

**Johnston County Public Schools
Clayton Middle School AHU 16 and 17 Replacement**

ADDENDUM NO. 1

DATE: April 09, 2025

PROJECT: Johnston County Public Schools
Clayton Middle School AHU 16 and 17 Replacement

OWNER: Johnston County Public Schools
320 US HWY 70 Business East, Smithfield, NC 27577

ENGINEER: Dewberry Engineers Inc.
2610 Wycliff Road, Suite 410, Raleigh, NC 27607

This Addendum, applicable to the work designated herein, shall be understood to be and is an Addendum to the contract documents and, as such, shall become a part of and included in the contract.

1. Please see attached April 08, 2025 Pre-Bid Meeting Minutes and Attendance Sheet. The Pre-Bid Meeting Minutes shall become part of the contract documents.
2. Please see attached bid form updated with manufacturer for Alternate 1. The Bid form shall become part of the contract Documents.

Drawings:

1. None.

Specifications:

1. Updated Bid Form with Alternate #1 change.

Contractor Questions:

1. See Pre-Bid Meeting Minutes for questions and responses.

Attached Documents:

1. Bid Form with Updates.
2. April 8th, 2025 Pre-Bid Meeting Minutes.
3. April 8th, 2025 Pre Pre-Bid Meeting Attendance Sheet.
4. Owner Furnished Equipment Submittal.
5. Existing Controls Schematic As built.

End of Addendum No. 1

BID FORM

Section 00 41 13.02

Contractor Initials & Date _____

Contract: **Mechanical/Electrical Construction**

Project: **Clayton Middle School AHU 16 & 17 Replacement**
Johnston County Public Schools Board of Education
Johnston County, NC

Bidder: _____

Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and the contract documents relative thereto, has read all special and supplemental provisions furnished prior to the opening of bids, has satisfied himself relative to the work to be performed, and thereby proposes and agrees if this proposal is accepted, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the fabrication and delivery of the work, and other related work in full and complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the Owner, with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and other contract documents, on the **Clayton Middle School AHU 16 & 17 Replacement**.

Bidders are advised that a notice to proceed may be issued upon approval by the Johnston County Public Schools Board of Education, and in advance of the contract document.

The Bidder proposes and agrees, if this proposal is accepted, to execute a Contract within ten (10) days after notification of award, for the above work and for the below stated Compensation, in the form of Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum., for the sum of:

BASE BID: _____

_____ Dollars (\$ _____)

Mechanical Subcontractor:

_____ Sub Bid Amount (\$ _____)

Electrical Subcontractor:

_____ Sub Bid Amount (\$ _____)

Controls Subcontractor:

_____ Sub Bid Amount (\$ _____)

ALTERNATES:

The Bidder proposes to perform the work indicated as alternates for the amounts entered below, which amounts shall be added to or deducted from the Base Bid as indicated in the space below.

(Bidders must enter an amount for each alternate. If acceptance of the alternate will not change the contract amount, enter “No Change”. Insert the words “Add” or “Deduct” in the space provided before the amount.)

List of Alternates:	<u>Add/Deduct</u>	<u>Amount</u>
Alternate #1		
Manufacturer Preferred Brand BAS: Honeywell by Climatec	_____	\$ _____
Alternate #2		
Manufacturer Preferred Brand Fan: Loren Cook	_____	\$ _____
Alternate #3		
Manufacturer Preferred Brand VFD: ABB	_____	\$ _____

BID UNIT PRICES:

None.

BID ALLOWANCES:

Base bid shall include an allowance of \$5,000 to be used for unforeseen conditions as directed by JCPS. Unused allowance shall be returned to the owner at the end of the project.

ADDENDA:

The following addenda were received and used in computing this bid:

	<u>Date</u>	<u>Initial</u>
Addendum #1	_____	_____

The Bidder further proposes and agrees hereby to commence work under this contract on a date to be specified in a written order by the Owner or Designer on or before **August 01, 2025** and shall substantially complete the work on or before **180 calendar days** from the “Notice to Proceed” or the contract, whichever is dated first.

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bond within ten (10) consecutive calendar days after written notice being given of the award of the contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the Owner’s account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned. Attach certified check, cash or bid bond to this proposal.

BID FORM

Section 00 41 13.02

Contractor Initials & Date _____

RESPECTFULLY SUBMITTED this _____ day of _____, 200 ____.

(Name of firm or corporation making bid)

By: _____

Title: _____
(Owner / Partner / President / Vice President)

License No. _____

Federal ID No. _____

WITNESS: (Proprietorship / Partnership)

By: _____

ATTEST: (Corporation)

By: _____

(CORPORATE SEAL)

Title: _____
(Corporate Secretary or Asst. Secretary Only)

PRE-BID MEETING MINUTES

DATE: April 08, 2025

TIME: 1:30 p.m. – 2:30 p.m.

LOCATION: 490 Guy Road, Clayton, NC 27520

PURPOSE: JCPS Clayton Middle School AHU 16 and 17 Replacement - Pre-Bid Meeting

Summary of Discussion

1. Thank everyone for their interest in the project and attendance at the pre-bid meeting.
2. Introduction of Johnston County Public Schools (JCPS) Owner team and Design Team (Dewberry Engineers Inc.):
 - I. Josh Woodard (JCPS) will be the primary Owner Representative
 - II. Weston Hockaday (Dewberry Engineers Inc) will be the primary Design Team Representative
3. **Bid Document Access:**
 - I. Was everyone able to access the bid documents via the email link? **Yes**
4. **Review of Project Scope of Work:**
 - I. **Owner Priorities – Points of emphasis**
 - i. **Replacement when the owner furnished air handling units are delivered after July 14th and before August 22, 2025.**
 - ii. **Air handling units are currently scheduled for delivery to Facilities Warehouse. Assume contractor to transit from warehouse to school. We can try to divert delivery to school if contractor is prepared to receive and begin demolition following receipt and checkout.**
 - iii. **Limited downtime during replacement. Limit to max 1 week outage from demolition to AHU startup with cooling/dehumidification/reheat control. Owner to provide dehumidification units in space during changeout. Changeout to be completed before school occupancy August 22nd.**
 - iv. **Exhaust Fans may be replaced later if lead time requires.**
 - v. **No liquidated damages are included.**
 - II. Demolish air handling unit 16 (ahu 16) and air handling unit 17 (ahu 17).
 - III. Demolish exhaust fan 8 (ef-8) and exhaust fan 9 (ef-9). Demolish exhaust fan 17 heat recovery coil and heat recovery pump.
 - IV. Demolish ductwork to point of connection at mechanical room wall for all systems. Existing duct smoke detectors to be removed and reinstalled in new ductwork.
 - V. Demolish piping to point of connection at mechanical room wall for chilled water and heating hot water systems.
 - VI. Install owner furnished air handling units 16 and 17. Units pre-purchased by jcps for lead time purposes. Contractor must provide transport of units from storage location to site at time of construction.
 - VII. Provide new exhaust fan 16 and relief exhaust fan 17 with curb adapters on roof.
 - VIII. Provide new ductwork for connection to existing ductwork point of connection to new ahu 16, ahu 17, ef-8, and ef-9. Provide motorized control dampers for ahu 17 outside and return air.

