



PROJECT MANAGEMENT

**INFORMAL INVITATION TO BID REQUEST
#24-25-10**

**HVAC REPLACEMENT
AAON UNIT #6 & #7 and IN-LINE DUCT HUMIDIFIERS
CITY HALL**

MANDATORY

**PRE-BID MEETING: TUESDAY, SEPTEMBER 10, 2024 @ 10:00 AM
CITY HALL CONFERENCE ROOM 337
200 W. FIFTH STREET, GREENVILLE, NC**

**BIDS DUE DATE: TUESDAY, SEPTEMBER 24, 2024 @ 2:00 PM
PROJECT MANAGEMENT
2000 CEDAR LANE, GREENVILLE, NC 27834**

CONTACT PERSONS:

QUESTIONS REGARDING THE BID PACKAGE:

*Wanda House
Financial Services Manager
Telephone: (252) 329-4862
Email: whouse@greenvillenc.gov*

QUESTIONS REGARDING THE SPECIFICATIONS:

*Mr. Ross Peterson
Project Management
Telephone: (252) 329-4570
Email: rpeterson@greenvillenc.gov*

CITY OF GREENVILLE
ADVERTISEMENT FOR PROPOSALS
HVAC REPLACEMENT
AAON Unit #6 & #7 and In-Line Duct Humidifiers
City Hall, 200 W. 5th Street, Greenville, NC 27835

The City of Greenville, NC is requesting proposals for the "AAON Unit #6 & #7 and In-Line Duct Humidifiers Replacement" located at the City Hall, 200 W. 5th Street, Greenville, NC 27834. The scope of work shall include but is not limited to the removal of the existing AAON units and humidifiers. Replacing with "like to like" AAON units, equal to in-line duct humidifiers, all ductwork associated, all electrical, and any other associated items.

This is a turn-key project with exception of third party controls.

A mandatory pre-bid meeting and site visit will be held at City Hall, located at 200 W. 5th Street, Greenville, NC on Tuesday, September 10, 2024 @ 10:00 AM. Site visit to follow the pre-bid meeting. An additional site visit for pre-bid attendees will be available by appointment at 10:00 AM on Thursday, September 12, 2024. Contact Ross Peterson, Project Management at rpeterson@greenvillenc.gov to schedule appointment.

The person, firm or corporation making a proposal shall submit a bid to *Ross Peterson, Project Management*, on or before the hour and day of Tuesday, September 24, 2024 by 2:00pm. The preferred method of delivery of the bid is by email to rpeterson@greenvillenc.gov. The bid may also be mailed or hand delivered to the Jaycee Park Administrative office located at 2000 Cedar Lane, Greenville, N.C., 27834 and must be received prior to the submittal deadline time and date. Any method of submitting must state and shall have the words *Bid Enclosed, AAON Unit #6 & #7 and in-line duct humidifiers Replacement Attn: Ross Peterson* along with the company name in the subject line or on the outside of the envelope.

Bids received after the deadline will not be opened. All bids will be marked with the date and time they are received by reception staff. Bids will NOT be opened and read aloud. Bids will be open and reviewed by city staff. A bid tabulation will be available upon request once the contract is awarded to the successful bidder.

The bidder shall include the required responses and supply all the information as indicated on Attachment A, B, C, D, and E. The prices inserted on Bid Form, Attachment C shall be net 2and shall be the full cost including all factors whatsoever. Any bids not submitted on such forms provided will be considered unresponsive.

No bid may be changed or withdrawn after the time of the opening. Any modifications or withdrawals requested before this time shall be acceptable only when such request in writing is made to *Ross Peterson, Project Management*.

The City of Greenville reserves the right to reject any or all bids, waive any informality and award contracts that appear to be in its best interest. The right is reserved to hold any or all proposals for a period of sixty (60) days from the bid opening thereof.

The scope of work attached represents the minimum specification or description of work to be purchased or contracted. These requirements are not intended to prevent fair responses or to eliminate competition, but they are intended for the protection of each and every proposer to insure, if possible, that all bids submitted shall be upon a fair and comparable basis.

All work shall be FOB, Greenville, N.C.

From the date of this advertisement until the date of opening the proposals, the plans and specifications of the proposed work and/or a complete description of the apparatus, supplies, materials or equipment are and will continue to be on file in the office of the City of Greenville Financial Services Manager, 200 W. 5th Street, Greenville, NC 27834, during regular business hours, and available to prospective bidders. Inquiries should be directed to the Financial Services Manager at the above address --- Telephone (252) 329-4862. Minority/Women owned business are encouraged to submit proposals.

INSTRUCTIONS TO BIDDERS

**Proposal to Provide
HVAC Replacement
AAON Unit #6 & #7 and In-Line Duct Humidifiers Replacement
City Hall, 200 W. 5th Street, Greenville, NC 27835**

- 1. Contractor is to provide verification to the City that the company's employees are covered under worker's compensation insurance coverage.**
- 2. All permits can be obtained through the City at no cost to the Contractor.**
- 3. It is expressly understood by the contractor offering a proposal after a written notice of award by the City, a purchase order will be required to be executed and will serve together with this proposal, these instructions, scope of work, and any detailed specifications as the entire form of contract between the parties except in cases where formal contracts are warranted.**
- 4. Each Contractor submitting a proposal is affirming that no official or employee of the City is directly or indirectly interested in this proposal for any reason of personal gain.**
- 5. Sales taxes may be listed on the proposal, but as a separate item. No charge will be allowed for Federal Excise and Transportation Tax from which the City is exempt.**
- 6. Questions regarding any procedure for submission of a proposal for the AAON Units #6 & #7 and In-Line Duct Humidifiers Replacement shall be directed by email to Ross Peterson, Project Management, at rpeterson@greenvillenc.gov. Questions shall be submitted by 5:00 PM, Tuesday, September 17, 2024. Answers will be provided in an addendum and email to those that signed in at the pre-bid by 5:00 PM, Thursday, September 19, 2024. If an addendum is provided it must be indicated by initialing on bid form. Addendums will be available on city web page.**
- 7. If the Contractor is unable to provide a proposal for any reason, please send an email with an explanation to rpeterson@greenvillenc.gov.**
- 8. By submitting a proposal for AAON Units #6 & #7 and In-Line Duct Humidifiers Replacement – City Hall, the Contractor attests that it is in compliance with all items listed in the bid/proposal instructions. Furthermore, the Contractor attests that the City of Greenville accepts no responsibility for any injuries to the firm's employees, while on City property performing their duties.**
- 9. Contractor shall comply with all local, state, and federal laws, as well as safety/regulatory requirements and ordinances associated with the work within this contract**
- 10. It is expected that work would schedule and begin once the delivery of units and humidifiers are verified from manufacture and contractor.**
- 11. It shall be the responsibility of the contractor to visit the site that will be covered in this contract and to understand the area that is to be included prior to submitting a bid. Site visit will be available after pre-bid meeting.**
- 12. Contractor is responsible for all measurements pertaining to the scope of work when submitting a bid.**
- 13. Contractor shall be responsible for damage to the property caused by work performed during AAON Units #6 & #7 and In-Line Duct Humidifiers Replacement – City Hall including, but not limited to, buildings, curbs, parking blocks, islands, sidewalks, light poles, signs, landscaping, paving or striping of the property or equipment used in connection therewith.**

