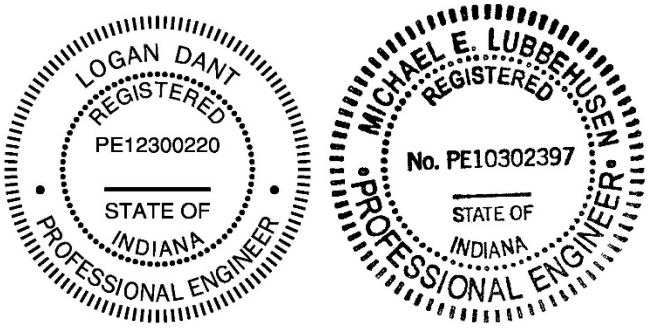
Primary Engineering, Inc.
2828 Lake Ave.
Fort Wayne, Indiana 46805
260-424-0444 ph
www.primary-eng.com



Addendum: **1**

Date: **10/31/2024**

Project: **Clinton Central Rooftop Unit Replacement**

Comm #: **24594**

The following items shall be incorporated into the specifications and drawings and are considered to be integral to the bid documents for the project. Acknowledgement of receipt of this addendum is required on the bid form.

Item #1: General Clarifications.

A. *Question: "Does the owner want any of the demolished equipment or salvaged refrigerant?"*
Answer: No, the contractor is responsible for disposal of all materials.

B. *Question: "Is there any existing roof warranties?"*
Answer: Yes, refer to the double box note on sheet ES-M203 and HS-M203.

C. *Question: "Do we need to remove and replace the existing roof curb and transition?"*
Answer: Existing roof curb is to remain and only the transition curb is to be new. Intent is not to stack a new transition curb onto an already existing transition curb.

D. *Question: "Does the existing red box on the exposed unit ventilator need to stay functional?"*
Answer: No, that box and the associated switch will be removed. New unit ventilator and thermostat will take the place of that box and switch.

E. *Question: "Do we need to protect the stage while working on the indoor air handler at the high school?"*
Answer: Yes, use 2 layers of plywood on the stage at least 10 ft from the access point into the mezzanine.

F. See attached for the pre-bid meeting agenda and the sign-in sheet.

G. See attached for the existing rooftop units' model/serial numbers for both elementary school and the high school.

Item #2: Drawing Sheet S1.1, "Structural Framing Plan, Notes, and Details"

A. See added new sheet for structural reinforcing for AHU-4 at the high school.

Item #3: Drawing Sheet HS-M201, "Mechanical Plans – Unit A and B"

A. Revised plan notes and sections to remove the concrete housekeeping pad under AHU-C1. New steel beams will be under the new air handler in lieu of a concrete pad.

Item #4: Drawing Sheet HS-M501, "Mechanical Schedule Sheet"

A. Revised the base rail height on AHU-C1 from 8" down to 2.5".

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Pre-Bid Meeting Agenda

Date: October 30, 2024

Project Name: Clinton Central Rooftop Unit Replacement

Project #: 24594

Agenda Items:

- Introductions of Owner Representative, Project Design Team, and Prime Contractors.
  - Logan Dant, Primary Engineering, ldant@primary-eng.com, 260-657-0153
  - Levi Yowell, Superintendent, levi.yowell@clinton.k12.in.us, 317-730-6396
  - Curt Whitcomb, Building Maintenance, curt.whitcomb@clinton.k12.in.us, 765-652-3103

- Project Information
  - Bids are due: November 6, 2024 at 1:30pm. North entrance door N2, board room on the left.
  - Submit bid forms in duplicate
  - School board approval of the contract is scheduled on: November 18, 2024. Potential board meeting November 7th.
  - Work may begin: June 1, 2025
  - Substantial completion of the project is: August 1, 2025

- Project scope of work
  - Elementary School: Replacement of (9) rooftop units. The replacement of (2) split systems are under an alternate bid.
  - High School: Replacement of (1) rooftop unit, (1) indoor air handler with split DX, and (1) split system. The replacement of (1) rooftop unit and (1) unit ventilator with split DX are under an alternate bid.
  - Controls shall be Distech controls install by Ermco.

- Owner specific requirements
  - Ermco point of contact will be Steve Davis, sdavis@ermco.com, 317-423-3860 and Danny Brewer, dbrewer@ermco.com, 317-396-4976

- Procedures for site visits – contact Curt Whitcomb.

