSTEMS SHOWN ON THE DRAWINGS. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO MAKE SURE THAT THE INFORMATION IS ACCURATE AS REQUIRED TO MATCH EXISTING FIELD CONDITIONS.
2. THE CONTRACTOR SHALL INSTALL NEW SYSTEMS AROUND EXISTING OBSTACLES SUCH AS BUT NOT LIMITED TO DOMESTIC WATER PIPING, WASTE AND VENT, FIRE SPRINKLER PIPING, GAS PIPING, DUCTING, AND EXISTING HVAC EQUIPMENT. RELOCATION OF EXISTING SYSTEMS MAY BE REQUIRED IF IN CONFLICT WITH NEW SYSTEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ANY RELOCATIONS WITH THE APPROPRIATE SUBCONTRACTOR.
3. MECHANICAL WORK SHALL CONFORM WITH THE LATEST ADOPTED LOCAL CODES, ORDINANCES, AND DESIGN REQUIREMENTS UNLESS OTHERWISE APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
4. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL REQUIREMENTS BEFORE DRILLING OR CUTTING ANY CMU WALLS, CEILING JOISTS OR STRUCTURAL ELEMENTS.
5. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, AND INSURANCES TO COMPLETE THE DESIGN PER THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO THE SATISFACTION OF THE ENGINEER/ARCHITECT.
6. CONTRACTOR TO PROVIDE ALL REQUIRED PERMITS AND FEES TO COMPLETE THE PROJECT.
7. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH DRAWINGS PROVIDED BY OTHER DISCIPLINES. CONSTRUCTION CONFLICTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT.
8. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT FEASIBLE TO SHOW ALL REQUIRED OFFSETS, ELEVATIONS, ETC. IT IS THEREFORE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE REQUIRED ROUTING, ELEVATION, AND PLACEMENT OF EQUIPMENT AND PROVIDE ALL REQUIRED OFFSETS INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND THE SPECIFICATIONS TO MEET THE INTENT OF THE DESIGN. ALL DIMENSIONS AND MEASUREMENTS SHALL BE VERIFIED ON SITE BEFORE FABRICATION AND/OR INSTALLATION OF THE EQUIPMENT.
9. ALL INFORMATION SHOWN ON SCHEDULES ARE BASED ON AVAILABLE PRODUCT INFORMATION AT THE TIME OF DESIGN.
10. THE CONTRACTOR SHALL PROVIDE AND INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT ON THIS PROJECT AND MAKE SURE THAT ALL HAVE THEM ACCESSIBLE FOR THE FIELD INSPECTOR UPON REQUEST.
11. PROVIDED DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE AN INSTALLATION SUITABLE IN DIMENSION, CONSTRUCTION, FUNCTION AND FINISH FOR THE PURPOSE INTENDED.
12. ANY DISCREPANCIES DURING THE BID SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT AND RESOLVED PRIOR TO FINALIZATION OF THE CONSTRUCTION CONTRACT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADE.
14. EXACT LOCATION OF ACCESS PANELS SHALL BE COORDINATED WITH FINAL PLACEMENT OF ALL VALVES, DAMPERS, AND ANY OTHER COMPONENT IDENTIFIED ON THE DRAWINGS.
15. THE FABRICATION AND INSTALLATION OF ALL SHEET METAL DUCTWORK SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS, NFPA 90A AND 90B AS DETAILED ON THE DRAWINGS AND PER LOCAL CODES.
16. DUCT ACCESS PANELS SHALL BE PROVIDED FOR ALL FIRE, SMOKE, FIRE/SMOKE AND MOTORIZED DAMPERS.
17. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
18. FLEXIBLE DUCTS ARE LIMITED TO 6'-0" LENGTH.
19. FINISH AND COLOR OF EXTERNAL SURFACES FOR EXPOSED UNITS, DUCTWORK, OR PIPING SHALL BE APPROVED BY THE ARCHITECT.
20. CONTRACTOR SHALL PERFORM TESTING AND ADJUSTING AS REQUIRED FOR ALL EQUIPMENT AND/OR SYSTEMS WITHIN THIS SCOPE OF WORK PER THE SPECIFICATIONS.

MECHANICAL SHEET INDEX

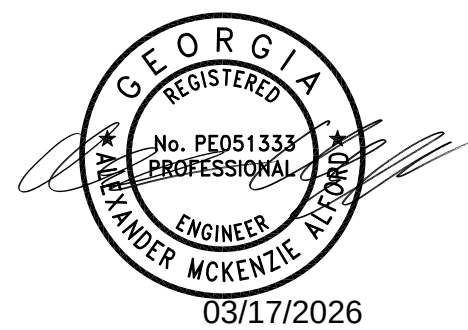
NUMBER	NAME
M001	MECHANICAL LEGEND, NOTES AND ABBREVIATIONS
M002	MECHANICAL SPECIFICATIONS
M1010	MECHANICAL EQUIPMENT DEMO PLAN - LEVEL 1
M1020	MECHANICAL DUCTWORK DEMO PLAN - LEVEL 2
M1030	MECHANICAL DUCTWORK DEMO PLAN - ROOF
M201	MECHANICAL DUCTWORK PLAN - LEVEL 1
M202	MECHANICAL DUCTWORK PLAN - LEVEL 2
M203	MECHANICAL DUCTWORK PLAN - ROOF
M400	MECHANICAL SCHEDULES

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SEALS



CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

CLIENT PROJECT INFO

[illegible]DESIGNED BY: Designer

DRAWN BY: Author

CHECKED BY: Checker

SCALE: 12' = 1"

DATE: 02/12/26
PROJECT NO: 2411140

MECHANICAL LEGEND, NOTES AND ABBREVIATIONS

Project Status

M001

A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

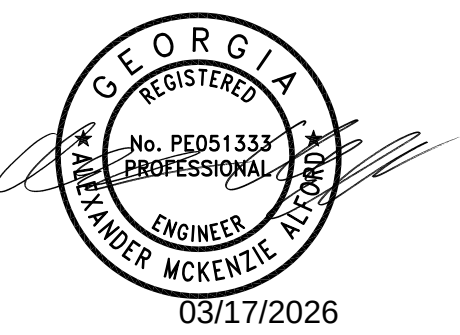
E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOF TOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

1	EXISTING THERMOSTATS AND ASSOCIATED VAV UNITS TO REMAIN (TYP)
---	---

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CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

CLIENT PROJECT INFO

[illegible]

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SCALE: As indicated
DATE: 02/12/26
PROJECT NO: 241114003

MECHANICAL
EQUIPMENT DEMO
PLAN - LEVEL 1

Project Status

M101D

MECHANICAL DUCTWORK DEMO PLAN - LEVEL 1

$$3/32'' = 1'-0''$$

A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE TRANSITION AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOF TOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

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A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE TRANSITION AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOF TOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

1	EXISTING UNIT TO REMAIN
2	EXISTING ROOF TOP UNIT TO BE DEMOLISHED. CONTRACTOR SHALL PROTECT AS MUCH OF CURB/ DUCTWORK AS POSSIBLE DURING DEMOLITION. CONTRACTOR TO CONFIRM EXISTING CURB IS NOT PROVIDE NEW CURB ADAPTOR AS REQUIRED FOR NEW UNIT.

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SEALS



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[illegible]

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CHECKED BY: Checker
SCALE: As indicated
DATE: 02/13/26
PROJECT NO: 241114003

Project Status

M103D

A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE TRANSITION AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

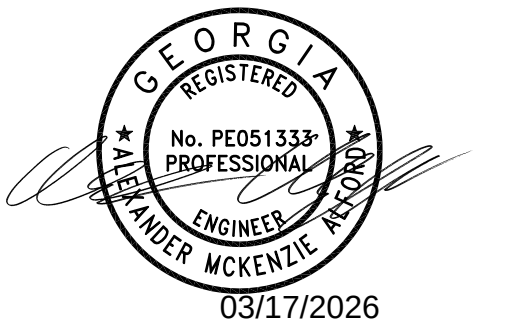
D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOF TOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

1	EXISTING THERMOSTATS AND ASSOCIATED VAV UNITS TO REMAIN (TYP)
2	CONTRACTOR TO COORDINATE WITH OWNER ON LOCATION OF BMS WORK STATION.