14. Contractor is responsible for protecting all roofs (including coatings), surfaces, fixtures, equipment, walking/driving surfaces, pedestrians and general public and their property from damage from work performed.
15. Traffic control will be maintained by the Contractor in coordination with the city staff.
16. No work will be performed at any time without proper supervision. Supervisors name and direct contact information shall be provided to Ross Peterson, Project Management at rpeterson@greenvillenc.gov.
17. Parking and staging areas for equipment and materials can be arranged on site during the pre-construction meeting conducted prior to the work starting.
18. Work on this project will have to be performed so as to minimize disruption of City Hall daily operations.
19. All work must be performed Monday – Friday from 7:00 AM to 5:00 PM. Other days and hours will have to be approved in advance by project management.
20. Project is to be performed to maintain conditioned air to space served by units at all times.
21. Due to expected timing of replacement during fall/winter season, contractor is to include a service call to check system and ensure unit is cooling properly and humidification system is working when temperatures reach 80 degrees. This shall be coordinated with Ross Peterson, Project Management at rpeterson@greenvillenc.gov.
22. The Contractor shall accompany a designated representative(s) of the City on inspections of work at any time during the contract period. The City reserves the right to make determinations as to whether service is performed satisfactorily. Deficiencies in work performance must be corrected immediately.
23. Deficiencies in work performance must be corrected immediately. The City reserves the right to add or delete similar items/services specified in the proposal as requirements change during the period of the contract. The City of Greenville and the Contractor will mutually agree upon prices for items/services to be added or deleted from contract. A contract amendment will be issued for each addition or deletion.
24. Contractor shall not engage subcontractors to perform the Services without the City of Greenville's prior written consent by Project Management or designee. If any part of this work agreement is sublet, the subcontractor shall be required to meet all insurance requirements set forth in the Agreement. The parties stipulate that the Company will maintain each type of insurance set forth in the Agreement at a coverage equal to the amount set forth in the Agreement at a coverage equal to the amount set forth for each type of insurance. However, nothing contained herein shall relieve the Company from meeting all insurance requirements or otherwise being responsible for the subcontractor.
25. Contractor is responsible for cleaning the worksite daily prior to the end of day.
26. New vendors must register online at the City of Greenville Vendor Self Service portal: <https://selfservice.greenvillenc.gov/vss>. This does not have to be completed to submit a bid, however, the bidder must be a registered vendor prior to award of the contract.

SPECIFICATIONS

HVAC Replacement AAON Unit #6 & #7 and In-Line Duct Humidifiers Replacement 200 W. 5th Street, Greenville, NC 27835

1.0 SCOPE:

The scope of work shall include, but is not limited to:

- 1.1 Contractor will have 14 consecutive working days to complete project.**
- 1.2 Contractor must maintain conditioned air to space at all times.**
- 1.3 The Contractor shall provide all labor, equipment, crane, materials and insurance necessary to remove and replace AAON Units #6 & #7 and In-Line Duct Humidifiers – City Hall and all other necessary work to complete installation per attached equipment specifications, Exhibit B & C.**
- 1.4 New rooftop units shall be manufactured by AAON.**
- 1.5 Include extended warranty of 10 years on all parts of AAON units. Standard manufacture warranty for humidifiers.**
- 1.6 Start-up and commissioning shall be performed by a AAON authorized representative.**
- 1.7 New humidifiers shall be an approved equal to existing humidifiers and fit existing roof curbing.**
- 1.8 All work shall be done by certified/licensed contractors.**
- 1.9 Obtain all permits from the City of Greenville at no cost.**
- 1.10 All electrical and duct connections shall be included. Connections shall be watertight and insulated.**
- 1.11 The new AAON units shall provide input/output as needed to maintain all current third-party controls.**
- 1.12 Reconnections of high and low voltage power to AAON units shall be done by a licensed electrician. Contractor is to utilize and connect to existing electrical services and verify the existing electrical is adequate and compatible with installation of the new unit. The contractor will be responsible for replacing and updating all necessary electrical components.**
- 1.13 Replace all existing flexible electrical conduit and connections shall be watertight**
- 1.14 Third party vendor, Schneider Electric, will be retained by the City to disconnect and reconnect Building Automation System (BAS) control. The Contractor and City Staff will coordinate with Schneider based on a timeline provided by the Contractor.**
- 1.15 Associated dampers to AAON units shall be check for proper operation. If contractor finds damper malfunction, they should report malfunction with a solution for repair to Ross Peterson, Project Management at rpeterson@greenvillenc.gov.**

- 1.16 Contractor shall perform testing of fire safety shut off in coordination with Ross Peterson, Project management.**
- 1.17 Install new PVC drain piping to existing roof drains. New PVC supports shall be provided.**
- 1.18 Contractor is responsible for haul off and proper disposal of old units and associated equipment and debris.**
- 1.19 Cleanup and removal of all debris at work site.**
- 1.20 After completion, owner and contractor will perform walk through to determine punch list items. Any punch list items shall be address within a week.**
- 1.21 Provide close out documents to include warranty and manuals.**

2.0 PAYMENT AND BID:

- 2.1 Bidders will comply with all local, state, and federal laws and ordinances governing said work including the Occupational Safety and Health Act of 1970.**
- 2.2 By submitting a proposal, the firm is attesting that they are an Equal Opportunity Employer.**
- 2.3 The City of Greenville has adopted an Affirmative Action Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment.**

2.4 Minority and/or Women Business Enterprise (MWBE) Program

It is the policy of the City of Greenville to provide minorities and women equal opportunity for participating in all aspects of the City's contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchases, and professional and personal service contracts. In accordance with this policy, the City has adopted a Minority and Women Business Enterprise (MWBE) Plan and subsequent program, outlining verifiable goals.

