

# Ashe County

## Staff Report

4/28/2026

**RE: Courthouse HVAC**

### Summary:

We have been working on solutions to improve the Courthouse HVAC over the last few months in preparation for the upcoming budget. We now have quotes in hand which are in line with funding that we had set aside for the project, and would like to proceed because of long lead times for equipment.

Daikin Applied Inc. has been assisting with this analysis of the buildings equipment as well as our existing energy use and have made the following recommendations:

1. **Replace the existing chiller:** the chiller is near end of life and should be replaced.
2. **Replace the existing pneumatic controls with electronic controls:** This will get to the heart of the problem, fixing temperature variations, over use of equipment and reduce energy cost.

|                      |              |  |
|----------------------|--------------|--|
| Chiller              | \$242,692.00 | 6-7 month lead time                            |
| BAS Control Upgrades | \$319,741.01 | Can begin sooner, but must work around offices |
| Contingency          | \$50,000     | Less than 10%                                  |



Ashe County Administration  
150 Government Cir, Suite 2500  
Jefferson, NC 28640

### Key Comparison Points between older pneumatic controls and electronic controls (AI Comparison)

- **Precision & Energy Efficiency:**

Pneumatic systems use mechanical components that wear out and lose accuracy over time. In contrast, digital systems use complex logic like **PI or PID control**, which prevents wasted energy by ensuring heating and cooling don't fight each other. Upgrading to a digital BAS can often reduce HVAC energy costs by **15–30%**.

- **The "Brain" vs. The "Hand":**

In older systems, the thermostat *is* the controller and the sensor combined. In a modern BAS, the "brain" (controller) is often separate from the "hand" (actuator). Interestingly, some modern buildings use a **hybrid approach**: they keep the old, powerful pneumatic actuators (the "hands") because they are robust and expensive to replace, but control them with new digital "brains" via **E/P transducers** (electronic-to-pneumatic converters).

- **Operational Awareness:**

With pneumatics, if a valve is stuck open, you won't know until a room becomes an oven. A modern BAS monitors thousands of data points and can alert you to a failing motor before it actually breaks, enabling **predictive maintenance**.

- **Automation Complexity:**

Digital systems allow for "set it and forget it" scheduling for holidays, weekends, and even occupancy-based control (using motion sensors). Older systems typically rely on crude timers or manual adjustments that are frequently set and forgotten.

#### Attachments:

Chiller Quote – Daikin

BAS Controls Upgrade – Daikin

Energy Analysis Report - Daikin



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# PROJECT QUOTE



## Ashe County Courthouse Chiller Replacement

Ashe County Courthouse  
150 GOVERNMENT CIR  
JEFFERSON, NC, US 28640

Quote #: Q-73477

### Prepared for:

Ashe Government  
Facilities Director  
COUNTY OF ASHE  
Quote Document Date: 04/08/25

### Prepared by:

Gregory Stephenson  
Account Manager  
Phone: (828) 767-4564 Mobile:  
E-mail: [gregory.stephenson@daikinapplied.com](mailto:gregory.stephenson@daikinapplied.com)  
Daikin Applied Americas, Inc.

*5 year warranty  
parts/labor + extended*  
*\$242,692.00*  
*6-7 month lead time*

## Scope of Services

Daikin Applied Americas, Inc. is pleased to offer the following Quote for your consideration. Thank you for selecting Daikin Applied Service Group to care for your building's system. Our service personnel have the knowledge and experience to deliver the best support available. Daikin is pleased to offer this Quote for your consideration.

### **PROPOSAL DISCLAIMER:**

*This proposal including the pricing contained herein ("Proposal") is not a firm or final proposal but rather is an estimate provided for customer's budgetary purposes and evaluation only. This Proposal is subject to change upon notice for reasons including, without limitation, changes to scope, specifications, or to terms and conditions of sale and warranty as set forth herein, or availability (or lack thereof) of labor, materials, or products.*

### **Equipment overview**

The proposed project scope would include the following equipment:

- One (1) new Daikin air cooled chiller of comparable tonnage to existing.
- Chiller to include standard 1st year parts & labor warranty with additional warranty of (4) years parts and labor on entire unit. (Total 5. Years)
- Includes BACNET / MSTP, over IP or MDBUS communication card.
- Includes condenser coil guards and base wire grilles.
- Includes start up by Daikin factory chiller technician.

### **General Scope of Work**

- Supply and install one (1) new Daikin air cooled chiller (to be staged on existing concrete structure).
- Disconnect existing piping, insulation, and associated chiller power wiring.
- Provide crane and rigging to remove existing York chiller.
- Provide crane and rigging to set new Daikin chiller in place as mentioned above.
- Customer to handle coordination of parking lot road closings, crane access, etc.
- Reconnect existing piping and associated chiller power wiring.
- This electrical work includes replacement of existing flexible whip going into new chiller.
- fuses to be replaced if required due to code requirements.
- Supply and install new heat trace wiring from ground exit back to chiller.
- Supply and install new valves and gauges as needed.
- Base bid includes replacing insulation were disrupted by installation team.
- Daikin Applied to include disconnect/reconnect of existing control wiring as needed.
- Perform factory start up and operational testing upon completion of installation.
- Provide owner training as needed.
- Includes 1st year parts and labor warranty on entire unit which also includes refrigerant.
- Includes Extended warranty on entire unit (4) years a total of (5) years. Total.

### **Exclusions\***

- Work to be performed during normal business hours (Monday-Friday) (7AM-5PM).
- Work hours exclude weekends and holidays, if required additional quote will be submitted.
- Replacement of primary source breaker, conduit and wiring to chiller.
- Replacement of BAS Controls, conduit and wiring to chiller

Each of our sub-contractors will be maintaining a consistent project manager who will be represented when appropriate during our project time frame.

Staff and resource planning will be maintained throughout the project through our project communications efforts.

## Quote Clarifications, Exclusions, and Exceptions:

### *Clarifications:*

1. This Quote takes precedence over any other written, verbal, or other statements of scope, schedule, and pricing.
2. Acceptance of a Notice to Proceed is not an acceptance of terms and conditions. Any Notice to Proceed will be based upon the terms and conditions contained in this Quote.
3. All working hours are estimated at regular or straight time rates. Accelerated or expedited project execution schedules and associated costs are subject to additional quotation.
4. Daikin Applied is not responsible for any delays or cost as a result of delays incurred due to limited or no access to roads, buildings or equipment required to complete the scope of work provided for in this Quote.
5. Sales taxes are not included within our pricing.
6. Costs associated with Owner directed programs or software required to fulfill project reporting, execution, safety management, and or Owner or Owner's Representative invoicing are not covered and will be invoiced in addition to the agreed Quote price.
7. Signage will not be provided or installed by Daikin Applied.
8. Staffing of onsite Safety or Security personnel during project execution or after working hours will not be provided and Daikin Applied understands this is the responsibility of the Owner or Owner's Representative.
9. Site drainage, pollution prevention plan and execution, temporary bathrooms, emergency eye-wash stations, barricades, ramps, splash-blocks, fire protection plans and systems required during construction, flagman, access controls features, trash repositories and pick services are not included. Daikin Applied understands the Owner or Owners Representative is responsible for these measures.
10. Daikin Applied understands temporary HVAC, temporary power, work site lighting, and temporary water required to perform the scope of work provided is the Owner or Owner's Representative responsibility.
11. Daikin Applied will only provide supervision for itself and its sub-contractors when we or they are on site.
12. Daikin Applied Material or Labor warranty is excluded on Owner or Owner's Representative provided equipment.