00 CENTRAL AVE UNIT 600, ST.
PETERSBURG, FL 33701
PHONE: 727-547-3999

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CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

900 E GWINNETT ST.
SAVANNAH, GA 31401

CLIENT PROJECT INFO

[illegible]

DESIGNED BY: AF
DRAWN BY: FL
CHECKED BY: Checker
SCALE: As indicated
DATE: 02/12/26
PROJECT NO: 241114003

MECHANICAL DUCTWORK PLAN - LEVEL 1

Project Status

M201

MECHANICAL DUCTWORK PLAN - LEVEL 1

$$3/32'' = 1'-0''$$

A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOF TOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

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A. CONTRACTOR TO REPLACE EXISTING ROOF TOP UNITS AS DENOTED ON PLANS WITH NEW AND PROVIDE NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT NEW UNITS TO EXISTING DUCTWORK.

B. NO EXISTING DUCTWORK TO BE REPLACED.

C. CONTRACTOR TO PROVIDE TRANSITIONS AND NEW DUCTWORK AS REQUIRED TO CONNECT NEW ROOF TOP UNITS TO EXISTING DUCTWORK.

D. ALL VARIABLE AIR VOLUME (VAV) BOXES ARE EXISTING TO REMAIN

E. ALL EXISTING DUCTWORK MOUNTED SENSORS AND CONTROL DEVICES TO BE TIED INTO NEW ASSOCIATED ROOFTOP UNIT AND BUILDING MANAGEMENT SYSTEM (BMS)

1	EXISTING UNIT TO REMAIN
2	CONTRACTOR TO CONNECT TO EXISTING GAS PIPING ON ROOF.
3	CONTRACTOR TO PROVIDE CURB ADAPTOR FOR ALL NEW UNITS AS NECESSARY TO MEET NEW UNIT DIMENSIONS.

33 BULL STREET, #505,
SAVANNAH, GA 31401
PHONE: 912-231-4384

SEALS

CLIENT PROJECT INFO

[illegible]

MECHANICAL
DUCTWORK PLAN -
ROOF

M203



ROOFTOP UNIT SCHEDULE W/ GAS HEAT																									
MARK	MAKE	MODEL	SERVICE	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP (IN W.C.)	FAN QTY	FAN HP	VFD (Y/N)	COOLING COIL				HEATING COIL				ELECTRICAL				NOTES			
										TOTAL (MBH)	SENSIBLE (MBH)	EAT (°F)	LAT (°F)	COOLING COIL	REFRIGERANT TYPE	INPUT (MBH)	OUTPUT (MBH)	HEATING COIL	EAT (°F)	LAT (°F)	PHASE		VOLTAGE	MCA	MOP
RTU M-1 (E)	MCQUAY	MP0800B	MAIN OFFICE - LEVEL 1	2700	625	0.75					78.8	51.9	11.5				0	0	60 °F	90 °F	3	460 V	18 A	25 A	1
RTU A-1	TRANE	TSK150M4SUL	ADMINISTRATION - EAST	2320	925	0.50	1	5	Y		140.0	103.0	80	55	11	R-454B	10	121.5	59 °F	89 °F	3	460 V	33 A	45 A	2.8
RTU A-2	TRANE	TSK120M4SUN	ADMINISTRATION - WEST	3450	940	0.75	1	3	N		126.0	94.5	80	55	11.2	R-454B	150	121.5	62 °F	90 °F	3	460 V	30 A	40 A	2.8
RTU M-2	TRANE	TSK150M4SUN	MAIN OFFICE - LEVEL 2	3750	620	0.75	1	5	Y		140.0	103.0	79	54	11	R-454B	150	122.9	60 °F	90 °F	3	460 V	33 A	45 A	2.8
RTU M-3	TRANE	TSK090M4SK	FITNESS CENTER	2250	690	0.75	1	3	N		89.8	66.7	81	55	11.2	R-454B	120	97.2	56 °F	90 °F	3	460 V	22 A	25 A	2.3, 4.5, 5.9, 11, 12, 13, 14

UNIT EXISTING TO REMAIN
BASIS OF DESIGN: TRANE
COOLING CAPACITIES SHOWN ARE REQUIRED MINIMUMS
FACE VELOCITIES INDICATED ON SCHEDULE ARE MAXIMUM ALLOWABLE. UNIT MODULE SIZES SHALL MATCH THOSE LISTED.
ALL OUTSIDE AIR COILS SHALL BE RATED WITH A 5,000 HOUR SALT SPRAY TREATMENT.
UNIT TO BE PROVIDED WITH INTEGRAL VARIABLE FREQUENCY DRIVE (VFD).
PROVIDE WITH CURB ADAPTER AS NEEDED TO MEET NEW RTU CURB DIMENSIONS. STRUCTURAL ENGINEERING AND THE TIE DOWN SPECIFICATIONS SHALL BE DELEGATED ENGINEERING TO THE MANUFACTURER OF THE CURB ADAPTER.
PROVIDE WITH FACTORY MOUNTED DISCONNECT.
CONNECT EXISTING DUCT MOUNTED SENSORS TO NEW ROOFTOP UNIT.
PROVIDE WITH MULTI STAGE GAS HEAT.

CONSTANT VOLUME UNIT (M-3)

11. UNIT TO BE CONSTANT VOLUME

12. UNIT PROVIDED WITH DISCONNECT BY DIVISION 26.

13. PROVIDE UNIT WITH MODULATING HOT GAS REHEAT

14. PROVIDE UNIT WITH MULTI STAGE GAS HEAT.

GENERAL:
EACH UNIT IS A SELF CONTAINED ROOF TOP DX AIR HANDLING UNIT (RTU) WITH A VARIABLE VOLUME FAN SYSTEM. UNIT SHALL BE PROVIDED WITH A FACTORY MOUNTED CONTROL PANEL, ELECTRIC HEAT, GAS HEATING COIL, VFD AND CONTROL DEVICES THAT ARE INTEGRATED WITH THE BUILDING MANAGEMENT SYSTEM (BMS) VIA A BACNET OR LOWVOLTAGE INTRACORE (PRIOR TO ORDERING, COORDINATE WITH BUILDING BMS PROVIDER). BMS SYSTEM SHALL PROVIDE DISCHARGE AIR TEMP SETPOINT, SPACE TEMPERATURE SETPOINT, AND OUTSIDE AIRFLOW SETPOINTS TO THE RTU UNIT. BMS SYSTEM SHALL PROVIDE DISCHARGE AIRFLOW SETPOINT TO THE RTU UNIT. BMS SYSTEM SHALL CONTROL SUPPLY FAN OPERATION, STAGING OF COMPRESSORS, CONDENSING FANS, AND OTHER RELATED COMPONENTS TO MEET SUPPLY AIR TEMP SETPOINT PROVIDED BY THE BMS.