The City has established a 10% Minority Business Enterprise (MBE) and 6% Women Business Enterprise (WBE) goal for the participation of MWBE firms in supplying goods and services for the completion of this project. All firms submitting bids agree to utilize minority and women-owned firms whenever possible.

Refer to Exhibit "C" for all Minority and/or Woman Business Enterprise (MWBE) requirements.

Questions regarding the City's MWBE Program should be directed to Wanda House at (252) 329-4862.

- 2.5 The City of Greenville reserves the right to reject any and all bids, to waive any informalities and to accept the bid if seems most advantages to the City. Any bid submitted will be binding for sixty (60) days after the date of the bid opening.**

2.6 Equal Employment Opportunity Clause

The City of Greenville is an equal opportunity employer and strictly prohibits discrimination against any employee or applicant for employment because of the individual's race, color, religion, age, gender, disability, national origin, genetic information, sexual orientation, gender identity/reassignment or expression, military or veteran status, marital status, or any

characteristic protected by applicable law. By submitting qualifications and/or proposals, the firm is attesting that they are an Equal Opportunity Employer. Federal law (Rehabilitation Act and ADA) prohibits handicapped discrimination by all governmental units. By submitting a proposal, the vendor is attesting to its policy of nondiscrimination regarding the handicapped.

2.7 Iran Divestment Act Certification:

The CONTRACTOR hereby certifies that, it is not on the Iran Final Divestment List created by the North Carolina State Treasurer pursuant to N.C.G.S. 147-86.58. The CONTRACTOR shall not utilize in the performance of the Agreement any subcontractor that is identified on the Iran Final Divestment List.

2.8 E-Verify Compliance:

The CONTRACTOR shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further if the CONTRACTOR utilizes a subcontractor, the CONTRACTOR shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. The CONTRACTOR represents that the CONTRACTOR and its subcontractors are in compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

2.9 TITLE VI NONDISCRIMINATION NOTIFICATION

The City of Greenville, North Carolina in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all respondents that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit proposals in response to this advertisement and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

2.10 If necessary, the contractor must complete a new vendor application and associated documents as required upon acceptance of this contract.

2.11 The contractor will develop a lump sum bid; that will include, but is not limited to all work, equipment, parts, and labor specified herein.

3.0 WORKERS COMPENSATION AND INSURANCE:

3.1 The contractor must maintain during the life of this contract, Worker's Compensation Insurance for all employees working at the project site under this contract, or as otherwise required by North Carolina General Statutes.

3.2 The Consultant/Contractor agrees to purchase at its own expense insurance coverages to satisfy the following minimum requirements. Work under this contract shall not commence until all insurance required as listed has been obtained. Insurance required shall remain in effect through the life of this contract.

a. Workers' Compensation Insurance: No contractor or subcontractor may exclude executive officers. Workers Compensation must include all employees

Limits:

Workers Compensation:	Statutory for the State of North Carolina.
Employers Liability:	Bodily Injury by Accident \$1,000,000 each accident.
	Bodily Injury by Disease \$1,000,000 policy limit.

Bodily Injury by Disease \$1,000,000 each employee.

b. Commercial General Liability:

Limits:

**Each Occurrence: \$1,000,000
 Personal and Advertising Injury \$1,000,000
 General Aggregate Limit \$2,000,000
 Products and Completed Operations Aggregate \$2,000,000**

The aggregate limit must apply per project. The form of coverage must be the ISO CG 00 01 policy as approved by the State of North Carolina Department of Insurance. If a form of coverage other than the CG 00 01 is used it must be approved by the City. Any endorsed exclusions or limitations from the standard policy must be clearly stated in writing and attached to the Certificate of Insurance. Completed Operations coverage must be maintained for the period of the applicable statute of limitations. Additionally, the Consultant/Contractor must be added as an Additional Insured to the Commercial General Liability policy.

c. Commercial Automobile Liability:

Limits: \$1,000,000 combined single limit.

d. Cancellation:

Each certificate of insurance shall bear the provision that the policy cannot be altered or canceled in less than ten (10) days after mailing written notice to the assured of such alteration or cancellation, sent registered mail.

e. Proof of Carriages:

- I. The Consultant/Contractor shall provide the City with insurance industry standard ACCORD form Certificate(s) of Insurance on all policies of insurance and renewals thereof in a form(s) acceptable to the City prior to the commencement of services. Said policies shall provide that the City be an additional named insured.**
- II. The City shall be notified in writing of any reduction, cancellation, or substantial change of policy or policies at least thirty (30) days prior to the effective date of said action.**
- III. All insurance policies shall be issued by responsible companies who are acceptable to the City and licensed and authorized to do business under the laws of North Carolina.**

3.3 OTHER INSURANCE:

The contractor shall furnish such additional insurance as may be required by the General Statutes of North Carolina, including motor vehicle insurance in amounts not less than statutory limits.

- 3.4 The contractor shall furnish the owner with satisfactory proof of insurance required before written approval of such insurance is granted by the owner.
 Executed contract documents, insurance certifications, invoices and other information requested, are to be sent to:**

*Ross Peterson, Project Management
 City of Greenville
 2000 Cedar Lane
 Greenville, N.C. 27834
 Email: rpeterson@greenvillenc.gov*

3.4 CANCELLATION:

Each certificate of insurance shall bear the provision that the policy cannot be altered or canceled in less than ten (10) days after mailing written notice to the assured of such alteration or cancellation, sent registered mail.

4.0 DAMAGE TO CONTRACTORS' PROPERTY:

- 4.1** The City of Greenville shall be under no obligation to replace or in any way compensate the contractor for fire, theft, vandalism or any other casualty, injury or damage to equipment or property belonging to the contractor while on City property.
- 4.2** The successful bidder agrees to indemnify or hold harmless the City of Greenville from and against any liability, loss, cost, damage suit, claim, or expense arising occurrence on the part of the successful bidder to include its officers, servants, agents or employees arising from its activities, operations, and performance of services while on City property and further agrees to release and discharge the City of Greenville and its Agents from all claims or liabilities arising from or caused by the successful bidder in fulfilling its obligations under this Agreement.
- 4.3** It is understood and agreed by the parties that the City of Greenville will assume no liability for damages, injury, or other loss to the successful bidder, its employees or property, tools or equipment, or to other persons or properties located on City facilities resulting from the successful bidder's activities and operations while performing those service enumerated herein. The successful bidder shall assume full and complete liability for any and all damages on City or private properties caused by or resulting from its activities, operations, and that of its employees, agents and officers.