### *Exclusions:*

1. Any labor, materials, or subcontracted service not specifically provided for in the description or scope of work.
2. Identification and remediation of existing code violations.
3. Authority Having Jurisdiction required changes are not included and will be quoted as additional work scope.
4. Painting, repair work to buildings, and/or equipment which is not specifically identified in the description or scope of work.
5. Costs associated with hazardous materials identification, removal, and/or abatement.
6. Temporary or portable HVAC equipment and connections to existing systems.
7. The creation of new Building Automation Systems graphics, monitoring, trending, analysis or any other software or labor required for implementation of these items.
8. Testing and balancing.
9. Commissioning plan development and execution.
10. Sound testing or acoustical treatments for any elements inside or external to the work site or equipment.
11. Seismic analysis and certification for all materials and equipment.
12. Permits, insurance coverages other than indicated in the attached Evidence of Insurance, and performance and payment bonds.
13. Professional services including Architectural, Mechanical, Electrical, Structural and other Engineering Disciplines.
14. Fire, Smoke and/or Security controls, equipment, repair, graphics, programming, replacement or upgrades.

## Pricing and Payments

Feel free to contact me if you have any questions or concerns regarding the information contained in this Project Quote. If you would like us to proceed with the solution presented above, sign the acceptance line below (including PO# if applicable) and return a copy so that we can begin to mobilize our efforts to complete services as quickly as possible. We appreciate the opportunity to provide you with this solution and look forward to working with you on this and servicing your needs in the future.

### Investment Amount and Billing Terms:

Investment required to implement the proposed solution

\$242,692.00 (Two Hundred Forty Two Thousand, Six Hundred Ninety Two dollars and Zero cents)

*\*Price does not include applicable sales tax*

Pricing and acceptance are based on the execution of a Contractor Agreement in the form attached hereto and subject to final credit approval.

**Billing/Payment Terms\*:** Billed in full upon completion

\*All billings are due immediately upon Receipt

This Quote will be honored by Daikin Applied for 30 days from the date on the front of the Quote. After 30 days, Daikin Applied reserves the right to evaluate cost changes (both increases and decreases) from the Quote.

## Contractor Agreement

This **CONTRACTOR AGREEMENT** ("**Agreement**"), effective as of \_\_\_\_\_ ("**Effective Date**"), is made and entered into by and between COUNTY OF ASHE (hereinafter "**Owner**") and Daikin Applied (hereinafter "**Contractor**").

WHEREAS, Contractor is in the business of providing equipment, labor and/or material, which may involve subcontracting a third party ("**Subcontractors**") to provide labor and material, to perform the scope of work described in **the Quote** No. Q-73477 Dated: 04/08/25 hereto ("**Work**"), and,

WHEREAS, Contractor has offered to perform the Work for Owner with respect to the property located at 150 GOVERNMENT CIR JEFFERSON, NC 28640 (hereinafter "**Property**");

WHEREAS, Owner desires to retain Contractor to perform the Work;

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements of the parties, it is agreed as follows:

1. **Work. Subject to credit approval**, Contractor agrees to furnish all labor, materials, tools, equipment, and samples necessary to complete the Work. Contractor acknowledges that in providing such Work, it shall at all times comply with all laws and regulations affecting, Contractor. Owner agrees that Contractor may retain one or more subcontractors ("**Subcontractors**") to perform the Work through a Subcontract Agreement.
2. **Term of Agreement**. Contractor will commence Work on the commencement date ("**Commencement Date**"). Owner will notify Contractor of the Commencement Date in writing by issuing a Notice to Proceed. The Notice to Proceed shall be issued at least fourteen (14) days before the Commencement Date. Upon substantially completing the Work, Contractor shall present a Certificate of Substantial Completion to Owner.
3. **Contract Price**. For full performance of the Work in conformance with this Agreement, Owner shall pay the Contractor the fixed sum specified in **the Quote** hereto ("**Contract Price**"), subject to adjustment per mutual agreement of the parties should the scope of Work change. The Contract Price does not include sales tax.
4. **Relationship of Parties**. Contractor is retained by Owner only for the purpose and to the extent set forth in this Contractor Agreement. Contractor's relationship with Owner shall, during the entire term of this Contractor Agreement, be that of an independent contractor. Contractor, and any employee, agent, servant, officer, director or shareholder of Contractor, shall not be deemed an agent, servant, or employee of Owner.
5. **Compliance with Laws**. Contractor and Owner agree that parties shall comply with all federal, state, and local laws and regulations applicable to its activities under this agreement, including without limitation to the hiring, safety, and taxation of its employees, as well as obtaining and maintenance of any applicable licenses and/or permits as required by all laws and regulations applicable to its activities under this Agreement.
6. **Insurance**. At all times while performing the Work, Contractor shall maintain, at its sole cost and expense, insurance as customary within the industry. If requested Contractor will present a copy of their certificate of insurance.
7. **Indemnification**. It is the parties' obligation to defend and indemnify upon prompt receipt of written notice to defend, indemnify, and hold harmless each other's officers, directors, employees, and agents, from and against those damages, liabilities, claims, and causes of action, for property damage, personal injury or death (including without limitation injury to or death of employees or any subcontractor thereof) (jointly referred to as "Claims"), directly caused by Contractor's negligence, gross negligence, or willful misconduct of the indemnifying party during the performance of the Work.
8. **Default**.
  1. A default occurs under the terms of this Agreement if: (a) Contractor substantially fails to perform any of its material obligations under this Agreement; (b) if Owner becomes insolvent, and/or; (c) if Owner fails to tender payment to Contractor under this Agreement for thirty (30) days after the date such payment is due (together "Event of Default").
  2. Upon the occurrence of an Event of Default, the non-breaching party shall provide written notice to the breaching party ("Notice of Default"). Upon receipt of the Notice of Default, the breaching party shall immediately correct the default. If the breaching party fails to correct the default for thirty (30) days after receipt of the Notice of Default, or fails to provide evidence that appropriate corrective action is in reasonable process, the non-breaching party may terminate this Agreement upon written notice ("Notice of Termination"). The parties shall have any legal remedies at their disposition, as allowed by local law.
9. **Termination**. Absent an uncured Event of Default, this Agreement may only be terminated only by the consent of the parties.