- UNIT STATUS
- UNIT START/STOP POSITION
- OUTSIDE AIR TEMP (T-OA)
- OUTSIDE AIR HUMIDITY (H-OA)
- MIXED AIR TEMP (T-MA)
- LEAVING COOLING COIL TEMP (T-CCL)
- SUPPLY AIR TEMP (T-SA)
- SUPPLY FAN STATUS
- SUPPLY FAN VFD SPEED
- COMPRESSOR STAGES
- ALARM(S)
- NIGHT SETBACK

- START/STOP COMMAND
- STATIC PRESSURE SETPOINT
- SUPPLY AIR TEMP SETPOINT
- OUTSIDE AIRFLOW SETPOINT

- * THE FAN VFD SHALL BE STARTED UPON OCCUPANCY OF THE BMS ACCORDING TO THE SCHEDULING AND SEQUENCING.
- * THE RTU UNIT CONTROLS SHALL PROVIDE AND ADJUST THE PID LOOP WHICH WILL MODULATE THE SUPPLY FAN VFD TO MAINTAIN SPACE TEMPERATURE SETPOINT. ENABLE THIS LOOP ONLY AFTER STARTUP OF THE UNIT TO ENSURE THAT THE VFD STARTS IN AN UNLOADED CONDITION AND SLOWLY RAMP TO REQUIRED SPEED.
- * COOLING SPACE TEMPERATURE SETPOINT SHALL BE 78 DEG F (ADJ).
- * HEATING SPACE TEMPERATURE SETPOINT SHALL BE 69 DEG F (ADJ).
- * COOLING MODE: THE SUPPLY FAN VFD SHALL BE MODIFIED BY AN ADJUSTABLE PID LOOP TO MAINTAIN SPACE TEMPERATURE SETPOINT.
- * IN HEATING MODE, THE SUPPLY FAN VFD SHALL BE MODULATED TO A FIXED HEATING CFM PER DRAWING SCHEDULES. VFD SETTING FOR THIS AIRFLOW SHALL BE DETERMINED DURING TEST AND BALANCE (TAB) AND COORDINATED BETWEEN RESPECTIVE TAB AND CONTROLS CONTRACTORS.

- MINIMUM SUPPLY AIR TEMP SETPOINT = 50 DEG F (ADJ).
- IN COOLING MODE, IF SPACE IS OVERCOOLING AND SUPPLY FAN IS AT MINIMUM SPEED FOR 10 MINUTES (ADJ), THEN RESET SUPPLY TEMP SETPOINT UP 1 DEG F (ADJ).
- IF SPACE CONTINUES TO BE OVERCOOLING, REPEAT "RESET UP UNTIL MAX SETPOINT IS REACHED".
- IF SPACE CONTINUES TO OVERCOOL, AT MAX SUPPLY AIR TEMP SETPOINT FOR 10 MINUTES (ADJ), AHU SHALL ENTER HEATING MODE AND SUPPLY FAN SHALL DRIVE TO SCHEDULED CFM.
- ON COOLING COIL SHUTDOWN, SUPPLY TEMP CONTINUES TO MAX SETPOINT FOR 10 MINUTES (ADJ) TO MAINTAIN ROOM TEMPERATURE.
- UPON A RISE IN SPACE TEMPERATURE, SEQUENCE SHALL OPERATE IN REVERSE.

BMS SHALL POLL SPACE AND RA RELATIVE HUMIDITY SENSORS. THE BMS SHALL SELECT THE HIGHEST READING FOR CONTROL. IF MEASURED RH IS ABOVE 60% RH (ADJ) FOR A MINIMUM OF 5 MINUTES (ADJ), THEN THE SUPPLY AIR TEMP SETPOINT SHALL BE RESET TO MINIMUM. HUMIDITY CONTROL SEQUENCE TAKES PRECEDENCE OVER SUPPLY AIR TEMPERATURE RESET SEQUENCE. AHU ELECTRIC RESISTANCE HEATING COIL WILL BE ENABLED TO MAINTAIN SPACE TEMPERATURE SETPOINT. PROVIDE A 5% RH DEADBAND FOR HUMIDITY CONTROL.

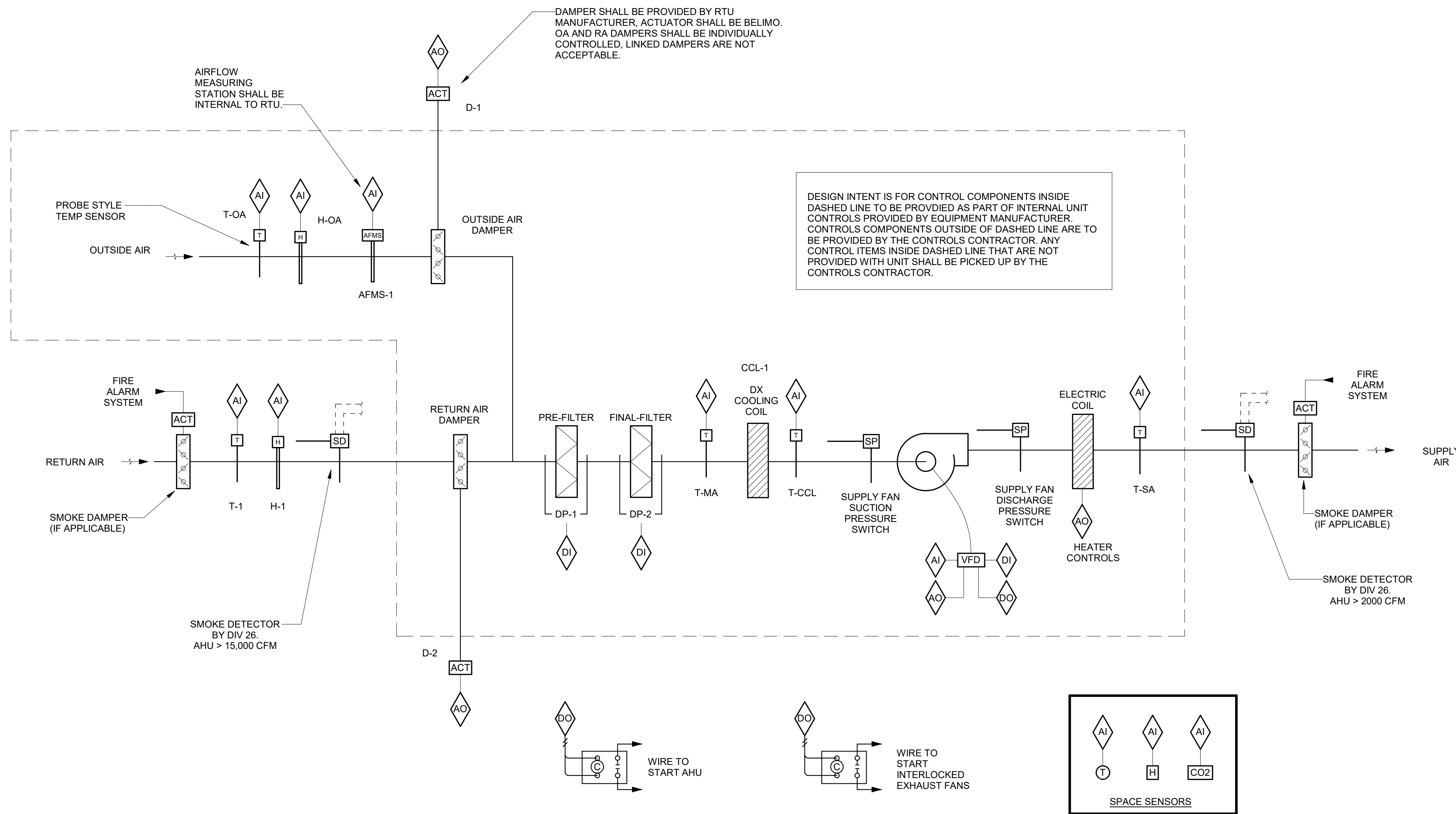
OUTSIDE AIRFLOW SHALL BE MEASURED BY THE AIRFLOW MEASURING STATION (AFMS-1). MODULATE THE OUTSIDE AIR AND RETURN AIR DAMPERS TO MAINTAIN AIRFLOW SETPOINT. OUTSIDE AIR DAMPER SHALL BE MODULATED OPEN TO 100% FIRST. IF SETPOINT IS NOT MADE, THEN BMS SHALL BEGIN MODULATING THE RA DAMPER CLOSED. RA DAMPER SHALL HAVE AN INITIAL MINIMUM SETPOINT OF 20% OPEN (ADJ). UPON UNIT SHUTDOWN, OA DAMPER SHALL MODULATE CLOSED AND RA DAMPER SHALL MODULATE TO 100% OPEN. OA AND RA DAMPERS SHALL HAVE SEPARATE ACTUATORS.