- IX. Provide new piping with insulation with color pvc jacketing for connection to existing piping point of connection to new ahu 16 and ahu 17. Provide isolation valves at mechanical room wall at start to reduce building outage while installation is ongoing. Provide new piping and accessories to meet coil piping details. Existing chilled water coil control valves may be reused. Existing heating coil control valves may be reused for reheat coils.
- X. Provide new preheat coil pump for ahu 17.
- XI. Existing controllers, control panels, damper actuators, cooling coil control valves, heating control valves, and sensors may be reused. New control valves for preheat coils must be provided. Expand and reprogram existing controllers to new sequence of operation. Add instrumentation, sensors, actuators, and control points shown on schematics that are not existing such as fan speed. Integrate new BACnet supply fan and ef-8 vfd controls into control system. Controls contractor to remove sensors and actuators for reuse prior to mechanical demolition to protect from damage. **Modified bid form for preferred alternate to reflect existing controller manufacturer and vendor.**
- XII. Provide new electrical to serve new equipment fan starters, pump starters, and ahu fan single point power fan control panel. Provide electrical to serve dedicated ahu uv and lighting circuit. Provide new mechanical room lighting.
- XIII. Relocate (2) 1" conduits below ahu 17 louver to avoid obstruction with new ahu dimensions.
- XIV. Provide pre-demolition testing via duct traverse for existing ahu 16, ahu 17, ef-9, airflow and static pressure at supply, return, and exhaust duct connections.
- XV. Provide test, adjusting, and balancing for new airside and hydronic equipment to meet performance, control sensor calibration, and control setpoints such as outside air ventilation setpoints.
- XVI. Provide flushing for new piping installed in mechanical room.
- XVII. Provide water treatment for chilled water and heating hot water system after installation.
- XVIII. Contractor to plan work with prefabrication and construction shift schedule to demolish and install air handling units to limit outage duration to less than or equal to 1 week.
- XIX. Contractor to coordinate with owner on equipment delivery to schedule
- XX. Demolition and new work for air handling unit operation by august 22nd, 2025.
- XXI. Contractor to assume equipment delivery prior by august 1st, 2025.

5. Schedule:

- I. This is a traditional calendar school. Work is intended to be conduct primarily around the summer break, with weekends and nights during school year, if necessary
- II. Depending on how the school year develops later in the year, there could be school events that will need to be scheduled around. Further discussions will take place and a list of events and dates shall be provided by JCPS Owner Representative, if necessary.

6. Alternates:

- I. Alternate #1: Manufacturer Preferred Brand: **Honeywell by Climatec**
- II. Alternate #2: Manufacturer Preferred Brand Fan: Loren Cook
- III. Alternate #3: Manufacturer Preferred Brand VFD: ABB

7. Unit Prices:

- I. No Unit Prices for this project.

8. Allowance/Contingency:

- I. Project includes a \$5,000 construction contingency/allowance for the owner to use toward their discretion. Any contingency/allowance shall be returned to owner during the project closeout process.

9. Permitting:

- I. Contractor shall include permit costs in the bid submittal.

10. General Conditions:

- I. The General Conditions of the contract apply to all portions of the project. This is a informal bid, so all standard JCPS policies must be followed.

11. Sexual Offender Registry Check Certification Form:

- I. The General Conditions in the project manual requires all contractors working on JCPS property to submit a "Sexual Offender Registry Check Certification Form". The successful Contractors, including all sub-contractors, will be required to submit this form when submitting the contract. Contractors are required to complete this information before they will be allowed on the school property.

12. Photo ID Requirement:

- I. JCPS requires all workers to wear a generated Photo ID, at all times, while on site.

13. Project Schedule:

- | | | |
|------|---|---------------------------|
| I. | Pre-Bid Meeting: | April 8, 2025 @ 1:30pm |
| II. | Bid Opening: | April 22, @ 2:00pm |
| III. | Notice of Intent to Award (start shop drawings): | May 13, 2025 |
| IV. | Return of Owner Contractor Agreement by Contractor: | May 30, 2025 |
| V. | Notice to Proceed with Construction: | May 30, 2025 |
| VI. | Substantial Completion: | August 22, 2025 |
| VII. | Final Completion: | September 26, 2025 |

14. Liquidated Damages:

- I. None

15. Protection Areas:

- I. Contractor shall be required to isolate/protect areas of construction with orange barrier fencing.

16. Staging:

- I. Staging area can be allocated on site as needed. This will be discussed at the Pre-construction meeting.

17. Toilet Use:

- I. Contractors shall provide portable toilets.

18. Utility Use:

- I. Contractor shall be permitted to use existing water and power. These utilities shall be left as when the project began.

19. Bid Clarification Question Contact:

- I. Any bid clarification questions should be submitted in writing to at the following contact information:

Weston Hockaday
Dewberry Engineers Inc.
2610 Wycliff Road, Suite 410
Raleigh, NC 27607
(919) 524-3668 – mobile
whockaday@dewberry.com – email.

20. Project Bid Opening:

- I. Questions will no longer be taken after Wednesday, April 9th.
- II. First addendum will be issued Wednesday, April 9th after 5pm, which will include the Pre-Bid Meeting minutes.
- III. Project bids will be received up until **Tuesday, April 22nd at 2:00pm** and be reviewed at **2320 US HWY 70 Business East, Smithfield, NC 27577**. USPS mail is automatically routed to our PO Box which creates issues for large packages, do NOT use this method to send proposals.

21. Contractor Questions/Comments:

- I. Is information on AHU equipment available?
 - i. Vendor – Hoffman and Hoffman – Daikin
 - ii. Submittal Attached.
- II. Who is typically used by county for water treatment?
 - i. Kurita Water Treatment – Jesse Batchelor – 252.289.4005
- III. Who is typically used by county for fire alarm?
 - i. BFPE International – Michael Holloman – 919.550.2699
- IV. Is flushing required for the mechanical room or entire system?
 - i. Flushing required for the new piping in AHU mechanical room.
- V. Can you send the contact for existing controls and company?
 - i. Climatec / ECS – Joe Hinge – jhinge@climatec.com – 919.448.6337
 1. David Cotton – dcotton@climatec.com
 - ii. Submittal Attached of existing controller for contractors to determine what can be reused and what will be required (sensors, actuators, valves, VFDs, wiring, I/O expansion) to meet the needs of the new controls schematic, sequence, and points.
- VI. What is the existing controls communication?
 - i. BACnet IP
- VII. What would happen if the owner furnished AHU won't fit? Contractors will have staff booked for project if we can't install it.
 - i. Recommend the contractor review the AHU submittal from the vendor attached and take their own measurements to confirm fit and to feel confident about their commitment for staff assignments. If an issue with dimensions persists, then as a team we would discuss accommodations. Access to mechanical room is available and AHU equipment submittal is attached for contractor to verify prior