1. The termination shall be evidenced by: (a) execution of a single writing; (b) signed by Contractor and Owner; (c) that specifically identifies this Agreement, and (d) states that Owner and Contractor terminate this Agreement as of a specified date ("Termination Agreement").
2. Prior to execution of the Termination Agreement, Contractor shall present Owner with an Application for Payment for actual Work rendered under this Agreement as of the date the parties intend to execute the Termination Agreement, and Owner shall pay Contractor the amount requested in the Application Payment contemporaneously with the parties execution of the Termination Agreement.
10. **LIMITATION OF LIABILITY: NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, DELAY, LIQUIDATED, SPECIAL, OR INDIRECT DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, REVENUE, PROFITS, GOODWILL, OR OTHER BUSINESS INTERRUPTION DAMAGES, THAT ARISE OUT OF OR RELATED IN ANY WAY TO THEIR PERFORMANCE OR LACK OF PERFORMANCE UNDER THIS AGREEMENT, WHETHER BASED ON STATUTE, TORT, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER CLAIM OR THEORY OF RECOVERY OR LIABILITY WHATSOEVER, REGARDLESS OF WHETHER THESE DAMAGES COULD HAVE BEEN FORESEEN OR NOT.**
11. **Warranty.** All equipment furnished hereunder is provided with the manufacturer's warranty as the exclusive warranty for such equipment. Contractor provides such warranty as a pass-through to Owner. The manufacturer's warranty for equipment manufactured by Daikin Applied and Daikin North America are attached hereto and incorporated herein by this reference. The Contractor agrees to perform Work in a manner which is in accordance with industry standards for the operation, appearance, and public perception established by those engaged in a business similar to that of Contractor. Subcontractor Agreements will contain warranties that Subcontractors will perform the Work in a similar manner. Valid for one year from completion of the Work.
12. **Asbestos and Hazardous Materials.** In the event Contractor encounters asbestos, lead and/or other hazardous materials, Contractor will stop work and notify Owner, and shall have the right to suspend its work at no penalty to Contractor until such products or materials and the resultant hazards are removed. Completion of the work shall be extended to the extent caused by the suspension and the contract price equitably adjusted. Owner shall remediate any asbestos, lead or other hazardous materials at Owner's expense, and shall be responsible for all costs, expenses, damages, fines, penalties, claims and liabilities associated with or incurred in connection with any hazardous materials or substances, upon, beneath, about or inside Owner's equipment or property, shall bear title to, ownership of, and legal responsibility and liability for any and all such hazardous materials or substances, and shall be responsible for the removal, handling and disposal of all hazardous materials and substances in accordance with all applicable Governmental Regulations. Owner shall defend, indemnify, reimburse and hold harmless Contractor and its officers, directors, agents, and employees from and against any and all claims, damages, costs, expenses, liabilities, actions, suits, fines and penalties (including without limitation, attorneys' fees and expenses) suffered or incurred by any such indemnified parties, based upon, arising out of or in any way relating to exposure to, handling of, or disposal of any hazardous materials or substances, in connection with the services performed hereunder. Contractor reserves the right to engage others in a subcontractor status to perform the work hereunder.
13. **Confidentiality.** Owner agrees to keep confidential and use its best efforts to cause any sales representative and employees to keep confidential all trade secrets, proprietary, and confidential information (hereinafter "Confidential Information") related to Daikin Applied and safeguard all Confidential Information from disclosure or use by any person directly or indirectly under Owner's control. Confidential Information does not include (i) information which is in the public domain other than through a breach of this clause and (ii) information which was received by Owner independently of Daikin Applied. Neither expiration nor termination of this Agreement for any reason shall release Owner from the obligations of this Section.
14. **Notices.** Any information or notices required to be given under this Agreement shall be in writing and shall be delivered either by (a) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (b) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (c) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be addressed as follows:

If to Contractor:

Daikin Applied Americas Inc.  
Attn: Legal Department  
13600 Industrial Park Blvd  
Plymouth, MN 55340

If to Owner:

COUNTY OF ASHE  
Attn: Ashe Government

150 GOVERNMENT CIR JEFFERSON, NC 28640

The foregoing addresses may be changed from time to time by notice to the other party in the manner hereinbefore provided for.

- 15. **No Waiver.** A party's failure or neglect to enforce any provision hereof shall in no way constitute a waiver of said party's rights under any other provision.
- 16. **Severability.** If any provision hereof is deemed to be invalid or unenforceable under applicable law, the remaining provisions of this Agreement shall continue to be enforceable.
- 17. **Applicable Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Minnesota, except conflicts of law which may require the application of another jurisdiction's laws.
- 18. **Miscellaneous.**
  - 1. Force Majeure. Notwithstanding anything to the contrary contained in the Agreement, Daikin Applied shall have a reasonable opportunity to cure any alleged unmet performance obligations thereunder. Additionally, in the event either party is delayed in its performance due to causes outside its reasonable control, the time for such party's performance will be extended for a period of time reasonably necessary to overcome the delay.
  - 2. Entire Agreement; Modifications. This Agreement constitutes the entire agreement between the parties with respect to the Work and supersedes all prior negotiations, representations or agreements relating thereto either written or oral, except to the extent that they are expressly incorporated herein. No modifications or alterations shall be made to this Agreement unless in writing and agreed upon by the parties.

**IN WITNESS WHEREOF**, the parties have executed this Agreement on the Effective Date, the corporate parties by their officers duly authorized.

**OWNER:**

COUNTY OF ASHE  
Ashe Government  
150 GOVERNMENT CIR  
JEFFERSON, NC 28640

**CONTRACTOR:**

Daikin Applied Americas  
13600 Industrial Park Boulevard  
Plymouth, MN 55441

\_\_\_\_\_  
(Print Full Legal Name of Customer)

\_\_\_\_\_  
(Print Full Legal Name of Daikin Applied Representative)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Date:





# PROJECT QUOTE



## Ashe County Courthouse **BAS Controls Upgrade**

Ashe County Courthouse  
150 GOVERNMENT CIR  
JEFFERSON, NC, US 28640

Quote #: Q-73952

### Prepared for:

Ashe Government  
Facilities Director  
COUNTY OF ASHE  
Quote Document Date: 04/08/25

### Prepared by:

Gregory Stephenson  
Account Manager  
Phone: (828) 767-4564 Mobile:  
E-mail: gregory.stephenson@daikinapplied.com  
Daikin Applied Americas, Inc.

\$319,741.01

*replaces existing pneumatic controls  
with electronic controls*

## Scope of Services

Daikin Applied Americas, Inc. is pleased to offer the following Quote for your consideration. Thank you for selecting Daikin Applied Service Group to care for your building's system. Our service personnel have the knowledge and experience to deliver the best support available. Daikin is pleased to offer this Quote for your consideration.