- Deadline for addendum items and additional manufacturers by Monday 11/4 by 9am. Last addendum will go out no later than Monday 11/4 at noon.

ELEMENTARY SCHOOL

Existing Tag	Manufacturer	Model #	Serial #	Tons
RTU-4	TRANE	TSC120E4R0B07FX	102111495L	10
RTU-3	TRANE	TSC090E4E0A07FX	102111364L	7.5
RTU-2	TRANE	TSC120E4R0B0SH	102111533L	10
RTU-1	TRANE	THC102E4R0A176F	102111966L	8.5
ACCU-10	MITSUBISHI	MU24WN	-	2
ACCU-11	MITSUBISHI	MU24WN	-	2
RTU-6	TRANE	TSC120E4R0B07FX	120111543L	10
RTU-5	TRANE	TSC120E4R0B07FX	102111505L	10
RTU-10	TRANE	TSC090E4R0A07FX	102111378L	7.5
HV-3	TRANE	TSC120A4R0A29D000A	627100687L	10
HV-2	TRANE	TSC120A4R0A2	-	10

HIGH SCHOOL

Existing Tag	Manufacturer	Model #	Serial #	Tons
ACCU-C1	BRYANT	576BEX360000AAAA	3400F27000	30
HP-1	TRANE	4WCC3024A1000AA	10204WBU9H	2
ACCU-B4	TRANE	XB13	-	-
RTU-B5	TRANE	TSC036E4R0A07FX	102111227L	3
ACCU-20	MITSUBISHI	-	-	2
AHU-C1	DUNHAM-BUSH	AHD2FS080HM	603000418	-

GENERAL

1. Contractor shall be responsible for all existing dimensions and job site conditions. If discrepancies between actual conditions and those shown on documents exist, notify Architect/Engineer in writing prior to construction.

2. Governing building codes are as follows:
   a. Latest International Building Code and Indiana Construction Rules.
   b. A.C.I. Building Code Requirements for Reinforced Concrete (A.C.I. 318-11).
   c. Code of Standard Practice for Steel Construction, A.I.S.C. 14th Edition.

3. The structure is designed to be self-supporting and stable after the building is fully completed. It is solely the contractor's responsibility to determine erection procedure and sequence and to insure the safety of the building and its component parts during erection. This includes the addition of whatever shoring, sheeting, temporary bracing, guys or tiedowns which might be necessary. Such material shall remain the contractor's property after completion of the project.

4. Do not determine dimensions by "scaling" off the plans. The Contractor shall accept all risk associated with "scaling" and shall be responsible for all inadequate work resulting therefrom. Questions regarding missing or conflicting dimensions shall be directed, in writing, to the Structural Engineer.

5. The Contractor shall coordinate and check all dimensions relating to architectural finishes, structural framing, mechanical openings, equipment, etc. Notify Architect/Engineer of any discrepancies before proceeding with work in area under question.

STRUCTURAL STEEL

1. All structural steel shall be detailed with load transmitting field connections made with bearing-type 3/4" diameter ASTM A-325 bolts (snug-tight) UNO. All high strength bolts shall be designed as bearing "N" type so that continuous special inspection is not needed unless indicated otherwise on drawings. Shop connections shall be welded. Use no more than two bolt diameters for the project UNO. Skip one size between bolt diameters.

2. Structural steel material is as follows:
   a. Wide flange shapes ASTM A992
   b. Structural steel plates and rolled shapes other than wide flange shapes ASTM A36

3. Set leveling or bearing plates on cleaned bearing surfaces using wedges or other adjustments as required. Solidly pack open spaces with non-shrink, non-metallic grout.

4. Field welds to be made with E70XX electrodes according to AWS. Welded connections using ASTM A992 steel as a base metal shall be made with E70XX low hydrogen electrodes.

5. All design, fabrication and erection of structural steel shall be in accordance with AISC and AWS specifications.

6. All connections not specifically detailed on contract documents shall be designed and detailed by the structural steel fabricator in compliance with AISC standards. All connections shall be clearly shown on final shop drawings submitted for approval prior to fabrication.