WHEN THE BUILDING IS SCHEDULED UNOCCUPIED, THE BMS SHALL SAMPLE THE SPACE TEMPERATURES OF ALL ZONES ON EACH FLOOR AND AVERAGE THE SPACE TEMPERATURE PER FLOOR. IF THE AVERAGE SPACE TEMP IS GREATER THAN 80 DEG F (ADJ), THEN THE BMS SHALL INITIATE NIGHT SETBACK MODE. IN NIGHT SETBACK MODE, THE BMS SHALL START UP ASSOCIATED RTU SERVING THE FLOOR. THE RTU SHALL RUN IN NIGHT SETBACK MODE UNTIL THE AVERAGE SPACE TEMP IS LESS THAN 76 DEG F (4 DEG ADJUSTABLE OFFSET BELOW INITIALIZING SETPOINT) OR THE BUILDING ENTERS OCCUPIED MODE. DURING NIGHT SETBACK MODE, OA DAMPER IS CLOSED AND ALL EXHAUST FANS ARE OFF.

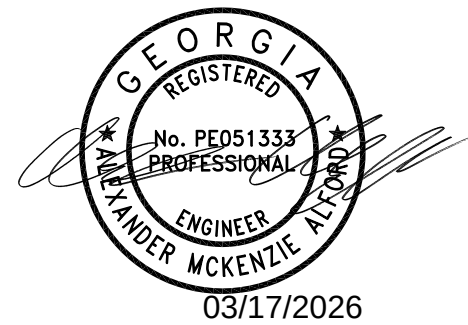
- IN THE EVENT THAT THE COOLING COIL LEAVING AIR TEMPERATURE (T-S4) IS 3 DEGREES (ADJ.) GREATER THAN SETPOINT FOR 10 MINUTES (ADJ.)
- IN THE EVENT THAT A SPACE OR RA HUMIDITY READING IS GREATER THAN 65% RH (ADJ.) FOR 10 MINUTES (ADJ.)
- IN THE EVENT THAT SPACE OR RA CO2 READING IS GREATER THAN 1200 PPM (ADJ.) FOR 10 MINUTES (ADJ.)
- IN THE EVENT THAT THE SUPPLY FAN IS GIVEN A RUN SIGNAL AND STATUS IS OFF.
- MAP IS ONLY AVAILABLE ALARMS FROM RTU UNIT CONTROLLER
- HIGH AND LOW STATIC PRESSURE SWITCHES SHALL SHUT DOWN UNIT AND SHALL REQUIRE A MANUAL RESET. BMS SHALL GENERATE AN ALARM.
- IN THE EVENT THAT THE SPACE TEMPERATURE DURING OCCUPIED PERIODS IS 3 DEGREES (ADJ.) ABOVE SPACE COOLING SETPOINT FOR MINIMUM OF 10 MINUTES (ADJ.)
- IN THE EVENT THAT THE SPACE TEMPERATURE DURING OCCUPIED PERIODS IS 3 DEGREES (ADJ.) BELOW SPACE HEATING SETPOINT FOR MINIMUM OF 10 MINUTES (ADJ.)

NEW RTU'S AND ALL ASSOCIATED CONTROL COMPONENTS AND SEQUENCES SHALL BE COMMISSIONED AT COMPLETION OF PROJECT. KIMLEY-HORN IS A CONTRACTED COMMISSIONING AGENT HIRED DIRECTLY BY THE OWNER. CONTROLS CONTRACTOR AND TEST AND BALANCE CONTRACTOR SHALL CARRY IN THEIR PRICING, THE COST OF ASSISTING IN THE COMMISSIONING PROCESS.

ALL SMOKE DETECTOR IN THE SUPPLY AND RETURN DUCTS SHALL AUTOMATICALLY ACTIVATE THE FIRE ALARM RELAY WHEN TRIPPED. UPON ACTIVATION OF FIRE ALARM RELAY THE UNIT SHALL SHUT DOWN AND CLOSE ALL SYSTEM FIRE/SMOKE DAMPERS.



This document is an instrument of service prepared solely for Kimley-Horn's client and for a particular purpose. Any other use or reliance is without liability to Kimley-Horn.



CHATHAM AREA TRANSIT MECHANICAL EQUIPMENT REPLACEMENT

[illegible]

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SCALE: 12" = 1'-0"
DATE: 02/12/26
PROJECT NO: 241114003

MECHANICAL SCHEDULES

Project Status

M400

ACCESS TO RECORDS AND REPORTS

1. Record Retention. The Contractor will retain, and will require its subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, data, documents, reports, statistics, leases, subcontracts, arrangements, other third party Contracts of any type, and supporting materials related to those records.
2. Retention Period. The Contractor agrees to comply with the record retention requirements in accordance with 2 C.F.R. § 200.334. The Contractor shall maintain all books, records, accounts and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.
3. Access to Records. The Contractor agrees to provide sufficient access to FTA and its contractors to inspect and audit records and information, including such records and information the contractor or its subcontractors may regard as confidential or proprietary, related to performance of this contract in accordance with 2 CFR § 200.337.
4. Access to the Sites of Performance. The Contractor agrees to permit FTA and its contractors access to the sites of performance under this contract in accordance with 2 CFR § 200.337.

AMERICANS WITH DISABILITIES ACT(ADA)

The contractor agrees to comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, 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 persons with disabilities, including any subsequent amendments to that Act, 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 persons with disabilities, including any subsequent amendments to that Act. In addition, the contractor agrees to comply with any and all applicable requirements issued by the FTA, DOT, DOJ, U.S. GSA, U.S. EEOC, U.S. FCC, any subsequent amendments thereto and any other nondiscrimination statute(s) that may apply to the Project.

BUY AMERICA REQUIREMENTS

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. part 661 and 2 CFR § 200.322 Domestic preferences for procurements, which provide that Federal funds may not be obligated unless all 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 C.F.R. § 661.7.

Build America, Buy America Act. Construction materials used in the Project are subject to the domestic preference requirement of the Build America, Buy America Act, Pub. L. 117-58, div. G, tit. IX, §§ 70911 – 70927 (2021), as implemented by the U.S. Office of Management and Budget's "Buy America Preferences for Infrastructure Projects," 2 CFR Part 184. The Recipient acknowledges that this agreement is neither a waiver of § 70914(a) nor a finding under § 70914(b). In accordance with 2 CFR § 184.2(a), the Recipient shall apply the standards of 49 CFR Part 661 to iron, steel, and manufactured products.

Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C), 49 U.S.C. § 5323(u) and 49 C.F.R. § 661.11. Domestic preferences for procurements

The bidder or offeror must submit to the Agency the appropriate Buy America certification. Bids or offers that are not accompanied by a completed Buy America certification will be rejected as nonresponsive. For more information please see the FTA's Buy America webpage at: <https://www.transit.dot.gov/buyamerica>

BOND REQUIREMENTS

The Federal agency or pass-through entity may accept the recipient's or subrecipient's bonding policy and requirements for construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold. Before doing so, the agency or pass-through entity must determine that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

- (a) A bid guarantee from each bidder equivalent to five percent of the bid price. The bid guarantee must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute any required contractual documents within the specified timeframe.
- (b) A performance bond on the contractor's part for 100 percent of the contract price. A performance bond is a bond executed in connection with a contract to secure the fulfillment of all the contractor's requirements under a contract.
- (c) A payment bond on the contractor's part for 100 percent of the contract price. A payment bond is a bond executed in connection with a contract to assure payment as required by the law of all persons supplying labor and material in the execution of the work provided for under a contract.