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### **Daikin Niagara N4/BACnet Building Automation System Upgrade for Ashe County Courthouse.**

Daikin Applied will provide a turnkey replacement solution for the existing JCI control systems at Ashe County Courthouse as specified in current Mechanical, Controls, and Electrical drawings provided by Ashe County Government dated July 1997.

Daikin Applied proposes to supply and install new unlocked open protocol BACnet/IP controllers and a Niagara N4 front end interface (latest model Jace with 1 year Software Maintenance Agreement by Tridium), upgrading the existing JCI controllers as defined by the provided Load list and onsite surveys.

Programming and sequences to follow building and energy codes as applicable along with sequences detailed in ASHRAE Standard 36 as allowed by existing mechanical equipment and configuration.

The existing JCI system controllers will remain online until replaced and be monitored and serviced if required during the upgrade. In the event of a JCI related failure during the upgrade period, the JCI controller will be immediately replaced with a new BACnet controller and equipment returned to operation on Jace platform.

- Disconnected JCI Controllers to be boxed by Daikin Applied and stored onsite, remaining the property of Ashe County Government.
- A Protocol Implementation Performance Statement (PICS) will be provided for each BACnet control device installed. Software licenses for Niagara Jace hardware and required software programming tools will be licensed directly to Ashe County as the Owner.
- Up to 8 Hours of Owner Training to be provided at completion.

\*Required permits through Ashe County are Included.

### **Operational Inspections:**

- Inspect mechanical systems for proper operation including chillers, boilers, DX package and split systems, pumps, valves and actuators, variable frequency drives, current switches, relays, pressure transducers, and air dampers and actuators during the installation and commissioning process. These components will remain as existing and must be functional at the time of the control installation for complete commissioning of new control devices, programming, and sequence testing. Any deficiencies found will be reported to Ashe County and recorded on startup log sheets.

### **Engineering and Network:**

- Create and Provide Control Drawings with control point and I/O matrix for complete installation per site visit and engineering evaluation. Technicians are to return marked up drawings during job progression for in-progress corrections and final as-builts upon completion. Final drawings and turnover documentation to be left onsite and job completion.
- Sequences are to be verified from the engineering analysis of existing JCI installation. Details of changes or modifications will be provided to Ashe County for approval.

- Create a zone map diagram for each floor or space for unitary zone controls for graphic representation of spaces. Web user interface will include floor plan layouts with differentiated zones by color.
- This installation assumes that new or existing Internet or network connections are functional with static IP addresses for Jace devices and/or BACnet routers and provided by Ashe County.
- Install network communication switches and routers as required by engineering evaluation and control drawings.
- Install JACE control panel at pre-determined location for central communication bus point and network connections provided by HCPS.
- The new JACE is to be configured for local control the Jace main server is to be used for access, centralized programming, and alarm and event storage.
- Install required network cabling between building BMS network and JACE connection points.
- Install new network communication cabling between new BACnet controller locations and miscellaneous BACnet network devices, routers, and/or Jace controller. Cable to be BACnet specifications, 22/2 Shielded or CAT6 network ethernet cable.
- Enable web interface on JACE and Supervisor using HCPS provided network/internet connections (Note: Dedicated Internet Service must be maintained with Static "always on" IP address for remote access outside of facility.
- Setup initial web logins to allow for simultaneous users. User parameters and permissions to be defined in coordination with Ashe County Government during the changeover process and at Owner Training.
- Turnover all master user names, passwords, and pass phrases to Ashe County as the Owner of installed hardware and software.

The following equipment scope descriptions are each based on the existing JCI controller types, individual purpose, and quantities, along with the following Load Listing provided by Ashe County Government:

(Insert table here)

#### **Fan Coils/Unit Ventilators/Water Source Heat Pumps/Unitary Equipment as defined by Load List**

- Demo existing JCI Controller and wall space temperature sensor.
- Reuse existing unit control cabinets, relays, conduit, and raceways as able.
- Install new Controllers for each unit as required for I/O count and provide 24VAC power from existing 24VAC transformer in existing control cabinet/panel.
- Install the following input devices and wiring, and connect to controller as specified by control drawings and commission/test:
  - Discharge air temperature
  - Space temperature and humidity wall sensor with setpoint adjust/override.
  - Fan current relay (as applicable)
- Reconnect existing outputs for control of the following output points (as applicable) and commission:
  - Supply fans
  - Chilled water valve actuators
  - Hot water valve actuators
  - Compressor and heating stages
  - Outside/return air damper actuators/economizer
- The following components will remain in place as existing:
  - Hot or chilled water valves and actuators
  - Air dampers and actuators
  - High voltage components or internal unit control devices
  - Unit internal control wiring, relays, contactors, control boards, safeties
  - Transformers
  - Smoke control or fire alarm monitoring inputs or shut down wiring.
  - Mechanical components
- Configure and commission each unit controller according to pre-determined sequence of operation and record on startup log sheet.

- Unit controllers are to report cooling and heating requirements to energize applicable chiller or boiler sequencing based on demand.
- Add inputs, outputs, setpoints, overrides, and other critical values or settings to the web user interface.
- Create individual occupied and unoccupied operating schedules by section or wing of building. Include master whole building schedule as option for 100% occupancy override control. Customer shall provide initial schedule and set point settings.
- Add inputs and outputs to trend histories.

**VAV Terminal Units as defined by Load List:**

- Demo existing JCI Controller and wall space temperature sensor.
- Reuse existing unit control cabinets, relays, conduit, and raceways as able.
- Install new Controllers for each VAV as required for I/O count and provide 24VAC power from existing 24VAC transformer in existing control cabinet/panel.
- Install the following input devices and wiring, and connect to controller as specified by control drawings and commission/test:
  - Discharge air temperature.
  - Space temperature and humidity wall sensor with setpoint adjust/override.
- Reconnect existing outputs for control of the following output points (as applicable) and commission:
  - Terminal Unit fans
  - Hot water valve actuators to be replaced on each unit.
  - Electric heating stages if applicable.
- The following components will remain in place as existing:
  - Air dampers and actuators
  - High voltage components or internal unit control devices
  - Unit internal control wiring, relays, contactors, control boards, safeties
  - Transformers
  - Smoke control or fire alarm monitoring inputs or shut down wiring.
  - Mechanical components
- Install VAV controllers as pressure independent, unless airflow pitot tubes are missing, not operable, or do not exist. Pressure dependent mode will operate damper control if no other options are available for independent VAV control. Markup on control drawings for reporting to HCPS if pressure dependent is selected during commissioning.
- Configure and commission each VAV controller according to pre-determined or calculated airflow setpoints. Calculate and set airflow set points onsite during commissioning if no engineered drawings or pre-determined calculations are available. Verify airflow readings for each Controller according to determined setpoint values.
- Unit controllers are to report cooling and heating requirements to energize applicable chiller or boiler sequencing based on demand.
- Add inputs, outputs, setpoints, overrides, and other critical values or settings to the web user interface.
- Create individual occupied and unoccupied operating schedules by section or wing of building. Include master whole building schedule as option for 100% occupancy override control. Customer shall provide initial schedule and set point settings.
- Add inputs and outputs to trend histories.