7. Lintels not indicated on plans are as follows:
   a. Provide angle lintels over all openings and recesses in both interior and exterior walls unless otherwise noted. All lintels for mechanical and electrical openings are not shown. See mechanical and electrical plans for locations of lintels and lengths required for ductwork, pipes, electrical conduits, etc.
   b. Angle lintels shall have a minimum end bearing on masonry of 4 1/2", but not less than 1" of such bearing for each foot of opening width. Angles in pairs shall be welded or bolted together with 1/2" diameter bolts at 18" oc. In case of single angle, anchor to concrete or masonry backup with 1/2" diameter expansion type anchors at 18" oc.
   c. For 6" block partitions use two (2)-L3 1/2x 2 1/2x 5/16 (LLV) for spans up to 10'-0". For 8" to 10" block partitions use two (2)-L4x 3 1/2x 5/16 (LLV) for spans up to 7'-0". For spans 7'-0" to 10'-0" use two (2)-L5x 3 1/2x 3/8 (LLV). For 12" walls use three (3) angles as specified for 8" to 10" walls above.
   d. Coordinate masonry rough openings with all trades.

8. Shop drawings shall show complete details and schedules for fabrication, layout and erection. Submit shop drawings for approval prior to fabrication.

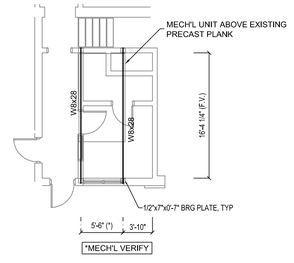
9. All beams and beam lintels shall be field welded to bearing plates with 3/16" fillet weld each side of bottom flange.

10. Field drilled holes shall be reamed, cleaned and deburred prior to assembly of the connection.

11. Beams with specified camber shall be cambered upward. Beams without specified camber shall be fabricated so that after erection any minor camber due to rolling or shop assembly is upward.

12. Thermal cutting shall preferably be done by machine. Hand thermally cut edges subjected to substantial stress or are to be welded, shall be reasonably free of notches or gouges. Notches or gouges larger than 3/16" that remain from cutting shall be removed by grinding. Re-entrant corners shall be shaped notch-free to a radius of at least 1/2".

13. Fabricator shall be responsible for design of all connections not specifically detailed on the plans. Where end reaction are not shown on the plans, design simple beam connections for at least 50% of the allowable uniform load given in the beam tables in Chapter 3 of the AISC Steel Construction Manual - Allowable Stress Design (14th Ed.) for the given span and beam size. Use ASD values unless noted otherwise.



HOLD W18x24 TIGHT TO BOTTOM OF EXTG PRECAST PLANK. GROUT OPEN SPACES SOLID WITH NON SHRINK, NON METALLIC GROUT.

Mezzanine Reinforcing Plan

SCALE: 1/8" = 1'-0"

NOTES:
1. SEE STRUCTURAL STEEL NOTE #7, SHEET S1.1 FOR NON-LOAD BEARING LINTELS (UNO). THESE WOULD INCLUDE ALL NEW DOORS, WINDOWS, WALL OPENINGS AND MECHANICAL WALL PENETRATIONS NOT INDICATED ON PLANS.
2. PROVIDE BRG PLATES 1/2"x7"x0'-7" UNDER EACH END OF BEAMS AND BEAM LINTELS. WELD BEAMS/BEAM LINTELS TO PLATE (TYP UNO).
3. ALL BRG PLATES SHALL HAVE (2)-1/2" DIA.x 4" HEADED STUDS.
4. ALL BRG PLATES NOT LOCATED AT MP'S SHALL HAVE (2) COURSES GROUTED SOLID UNDER PLATE.
5. BEAMS AND BEAM LINTELS SHALL HAVE FULL LENGTH (OR WIDTH) BRG ON

STRUCTURAL ENGINEERING SERVICES, LLC
15610 Lima Road Huntertown, IN 46748
Phone 260-637-7867 www.structuralengr.com

KENNETH E. HESS
REG. STATE ENGINEER
No. 19700062
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

DRAWN BY: EPH
CHECKED BY: KEH
OSMI NO. 24.395
DATE 10-31-2024

CERTIFIED BY:

Clinton Central Jr/Sr High

815 IN-29, Michigantown, IN 46057

STRUCTURAL FRAMING PLAN, NOTES, AND DETAILS

SHEET

S1.1

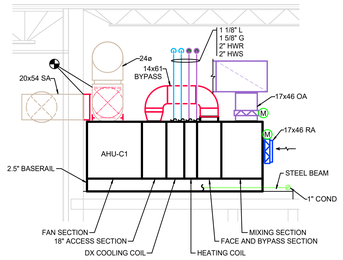
CONTRACTOR IS RESPONSIBLE TO REMOVE EXISTING & INSTALL NEW HARD OR RE-INSTALL LAY-IN CEILINGS AS REQUIRED TO GAIN ACCESS FOR DUCTWORK, PIPING, CONTROL WORK, ETC.

CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY DAMAGED CEILINGS. COORDINATE WITH OWNER FOR MATCHING GRID AND TILE.

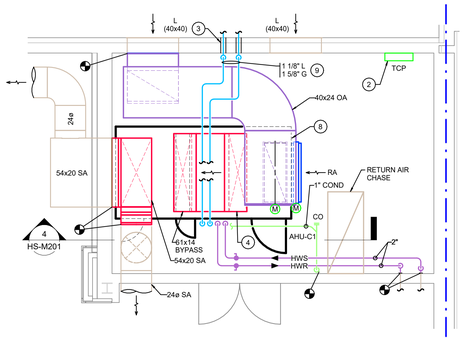
PROVIDE AND INSTALL NEW EQUIPMENT TAGS, EQUIPMENT ID, UPDATED ELECTRICAL CIRCUIT DIRECTORY, AND UPDATED BUILDING MANAGEMENT SYSTEM CONTROL GRAPHICS TAG.

PLAN NOTES

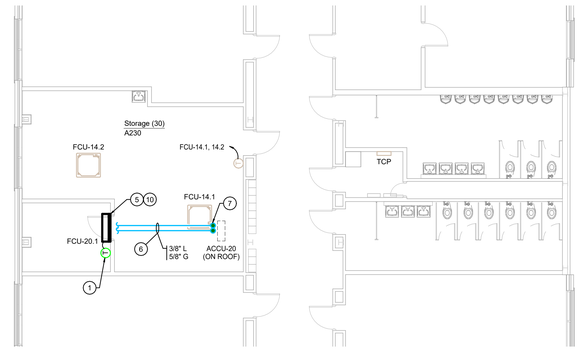
1. PROVIDE AND INSTALL NEW THERMOSTAT IN SAME LOCATION AS PREVIOUS DEVICE.
2. NEW TEMPERATURE CONTROL PANEL. REUSE EXISTING POWER FOR NEW PANEL IN SAME LOCATION. MOUNT NEW CONTROLS INSIDE NEW CONTROL PANEL.
3. CORE DRILL EXTERIOR WALL AS REQUIRED FOR NEW REFRIGERANT PIPING. SEAL AIR AND WATER TIGHT.
4. EXTERNAL FACE AND BYPASS DUCTWORK. ROUTE FULL SIZE OF AHU FACE AND BYPASS OPENING.
5. PROVIDE AND INSTALL NEW WALL MOUNTED FAN COIL UNIT IN SAME LOCATION AS PREVIOUS UNIT. PATCH ALL SURFACES TO MATCH SURROUNDINGS.
6. INSULATE NEW REFRIGERANT PIPING WITH FLEXIBLE ELASTOMERIC INSULATION. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
7. ROUTE REFRIGERANT PIPING UP THROUGH ROOF WITH NEW PATE PIPE CURB. PATCH ROOF AS REQUIRED TO MAINTAIN ROOF WARRANTY. INSULATE AND JACKET EXTERIOR REFRIGERANT PIPING. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
8. INSTALL NEW AIR HANDLER ONTO NEW STEEL BEAMS. REFER TO SHEET S1.1 FOR MORE INFORMATION.
9. REFER TO MANUFACTURER FOR SIZING OF REFRIGERANT PIPING.
10. TIE INTO EXISTING CONDENSATE PIPING AS REQUIRED.