5.0 ADDENDUM

- 5.1** Addendum: Any changes to the specifications will be issued as a written addendum. No oral statements, explanations, or commitments by whosoever shall be of any effect.
- 5.2** Amendment: The contract may be amended from time to time through written agreement by both parties.



PROJECT MANAGEMENT

6.0 REFERENCE INFORMATION

All bidders must provide a list of three (3) client references of similar work. The reference information must include the company's name, a contact person's name with his or her title and their telephone number. Contractor must provide the information below with their bid sheet. Contractor must be experienced in projects of similar construction.

1. **Company name:** _____
 Contact person: _____
 Title: _____ **Phone No.** _____

2. **Company name:** _____
 Contact person: _____
 Title: _____ **Phone No.** _____

3. **Company name:** _____
 Contact person: _____
 Title: _____ **Phone No.** _____



PROJECT MANAGEMENT

7.0 CONTRACTOR INFORMATION

Contractor must provide the information below with the bid sheet.

**CITY OF GREENVILLE
NORTH CAROLINA
PROSPECTIVE CONTRACTOR DATA FORM**

Company Name: _____

Address: _____

Phone Number: _____ **Mobile Phone Number:** _____

Email: _____ **Business Fax Number:** _____

Tax ID# _____

NC General Contractors License# _____

Corporation or Partnership: _____

Number of Years in Business: _____



PROJECT MANAGEMENT

**CITY OF GREENVILLE
PROJECT MANAGEMENT DEPARTMENT
REQUEST FOR BIDS**

In compliance with the request for bids by the City of Greenville and subject to all conditions and specifications thereof, the undersigned offers and agrees to furnish all equipment, labor and work site clean-up as provided in the above-mentioned specifications.

Description

AAON Units #6 & #7 and In-Line Duct Humidifiers Replacement including 10-year extended warranty for parts on AAON Units:

Lump Sum Bid Total

\$ _____

Bid reviewed, prepared and submitted by-

Company Name: _____

Addenda Received: _____

Signed: _____

Print Name: _____

Date: _____

**City of Greenville/Greenville Utilities Commission
Minority and Women Business Enterprise (MWBE) Program**

**City of Greenville
Construction Guidelines and Affidavits
\$100,000 and above**

These instructions shall be included with each bid solicitation.

City of Greenville/Greenville Utilities Commission Minority and Women Business Enterprise Program

\$100,000 and Construction Guidelines for MWBE Participants

Policy Statement

It is the policy of the City of Greenville and Greenville Utilities Commission to provide minorities and women equal opportunity for participating in all aspects of the City's and Utilities' contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchases, and professional and personal service contracts.

Goals and Good Faith Efforts

Bidders responding to this solicitation shall comply with the MWBE program by making Good Faith Efforts to achieve the following aspiration goals for participation.

	CITY	
	MBE	WBE
Construction This goal includes Construction Manager at Risk.	10%	6%

Bidders shall submit MWBE information with their bids on the forms provided. This information will be subject to verification by the City prior to contract award. **As of July 1, 2009, contractors, subcontractors, suppliers, service providers, or MWBE members of joint ventures intended to satisfy City MWBE goals shall be certified by the NC Office of Historically Underutilized Businesses (NC HUB) only.** Firms qualifying as "WBE" for City's goals must be designated as a "women-owned business" by the HUB Office. Firms qualifying as "MBE" for the City's goals must be certified in one of the other categories (i.e.: Black, Hispanic, Asian American, American Indian, Disabled, or Socially and Economically Disadvantaged). Those firms who are certified as both a "WBE" and "MBE" may only satisfy the "MBE" requirement. **Each goal must be met separately. Exceeding one goal does not satisfy requirements for the other.** A complete database of NC HUB certified firms may be found at <http://www.doa.nc.gov/hub/>. An internal database of firms who have expressed interest to do business with the City and GUC is available at www.greenvillenc.gov. However, the HUB status of these firms must be verified by the HUB database. The City shall accept NCDOT certified firms on federally funded projects only. Please note: A contractor may utilize any firm desired. However, for participation purposes, all MWBE vendors who wish to do business as a minority or female must be certified by NC HUB.

The Bidder shall make good faith efforts to encourage participation of MWBEs prior to submission of bids in order to be considered as a responsive bidder. Bidders are cautioned that even though their submittal indicates they will meet the MWBE goal, they should document their good faith efforts and be prepared to submit this information, if requested.

The MWBE's listed by the Contractor on the **Identification of Minority/Women Business Participation** which are determined by the City to be certified shall perform the work and supply the materials for which they are listed unless the Contractors receive prior authorization from the City to perform the work with other forces or to obtain materials from other sources. If a contractor is proposing to perform all elements of the work with his own forces, he must be prepared to document evidence satisfactory to the owner of similar government contracts where he has self-performed.

The Contractor shall enter into and supply copies of fully executed subcontracts with each MWBE or supply signed Letter(s) of Intent to the Project Manager after award of contract and prior to Notice to Proceed. Any amendments to subcontracts shall be submitted to the Project Manager prior to execution.

Instructions

The Bidder shall provide with the bid the following documentation:

- ☐ Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- ☐ Affidavit A (if subcontracting)

OR

- ☐ Identification of Minority/Women Business Participation
(if participation is zero, please mark zero—Blank forms will be considered nonresponsive)
- ☐ Affidavit B (if self-performing; must attest that bidder does not customarily subcontract work on this type of project—includes supplies and materials)

Within 72 hours or 3 business days after notification of being the apparent low bidder who is subcontracting anything must provide the following information:

- ☐ Affidavit C (if aspirational goals are met or are exceeded)

OR

- ☐ Affidavit D (if aspirational goals are not met)

After award of contract and prior to issuance of notice to proceed:

- ☐ Letter(s) of Intent or Executed Contracts

****With each pay request, the prime contractors will submit the Proof of Payment Certification, listing payments made to MWBE subcontractors.**

*****If a change is needed in MWBE Participation, submit a Request to Change MWBE Participation Form. Good Faith Efforts to substitute with another MWBE contractor must be demonstrated.**

Minimum Compliance Requirements:

All written statements, affidavits, or intentions made by the Bidder shall become a part of the agreement between the Contractor and the City for performance of contracts. Failure to comply with any of these statements, affidavits or intentions or with the minority business guidelines shall constitute a breach of the contract. A finding by the City that any information submitted (either prior to award of the contract or during the performance of the contract) is inaccurate, false, or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the City whether to terminate the contract for breach or not. In determining whether a contractor has made Good Faith Efforts, the CITY will evaluate all efforts made by the Contractor and will determine compliance in regard to quantity, intensity, and results of these efforts.