**Supply, Exhaust, and Pressurization Fans/Dampers as defined by Load List:**

- Reconnect existing enable relays and current relays for ventilation fans including toilet exhaust, ventilation fans, and outside air fans as defined by the Load List. Existing shutdown relays will be utilized in the event of fire alarm condition and are not included.
- New programmable controllers installed for mechanical plant equipment, court rooms, offices and similar may contain the programming functions for the building supply and exhaust fan system inputs and outputs.

**Air-Cooled Chillers, Boilers, and Pump Controls as defined by Load List:**

- Demo existing JCI chiller, boiler, tower, and pump controllers including IOM and Lingos.
- Reuse control cabinets and conduit as able.
- Install controllers in new or existing enclosures and provide 24VAC power from transformers in existing control cabinet/panels.
- Organize and label wiring in existing control enclosures if remaining.
- Replace temperature sensor thermistors and reconnect input wiring for chilled and hot water or cooling loops.
- Install global outside air and humidity sensor.
- The following components will remain in place and reconnected to the new controller and sequenced according to the original design:
  - Chiller, boiler, tower fans, and pump/VFD start/stop for each.
  - Chiller, boiler, tower fans, and pump/VFD status for each
  - Water pump variable frequency drive speed reference and status
  - Water set point reset signals.
  - Valve Actuators and on/off or modulating signals.
  - Differential pressure sensors and input signals
  - Isolation valve actuators and signals
- Configure and commission chilled, hot water, and or tower system controllers according to predetermined sequence of operation approved by HCPS including equipment and pump lead/lag sequencing based on alarm, failure, or load inputs. Plant equipment is to be started based on active call from the VAV or unitary systems based on temperature demand and schedule.
- Lead-Lag equipment shall rotate on the first of every month to equalize runtimes.
- Chiller and boiler sequencing should include setpoint reset and lead/lag control with staging customizations as available or applicable.
- Include required outside air temperature or load-based lockouts for normal operation, with both low and high scaled limits. Verify mechanical limitations and the functionality of air or waterside economizers in programming sequences.
- Test inputs, outputs, and overall operating sequences through all-weather simulations at initial startup and record in startup log sheets.
- Add inputs, outputs, setpoints, overrides, and other critical values or settings to the web user interface. Add values to the plant system graphic pages.
- Controllers for plant systems may contain and enable other unrelated but physically nearby supply and exhaust fans, lighting, and/or other systems.
- Alarms based on software-controlled output sequences, current relays, and/or alarm contacts shall be generated on web enabled front end, and automatically result in an equipment changeover until automatically reset.
- Add control points or values specified by control drawings to alarms and trending history. This would include water temperature alarms, critical plant equipment failure alarms, and pump status alarms.
- Scheduling, Alarms, and Trending will be custom programmed and based on consultation with onsite personnel.

#### **BACnet Communicating Package Equipment (Chillers, Boilers, Rooftop Package Units):**

- Install new MSTP communication bus to existing BACnet unit control interface boards.
- Configure existing device ID and address info on existing communicating internal unit controllers and import available points into Jace for display on graphics and trend histories.
- Create user interface display for each unit and verify operation.

#### **Fire Alarm and Duct Detectors:**

- Existing duct detectors or systems and relays for unit shutdown upon active fire alarm are not included and are to remain as is. Unit shutdown wiring will be reconnected as previously connected.

### Graphics and Miscellaneous:

- Setup analytical and binary status alarms on front end, with notifications through main graphics pages, email, and/or text messaging. Notification settings will be editable by approved operators.
- Alarms to include all critical component failures including general alarms, status failures for motors and pumps, along with analytical alarms such as supply air temperature and static pressure range alarms.
- The existing Niagara Web Supervisor workstation will be set up for overnight daily uploads of daily trend history and alarm data to the local drive to be backed up by approved backup method. This would be used for any required audit logs or histories of any analog or binary values for permanent record or tracking.
- Each individual mechanical equipment item with a dedicated controller will have its own dedicated graphics page.
- Individual space after hours override functions will be editable for each zone.
- Outside air/humidity data will be provided through Internet feed if internet is available.
- Create new Floorplans as required for appropriate and simple web page navigation and viewing.
- Create web homepage for additional web graphics and building links and summaries. Add space temperatures and other needed information and links to floorplan zone pages. Floorplans will be identified with labels and zones color-coded on graphics.
- Customer must provide compatible PC or mobile device for remote web interface viewing.

### Considerations and Specific Exclusions:

- Based on initial and performed building and equipment evaluations, unknown but repairable items to existing mechanical, control, network, or building systems not listed in the Scope of Work, not connected to the existing JCI system, or defined in the provided in the Mechanical, Controls and Electrical drawings have not been estimated and are not covered by this Proposal. The repairs or replacements of these items would have to be approved individually. Some deficiencies may be required to be corrected if they are crucial to the commissioning process or the overall correct operation of the building automation systems. A contingency allowance is recommended for the repair or replacement of these items as they are found during the installation and commissioning process.
- Mechanical valves or actuators are not scheduled to be replaced in this proposal. If any mechanical valve, air damper, or controlling actuator that is crucial to the operation of the system is found not functional, it will need to be approved for replacement separately. A contingency is recommended to replace any valves found not holding, leaking, or unable to be moved or adjusted.
- Engineered As-Built Drawings will be provided at substantial completion.
- Conduit to be used in mechanical rooms only. Low voltage and communication cabling is to be plenum rated.
- Existing equipment that does not have existing JCI controllers installed is not included for an upgrade in this Proposal per Ashe County Government. This equipment will remain as standalone operation. Future installations of BACnet MSTP or IP based controllers can be integrated in the future.
- Due to possible supply chain issues and/or Owner requested changes, any changes to components or cost adjustments needed can be discussed and changes approved before adjusting or finalizing.
- Work to be performed during the hours of 7:00 AM to 5:00 PM, Monday through Friday. If significant downtime is to be incurred as part of the upgrade, afterhours work on nights and weekends may be scheduled with the approval of Ashe County for each event ahead of time.

### Warranties

- 1 Year Full Parts and Labor Warranty is included for new Components.
- It is the Owner's responsibility to maintain equipment and systems through good preventative maintenance programs. The failure to do so will cause failure and system inefficiencies. Any service requested by the Owner deemed to be non-warranty, as listed below, will be billed at regular billing rates.