- to bid. Owner will not be responsible for contractor costs associated with allocation of resources due to schedule delays.
- ii. Ductwork and piping are demolished to the extents of the room to provide mechanical contractor maximum flexibility to accommodate the space.
- VIII. Is concrete pad extension allowed in lieu of demolishing and new? Is rebar required to tie-in to existing?
- i. Yes and Yes.
- IX. Are spare IO requirements to be enforced in specification on reuse of existing controller?
- i. No
- X. How will warranty work on existing controls being reused and owner furnished air handling unit?
- i. Contractor will be responsible for warranty on furnished equipment and installation of equipment. Controls will follow the same standard. Existing equipment reused for controls and issues with air handling units not related to installation would not be included.
- XI. What are the requirements for participation of minority business / MBE?
- i. This project is anticipated to fall under \$300k project cost threshold and is intended to be paid using local or non-state funds.
 - ii. For this project, in case state funds are allocated that would require participation above \$100k we requested contractors submit documentation with their bid.
 - iii. Minority and women-owned businesses are encouraged to participate.
 - iv. Minority Business Participation: Bidders shall note that compliance with County of Johnston MBE policies and the North Carolina Statute 143-128.2 (c) are required for this project.
 - v. Johnston County Board policy code 9125 excerpt:
(https://boardpolicyonline.com/bl/?b=johnston_new#&&hs=1395883)
1. **Section A: Goals**
 - a. After notice and public hearing, the Board hereby adopts an aspirational verifiable percentage goal of 10 percent (10%) for participation by minority businesses in the total value of work for each building project costing \$300,000 or more paid entirely from local or other non-state funds. In addition, the Board adopts the state's aspirational verifiable goal of 10 percent (10%) participation by minority businesses in the total value of work for each building project costing \$100,000 or more funded in whole or in part with state funds.
 - b. Only businesses holding current certification as a historically underutilized business will be considered eligible for inclusion in meeting the Board's participation percentage goals. Lack of certification, however, will not be considered in making a contract award decision.
 2. **Section C: Good Faith Efforts Required by Contractors**
 - a. All bidders on school construction and renovation projects subject to Section A of this policy who intend to subcontract any part of the project must (1) identify the minority businesses to be used on the project and (2) provide affidavits indicating that a good faith effort has been made in preparing the bid to meet the Board's verifiable goal for participation by minority businesses. Upon being named the apparent lowest responsible, responsive bidder, a bidder shall provide additional evidence of its good faith efforts as required by law.
 - b. The level of minority participation in bidders' bids will not affect the contract award decision; however, the failure to provide documentation of a good faith

effort to meet the Board's goal may result in the bid being rejected as non-responsive.

- c. Before recommending the award of a contract, the superintendent shall direct designated school officials to evaluate bidders' documents in accordance with applicable law and regulations to determine whether bidder good faith requirements are satisfied.

XII. Is Bid bond required?

- i. Bid security required is 5% of the bid in cash, certified check, or Bid Bond.

22. Site Walk/Visit:

- I. All parties present can walk around the project site to view existing conditions.
- II. Contractors are welcome to visit the project sites once approved by JCPS. Contact Josh Woodard to schedule time with staff notification. Utilize the normal check-in/check-out process in the school office.



PRE-BID MEETING ATTENDANCE SHEET

DATE: April 08, 2025

TIME: 1:30 p.m. – 2:30 p.m.

LOCATION: 490 Guy Road, Clayton, NC 27520

PURPOSE: JCPS Clayton Middle School AHU 16 and 17 Replacement - Pre-Bid Meeting

In Attendance

NAME	✓	ORGANIZATION	PHONE	EMAIL
Weston Hockaday	✓	Dewberry Engineers Inc.	919.524.3668	whockaday@dewberry.com
Joshua Woodard	✓	JCPS	919.795.5090	joshuawoodard@johnston.k12.nc.us
Lex Beasley	✓	Air Heaven	919.920.8066	Airheavenllc.lexbeasley@gmail.com
Chris Stevens	✓	Air Heaven	Blank	Blank
Aaron Castolenia	✓	McCloskey Mechanical	984.298.9095	acastolenia@mccloskeymechanical.com
Avery Willis	✓	Morlando Crane	919.523.6215	katiew@morlandocrane.com
Josh Neal	✓	Piedmont / CMS Controls	540.420.0285	josh.neal@cms-controls.com
Christian Dockum	✓	CCAC	336.451.5379	cdockum@ccair.com
Jeremy Hundley	✓	Tri-south Mechanical	919.412.8424	jhundley@trisouthmechanical.com
Andrew Stanley	✓	Tri-south Mechanical	919..830.6054	astanley@trisouthmechanical.com
Steven Ris	✓	Hoffman Building Technologies	919.532.5378	Steven.ris@hbtech.com
Mike Davis	✓	Hoffman Building Technologies	919.619.4311	Mike.davis@hbtech.com
Majd Alawar	✓	Hoffman Building Technologies	919.819.0214	Majd.alawar@hbtech.com
Ben Hockaday	✓	Hockaday Mechanical Corporation	919.277.0485	ben@hmcpr.com
AJ Johnson	✓	Dail Mechanical	919.353.3676	Ajohnson@dailmechanical.com
Josh	✓	Allred Mechanical	252.985.8244	josh@allredmechanical.com

Ray Brewer	✓	Allred Mechanical	252.443.5659	ray@allredmechanical.com
David Cotton	✓	Climatec	910.985.1684	dcotton@climatec.com

LOCATION: Clayton, NC

DATE: 3/24/2025

SALESMAN: Jory Engel/
Ben Bingham

PROJECT: *JCPS Clayton Middle School*

ENGINEER: *Dewberry*

PRODUCT: *Semi-Custom Modular Air Handling Units*
AHU-16

MANUFACTURER: *Daikin Applied*

RESUBMITTAL: *REV01*

DEWBERRY ENGINEERS INC.

REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE PROJECT REQUIREMENTS INDICATED IN CONTRACT DOCUMENTS AND FOR CONSISTENCY WITH THE PROJECT DESIGN CONCEPT. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN DESIGNS FOR WHICH THE CONTRACTOR IS RESPONSIBLE, FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND FOR THE SAFE AND SUCCESSFUL CONSTRUCTION OF THE WORK. THIS REVIEW DOES NOT CONSIDER THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, OR SAFETY, PRECAUTIONS OR PROGRAMS INCIDENTAL THERETO, WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

REVIEWED NO
EXCEPTIONS ☒

REVIEWED EXCEPTIONS
NOTED ☐

REVISE AND RESUBMIT ☐

REJECTED ☐

INFORMATION ONLY ☐

By: **WH**

Date: **03/26/25**

APPROVAL REQUIRED

HOFFMAN • HOFFMAN, INC.