Identification of Minority/Women Business Participation

I, _____,
(Name of Bidder)

do hereby certify that on this project, we will use the following minority/women business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work type	*MWBE Category

*MWBE categories: Black, African American (**B**), Hispanic, Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

If you will not be utilizing MWBE contractors, please certify by entering zero “0”

The total value of MBE business contracting will be (\$)_____.

The total value of WBE business contracting will be (\$)_____.

City of Greenville **AFFIDAVIT A – Listing of Good Faith Efforts**

County of _____

(Name of Bidder)

Affidavit of _____

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- ☐ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ☐ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- ☐ **3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ☐ **5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- ☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☐ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ☐ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority/Women Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority/women business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this ____ day of ____ 20__

Notary Public _____

My commission expires _____

**City of Greenville --AFFIDAVIT B-- Intent to Perform
Contract with Own Workforce.**

County of _____

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.

(Name of Project)

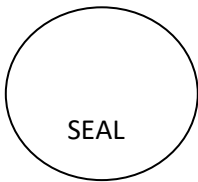
In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____



Title: _____

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20__

Notary Public _____

My commission expires _____

City of Greenville - AFFIDAVIT C - Portion of the Work to be Performed by MWBE Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by MWBE businesses as defined in GS143-128.2(g) and the COG/CITY MWBE Plan sec. III is equal to or greater than 16% of the bidders total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification of being low bidder.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

(Project Name)

Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below.

Attach additional sheets if required

Name and Phone Number	*MWBE Category	Work description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

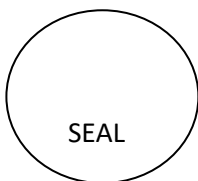
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

City of Greenville **AFFIDAVIT D – Good Faith Efforts**

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the goal of 16% participation by minority/women business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify
(Name of Bidder)

that on the _____
(Project Name)

Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below.

(Attach additional sheets if required)

Name and Phone Number	*MWBE Category	Work description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

Examples of documentation required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster.
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with MWBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

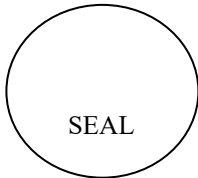
Title: _____

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____



LETTER OF INTENT MWBE Subcontractor Performance

Please submit this form or executed subcontracts with MWBE firms after award of contract and prior to issuance of notice to proceed.

PROJECT: _____
(Project Name)

TO: _____
(Name of Prime Bidder/Architect)

The undersigned intends to perform work in connection with the above project as a:

_____ Minority Business Enterprise _____ Women Business Enterprise

The MWBE status of the undersigned is certified the NC Office of Historically Underutilized Businesses (required). ___ Yes ___ No

The undersigned is prepared to perform the following described work or provide materials or services in connection with the above project at the following dollar amount:

Work/Materials/Service Provided	Dollar Amount of Contract	Projected Start Date	Projected End Date

(Date)

(Address)

(Name & Phone No. of MWBE Firm)

(Name & Title of Authorized Representative of MWBE)

(Signature of Authorized Representative of MWBE)

REQUEST TO CHANGE MWBE PARTICIPATION

(Submit changes only if notified as apparent lowest bidder, continuing through project completion)

Project: _____

Bidder or Prime Contractor: _____

Name & Title of Authorized Representative: _____

Address: _____ **Phone #:** _____

_____ **Email Address:** _____

Total Contract Amount (including approved change orders or amendments): \$ _____

Name of subcontractor: _____

Good or service provided: _____

Proposed Action:

____ Replace subcontractor

____ Perform work with own forces

For the above actions, you must provide one of the following reasons (Please check applicable reason):

____ The listed MBE/WBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract.

____ The listed MBE/WBE is bankrupt or insolvent.

____ The listed MBE/WBE fails or refuses to perform his/her subcontract or furnish the listed materials.

____ The work performed by the listed subcontractor is unsatisfactory according to industry standards and is not in accordance with the plans and specifications; or the subcontractor is substantially delaying or disrupting the progress of the work.

If replacing subcontractor:

Name of replacement subcontractor: _____

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). ☐ Yes ☐ No

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Other Proposed Action:

☐ Increase total dollar amount of work

☐ Add additional subcontractor

☐ Decrease total dollar amount of work

☐ Other

Please describe reason for requested action: _____

If adding additional subcontractor:*

The MWBE status of the contractor is certified by the NC Office of Historically Underutilized Businesses (required). ☐ Yes ☐ No

**Please attach Letter of Intent or executed contract document*

Dollar amount of original contract \$ _____

Dollar amount of amended contract \$ _____

Interoffice Use Only:

Approval ☐ Y ☐ N

Date _____

Signature

Proof of Payment Certification

MWBE Contractors, Suppliers, Service Providers

Pay Application No. _____

Purchase Order No. _____

Project Name: _____

Prime Contractor: _____

Current Contract Amount (including change orders): \$ _____

Requested Payment Amount for this Period: \$ _____

Is this the final payment? ___ Yes ___ No

Firm Name	MWBE Category*	Total Amount Paid from this Pay Request	Total Contract Amount (including changes)	Total Amount Remaining

*Minority categories: Black, African American (**B**), Hispanic or Latino (**L**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**S**) Disabled (**D**)

Date: _____

Certified By: _____
Name_____
Title_____
Signature

STATE OF NORTH CAROLINA

AFFIDAVIT

CITY OF GREENVILLE

I, _____ (the individual attesting below), being duly authorized by and on behalf of
 _____ (the entity bidding on project hereinafter "Employer") after first being duly
 sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (mark Yes or No)
 - a. YES _____, or
 - b. NO _____
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This ____ day of _____, 20____.

 Signature of Affiant
 Print or Type Name: _____

State of North Carolina City of Greenville

Signed and sworn to (or affirmed) before me, this the ____
 day of _____, 20____.