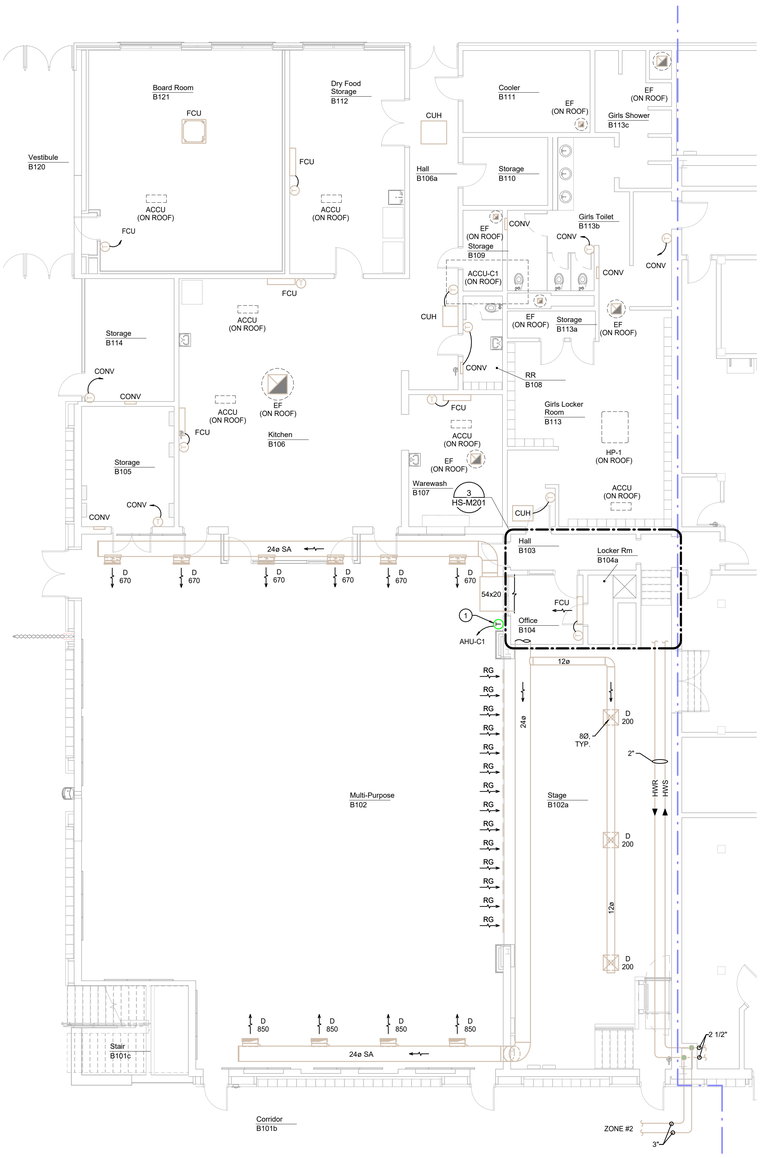
4 AHU-C1 SECTION
1/4" = 1'-0"



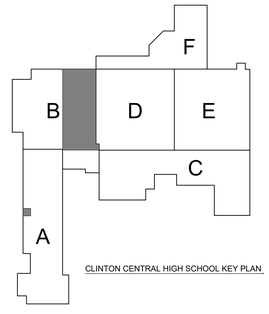
3 MEZZANINE MECHANICAL PLAN - UNIT B
1/4" = 1'-0"



2 SECOND FLOOR MECHANICAL PLAN - UNIT A
1/8" = 1'-0"



1 FIRST FLOOR MECHANICAL PLAN - UNIT B
1/8" = 1'-0"



CLINTON CENTRAL HIGH SCHOOL KEY PLAN.

1 ADDENDUM #1 10/31/2024

IF THE WHEEL PRINTED BELOW IS NOT SHOWN IN COLOR, THIS SET OF PRINTS IS NOT REPRESENTING ALL LINE TYPES CORRECTLY. CONTACT PRIMARY ENGINEERING FOR DIRECTIONS ON HOW TO OBTAIN A FULL COLOR SET OF PRINTS

SCALE: 1/16" = 1'-0" | SCALE: 3/32" = 1'-0" | SCALE: 1/8" = 1'-0" | SCALE: 1/4" = 1'-0" | SCALE: 1/2" = 1'-0" | SCALE: 3/4" = 1'-0" | SCALE: 1" = 1'-0"

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Clinton Central
Rooftop Unit Replacement
815 IN-29, Michigantown, IN 46057

CERTIFICATION:

LOGAN D. JANT
REGISTERED
PE12300220
STATE OF
INDIANA
PROFESSIONAL ENGINEER

DATE: 10-16-2024

COMM: 24594

SCHOOL: Clinton Central Jr/Sr High
815 IN-29
Michigantown, IN 46057

TITLE:
MECHANICAL PLANS - UNIT A AND B

SHEET:
HS-M201

ROOFTOP UNIT SCHEDULE

				SUPPLY FAN						RELIEF FAN		HEATING					COOLING											
TAG	MFR.	MODEL	SERVICE	AIRFLOW (CFM)	ESP (IN WC)	MIN. O.A. (CFM)	DRIVE TYPE	SUPPLY MOTOR (HP)	SUPPLY MOTOR (BHP)	SUPPLY RPM	RELIEF AIRFLOW (CFM)	RELIEF MOTOR (HP)	INPUT (KW)	EAT/LAT (DEG F)	STAGES	ELEC (V/PH)	MCA	MOCP	TOTAL (TONS)	SENS. (MBH)	TONS	EDB/EWB (DEG F)	LDB/LWB (DEG F)	AMBIENT TEMP (DEG F)	STAGES	EER	ELEC (V/PH)	MCA	MOCP
HP-1	TRANE	4TCC4024E1	FACILTY	800	0.60	200	DIRECT	1/3	-	1050			-	-	-	208/1	52	60	23.2	16.0	2	80/67	60/56	95	2	11.0	208/1	17	25
RTU-B5	TRANE	THH036A4S	BAND PRACTICE ROOMS	1200	0.80	360	DIRECT	3/4	0.39	962	800	0.33	-	-	-	-	-	-	37.7	27.7	3	80/67	58/56	95	3	13.0	460/3	12	15

TAG	MFR.	MODEL	SERVICE	ELEC (V/PH)	MCA	MOCP	FILTER TYPE	OP. WEIGHT (LBS)	REFRIGERANT	REMARKS
---	---	---	---	---	---	---	---	---	---	---
HP-1	TRANE	4TCC4024E1	FACILTY	208/1	17	25	2" MERV 13	358	R-410a	1, 2, 3, 4, 5, 6, 7, 8, 9
RTU-B5	TRANE	THH036A4S	BAND PRACTICE ROOMS	460/3	12	15	2" MERV 13	787	R-454B	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

REMARKS:
1. PROVIDE AND INSTALL WITH FULLY MODULATING ECONOMIZER DAMPER AND LISTED ECONOMIZER AIRFLOW POWERED EXHAUST.
2. PROVIDE WITH PHASE LOSS MONITOR TO SHUT DOWN UNIT ON LOSS OF ANY PHASE.
3. MANUFACTURER TO PROVIDE INTEGRAL COMPARATIVE DRY BULB ECONOMIZER CONTROLLER.
4. PROVIDE WITH OUTSIDE INTAKE HOOD WITH INLET SCREEN.
5. PROVIDE WITH FACTORY INSTALLED SINGLE POINT POWER AND NON-FUSED DISCONNECT SWITCH.
6. PROVIDE AND INSTALL WITH LOUVERED HAIL GUARDS ON ALL CONDENSER COILS. SHIP WITH COIL PROTECTION PANELS TO PREVENT DAMAGE DURING SHIPPING, RIGGING, INSTALLATION.
7. PROVIDE AND INSTALL WITH STAINLESS STEEL HEAT EXCHANGER.
8. PROVIDE WITH PACKAGED BACNET CONTROLLER FOR INTEGRATION OF DATA INTO BMS.
9. PROVIDE AND INSTALL WITH CUSTOM TRANSITION CURB TO ALIGN TO EXISTING ROOF CURB. CONTRACTOR SHALL FIELD VERIFY EXISTING ROOF CURB DIMENSIONS PRIOR TO ORDERING NEW TRANSITION CURB.
10. UNDER AN ALTERNATE BID.