It is also understood and agreed that if the bidder should withdraw any part or all of their bid within [90] days after the bid opening without the written consent of the Agency, or refuse or be unable to enter into this Contract as provided above, or refuse or be unable to furnish adequate and acceptable Performance and Payment Bonds, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, it shall

forfeit its bid guaranty to the extent Agency's damages occasioned by such withdrawal, or refusal, or inability to enter into a Contract, or provide adequate security thereof.

It is further understood and agreed that to the extent the defaulting bidder's bid guaranty shall prove inadequate to fully recompense Agency for the damages occasioned by default, then the bidder agrees to indemnify Agency and pay over to Agency the difference between the bid guarantee and Agency's total damages so as to make Agency whole.

The bidder understands that any material alteration of any of the above or any of the material contained herein, other than that requested will render the bid unresponsive.

Performance Guarantee. A Performance Guarantee in the amount of 100% of the Contract value is required by the Agency to ensure faithful performance of the Contract. Either a Performance Bond or an Irrevocable Stand-By Letter of Credit shall be provided by the Contractor and shall remain in full force for the term of the Contract. The successful Bidder shall certify that it will provide the requisite Performance Guarantee to the Agency within ten (10) business days from Contract execution. The Agency requires all Performance Bonds to be provided by a fully qualified surety company acceptable to the Agency and listed as a company currently authorized under 31 C.F.R. part 22 as possessing a Certificate of Authority as described hereunder. Agency may require additional performance bond protection when the contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The Agency may secure additional protection by directing the Contractor to increase the amount of the existing bond or to obtain an additional bond.

If the Bidder chooses to provide a Letter of Credit as its Performance Guarantee, the Bidder shall furnish with its bid, certification that an Irrevocable Stand-By Letter of Credit will be furnished should the Bidder become the successful Contractor. The Bidder shall also provide a statement from the banking institution certifying that an Irrevocable Stand-By Letter of Credit for the action will be provided if the Contract is awarded to the Bidder. The Irrevocable Stand-By Letter of Credit will only be accepted by the Agency if:

1. A bank in good standing issues it. The Agency will not accept a Letter of Credit from an entity other than a bank.
2. It is in writing and signed by the issuing bank.
3. It conspicuously states that it is an irrevocable, non-transferable, "standby" Letter of Credit.
4. The Agency is identified as the Beneficiary.
5. It is in an amount equal to 100% of the Contract value. This amount must be in U.S. dollars.
6. The effective date of the Letter of Credit is the same as the effective date of the Contract
7. The expiration date of the Letter of Credit coincides with the term of the contract.
8. It indicates that it is being issued in order to support the obligation of the Contractor to perform under the Contract. It must specifically reference the Contract between the Agency and the Contractor the work stipulated herein.

The issuing bank's obligation to pay will arise upon the presentation of the original Letter of Credit and a certificate and draft to the issuing bank's representative at a location and time to be determined by the parties. This documentation will indicate that the Contractor is in default under the Contract.

Payment Bonds. A Labor and Materials Payment Bond equal to the full value of the contract must be furnished by the contractor to Agency as security for payment by the Contractor and subcontractors for labor, materials, and rental of equipment. The bond may be issued by a fully qualified surety company acceptable to (Agency) and listed as a company currently authorized under 31 C.F.R. part 223 as possessing a Certificate of Authority as described thereunder.

CARGO PREFERENCE REQUIREMENTS

The contractor agrees:

- a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available. 46 U.S.C. § 55305, and U.S. Maritime Administration regulations, "Cargo Preference – U.S.-Flag Vessels," 46 CFR Part 381.
- b. to furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in 46 CFR § 381.7(a)(1) shall be furnished to both the recipient (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590; and
- c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

CHANGES TO FEDERAL REQUIREMENTS

Federal requirements that apply to the Recipient or the Award, the accompanying Underlying Agreement, and any Amendments thereto may change due to changes in federal law, regulation, other requirements, or guidance, or changes in the Recipient's Underlying Agreement including any information incorporated by reference and made part of that Underlying Agreement; and

Applicable changes to those federal requirements will apply to each Third Party Agreement and parties thereto at any tier.

CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. § 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251-1387). Violations must be reported to FTA and the Regional Office of the Environmental Protection Agency. The following applies for contracts of amounts in excess of \$150,000:

Clean Air Act

- (1) 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.
- (2) The contractor agrees to report each violation to the Agency and understands and agrees that the Agency will, in turn, report each violation as required to assure notification to the Agency, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

Federal Water Pollution Control Act

- (1) 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.
- (2) The contractor agrees to report each violation to the Agency and understands and agrees that the Agency will, in turn, report each violation as required to assure notification to the Agency, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA."

CIVIL RIGHTS LAWS AND REGULATIONS

The following Federal Civil Rights laws and regulations apply to all contracts.

The Contractor and any subcontractor agree to comply with all the requirements prohibiting discrimination on the basis of race, color, or national origin of the Title VI of the Civil Rights Act of 1964, as amended 52 U.S.C 2000d, and U.S. DOT regulation "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of the Title VI of the Civil rights Act," 49 C.F. R. Part 21 and any implementing requirement FTA may issue.

1 Federal Equal Employment Opportunity (EEO) Requirements. These include, but are not limited to:

- a) Nondiscrimination in Federal Public Transportation Programs. 49 U.S.C. § 5332, covering projects, programs, and activities financed under 49 U.S.C. Chapter 53, prohibits discrimination on the basis of race, color, religion, national origin, sex (including sexual orientation), disability, or age, and prohibits discrimination in employment or business opportunity.
- b) Prohibition against Employment Discrimination. Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, Title VI of the Civil Rights Act of 1964," 49 CFR Part 21, and 49 U.S.C. § 5332, prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin.

2 Nondiscrimination on the Basis of Sex. Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. § 1681 et seq. and implementing Federal regulations, "Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance," 49 C.F.R. part 25 prohibit discrimination on the basis of sex.

3 Nondiscrimination on the Basis of Age. The "Age Discrimination Act of 1975," as amended, 42 U.S.C. § 6101 et seq., and Department of Health and Human Services implementing regulations, "Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance," 45 C.F.R. part 90, prohibit discrimination by participants in federally assisted programs against individuals on the basis of age. The Age Discrimination in Employment Act (ADEA), 29 U.S.C. § 621 et seq., and Equal Employment Opportunity Commission (EEOC) implementing regulations, "Age Discrimination in Employment Act," 29 C.F.R. part 1625, also prohibit employment discrimination against individuals age 40 and over on the basis of age.

4 Federal Protections for Individuals with Disabilities. The Americans with Disabilities Act of 1990, as amended (ADA), 42 U.S.C. § 12101 et seq., prohibits discrimination against qualified individuals with disabilities in programs, activities, and services, and imposes specific requirements on public and private entities. Third party contractors must comply with their responsibilities under Titles I, II, III, IV, and V of the ADA in employment, public services, public accommodations, telecommunications, and other provisions, many of which are subject to regulations issued by other Federal agencies.

Civil Rights and Equal Opportunity

The Agency is an Equal Opportunity Employer. As such, the Agency agrees to comply with all applicable Federal civil rights laws and implementing regulations. Apart from inconsistent requirements imposed by Federal laws or regulations, the Agency agrees to comply with the requirements of 49 U.S.C. § 5323(h) (3) by not using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications. Under this Contract, the Contractor shall at all times comply with the following requirements and shall include these requirements in each subcontract entered into as part thereof.