My Commission Expires: _____

Notary Public: _____

(Affix Official/Notarial Seal)

**CITY OF GREENVILLE
PROJECT MANAGEMENT
HVAC REPLACEMENT
City Hall AAON Unit #6 & #7 and In-Line Duct Humidifiers

SUBMITTAL FROM AAON**

Guide Specifications

RN-020 Series / 20 Nominal Tons / 460V / 3P (70 MOCP) Rooftop Units

1.06 Warranty

A. Manufacturer shall provide a limited "parts only" warranty for a period of 120 months from the date of original equipment shipment from the factory. Warranty shall cover material and workmanship that prove defective, within the specified warranty period, provided manufacturer's written instructions for Installation, Operation, and Maintenance have been followed. Warranty excludes parts associated with routine maintenance, such as belts and filters.

B. 5 Year Compressor Warranty

Part 2 - Products

2.01 Manufacturer

A. Products shall be provided by the following manufacturers:

1. AAON
2. Substitute equipment may be considered for approval that includes at a minimum:
 - a. R-454B refrigerant
 - b. Direct drive supply fans
 - c. Double wall cabinet construction
 - d. Insulation with a minimum R-value of 13
 - e. Stainless steel drain pans

2.02 Rooftop Units

A. General Description

1. Packaged rooftop unit shall include compressors, evaporator coils, filters, supply fans, dampers, exhaust fans, and unit controls.
2. Unit shall be factory assembled and tested including leak testing of the DX coils, and run testing of the completed unit. Run test report shall be supplied with the unit in the service compartment's literature pocket.

B. Construction

1. All cabinet walls, access doors, and roof shall be fabricated of double wall, impact resistant, rigid polyurethane foam panels.
2. Unit insulation shall have a minimum thermal resistance R-value of 13. Foam insulation shall have a minimum density of 2 pounds/cubic foot and shall be tested in accordance with ASTM D1929-11 for a minimum flash ignition temperature of 610°F.

3. Unit construction shall be double wall with G90 galvanized steel on both sides and a thermal break. Double wall construction with a thermal break prevents moisture accumulation on the insulation, provides a cleanable interior, reduces heat transfer through the panel, and prevents exterior condensation on the panel.
4. Unit shall be designed to reduce air leakage and infiltration through the cabinet. Cabinet leakage shall not exceed 1% of total airflow when tested at 3 times the minimum external static pressure provided in AHRI Standard 340/360. Panel deflection shall not exceed L/240 ratio at 125% of design static pressure, at a maximum 8 inches of positive or negative static pressure, to reduce air leakage. Deflection shall be measured at the midpoint of the panel height and width. Continuous sealing shall be included between panels and between access doors and openings to reduce air leakage. Piping and electrical conduit through cabinet panels shall include sealing to reduce air leakage.
5. Roof of the air tunnel shall be sloped to provide complete drainage. Cabinet shall have rain break overhangs above access doors.
6. Access to filters, dampers, cooling coils, and electrical and controls components shall be through hinged access doors with quarter turn, zinc cast, lockable handles. Full length stainless steel piano hinges shall be included on the doors.
7. Exterior paint finish shall be capable of withstanding at least 2,500 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with ASTM B 117-95 test procedure.
8. Units with cooling coils shall include double sloped 304 stainless steel drain pans.
9. Unit shall be provided with base discharge and return air openings. All openings through the base pan of the unit shall have upturned flanges of at least 1/2 inch in height around the opening.
10. Unit shall include lifting lugs on the top of the unit.

C. Electrical

1. Unit shall have a 5kAIC SCCR.
2. Unit shall be provided with factory installed and factory wired, non-fused disconnect switch.
3. Unit shall be provided with a factory installed and factory wired 115V, 12 amp GFI outlet disconnect switch in the unit control panel.
4. Unit shall be provided with phase and brown out protection which shuts down all motors in the unit if the electrical phases are more than 10% out of balance on voltage, the voltage is more than 10% under design voltage or on phase reversal.

D. Supply Fans

1. Unit shall include direct drive, unhooded, backward curved, plenum supply fans.
2. Blowers and motors shall be dynamically balance and mounted on rubber isolators.

E. Exhaust Fans

1. Exhaust dampers shall be sized for 100% relief.
2. Fans and motors shall be dynamically balanced.
3. Unit shall include barometric relief dampers.
4. Access to exhaust fans shall be through double wall, hinged access doors with quarter turn lockable handles.

F. Cooling Coils

1. Evaporator Coils

a. Coils shall be designed for use with R-454B refrigerant and constructed of copper tubes with aluminum fins mechanically bonded to the tubes and galvanized steel end casings. Fin design shall be sine wave rippled.

b. Coils shall be hydrogen or helium leak tested.

c. Coils shall be furnished with factory installed expansion valves.

1. Unit shall be factory charged with R-454B refrigerant.

a. Coils shall be designed for use with R-454B refrigerant. Coils shall be multi-pass and fabricated from aluminum microchannel tubes.

G. Filters

1. Unit shall include 4 inch thick, pleated panel filters with an ASHRAE MERV rating of 8, upstream of the cooling coil.

2. Unit shall include a clogged filter switch.

H. Outside Air/Economizer

1. Unit shall include 0-100% economizer consisting of a motor operated outside air damper and return air damper assembly constructed of extruded aluminum, hollow core, airfoil blades with rubber edge seals and aluminum end seals. Damper blades shall be gear driven and designed to have no more than 20 cfm of leakage per sq ft. at 4 in. w.g. air pressure differential across the damper. Low leakage dampers shall be Class 2 AMCA certified, in accordance with AMCA Standard 511. Damper assembly shall be controlled by spring return enthalpy activated fully modulating actuator. Unit shall include outside air opening bird screen and outside air hood. Unit, except for horizontal series, shall also include barometric relief dampers.

I. Controls

1. Factory Installed and Factory Provided Controller

a. Unit controller shall be capable of controlling all features and options of the unit. Controller shall be factory installed in the unit controls compartment and factory tested. Controller shall be capable of stand alone operation with unit configuration, setpoint adjustment, sensor status viewing, unit alarm viewing, and occupancy scheduling available without dependence on a building management system.

b. Controller shall have an onboard clock and calendar functions that allow for occupancy scheduling.

c. Controller shall include non-volatile memory to retain all programmed values without the use of a battery, in the event of a power failure.

d. Unit configuration, setpoint adjustment, sensor status viewing, unit alarm viewing, and occupancy scheduling shall be accomplished with connection to interface module with LCD screen and input keypad, interface module with touch screen, or with connection to PC with free configuration software. Controller shall be capable of connection with other factory installed and factory provided unit controllers with individual unit configuration, setpoint adjustment, sensor status viewing, and occupancy scheduling available from a single unit. Connection between unit controllers shall be with a modular cable. Controller shall be capable of communicating and integrating with a LonWorks or BACnet network. [Orion Controls System]

J. Accessories

1. Unit shall be provided with a smoke detector sensing the return air of the unit, wired to shut off the unit's control circuit.
2. Unit shall be provided with a firestat sensing the return and supply air of the unit, wire to shut off the unit's control circuit.
3. Unit shall be provided with a safety shutdown terminal block for field installation of a smoke detector which shuts off the unit's control circuit.