### Calls not Covered by Warranty

1. Any calls identified as the Owner's responsibility (i.e., Electrical Power, Zone Set-point Changes, etc.).
2. Any call identified as Owner abuse-misuse or non-understanding of equipment or procedures.
3. Equipment damage or failure due to power failure, surges, imbalance, or lightning.

4. Tripped or disconnected safety switches.
5. Equipment failures resulting from improper maintenance. Improper or adjusted closure of dampers-grilles or valves.
6. IT or Owner provided networking, equipment or internet failures or problems.
7. Humidity or temperature levels outside the normal range due to mechanical or electrical equipment failure or operation.

Each of our sub-contractors will be maintaining a consistent project manager who will be represented when appropriate during our project time frame.

Staff and resource planning will be maintained throughout the project through our project communications efforts.

## Quote Clarifications, Exclusions, and Exceptions:

### *Clarifications:*

1. This Quote takes precedence over any other written, verbal, or other statements of scope, schedule, and pricing.
2. Acceptance of a Notice to Proceed is not an acceptance of terms and conditions. Any Notice to Proceed will be based upon the terms and conditions contained in this Quote.
3. All working hours are estimated at regular or straight time rates. Accelerated or expedited project execution schedules and associated costs are subject to additional quotation.
4. Daikin Applied is not responsible for any delays or cost as a result of delays incurred due to limited or no access to roads, buildings or equipment required to complete the scope of work provided for in this Quote.
5. Sales taxes are not included within our pricing.
6. Costs associated with Owner directed programs or software required to fulfill project reporting, execution, safety management, and or Owner or Owner's Representative invoicing are not covered and will be invoiced in addition to the agreed Quote price.
7. Signage will not be provided or installed by Daikin Applied.
8. Staffing of onsite Safety or Security personnel during project execution or after working hours will not be provided and Daikin Applied understands this is the responsibility of the Owner or Owner's Representative.
9. Site drainage, pollution prevention plan and execution, temporary bathrooms, emergency eye-wash stations, barricades, ramps, splash-blocks, fire protection plans and systems required during construction, flagman, access controls features, trash repositories and pick services are not included. Daikin Applied understands the Owner or Owners Representative is responsible for these measures.
10. Daikin Applied understands temporary HVAC, temporary power, work site lighting, and temporary water required to perform the scope of work provided is the Owner or Owner's Representative responsibility.
11. Daikin Applied will only provide supervision for itself and its sub-contractors when we or they are on site.
12. Daikin Applied Material or Labor warranty is excluded on Owner or Owner's Representative provided equipment.

### *Exclusions:*

1. Any labor, materials, or subcontracted service not specifically provided for in the description or scope of work.
2. Identification and remediation of existing code violations.
3. Authority Having Jurisdiction required changes are not included and will be quoted as additional work scope.
4. Painting, repair work to buildings, and/or equipment which is not specifically identified in the description or scope of work.
5. Costs associated with hazardous materials identification, removal, and/or abatement.
6. Temporary or portable HVAC equipment and connections to existing systems.
7. The creation of new Building Automation Systems graphics, monitoring, trending, analysis or any other software or labor required for implementation of these items.
8. Testing and balancing.
9. Commissioning plan development and execution.
10. Sound testing or acoustical treatments for any elements inside or external to the work site or equipment.
11. Seismic analysis and certification for all materials and equipment.
12. Permits, insurance coverages other than indicated in the attached Evidence of Insurance, and performance and payment bonds.
13. Professional services including Architectural, Mechanical, Electrical, Structural and other Engineering Disciplines.
14. Fire, Smoke and/or Security controls, equipment, repair, graphics, programming, replacement or upgrades.

## Pricing and Payments

Feel free to contact me if you have any questions or concerns regarding the information contained in this Project Quote. If you would like us to proceed with the solution presented above, sign the acceptance line below (including PO# if applicable) and return a copy so that we can begin to mobilize our efforts to complete services as quickly as possible. We appreciate the opportunity to provide you with this solution and look forward to working with you on this and servicing your needs in the future.

### Investment Amount and Billing Terms:

Investment required to implement the proposed solution

\$319,741.01 (Three Hundred Nineteen Thousand, Seven Hundred Forty One dollars and One cent)

*\*Price does not include applicable sales tax*

Pricing and acceptance are based on the execution of a Contractor Agreement in the form attached hereto and subject to final credit approval.

**Billing/Payment Terms\*:** Billed in full upon completion

\*All billings are due immediately upon Receipt

This Quote will be honored by Daikin Applied for 90 days from the date on the front of the Quote. After 90 days, Daikin Applied reserves the right to evaluate cost changes (both increases and decreases) from the Quote.

## Contractor Agreement

This **CONTRACTOR AGREEMENT** ("**Agreement**"), effective as of \_\_\_\_\_ ("**Effective Date**"), is made and entered into by and between COUNTY OF ASHE (hereinafter "**Owner**") and Daikin Applied (hereinafter "**Contractor**").

WHEREAS, Contractor is in the business of providing equipment, labor and/or material, which may involve subcontracting a third party ("Subcontractors") to provide labor and material, to perform the scope of work described in **the Quote** No. Q-73952 Dated: 04/08/25 hereto ("**Work**"), and,

WHEREAS, Contractor has offered to perform the Work for Owner with respect to the property located at 150 GOVERNMENT CIR JEFFERSON, NC 28640 (hereinafter "**Property**");

WHEREAS, Owner desires to retain Contractor to perform the Work;

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements of the parties, it is agreed as follows:

1. **Work. Subject to credit approval**, Contractor agrees to furnish all labor, materials, tools, equipment, and samples necessary to complete the Work. Contractor acknowledges that in providing such Work, it shall at all times comply with all laws and regulations affecting, Contractor. Owner agrees that Contractor may retain one or more subcontractors ("**Subcontractors**") to perform the Work through a Subcontract Agreement.
2. **Term of Agreement**. Contractor will commence Work on the commencement date ("**Commencement Date**"). Owner will notify Contractor of the Commencement Date in writing by issuing a Notice to Proceed. The Notice to Proceed shall be issued at least fourteen (14) days before the Commencement Date. Upon substantially completing the Work, Contractor shall present a Certificate of Substantial Completion to Owner.
3. **Contract Price**. For full performance of the Work in conformance with this Agreement, Owner shall pay the Contractor the fixed sum specified in **the Quote** hereto ("**Contract Price**"), subject to adjustment per mutual agreement of the parties should the scope of Work change. The Contract Price does not include sales tax.
4. **Relationship of Parties**. Contractor is retained by Owner only for the purpose and to the extent set forth in this Contractor Agreement. Contractor's relationship with Owner shall, during the entire term of this Contractor Agreement, be that of an independent contractor. Contractor, and any employee, agent, servant, officer, director or shareholder of Contractor, shall not be deemed an agent, servant, or employee of Owner.
5. **Compliance with Laws**. Contractor and Owner agree that parties shall comply with all federal, state, and local laws and regulations applicable to its activities under this agreement, including without limitation to the hiring, safety, and taxation of its employees, as well as obtaining and maintenance of any applicable licenses and/or permits as required by all laws and regulations applicable to its activities under this Agreement.
6. **Insurance**. At all times while performing the Work, Contractor shall maintain, at its sole cost and expense, insurance as customary within the industry. If requested Contractor will present a copy of their certificate of insurance.
7. **Indemnification**. It is the parties' obligation to defend and indemnify upon prompt receipt of written notice to defend, indemnify, and hold harmless each other's officers, directors, employees, and agents, from and against those damages, liabilities, claims, and causes of action, for property damage, personal injury or death (including without limitation injury to or death of employees or any subcontractor thereof) (jointly referred to as "Claims"), directly caused by Contractor's negligence, gross negligence, or willful misconduct of the indemnifying party during the performance of the Work.
8. **Default**.
  1. A default occurs under the terms of this Agreement if: (a) Contractor substantially fails to perform any of its material obligations under this Agreement; (b) if Owner becomes insolvent, and/or; (c) if Owner fails to tender payment to Contractor under this Agreement for thirty (30) days after the date such payment is due (together "Event of Default").
  2. Upon the occurrence of an Event of Default, the non-breaching party shall provide written notice to the breaching party ("Notice of Default"). Upon receipt of the Notice of Default, the breaching party shall immediately correct the default. If the breaching party fails to correct the default for thirty (30) days after receipt of the Notice of Default, or fails to provide evidence that appropriate corrective action is in reasonable process, the non-breaching party may terminate this Agreement upon written notice ("Notice of Termination"). The parties shall have any legal remedies at their disposition, as allowed by local law.
9. **Termination**. Absent an uncured Event of Default, this Agreement may only be terminated only by the consent of the parties.

1. The termination shall be evidenced by: (a) execution of a single writing; (b) signed by Contractor and Owner; (c) that specifically identifies this Agreement, and (d) states that Owner and Contractor terminate this Agreement as of a specified date ("Termination Agreement").
2. Prior to execution of the Termination Agreement, Contractor shall present Owner with an Application for Payment for actual Work rendered under this Agreement as of the date the parties intend to execute the Termination Agreement, and Owner shall pay Contractor the amount requested in the Application Payment contemporaneously with the parties execution of the Termination Agreement.
  
10. **LIMITATION OF LIABILITY: NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, DELAY, LIQUIDATED, SPECIAL, OR INDIRECT DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, REVENUE, PROFITS, GOODWILL, OR OTHER BUSINESS INTERRUPTION DAMAGES, THAT ARISE OUT OF OR RELATED IN ANY WAY TO THEIR PERFORMANCE OR LACK OF PERFORMANCE UNDER THIS AGREEMENT, WHETHER BASED ON STATUTE, TORT, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER CLAIM OR THEORY OF RECOVERY OR LIABILITY WHATSOEVER, REGARDLESS OF WHETHER THESE DAMAGES COULD HAVE BEEN FORESEEN OR NOT.**
11. **Warranty.** All equipment furnished hereunder is provided with the manufacturer's warranty as the exclusive warranty for such equipment. Contractor provides such warranty as a pass-through to Owner. The manufacturer's warranty for equipment manufactured by Daikin Applied and Daikin North America are attached hereto and incorporated herein by this reference. The Contractor agrees to perform Work in a manner which is in accordance with industry standards for the operation, appearance, and public perception established by those engaged in a business similar to that of Contractor. Subcontractor Agreements will contain warranties that Subcontractors will perform the Work in a similar manner. Valid for one year from completion of the Work.
12. **Asbestos and Hazardous Materials.** In the event Contractor encounters asbestos, lead and/or other hazardous materials, Contractor will stop work and notify Owner, and shall have the right to suspend its work at no penalty to Contractor until such products or materials and the resultant hazards are removed. Completion of the work shall be extended to the extent caused by the suspension and the contract price equitably adjusted. Owner shall remediate any asbestos, lead or other hazardous materials at Owner's expense, and shall be responsible for all costs, expenses, damages, fines, penalties, claims and liabilities associated with or incurred in connection with any hazardous materials or substances, upon, beneath, about or inside Owner's equipment or property, shall bear title to, ownership of, and legal responsibility and liability for any and all such hazardous materials or substances, and shall be responsible for the removal, handling and disposal of all hazardous materials and substances in accordance with all applicable Governmental Regulations. Owner shall defend, indemnify, reimburse and hold harmless Contractor and its officers, directors, agents, and employees from and against any and all claims, damages, costs, expenses, liabilities, actions, suits, fines and penalties (including without limitation, attorneys' fees and expenses) suffered or incurred by any such indemnified parties, based upon, arising out of or in any way relating to exposure to, handling of, or disposal of any hazardous materials or substances, in connection with the services performed hereunder. Contractor reserves the right to engage others in a subcontractor status to perform the work hereunder.
13. **Confidentiality.** Owner agrees to keep confidential and use its best efforts to cause any sales representative and employees to keep confidential all trade secrets, proprietary, and confidential information (hereinafter "Confidential Information") related to Daikin Applied and safeguard all Confidential Information from disclosure or use by any person directly or indirectly under Owner's control. Confidential Information does not include (i) information which is in the public domain other than through a breach of this clause and (ii) information which was received by Owner independently of Daikin Applied. Neither expiration nor termination of this Agreement for any reason shall release Owner from the obligations of this Section.
14. **Notices.** Any information or notices required to be given under this Agreement shall be in writing and shall be delivered either by (a) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (b) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (c) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be addressed as follows:

If to Contractor:

Daikin Applied Americas Inc.  
Attn: Legal Department  
13600 Industrial Park Blvd  
Plymouth, MN 55340

If to Owner:

COUNTY OF ASHE  
Attn: Ashe Government

150 GOVERNMENT CIR JEFFERSON, NC 28640

The foregoing addresses may be changed from time to time by notice to the other party in the manner hereinbefore provided for.

- 15. **No Waiver.** A party's failure or neglect to enforce any provision hereof shall in no way constitute a waiver of said party's rights under any other provision.
- 16. **Severability.** If any provision hereof is deemed to be invalid or unenforceable under applicable law, the remaining provisions of this Agreement shall continue to be enforceable.
- 17. **Applicable Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Minnesota, except conflicts of law which may require the application of another jurisdiction's laws.
- 18. **Miscellaneous.**
  - 1. Force Majeure. Notwithstanding anything to the contrary contained in the Agreement, Daikin Applied shall have a reasonable opportunity to cure any alleged unmet performance obligations thereunder. Additionally, in the event either party is delayed in its performance due to causes outside its reasonable control, the time for such party's performance will be extended for a period of time reasonably necessary to overcome the delay.
  - 2. Entire Agreement; Modifications. This Agreement constitutes the entire agreement between the parties with respect to the Work and supersedes all prior negotiations, representations or agreements relating thereto either written or oral, except to the extent that they are expressly incorporated herein. No modifications or alterations shall be made to this Agreement unless in writing and agreed upon by the parties.