HVAC Manufacturers Representative

Website: www.hoffman-hoffman.com

Asheville, NC	(828) 296-0111	Charleston, SC	(843) 884-3201
Charlotte, NC	(704) 364-4700	Columbia, SC	(803) 765-9360
Raleigh, NC	(919) 781-8011	Greenville, SC	(864) 676-1888
Wilmington, NC	(910) 791-4775	Chesapeake, VA	(757) 548-1700
Chattanooga, TN	(423) 693-2890	Richmond, VA	(804) 272-1500
Knoxville, TN	(865) 540-9770	Roanoke, VA	(540) 725-8701

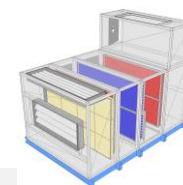
Corporate: Greensboro, NC (336) 292-8777

We have exercised care in the preparation of this submittal. We believe it satisfies our interpretation of the designer's intent and scope. It contains the list of materials, quantities, sizes, style and the finish as we propose to furnish for this job. Please examine and check carefully that all items are exactly as required and that our interpretation of the applicable plans and/or specifications are consistent with the design. **Approval by the engineer and purchaser will be required before release of this equipment for production.** If any discrepancies are discovered, please notify us as soon as possible.



SUBMITTAL DATA

Vision® Air Handling Unit



Job Information		Submittal
Job Name	JCPS Clayton Middle School	
Date	March 24 2025	
Software Version	13.62	
Unit Tag	AHU-16	

Unit Overview						
Model Number	Air Volume cfm	Supply				
		Static Pressure		External Dimensions		
		External inWc	Total inWc	Height in	Width in	Length in
Daikin Vision	16500	2.25	4.27	114*	96*	146**

*Not including base rails, coil connectors, drain connectors and control boxes.

**Total lower deck length.

Unit			
Model Number:	Vision		
Construction:	High pressure low leakage construction		
Outer Panel:	18 gauge G90 Galvanized Steel (unpainted)		
Liner:	18 gauge Galvanized Steel (unless noted per section)		
Insulation:	R-13 Injected Foam		
Unit Configuration:	Stacked / vertical	Drive (Handling) Location:	Left
Base:	6" formed channel	Wall Thickness:	2 in
Altitude:	0 ft	Parts Warranty:	Standard One Year

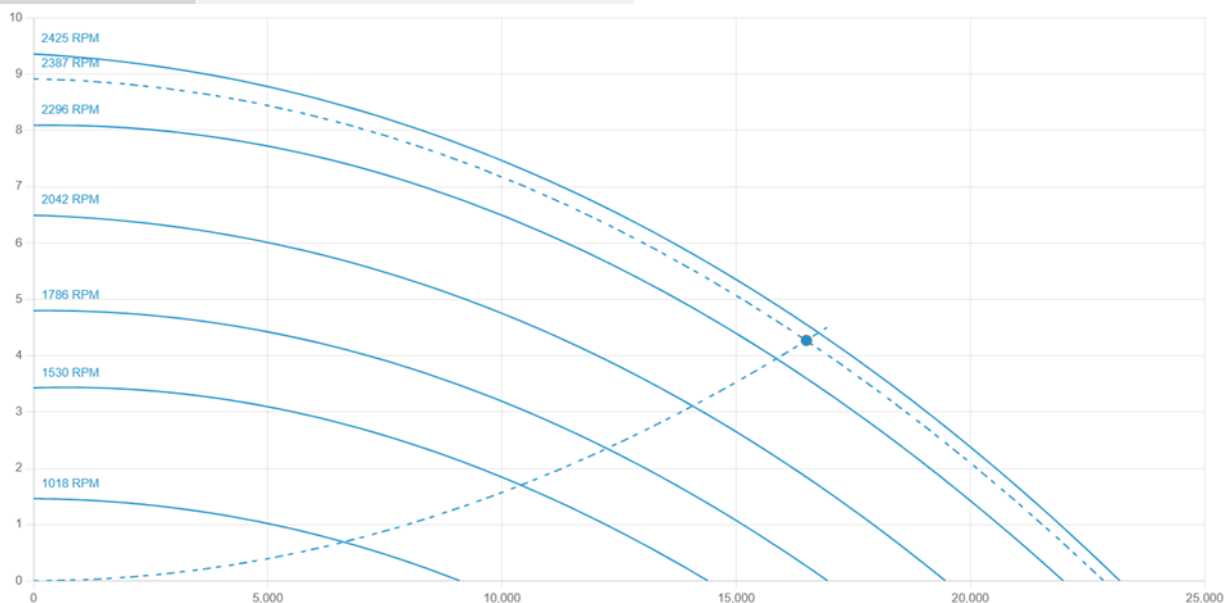
Mixing Box							
Filter Data							
Type	Efficiency		Face Velocity	Face Area	Air Volume	Filter Loading	
Pleated	MERV 8		457 ft/min	36.1 ft²	16500 cfm	Side	
Air Pressure Drop				Number of Filters	Height	Width	Depth
Clean Air	Mean Air	Dirty Air	User Spec				
0.23 inWc	0.62 inWc	1.00 inWc	N/A	9	20 in	24 in	4 in
				3	20 in	20 in	4 in
Custom Dampers							
Custom Damper	Actuation	Location	Size (Width x Height)		Material	Blade Action	Rainhood w/Screen
			Overall	Opening			
Return Air	N/A	Top	92 in x 26 in	82 in x 22 in	Galv. Steel	Parallel	None
Outside Air	N/A	End	74 in x 30 in	64 in x 26 in	Galv. Steel	Parallel	None
Door							
Location		Width		Opening		Light	
Drive side		10 in		Outward		LED marine light kit with GFI outlet	
Special Options							
Sound Baffle				Filter Gauge			
(As casing details)				Magnehelic 0-2"			
Special Text							
Extra filters 1 set(s)							

Hot Water Coil							
Coil Model	Total Capacity	Number of Coils		Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)
5WQ1001B	464529 Btu/hr	2		1	10	0.625 in	1.50 in x 1.299 in
Air Volume	Air Temperature		Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity
	Entering	Leaving					
	Dry Bulb	Dry Bulb					
16500 cfm	30.0 °F	55.7 °F	0.15 inWc	24 in	80 in	26.67 ft²	619 ft/min
Water		Flow Rate	Pressure Drop	Velocity	Volume	Weight	
Entering	Leaving						
150.0 °F	119.1 °F	30.10 gpm	7.00 ftHd	4.00 ft/s	5.0 gal	49.00 lb	
Connection [Data Per Coil]				Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.	Fouling Factor	
Type	Size	Location	Material				
Threaded	1.50 in	Drive side	Carbon steel	119.1 °F	119.1 °F	0.000	
Material							
Fin		Tube		Header		Case	
Aluminum .0075 in		Copper .020 in		Copper		Stainless steel	
AHRI 410 Certification							
		Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org					
Door							
Location	Width		Opening	Window Type		Light	
Drive side	18 in		Outward	Round		LED marine light kit with GFI outlet	

Chilled Water Coil										
Coil Model	Total Capacity		Sensible Capacity		Number of Coils	Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)	
5WL1206B	646232 Btu/hr		517717 Btu/hr		2	6	12	0.625 in	1.50 in x 1.299 in	
Air Volume	Air Temperature				Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity	
	Entering		Leaving							
	Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb						
16500 cfm	81.8 °F	65.7 °F	53.1 °F	52.6 °F	0.75 inWc	30 in	83 in	34.58 ft²	477 ft/min	
Water			Flow Rate		Pressure Drop	Velocity	Volume		Weight	
Entering	Leaving									
45.0 °F		57.1 °F		107.30 gpm	11.10 ftHd	3.80 ft/s	28.0 gal		234.00 lb	
Connection [Data Per Coil]						Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.		Fouling Factor	
Type	Size		Location	Material						
Threaded		2.00 in		Drive side	Carbon steel					
						Drain Pan		Drain Side		
Fin	Tube		Header	Case						
Aluminum .0075 in		Copper .020 in		Copper		Stainless steel		Stainless steel		Drive side
AHRI 410 Certification										
		Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org								
Door										
Location		Width		Opening		Window Type		Light		
Drive side		20 in		Outward		Round		UVC Lights		
Special Options										
Liner					Sound Baffle					
24 gauge Stainless Steel					(As casing details)					