1. Nondiscrimination. In accordance with 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, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

2. Equal Employment Opportunity. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e et seq., Title I of the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. §§ 12101, et seq.; and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements, without regard to their race, color, religion, national origin, or sex (including sexual orientation). In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

3. Age. In accordance with the Age Discrimination in Employment Act, 29 U.S.C. §§ 621-634, U.S. Equal Employment Opportunity Commission (U.S. EEOC) regulations, "Age Discrimination in Employment Act," 29 C.F.R. part 1625, the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 et seq., U.S. Health and Human Services regulations, "Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance," 45 C.F.R. part 90, 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.

4.Disabilities. In accordance with section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 et seq., the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 et seq., and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against individuals on the basis of disability. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

5. Federal Law and Public Policy Requirements. The Contractor shall ensure that Federal funding is expended in full accordance with the U.S. Constitution, Federal Law, and statutory and public policy requirements: including, but not limited to, those protecting free speech, religious liberty, public welfare, the environment, and prohibiting discrimination.

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

- a. Applicability: This requirement applies to all FTA grant and cooperative agreement programs.
- b. Where applicable (see 40 U.S.C. § 3701), all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations at 29 C.F.R. Part 5. See 2 C.F.R. Part 200, Appendix II.
- c. Under 40 U.S.C. § 3702, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.
- d. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
- e. The regulation at 29 C.F.R. § 5.5(b) provides the required contract clause concerning compliance with the Contract Work Hours and Safety Standards Act:

Compliance with the Contract Work Hours and Safety Standards Act.

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
- (3) Withholding for unpaid wages and liquidated damages. The agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section."

DAVIS BACON ACT AND COPELAND ANTI-KICKBACK ACT

For all prime construction, alteration or repair contracts in excess of \$2,000 awarded by FTA, the Contractor shall comply with the Davis-Bacon Act and the Copeland "Anti-Kickback" Act. Under 49 U.S.C. § 5333(a), prevailing wage protections apply to laborers and mechanics employed on FTA assisted construction, alteration, or repair projects. The Contractor will comply with the Davis-Bacon Act, 40 U.S.C. §§ 3141-3144, and 3146-3148 as supplemented by DOL regulations at 29 C.F.R. part 5, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction." In accordance with the statute, the Contractor shall pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, the Contractor agrees to pay wages not less than once a week. The Contractor shall also comply with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by DOL regulations at 29 C.F.R. part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States." The Contractor is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

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

It is the policy of the Agency and the United States Department of Transportation ("DOT") that Disadvantaged Business Enterprises ("DBE's"), as defined herein and in the Federal regulations published at 49 C.F.R. part 26, shall have an equal opportunity to participate in DOT-assisted contracts.

The contractor 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 49 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 Agency deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible. 49 C.F.R. § 26.13(b).

Prime contractors are required to pay subcontractors for satisfactory performance of their contracts no later than 30 days from receipt of each payment the Agency makes to the prime contractor. 49 C.F.R. § 26.29(a).

Finally, for contracts with defined DBE contract goals, the contractor shall utilize the specific DBEs listed unless the contractor obtains the Agency's written

consent; and that, unless the Agency's consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE. 49 C.F.R. § 26.53(f) (1).

DOMESTIC PREFERENCES FOR PROCUREMENTS

a. The recipient or subrecipient should, to the greatest extent practicable and consistent with law, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards, contracts, and purchase orders under Federal awards.

b. For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

c. Federal agencies providing Federal financial assistance for infrastructure projects must implement the Buy America preferences set forth in 2 CFR 184.

DEBARMENT AND SUSPENSION

Debarment and Suspension (Executive Orders 12549 and 12689). A covered transaction (see 2 C.F.R. §§ 180.220 and 1200.220) must not be entered into with any party listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. 180 that implement Executive Orders 12549 (31 U.S.C. § 6101 note, 51 Fed. Reg. 6370,) and 12689 (31 U.S.C. § 6101 note, 54 Fed. Reg. 34131), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. The Recipient agrees to include, and require each Third Party Participant to include, a similar provision in each lower tier covered transaction, ensuring that each lower tier Third Party Participant:

(1) Complies with federal debarment and suspension requirements; and

(2) Reviews the SAM at <https://www.sam.gov>, if necessary to comply with U.S. DOT regulations, 2 CFR Part 1200.

ENERGY CONSERVATION

The contractor agrees to comply with 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. § 6201).

FLY AMERICA

a) Definitions. As used in this clause—

1) "International air transportation" means transportation by air between a place in the United States and a place outside the United States or between two places both of which are outside the United States. 2) "United States" means the 50 States, the District of Columbia, and outlying areas. 3) "U.S.-flag air carrier" means an air carrier holding a certificate under 49 U.S.C. Chapter 411.

b) When Federal funds are used to fund travel, Section 5 of the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) (Fly America Act) requires contractors, Agencies, and others use U.S.-flag air carriers for U.S. Government-financed international air transportation of personnel (and their personal effects) or property, to the extent that service by those carriers is available. It requires the Comptroller General of the United States, in the absence of satisfactory proof of the necessity for foreign-flag air transportation, to disallow expenditures from funds, appropriated or otherwise established for the account of the United States, for international air transportation secured aboard a foreign-flag air carrier if a U.S.-flag air carrier is available to provide such services.

c) If available, the Contractor, in performing work under this contract, shall use U.S.-flag carriers for international air transportation of personnel (and their personal effects) or property.

d) In the event that the Contractor selects a carrier other than a U.S.-flag air carrier for international air transportation, the Contractor shall include a statement on vouchers involving such transportation essentially as follows:

Statement of Unavailability of U.S.-Flag Air Carriers

International air transportation of persons (and their personal effects) or property by U.S.-flag air carrier was not available or it was necessary to use foreign-flag air carrier service for the following reasons. See FAR § 47.403. [State reasons]:

e) Contractor shall include the substance of this clause, including this paragraph (e), in each subcontract or purchase under this contract that may involve international air transportation.

INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

The provisions within include, in part, certain Standard Terms and Conditions required under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR § 200), whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, detailed in 2 CFR § 200 or as amended by 2 CFR § 1201, or the most recent version of FTA Circular 4220.1 are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all 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 request which would cause a violation of the FTA terms and conditions.

NO GOVERNMENT OBLIGATION TO THIRD PARTIES

The Recipient and 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 Recipient, 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 the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

NOTICE TO FTA AND U.S. DOT INSPECTOR GENERAL OF INFORMATION RELATED TO FRAUD, WASTE, ABUSE, OR OTHER LEGAL MATTERS

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

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

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

(3) The Recipient must promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the Recipient is located, if the Recipient has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729 et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bribery, gratuity, or similar misconduct. This responsibility occurs whether the Project is subject to this Agreement or another agreement between the Recipient and FTA, or an agreement involving a principal, officer, employee, agent, or Third Party Participant of the Recipient. It also applies to subcontractors at any tier. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the Recipient.

PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND 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 U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. 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. chapter 53, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5323(l) 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.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.

a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

- 1) Procure or obtain covered telecommunications equipment or services;
- 2) Extend or renew a contract to procure or obtain covered telecommunications equipment or services; or
- 3) Enter into a contract (or extend or renew a contract) to procure or obtain covered telecommunications equipment or services.

(b) As described in section 889 of Public Law 115-232, "covered telecommunications equipment or services" means any of the following:

- (1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);
- (2) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- (3) Telecommunications or video surveillance services provided by such entities or using such equipment;
- (4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country;

(c) For the purposes of this section, "covered telecommunications equipment or services" also include systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(d) In implementing the prohibition under section 889 of Public Law 115-232, heads of executive agencies administering loan, grant, or subsidy programs must prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered telecommunications equipment or services, to procure replacement equipment or services, and to ensure that communications service to users and customers is sustained.