Packaged Rooftop Unit

AAON RN Series Packaged Rooftop Unit | R-454B | Made in Tulsa, Oklahoma

Construction

2" Foam Injected Insulated (min. R13 value) Double wall Cabinet Construction
Exterior Corrosion-Resistant Polyurethane Epoxy Paint (exceeds a 2,500-hour salt spray test)
High Efficiency Evaporator Coil w/ Stainless Steel Drain Pan (interlaced w/ multiple ref. circuits)
Backward-Curved, Direct-Driven Supply Fan(s) w/ Internal Vibration Isolation
Premium Efficient ODP Motors w/ Factory-Wired Yaskawa Variable Frequency Drives

Refrigeration System

Variable Capacity Scroll Compressor (10:1 Turndown) on Lead Refrigeration Circuit

Refrigeration Options

Variable Speed Condenser Fans w/ Head Pressure Control (low ambient cooling to 35°F)

Outside Air Section & Filtration

0-100% Economizer Damper Assembly w/ Powered Exhaust
4" Pleated MERV 8 (85% Eff)

Ancillary Options

Phase & Brown Out Protection
Condenser Coil Hail Guard Protection
Non-Fused Disconnect Power Switch
Supply + Return Air Smoke Detectors
High-Level Condensate Switch
Wattmaster VCC-X Make Up Air Unit Controller w/ BACnet Communication Interface
Plenum Curb for Horizontal Discharge, 14ga G90, Fully Welded, Insulated
Factory Authorized Start-Up with 1st Year Parts and Labor Warranty

- (2)** Model RNA-020 | 20 Nominal Tons | 460V/3P (70 MOCP) | **Tag: RTU-1, RTU-2**
(1) 7.5 HP SA Fan each



Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Version: 350.0

RNA-020-C-A-3-GAB0C-00000:00-0AG0J-G00-00000-ABLB-J-DC-A00
A-00-00-D-AN0-TB-EA0A-00-000-A00A00-E0000F-0000C0B

Tag: RTU #2

Job Information

Job Name: Greenville City Hall Server Units
Job Number: Job #22
Site Altitude: 440 ft
Refrigerant: R-454B
System Charges (oz): 493 / 317

Unit Information

Approx. Op./Ship Weights: 3060 lbs / 3060 lbs (±5%)
Ambient Temperature (DB/WB): 95.0 °F / 75.0 °F
Coil Filter FV / Qty: 336.0 fpm / 6
Min. Room Area/Height/Airflow**: 463.0 ft² / 7.2 ft / 834 SCFM
Exhaust Airflow/ESP/TSP: 7000 SCFM / 0.50 in. w.g. / 0.77 in. w.g.
Supply Airflow/ESP: 7000 SCFM / 1.50 in. w.g.
Outside Airflow: 2100 SCFM
Return Temperature (DB/WB): 75.0 °F / 62.0 °F

Static Pressure

External: 1.50 in. w.g.
Cooling Coil: 0.39 in. w.g.
Filters Clean: 0.12 in. w.g.
Dirt Allowance: 0.35 in. w.g.

Economizer: 0.18 in. w.g.
Cabinet: 0.23 in. w.g.
Total: 2.77 in. w.g.

Cooling Section

	Gross	Net
Total Capacity:	257.5 MBH	242.3 MBH
Sensible Capacity:	199.0 MBH	183.7 MBH
Latent Capacity:	58.6 MBH	
Mixed Air Temp (DB/WB):	81.0 °F / 66.3 °F	
Entering Air Temp (DB/WB):	81.0 °F / 66.3 °F	
Lv Air Temp (Coil) (DB/WB):	54.0 °F / 53.7 °F	
Lv Air Temp (Unit) (DB/WB):	55.9 °F / 54.5 °F	

Heating Section

Preheat Type: Std (No Preheat)
Auxiliary Heating Type: No Heat

Supply Air Fan: 1 x 270 @ 5.40 BHP Ea.
SA Fan RPM / Width: 1193 RPM / 6.130 in
SA Fan FEI: 1.07
Exhaust Air Fan: 1 x RM220A-RN @ 3.55 BHP Ea.
EA Fan RPM / Width: 1445 RPM / 4.930 in
EA Fan FEI: 0.59

Evaporator Coil: 19.9 ft² / 6 Rows / 12 FPI
Evaporator Face Velocity: 352.4 fpm

Rating Information

Listing Model RN-020-3-0-GABC-V0-21-000-A

Cooling Capacity: 235.0 MBH
Cooling EER: 11.96 BTU/h-W
Cooling IEER: 15.19 BTU/h-W

*Rated in accordance with AHRI Standard 340/360 (I-P)

Application EER @ Op. Conditions: 9.1 BTU/h-W

Electrical Data

Circuit 1

Rating: 460V/3Ø/60Hz
Unit FLA: 52
SCCR: 10 KAIC

Minimum Circuit Amp: 56
Maximum Overcurrent: 70

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	1		460	3	3500		16.0
Compressor 2:	1		460	3			14.0
Condenser Fan:	2	0.75	460	3	1080	1.8	
Supply Fan:	1	7.50	460	3	1170	11.0	
Exhaust Fan:	1	5.00	460	3	1760	7.6	



Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Version: 350.0

Cabinet Sound Power Levels*

Octave Bands:	63	125	250	500	1000	2000	4000	8000
Discharge LW (dB):	88	87	91	89	86	84	82	78
Return LW (dB):	90	88	87	79	76	76	72	64

**Sound power levels are given for informational purposes only. The sound levels are not guaranteed.*

***The minimum floor area for the Lower Flammability Limit (LFL) is calculated in accordance with UL60335-2-40 4th ed. (operating or storage).*