IN WITNESS WHEREOF, the parties have executed this Agreement on the Effective Date, the corporate parties by their officers duly authorized.

**OWNER:**

COUNTY OF ASHE  
Ashe Government  
150 GOVERNMENT CIR  
JEFFERSON, NC 28640

**CONTRACTOR:**

Daikin Applied Americas  
13600 Industrial Park Boulevard  
Plymouth, MN 55441

\_\_\_\_\_  
(Print Full Legal Name of Customer)

\_\_\_\_\_  
(Print Full Legal Name of Daikin Applied Representative)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Date:







# Energy Analysis Report

150 GOVERNMENT CIRCLE  
BOWMAN, JOSHUA L

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## Report Objective

The objective of this report is to summarize the energy consumption and costs of 150 Government Circle to Ashe County Government based on information provided from the client and benchmarking data from the most recent version of the Commercial Building Energy Consumption Survey, and to describe the results of energy modeling to forecast utility and operational savings if energy conservation measures are adopted.

## Daikin Applied Contacts

Inquiries may be directed to:

Josh Bowman  
Energy Efficiency Engineer IV  
828 – 707 – 5338  
[Joshua.Bowman@daikinapplied.com](mailto:Joshua.Bowman@daikinapplied.com)

Greg Stephenson  
Controls Account Executive  
[CONTACT INFO 1]  
[Greg.stephenson@daikinapplied.com](mailto:Greg.stephenson@daikinapplied.com)

### Executive Summary:

The energy use of the building at 150 Government Circle is 25% higher than a median courthouse, according to the 2018 Commercial Building Energy Survey (CBECS). Typically, mechanical equipment and lighting upgrades are the easiest way to bring a building of this type to median energy use.

| Ashe County Courthouse<br>North Carolina | Annual kBTU<br>per SQ Ft | Annual Cost<br>per Sq Ft | Estimated<br>Savings Potential |
|--|--------------------------|--------------------------|--------------------------------|
| Existing Use                             | 127.2                    | \$2.95                   | \$44,027.49                    |

Figure 1 – Existing energy use of Ashe County Courthouse. Savings potential assumes building brought to median energy use levels, with proportionate cost reductions.

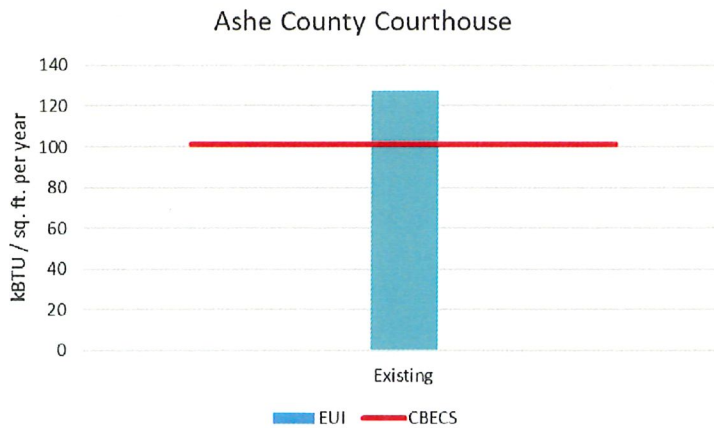


Figure 2 - Energy Use Intensity of Ashe County Courthouse compared to the CBECS 2018 median value.

The fastest way to measure the relative performance of a building is by using the Energy Use Intensity (annual energy use per square foot of the building) and comparing it with median values for the building use from CBECS. The survey is conducted every 6 years by the Energy Information Administration. Median energy use values are subdivided by building use

(such as offices or warehouses), rough building size, and geographic region, among other classifications.

The median energy use intensity (EUI) for a courthouse in the United States is 101.2 kBTU / sq. ft. per year and the property at 150 Government Circle was found to consume an average of 127.2 kBTU / sq. ft. per year. This value is based on utility bills from 2024 - 2025, as seen in Figure 3.

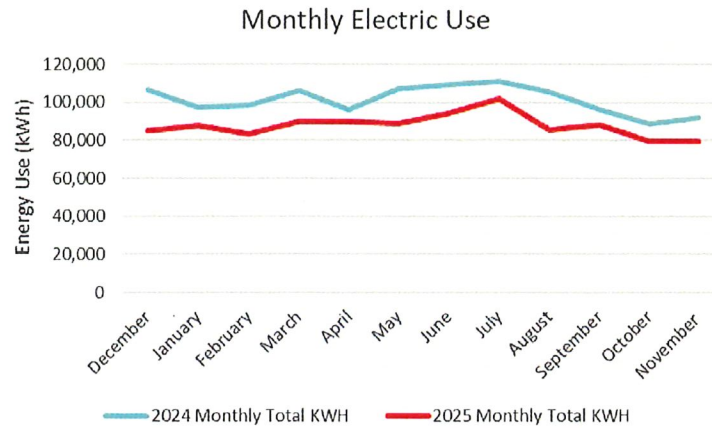


Figure 3 - Monthly electricity use from 2024 to 2025.

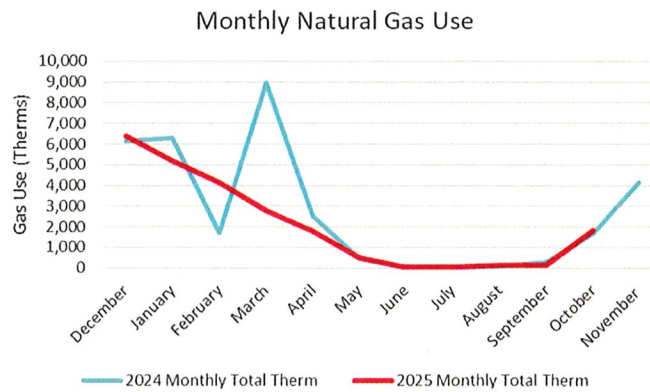


Figure 4 - Natural gas use per month from 2024 - 2025.

### Month to Month Comparison:

Typically, electricity use is seen to peak in the summer cooling months, with dips in the spring and fall, when heating and cooling loads are reduced and free cooling is available. The fact that this pattern can not be seen in this building may indicate an issue with building automation routines.

As seen in Figure 4, there was a large peak in gas usage in March of 2024. This may be explained by a valve failure or other equipment issue. Outside of this anomaly, gas use appears to be fairly consistent between years.