(e) When the recipient or subrecipient accepts a loan or grant, it is certifying that it will comply with the prohibition on covered telecommunications equipment and services in this section. The recipient or subrecipient is not required to certify that funds will not be expended on covered telecommunications equipment or services beyond the certification provided upon accepting the loan or grant and those provided upon submitting payment requests and financial reports.

(f) For additional information, see section 889 of Public Law 115-232 and 200.471.

PROMPT PAYMENT

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

The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work. In addition, the contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed.

The contractor must promptly notify the Agency, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the Agency.

RESTRICTIONS ON LOBBYING

Conditions on use of funds.

(a) No appropriated funds may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(b) Each person who requests or receives from an agency a Federal contract, grant, loan, or cooperative agreement shall file with that agency a certification, that the person has not made, and will not make, any payment prohibited by paragraph (a) of this section.

(c) Each person who requests or receives from an agency a Federal contract, grant, loan, or a cooperative agreement shall file with that agency a disclosure form if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under paragraph (a) of this section if paid for with appropriated funds.

(d) Each person who requests or receives from an agency a commitment providing for the United States to insure or guarantee a loan shall file with that agency a statement, whether that person has made or has agreed to make any payment to influence or attempt 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 that loan insurance or guarantee.

(e) Each person who requests or receives from an agency a commitment providing for the United States to insure or guarantee a loan shall file with that agency a disclosure form if that person has made or has agreed to make any payment to influence or attempt 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 that loan insurance or guarantee.

Certification and disclosure.

(a) Each person shall file a certification, and a disclosure form, if required, with each submission that initiates agency consideration of such person for:

- (1) Award of a Federal contract, grant, or cooperative agreement exceeding \$100,000; or
- (2) An award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.

(b) Each person shall file a certification, and a disclosure form, if required, upon receipt by such person of:

- (1) A Federal contract, grant, or cooperative agreement exceeding \$100,000; or
- (2) A Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000,

Unless such person previously filed a certification, and a disclosure form, if required, under paragraph (a) of this section.

(c) Each person shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under paragraphs (a) or (b) of this section. An event that materially affects the accuracy of the information reported includes:

- (1) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
- (2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or,
- (3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(d) Any person who requests or receives from a person referred to in paragraphs (a) or (b) of this section:

- (1) A subcontract exceeding \$100,000 at any tier under a Federal contract;
- (2) A subgrant, contract, or subcontract exceeding \$100,000 at any tier under a Federal grant;
- (3) A contract or subcontract exceeding \$100,000 at any tier under a Federal loan exceeding \$150,000; or,
- (4) A contract or subcontract exceeding \$100,000 at any tier under a Federal cooperative agreement,

Shall file a certification, and a disclosure form, if required, to the next tier above.

(e) All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the person referred to in paragraphs (a) or (b) of this section. That person shall forward all disclosure forms to the agency.

(f) Any certification or disclosure form filed under paragraph (e) of this section shall be treated as a material representation of fact upon which all receiving tiers shall rely. All liability arising from an erroneous representation shall be borne solely by the tier filing that representation and shall not be shared by any tier to which the erroneous representation is forwarded. Submitting an erroneous certification or disclosure constitutes a failure to file the required certification or disclosure, respectively. If a person fails to file a required certification or disclosure, the United States may pursue all available remedies, including those authorized by section 1352, title 31, U.S. Code.

(g) For awards and commitments in process prior to December 23, 1989, but not made before that date, certifications shall be required at award or commitment, covering activities occurring between December 23, 1989, and the date of award or commitment. However, for awards and commitments in process prior to the December 23, 1989 effective date of these provisions, but not made before December 23, 1989, disclosure forms shall not be required at time of award or commitment but shall be filed within 30 days.

(h) No reporting is required for an activity paid for with appropriated funds if that activity is allowable under either subpart B or C.

SAFE OPERATION OF MOTOR VEHICLES

Seat Belt Use

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

Distracted Driving

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

SEISMIC SAFETY

The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation (DOT) Seismic Safety Regulations 49 C.F.R. part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract, including work performed by a subcontractor, is in compliance with the standards required by the Seismic Safety regulations and the certification of compliance issued on the project.

SIMPLIFIED ACQUISITION THRESHOLD

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

SOLID WASTES (RECOVERED MATERIALS)

(a) A Recipient or subrecipient that is a State agency or agency of a political subdivision of a State and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 as amended, 42 U.S.C. 6962. The requirements of Section 6002 include procuring only items designated in the guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

(b) The recipient or subrecipient should, to the greatest extent practicable and consistent with law, purchase, acquire, or use products and services that can be reused, refurbished, or recycled; contain recycled content, are biobased, or are energy and water efficient; and are sustainable. This may include purchasing compostable items and other products and services that reduce the use of single-use plastic products. See Executive Order 14057, section 101, Policy.

SPECIAL NOTIFICATION REQUIREMENTS FOR STATES

Applies to States –

a. To the extent required under federal law, the State, as the Recipient, agrees to provide the following information about federal assistance awarded for its State Program, Project, or related activities:

- (1) The Identification of FTA as the federal agency providing the federal assistance for a State Program or Project;
- (2) The Catalog of Federal Domestic Assistance Number of the program from which the federal assistance for a State Program or Project is authorized; and
- (3) The amount of federal assistance FTA has provided for a State Program or Project.

b. Documents - The State agrees to provide the information required under this provision in the following documents:

- (1) applications for federal assistance,
- (2) requests for proposals or solicitations,
- (3) forms,
- (4) notifications,
- (5) press releases,
- (6) other publications.

TERMINATION

Termination for Convenience (General Provision)

The Agency may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Agency's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to Agency to be paid the Contractor. If the Contractor has any property in its possession belonging to Agency, the Contractor will account for the same, and dispose of it in the manner Agency directs.

Termination for Default [Breach or Cause] (General Provision)

If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the Agency may terminate this contract for default. Termination shall be effected by serving a Notice of Termination on the Contractor setting forth the manner in which the Contractor is in default. The Contractor will be paid only the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract. If it is later determined by the Agency that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the Agency, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a Termination for Convenience.

Opportunity to Cure (General Provision)

The Agency, in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in which to cure the defect. In such case, the Notice of Termination will state the time period in which cure is permitted and other appropriate conditions

If Contractor fails to remedy to Agency's satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within [10 days] after receipt by Contractor of written notice from Agency setting forth the nature of said breach or default, Agency shall have the right to terminate the contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude Agency from also pursuing all available remedies against Contractor and its sureties for said breach or default.

Waiver of Remedies for any Breach

In the event that Agency elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this contract, such waiver by Agency shall not limit Agency's remedies for any succeeding breach of that or of any other covenant, term, or condition of this contract.

Termination for Convenience (Professional or Transit Service Contracts)

The Agency, by written notice, may terminate this contract, in whole or in part, when it is in the Agency's interest. If this contract is terminated, the Agency shall be liable only for payment under the payment provisions of this contract for services rendered before the effective date of termination.

Termination for Default (Supplies and Service)

If the Contractor fails to deliver supplies or to perform the services within the time specified in this contract or any extension, or if the Contractor fails to comply with any other provisions of this contract, the Agency may terminate this contract for default. The Agency shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner or performance set forth in this contract. If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Agency.

Termination for Default (Transportation Services)

If the Contractor fails to pick up the commodities or to perform the services, including delivery services, within the time specified in this contract or any extension, or if the Contractor fails to comply with any other provisions of this contract, the Agency may terminate this contract for default. The Agency shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of default. The Contractor will only be paid the contract price for services performed in accordance with the manner of performance set forth in this contract.

If this contract is terminated while the Contractor has possession of Agency goods, the Contractor shall, upon direction of the Agency, protect and preserve the goods until surrendered to the Agency or its agent. The Contractor and Agency shall agree on payment for the preservation and protection of goods. Failure to agree on an amount will be resolved under the Dispute clause.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Agency.