Hot Water Coil							
Coil Model	Total Capacity	Number of Coils		Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)
5WH0902B	633597 Btu/hr	2		2	9	0.625 in	1.50 in x 1.299 in
Air Volume	Air Temperature		Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity
	Entering	Leaving					
	Dry Bulb	Dry Bulb					
16500 cfm	55.0 °F	90.1 °F	0.17 inWc	30 in	80 in	33.33 ft²	495 ft/min
Water		Flow Rate	Pressure Drop	Velocity	Volume	Weight	
Entering	Leaving						
150.0 °F	119.8 °F	42.00 gpm	2.60 ftHd	2.20 ft/s	11.0 gal	93.00 lb	
Connection [Data Per Coil]				Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.	Fouling Factor	
Type	Size	Location	Material				
Threaded	2.50 in	Drive side	Carbon steel	119.8 °F	119.8 °F	0.000	
Material							
Fin		Tube		Header		Case	
Aluminum .0075 in		Copper .020 in		Copper		Stainless steel	
AHRI 410 Certification							
		Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org					
Door							
Location	Width		Opening	Window Type		Light	
Drive side	24 in		Outward	Round		LED marine light kit with GFI outlet	

Supply Fan Array					
Fan Data					
Air Volume (each/total)	Total Static Pressure	Quantity of Fans	Input Power (each)	Operating RPM	Fan Weight (each)
8250/16500 CFM	4.27 inWC	2	8.90 HP	2387 rpm	124 lb
Fan Model	Material	Efficiency	Redundancy	Array Weight	
N88-50701	Aluminum	65.25 %	52 %	545 lb	
Motor/Electrical Data					
Motor Horsepower (each)	Maximum RPM	Electrical Supply	Full Load Current (each)	MCA	MOCP
9.86 HP	2425 rpm	460 V/3ph	9.9 A	22.66 A	30 A
Fan Options					
Blank-Off Plate:	None	Isolation Backdraft Dampers:		Included	
Fan Panel Disconnect:	100kAIC Fused Disconnect	Control Input:		BACnet Controller	
Control Panel Rating	NEMA 1 (Indoor)				



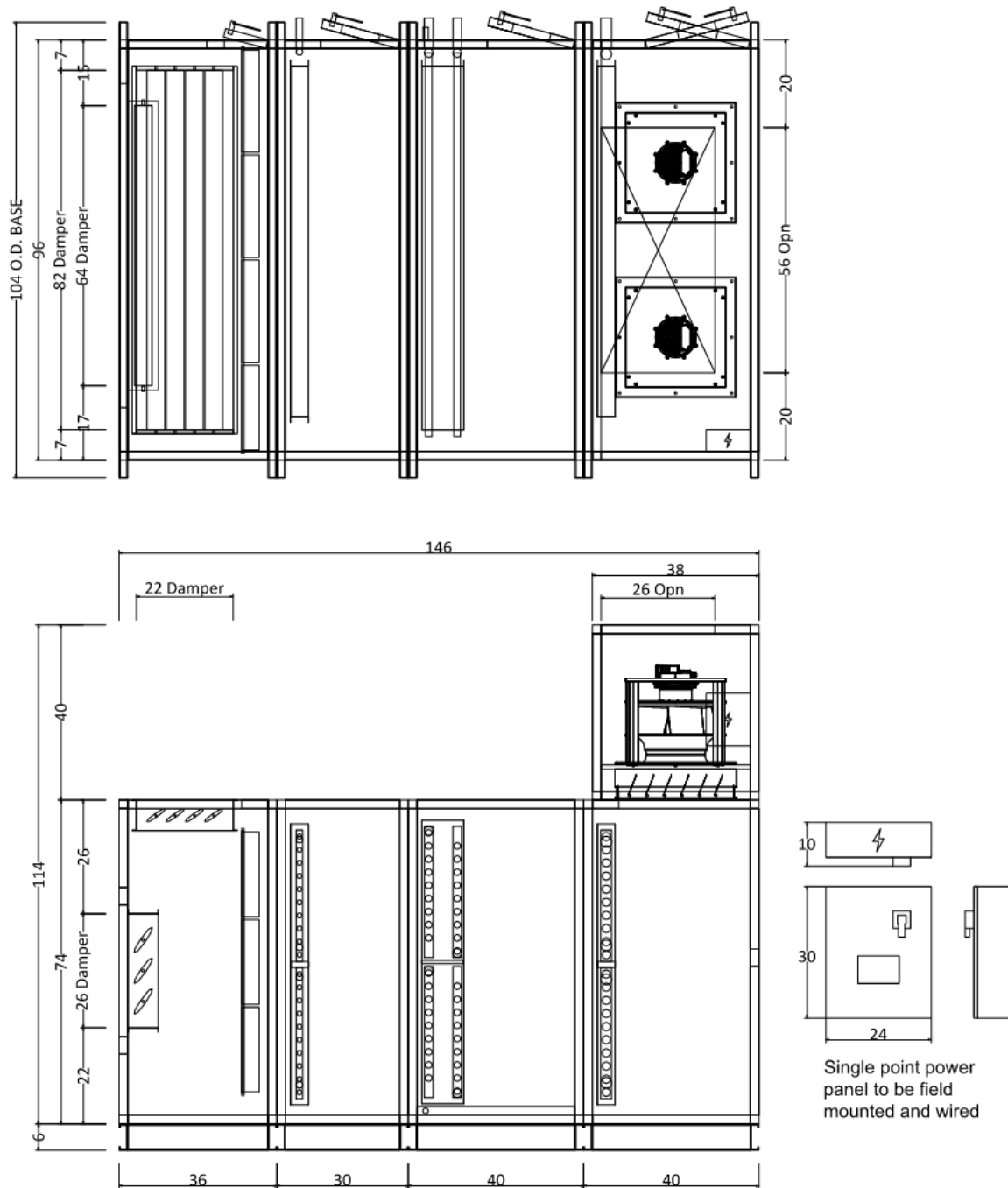
Array Sound Power (dB)								
Type	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Radiated:	73	86	72	67	63	55	46	51
Unit Discharge:	83	96	90	88	85	83	79	78
Unit Return:	76	89	85	80	79	77	76	72

Plenum Section				
Custom Openings				
Custom Opening	Location	Width	Height	Rainhood w/Screen
Supply Air	Top	56 in	26 in	None
Door				
Location	Width	Opening	Window Type	Light
Drive side	24 in	Outward	Round	LED marine light kit with GFI outlet

Shipping Section Details

Section	Length in	Weight lb
1	36	1005
2	30	1086
3	40	1946
4	40	1476
5	38	1191
Entire Unit	146	6704
Lower level only		

Unit Layout



LOCATION: Clayton, NC

DATE: 3/24/2025

SALESMAN: Jory Engel/
Ben Bingham

PROJECT: *JCPS Clayton Middle School*

ENGINEER: *Dewberry*

PRODUCT: *Semi-Custom Modular Air Handling Units*
AHU-17

MANUFACTURER: *Daikin Applied*

RESUBMITTAL: *REV01*

DEWBERRY ENGINEERS INC.

REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE PROJECT REQUIREMENTS INDICATED IN CONTRACT DOCUMENTS AND FOR CONSISTENCY WITH THE PROJECT DESIGN CONCEPT. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN DESIGNS FOR WHICH THE CONTRACTOR IS RESPONSIBLE, FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND FOR THE SAFE AND SUCCESSFUL CONSTRUCTION OF THE WORK. THIS REVIEW DOES NOT CONSIDER THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, OR SAFETY, PRECAUTIONS OR PROGRAMS INCIDENTAL THERETO, WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

REVIEWED NO
EXCEPTIONS ☐

REVIEWED EXCEPTIONS
NOTED ☒

REVISE AND RESUBMIT ☐

REJECTED ☐

INFORMATION ONLY ☐

By: WH

Date: 03/26/25

Change SA opening to
30x30 in lieu of 30 x 12 or
rotate 30x12 90 deg to
orient with existing duct
connection plan north of
unit.

APPROVAL REQUIRED

HOFFMAN • HOFFMAN, INC.

HVAC Manufacturers Representative

Website: www.hoffman-hoffman.com

Asheville, NC	(828) 296-0111	Charleston, SC	(843) 884-3201
Charlotte, NC	(704) 364-4700	Columbia, SC	(803) 765-9360
Raleigh, NC	(919) 781-8011	Greenville, SC	(864) 676-1888
Wilmington, NC	(910) 791-4775	Chesapeake, VA	(757) 548-1700
Chattanooga, TN	(423) 693-2890	Richmond, VA	(804) 272-1500
Knoxville, TN	(865) 540-9770	Roanoke, VA	(540) 725-8701

Corporate: Greensboro, NC (336) 292-8777

We have exercised care in the preparation of this submittal. We believe it satisfies our interpretation of the designer's intent and scope. It contains the list of materials, quantities, sizes, style and the finish as we propose to furnish for this job. Please examine and check carefully that all items are exactly as required and that our interpretation of the applicable plans and/or specifications are consistent with the design. Approval by the engineer and purchaser will be required before release of this equipment for production. If any discrepancies are discovered, please notify us as soon as possible.

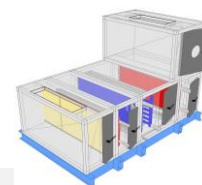


SUBMITTAL DATA

Vision® Air Handling Unit



Job Information		Submittal
Job Name	JCPS Clayton Middle School	
Date	March 24 2025	
Software Version	13.61	
Unit Tag	AHU-17	



Unit Overview

Model Number	Air Volume cfm	Supply				
		Static Pressure		External Dimensions		
		External inWc	Total inWc	Height in	Width in	Length in
Daikin Vision	2650	1.25	3.05	64*	62*	106**

*Not including base rails, coil connectors, drain connectors and control boxes.

**Total lower deck length.

Unit

Model Number:	Vision				
Construction:	High pressure low leakage construction				
Outer Panel:	18 gauge G90 Galvanized Steel (unpainted)				
Liner:	18 gauge Galvanized Steel (unless noted per section)				
Insulation:	R-13 Injected Foam				
Unit Configuration:	Stacked / vertical	Drive (Handling) Location:		Right	
Base:	6" formed channel	Wall Thickness:		2 in	
Altitude:	0 ft	Parts Warranty:		Standard One Year	

Mixing Box

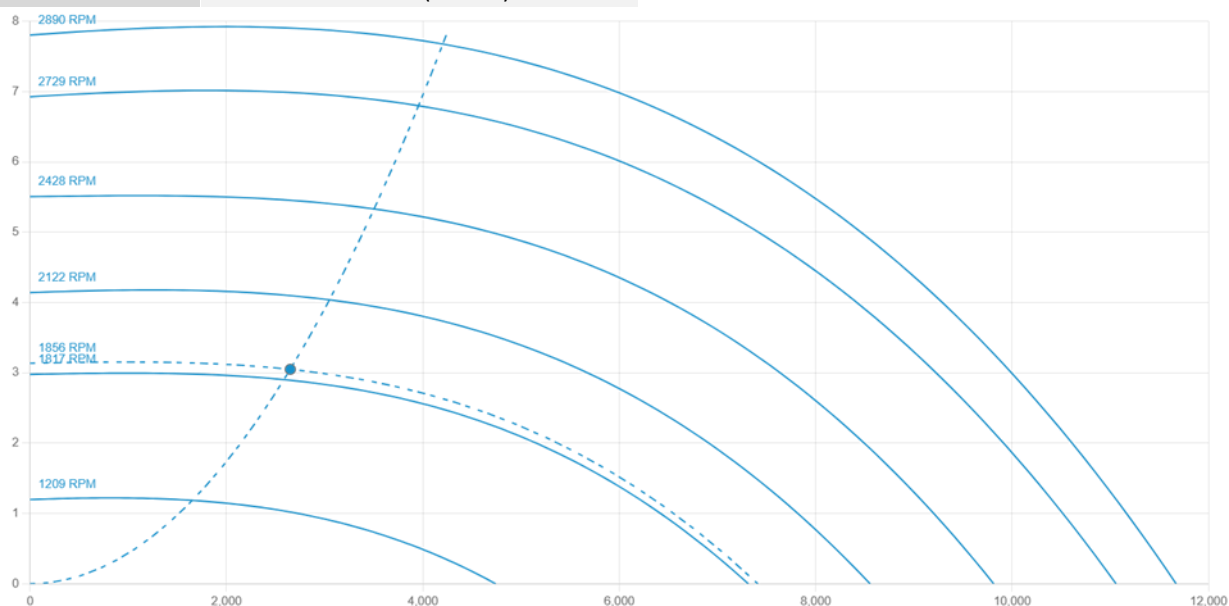
Filter Data							
Type	Efficiency		Face Velocity	Face Area	Air Volume	Filter Loading	
Pleated	MERV 8		281 ft/min	9.4 ft²	2650 cfm	Side	
Air Pressure Drop				Number of Filters	Height	Width	Depth
Clean Air	Mean Air	Dirty Air	User Spec				
0.11 inWc	0.55 inWc	1.00 inWc	N/A	3	24 in	20 in	2 in
Custom Openings							
Custom Opening	Location		Width	Height	Rainhood w/Screen		
Outside Air	Top		38 in	10 in	None		
Door							
Location		Width		Opening		Light	
Drive side		8 in		Outward		LED marine light kit with GFI outlet	
Special Options							
Sound Baffle				Filter Gauge			
(As casing details)				Magnehelic 0-2"			
Special Text							
Extra filters 1 set(s)							