**CITY OF GREENVILLE
PROJECT MANAGEMENT
HVAC REPLACEMENT
City Hall AAON Unit #6 & #7 and In-Line Duct Humidifiers**

SUBMITTAL of "EQAUL TO" for HUMIDIFIERS

Carel- Immersed heater isothermal humidifier

2. PRODUCT a. [definition of the apparatus, technology]

- i. Stand-alone isothermal humidifier with immersed heaters for the production of steam using mains drinking water, demineralised or softened water.
- ii. The water is heated by immersed heaters, producing sterile steam at atmospheric pressure
- iii. Steam production, water drain, and refill must be managed by the control program completely automatically according to actual feedwater conductivity, without the need for prior analysis or settings.

b. [general features and construction]

- i. Painted steel supporting structure with separate sections for the water circuit and the electrical parts, front panel that can be removed for maintenance
- ii. electrical section separated by a metal partition, with electrical panel including electrical components and electronic control
- iii. steam production cylinder must be built using AISI 304 stainless steel.
- iv. The electrical heaters must be made from Incoloy alloy.
- v. The quantity of steam produced must be modulated by applying power over variable intervals (duty cycle) via solid state relays without mechanical contacts
- vi. The water level must be controlled by a three-level sensor
- vii. any excess foam on the surface of the water must be detected and managed by a suitable device inside the cylinder. SOLUTIONS WITHOUT PROTECTION AGAINST EMISSION OF BOILING WATER ARE NOT PERMITTED. The same device must also act as an additional safety level sensor

f. [control, characteristics]

- i. The apparatus must be managed completely automatically by an electronic microprocessor controller. Steam production must be modulated continuously according to the input signal.
- ii. input signal from probe or external controller: 0-1 V, 0-10 V, 0-20 mA, 4-20 mA, ON/OFF contact, 0-135 Ohms, 135-10,000 Ohms, NTC.
- iii. An external enabling input and at least 4 programmable relays are required for remote signaling of alarm status, production status, activation of the steam blower
- iv. An input for a second "limit" humidity probe is required to CONTINUOUSLY MODULATE PRODUCTION based on the humidity downstream in the duct, in order to prevent condensation during temperature transients. A SIMPLE ON/OFF ENABLING INPUT IS NOT ACCEPTABLE FOR THIS PURPOSE.

- vii. It must be connectable to other similar units in *main-secondary* i.e. “mirror” mode so as to extend capacity, including the backup function.
- viii. Initial configuration must be guided via wizard
- ix. It must include daily and weekly programming of operation with differentiated set points.
- x. Water pre-heating function to reduce time to reach production (programmable pre-heating set point);
- xi. Thermal shock function to remove scale from the heaters, so as to reduce cleaning and simplify maintenance;

g. [performance data]

- i. relative humidity control accuracy must be up to +/- 1%.
- ii. the maximum flowrate must be settable by parameter, with continuous production control between 0% and 100% of the maximum set capacity

h. [safety, savings and hygiene]

- i. The heaters must be individually protected against overheating by embedded temperature sensors, so as to avoid damage due to overheating as a result of insufficient maintenance (scale removal) or other faults. SOLUTIONS WITHOUT PROTECTION OF THE HEATERS AGAINST OVERHEATING ARE NOT PERMITTED.
- ii. Additional protection against overheating by thermal circuit breaker fitted on the cylinder head (20 kg/h and larger models)
- iii. The formation of foam in the cylinder must be detected by a suitable sensor and automatically managed to prevent the emission of boiling water together with the steam. SOLUTIONS WITHOUT PROTECTION AGAINST EMISSION OF BOILING WATER ARE NOT PERMITTED.
- iv. the apparatus must be equipped with a conductivity meter in the feedwater supply circuit and a suitable software algorithm to optimize water change and prevent corrosion based on actual water quality, allowing significant savings in water consumption. SOLUTIONS THAT ONLY ALLOW MANUAL SETTING OF WATER HARDNESS DURING INSTALLATION ARE NOT ACCEPTABLE, THE SYSTEM MUST BE SELF-ADAPTIVE.
- v. automatic water draining due to inactivity must be factory-set every 3 days by parameter, however, can be modified in the field to comply with any local regulations, so as to avoid hygiene problems due to stagnant water.

i. [interfaces]

- i. BACnet, Modbus, CAREL protocols for BMS and remote control via RS485 serial; BACnet and Modbus protocols over Ethernet. Without requiring external devices.
- ii. USB for programming, updating, parameter duplication, diagnostic logs
- iii. Ethernet port
- iv. RS485 serial port

Carel HeaterSteam Electric Humidifier

Modulating Output | Digital Controller w/ BACnet Compatibility

(2) Model UR010 | 8 lb/hr Max Output | 460V/3P Tag: HUM-01, HUM-02

Duct-Mounted DP Switch, Duct & Space RH Sensors

Duct Stream Distributor (24" wide duct assumed)

(2) APX Outdoor Enclosure for Carel UR Series

SUBMITTAL INFORMATION

System	Duct Humidifier	Tag(s)	H-1
--------	------------------------	--------	-----

Materials

Model	Description	Qty
UR010HM1U4	HEATERSTEAM 10KG/H 460V 3PH TITANIUM pGDX USA	1
SHOSE00030	RUBBER STEAM HOSE, 30 MM (PER FOOT)	10
DP060D30RU	STEAM DISTRIBUTOR DP SERIES INOX L=600MM DIAM.30	1
CHOSE00038	3/8" CONDENSATE HOSE FOR USE WITH METRIC DPs (PER FOOT)	13
PC-301	DUCT MOUNT DIFF. PRESS SW	1
DPDC111000	DUCT SENSOR TEMP. -10T60GR.C. (OUT RES.NTC) / HUMID. RH 10-90% (OUT 0-1VDC - 4-20MA)	1
DPDC111000	DUCT SENSOR TEMP. -10T60GR.C. (OUT RES.NTC) / HUMID. RH 10-90% (OUT 0-1VDC - 4-20MA)	1

Design Data

Duct Width	24"	Humidification Load	15 lbs/hr
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UR010HM1U4 Steam Humidifier Data

Height	28.1"	Width	14.4"
Depth	10.8"	Weight	77.0 lbs
Water Inlet	3/4"G Male	Water Drain	40mm
Steam Outlets	1x30mm	Capacity	22.0 lbs/hr
Voltage	460V 3 Phase	Power	7.80 kW
Outlet Max Pressure	6 in.WC	Drain Tempering	< 140 DegF
Bacnet & Modbus	Integrated		

SHOSE00030 Steam Hose Data

Inside Diameter	30mm
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DP060D30RU Distributor Pipe Data

Length	23.6 inches	Capacity	40.0 lbs/hr
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CHOSE00038 Condensate Hose Data

Inside Diameter	3/8"
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