Termination for Default (Construction)

If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will ensure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provision of this contract, Agency may terminate this contract for default. The Agency shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the Agency may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Agency resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Agency in completing the work.

The Contractor's right to proceed shall not be terminated nor shall the Contractor be charged with damages under this clause if: 1. The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of Agency, acts of another contractor in the performance of a contract with Agency, epidemics, quarantine restrictions, strikes, freight embargoes; and 2. The Contractor, within [10] days from the beginning of any delay, notifies Agency in writing of the causes of delay. If, in the judgment of Agency, the delay is excusable, the time for completing the work shall be extended. The judgment of Agency shall be final and conclusive for the parties, but subject to appeal under the Disputes clause(s) of this contract. 3. If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of Agency.

Termination for Convenience or Default (Architect and Engineering)

The Agency may terminate this contract in whole or in part, for the Agency's convenience or because of the failure of the Contractor to fulfill the contract obligations. The Agency shall terminate by delivering to the Contractor a Notice of Termination specifying the nature, extent, and effective date of the termination. Upon receipt of the notice, the Contractor shall (1) immediately discontinue all services affected (unless the notice directs otherwise), and (2) deliver to the Agency's Contracting Officer all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this contract, whether completed or in process. Agency has a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, all such data, drawings, specifications, reports, estimates, summaries, and other information and materials.

If the termination is for the convenience of the Agency, the Agency's Contracting Officer shall make an equitable adjustment in the contract price but shall allow no anticipated profit on unperformed services.

If the termination is for failure of the Contractor to fulfill the contract obligations, the Agency may complete the work by contract or otherwise and the Contractor shall be liable for any additional cost incurred by the Agency.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of Agency.

Termination for Convenience or Default (Cost-Type Contracts)

The Agency may terminate this contract, or any portion of it, by serving a Notice of Termination on the Contractor. The notice shall state whether the termination is for convenience of Agency or for the default of the Contractor. If the termination is for default, the notice shall state the manner in which the Contractor has failed to perform the requirements of the contract. The Contractor shall account for any property in its possession paid for from funds received from the Agency, or property supplied to the Contractor by the Agency. If the termination is for default, the Agency may fix the fee, if the contract provides for a fee, to be paid the Contractor in proportion to the value, if any, of work performed up to the time of termination. The Contractor shall promptly submit its termination claim to the Agency and the parties shall negotiate the termination settlement to be paid the Contractor.

If the termination is for the convenience of Agency, the Contractor shall be paid its contract close-out costs, and a fee, if the contract provided for payment of a fee, in proportion to the work performed up to the time of termination.

If, after serving a Notice of Termination for Default, the Agency determines that the Contractor has an excusable reason for not performing, the Agency, after setting up a new work schedule, may allow the Contractor to continue work, or treat the termination as a Termination for Convenience.

VETERANS HIRING PREFERENCE

Veterans Employment - Construction contracts of Federal financial assistance shall ensure that contractors working on a capital project funded using such assistance give a hiring preference, to the extent practicable, to veterans (as defined in section 2108 of title 5) who have the requisite skills and abilities to perform the construction work required under the contract. This subsection shall not be understood, construed or enforced in any manner that would require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.

VIOLATION AND BREACH OF CONTRACT

Disputes:

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

Performance during Dispute:

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

Claims for Damages:

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

Remedies:

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

Rights and Remedies:

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

OTHER RECOMMENDED CONTRACT REQUIREMENTS

CONFORMANCE WITH ITS NATIONAL ARCHITECTURE

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

FEDERAL TAX LIABILITY AND RECENT FELONY CONVICTIONS

(1) The contractor certifies that it:

(a) Does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

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

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

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

SEVERABILITY

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

TRAFFICKING IN PERSONS

The contractor agrees that it and its employees that participate in the Recipient's Award, may not:

(a) Engage in severe forms of trafficking in persons during the period of time that the Recipient's Award is in effect;

(b) Procure a commercial sex act during the period of time that the Recipient's Award is in effect; or

(c) Use forced labor in the performance of the Recipient's Award or subagreements thereunder.

Federal Certifications

CERTIFICATION AND RESTRICTIONS ON LOBBYING

I, _____ hereby certify
(Name and title of official)

On behalf of _____ that:
(Name of Bidder/Company Name)

- 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 an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- If any funds other than federal appropriated funds have been paid or will be paid to any person influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants and contracts under grants, loans, and cooperative agreements) and that all sub-recipients 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 \$10,000 and not more than \$100,000 for each such failure.,

Name of Bidder/Company Name: _____

Type or print name: _____

Signature of authorized representative: _____ Date _____ / _____ / _____

GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Recipients, contractors, and subcontractors that enter into covered transactions are required to verify that the entity (as well as its principals and affiliates) with which they propose to contract or subcontract is not excluded or disqualified. This is done by: (a) checking the SAM exclusions; (b) collecting a certification from that person (found below); or (c) adding a clause or condition to the contract or subcontract.

Instructions for Certification: Signing below indicates the prospective lower tier participant is providing the signed certification.

(1) It will comply and facilitate compliance with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 CFR part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," 2 CFR part 180,

(2) To the best of its knowledge and belief, that its Principals and Subrecipients at the first tier:

a. Are eligible to participate in covered transactions of any Federal department or agency and are not presently:

1. Debarred,
2. Suspension,
3. Proposed for debarment,
4. Declared ineligible,
5. Voluntarily excluded, or
6. Disqualified

b. Its management has not within a three-year period preceding its latest application or proposal been convicted of or had a civil judgment rendered against any of them for:

1. Commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction, or contract under a public transaction,
2. Violation of any Federal or State antitrust statute, or,
3. Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making any false statement, or receiving stolen property,

c. It is not presently indicted for, or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses listed in the preceding subsection 2.b of this Certification,

d. It has not had one or more public transactions (Federal, State, or local) terminated for cause or default within a three-year period preceding this Certification,

e. If, at a later time, it receives any information that contradicts the statements of subsections 2.a – 2.d above, it will promptly provide that information to FTA,

f. It will treat each lower tier contract or lower tier subcontract under its Project as a covered lower tier contract for purposes of 2 CFR part 1200 and 2 CFR part 180 if it:

1. Equals or exceeds \$25,000,
2. Is for audit services, or,
3. Requires the consent of a Federal official, and

g. It will require that each covered lower tier contractor and subcontractor:

1. Comply and facilitate compliance with the Federal requirements of 2 CFR parts 180 and 1200, and
2. Assure that each lower tier participant in its Project is not presently declared by any Federal department or agency to be:
 - a. Debarred from participation in its federally funded Project,
 - b. Suspended from participation in its federally funded Project,
 - c. Proposed for debarment from participation in its federally funded Project,
 - d. Declared ineligible to participate in its federally funded Project,
 - e. Voluntarily excluded from participation in its federally funded Project, or
 - f. Disqualified from participation in its federally funded Project, and

(3) It will provide a written explanation as indicated on a page attached in FTA's TrAMS platform or the Signature Page if it or any of its principals, including any of its first tier Subrecipients or its Third-Party Participants at a lower tier, is unable to certify compliance with the preceding statements in this Certification Group.

Certification

Contractor: _____

Signature of Authorized Official: _____ Date ____/____/____

Name and Title of Contractor's Authorized Official: _____

**BUY AMERICA CERTIFICATION
STEEL OR MANUFACTURED PRODUCTS**

If steel, iron, or manufactured products (as defined in 49 CFR 661.3 and 661.5) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 49 CFR 661.13(b).

Certificate of Compliance with Buy America Requirements

The bidder or offeror 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.

Company _____
Name _____ Title _____
Signature _____ Date _____

Certificate of Non-Compliance with Buy America Steel or Manufactured Products Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7.

Company _____
Name _____ Title _____
Signature _____ Date _____