Hot Water Coil							
Coil Model	Total Capacity	Number of Coils	Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)	
5WQ1401C	165538 Btu/hr	1	1	14	0.625 in	1.50 in x 1.299 in	
Air Volume	Air Temperature		Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity
	Entering	Leaving					
	Dry Bulb	Dry Bulb					
2650 cfm	0.0 °F	57.1 °F	0.18 inWc	18 in	46 in	5.75 ft²	461 ft/min
Water		Flow Rate	Pressure Drop	Velocity	Volume	Weight	
Entering	Leaving						
150.0 °F	119.2 °F	10.80 gpm	4.70 ftHd	3.80 ft/s	1.0 gal	14.00 lb	
Connection [Data Per Coil]				Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.	Fouling Factor	
Type	Size	Location	Material				
Threaded	1.50 in	Drive side	Carbon steel	119.2 °F	119.2 °F	0.000	
Material							
Fin		Tube		Header		Case	
Aluminum .0075 in		Copper .020 in		Copper		Stainless steel	
AHRI 410 Certification							
		Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org					
Door							
Location		Width		Opening		Light	
Drive side		8 in		Outward		LED marine light kit and switch only	

Chilled Water Coil									
Coil Model	Total Capacity	Sensible Capacity	Number of Coils	Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)		
5WL1008A	230476 Btu/hr	120881 Btu/hr	1	8	10	0.625 in	1.50 in x 1.299 in		
Air Volume	Air Temperature				Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity
	Entering		Leaving						
	Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb					
2650 cfm	95.0 °F	78.0 °F	53.3 °F	53.1 °F	0.31 inWc	21 in	49 in	7.15 ft²	371 ft/min
Water		Flow Rate		Pressure Drop	Velocity	Volume	Weight		
Entering	Leaving								
45.0 °F	57.0 °F	38.30 gpm		9.60 ftHd	3.90 ft/s	8.0 gal	67.00 lb		
Connection [Data Per Coil]					Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.	Fouling Factor		
Type	Size	Location	Material						
Threaded	2.00 in	Drive side	Carbon steel	45.0 °F	45.0 °F	0.000			
Material					Drain Pan		Drain Side		
Fin	Tube	Header	Case						
Aluminum .0075 in	Copper .020 in	Copper	Stainless steel	Stainless steel	Drive side				
Door									
Location			Width			Opening			
Drive side			18 in			Outward			
Special Options									
Liner				Sound Baffle					
Stainless Steel				(As casing details)					

Hot Water Coil							
Coil Model	Total Capacity	Number of Coils		Number of Rows	Fins per Inch	Tube Diameter	Tube Spacing (Face x Row)
5WH0802C	106792 Btu/hr	1		2	8	0.625 in	1.50 in x 1.299 in
Air Volume	Air Temperature		Coil Air Pressure Drop	Finned Height	Finned Length	Face Area	Face Velocity
	Entering	Leaving					
	Dry Bulb	Dry Bulb					
2650 cfm	55.0 °F	91.9 °F	0.18 inWc	21 in	46 in	6.71 ft²	395 ft/min
Water		Flow Rate	Pressure Drop	Velocity	Volume	Weight	
Entering	Leaving						
150.0 °F	118.4 °F	6.80 gpm	0.40 ftHd	1.00 ft/s	2.0 gal	23.00 lb	
Connection [Data Per Coil]				Min. Fin Surface Temp.	Min. Tube Wall Surface Temp.	Fouling Factor	
Type	Size	Location	Material				
Threaded	2.50 in	Drive side	Carbon steel	118.4 °F	118.4 °F	0.000	
Material							
Fin		Tube		Header		Case	
Aluminum .0075 in		Copper .020 in		Copper		Stainless steel	
AHRI 410 Certification							
		Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org					
Door							
Location		Width		Opening		Light	
Drive side		14 in		Outward		LED marine light kit and switch only	

Supply Fan Array					
Fan Data					
Air Volume (each/total)	Total Static Pressure	Quantity of Fans	Input Power (each)	Operating RPM	Fan Weight (each)
1325/2650 CFM	3.05 inWC	2	1.38 HP	1856 rpm	76 lb
Fan Model	Material	Efficiency	Redundancy	Array Weight	
N88-40327	Aluminum	49.10 %	188 %	417 lb	
Motor/Electrical Data					
Motor Horsepower (each)	Maximum RPM	Electrical Supply	Full Load Current (each)	MCA	MOCP
6.03 HP	2890 rpm	460 V/3ph	6.05 A	13.99 A	20 A
Fan Options					
Blank-Off Plate:	None		Isolation Backdraft Dampers:		Included
Fan Panel Disconnect:	100kAIC Fused Disconnect		Control Input:		BACnet Controller
Control Panel Rating	NEMA 1 (Indoor)				



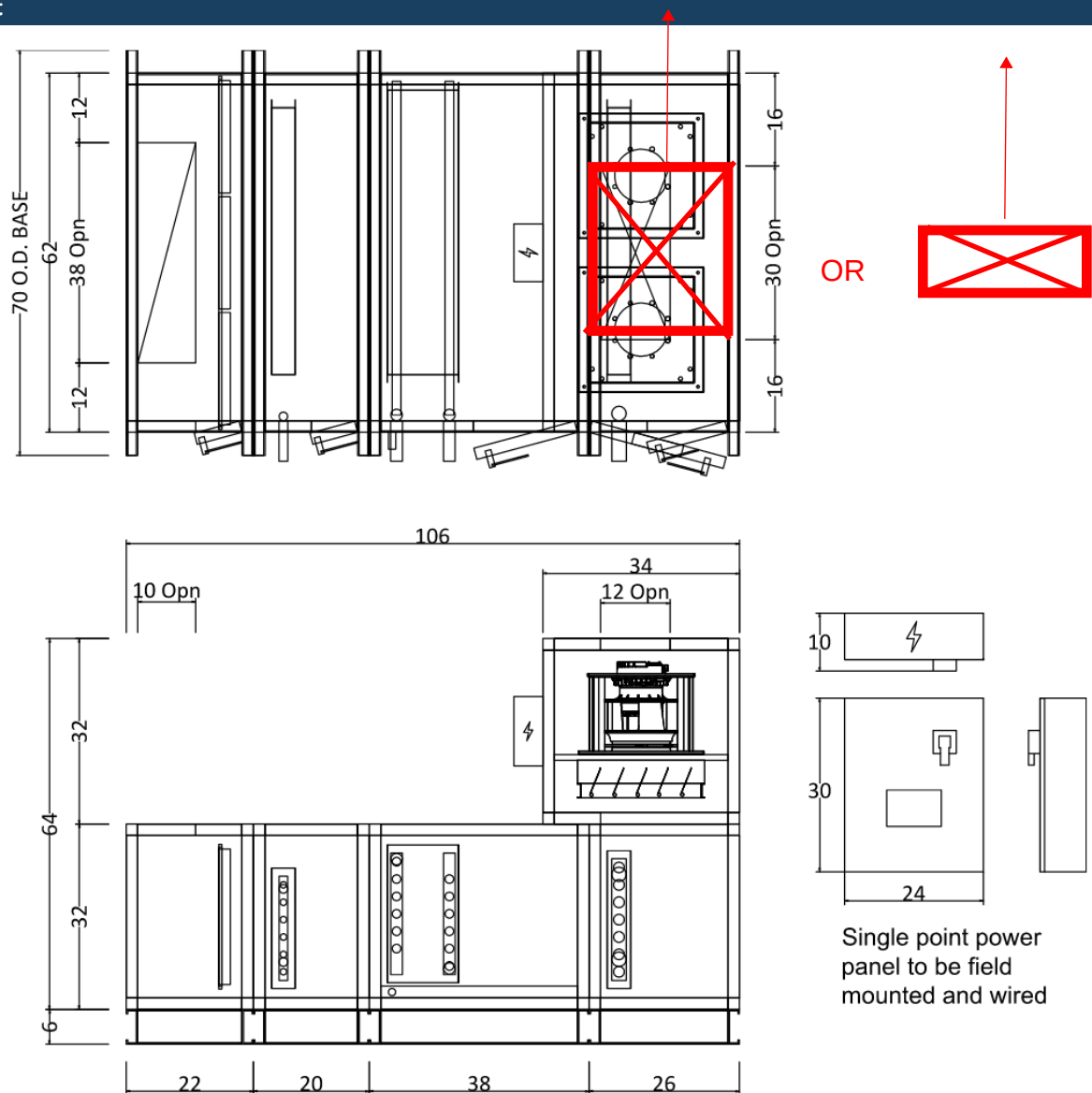
Array Sound Power (dB)								
Type	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Radiated:	64	60	63	55	55	46	46	51
Unit Discharge:	72	70	81	76	77	74	67	64
Unit Return:	65	63	74	71	69	67	62	59

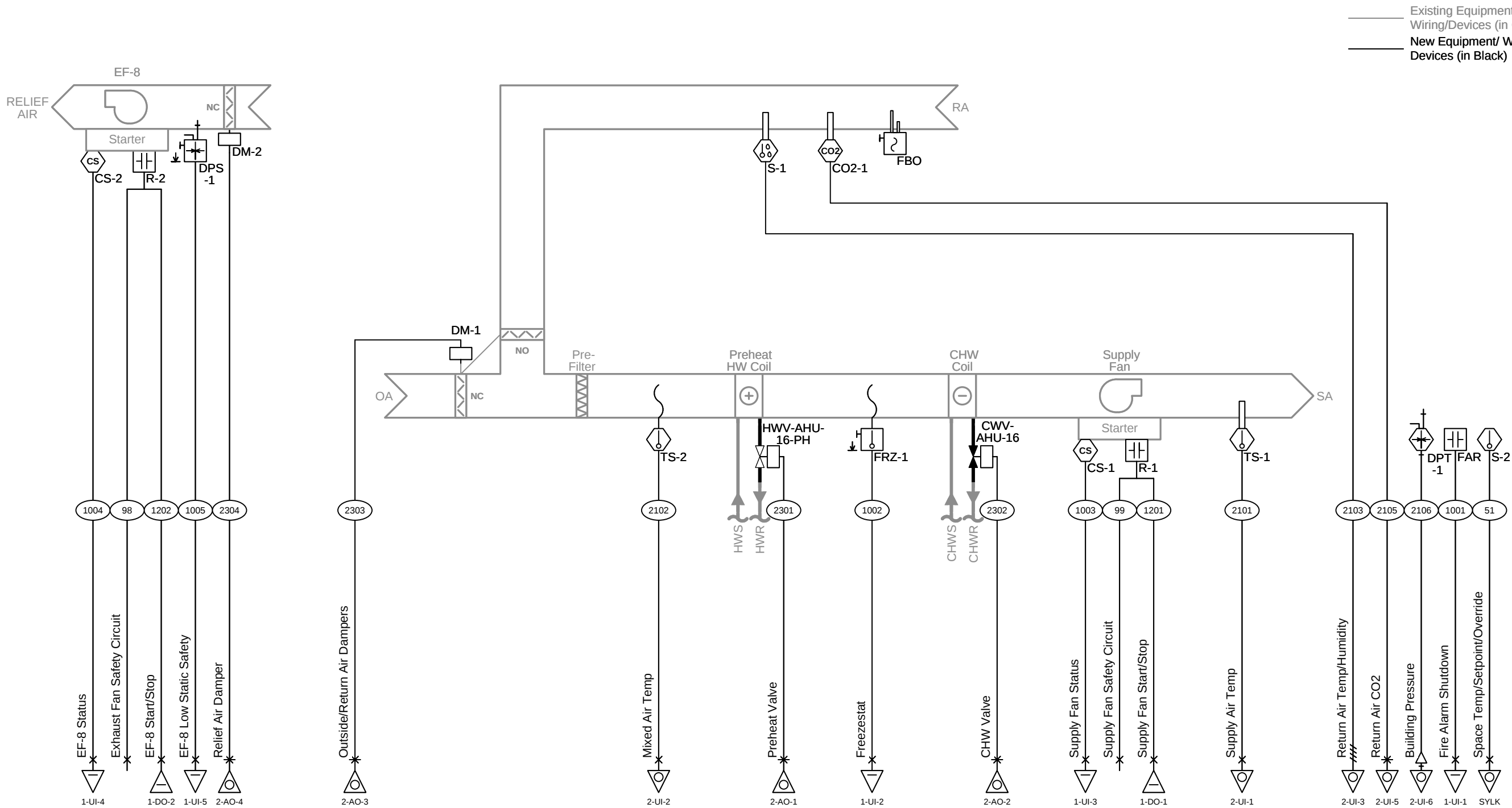
Plenum Section				
Custom Openings				
Custom Opening	Location	Width	Height	Rainhood w/Screen
Supply Air	Top	30 in	12 in	None
Door				
Location	Width	Opening	Window Type	
Drive side	24 in	Outward	Round	

Shipping Section Details

Section	Length in	Weight lb	
1	22	428	
2	20	463	
3	38	817	
4	26	546	
5	34	892	
Entire Unit	106	3146	
	Lower level only		

Unit Layout





Single Zone Constant Volume Air Handling Unit w/ Economizer & Relief Fan Schematic
(Typical for AHU-16)

Pursuant to the agreement between Engineered Control Solutions (ECS) and the party for which these documents have been prepared, these documents are the exclusive property of ECS including all data, plans, specifications and other information and may only be used in connection with the project for which these documents have been prepared by ECS, and for no other purpose. Any unauthorized use shall be at the user's sole risk, without liability to ECS, and subject to reasonable compensation by user. All rights of design are reserved to ECS.

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Phone: 919-567-0706
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www.ECScontrols.net

Johnston County Public Schools
Package 7 Clayton MS
490 Guy Rd.
Clayton, NC 27520

Single Zone Constant Volume AHU
With Economizer & Relief Fan
(AHU-16)
Schematic

ISSUE SEQUENCE		DATE	BY
DESCRIPTION	SUBMITTAL	4-22-24	SS
REV	00		
	01	5-13-24	SS

PROJECT NO.	24-11-110
ENGINEER	SS
DATE	4-22-2024
CHECKED BY	RT

SHEET
33 OF 80