Clinton Central Rooftop Unit Replacement
High School

INPUT/OUTPUT SUMMARY TABLE

HARDWARE

OUTPUT (O) — DGTAL

Point Description	Control Relay/Contactor	Floating Point Control	Solenoid Valve	Pneumatic Transducer	Electrical Transducer	4-20 ma or 0-10 VDC
Outside Air						
SZ Rooftop Units w/ DX (RTU-B5)						
Supply fan(s)						
OA damper						
RA damper						
Stages of DX cooling	■					
Return air						
Mixed air						
Supply air						
Freezestat sensor						
Relief fan(s)						
Relief damper	■					
Zone differential pressure						
Space						
SZ Rooftop Units w/ DX (HP-1)						
Supply fan(s)						
OA damper						
RA damper						
Stages of electric heat	■					
Stages of DX cooling	■					
Return air						
Mixed air						
Supply air						
Freezestat sensor						
Space						
VRF split system (FCU, ACCU)						
Unit status						
Alarm status						
Space						
Air Handler SZ w/ DX and reheat (AHU-C1)						
Supply fan(s)						
OA damper						
RA damper						
Face and Bypass damper						
Heating coil valve (preheat)						
Stages of DX cooling	■					
Return air						
Mixed air						
Supply air						
Freezestat sensor						
Space						
Unit Ventilator w/ DX and reheat (UV-B4)						
Supply fan						
OA/RA dampers						
Heating coil valve (preheat)						
Stages of DX cooling	■					
Mixed air						
Supply air						
Freezestat sensor						
Space						

INPUT (I, D, V, C) — DIGITAL

Point Description	4-20 ma or 0-10 VDC	Pressure Switch	Flow Switch	Space Occupancy Sensor	Current Switch	Over-ride button	Contact Closure	Photocell	Auxiliery Contact	KW Meter Contact
Outside Air										
SZ Rooftop Units w/ DX (RTU-B5)										
Supply fan(s)										
OA damper										
RA damper										
Stages of DX cooling										
Return air										
Mixed air										
Supply air										
Freezestat sensor										
Relief fan(s)										
Relief damper										
Zone differential pressure										
Space										
SZ Rooftop Units w/ DX (HP-1)										
Supply fan(s)										
OA damper										
RA damper										
Stages of electric heat										
Stages of DX cooling										
Return air										
Mixed air										
Supply air										
Freezestat sensor										
Space										
VRF split system (FCU, ACCU)										
Unit status										
Alarm status										
Space										
Air Handler SZ w/ DX and reheat (AHU-C1)										
Supply fan(s)										
OA damper										
RA damper										
Face and Bypass damper										
Heating coil valve (preheat)										
Stages of DX cooling										
Return air										
Mixed air										
Supply air										
Freezestat sensor										
Space										
Unit Ventilator w/ DX and reheat (UV-B4)										
Supply fan										
OA/RA dampers										
Heating coil valve (preheat)										
Stages of DX cooling										
Mixed air										
Supply air										
Freezestat sensor										
Space										

INPUT (I, D, V, C) — ANALOG

Point Description	Temperature	Humidity	Set Point Adjustment	Carbon Dioxide Level (ppm)	Carbon Monoxide (ppm)	Lighting Level (Foot candles)	Pressure (in H2O, ft H2O, Dif	Flow Measurement (gpm/cfm)	Electrical Current Flow (amps)	Position Feedback
Outside Air	■	■								■
SZ Rooftop Units w/ DX (RTU-B5)										
Supply fan(s)									■	
OA damper										
RA damper										
Stages of DX cooling	■		■	■						
Return air										
Mixed air										
Supply air										
Freezestat sensor	■									
Relief fan(s)									■	
Relief damper										
Zone differential pressure								■		
Space	■		■							
SZ Rooftop Units w/ DX (HP-1)										
Supply fan(s)									■	
OA damper										
RA damper										
Stages of electric heat										
Stages of DX cooling	■		■	■						
Return air										
Mixed air	■									
Supply air										
Freezestat sensor	■									
Space	■		■							
VRF split system (FCU, ACCU)										
Unit status									■	
Alarm status										
Space	■		■							
Air Handler SZ w/ DX and reheat (AHU-C1)										
Supply fan(s)									■	
OA damper										
RA damper										
Face and Bypass damper										
Heating coil valve (preheat)										
Stages of DX cooling										
Return air	■		■							
Mixed air	■									
Supply air										
Freezestat sensor	■									
Space	■		■							
Unit Ventilator w/ DX and reheat (UV-B4)										
Supply fan									■	
OA/RA dampers										
Heating coil valve (preheat)										
Stages of DX cooling										
Mixed air	■									
Supply air										
Freezestat sensor	■									
Space	■		■							

ALARMS — DGTAL

Point Description	Trending	Equipment Alarm	Emergency Alarm	Maintenance Notification	High Limit	Low Limit (Temperature)	Run Time Alarm
Outside Air	■						
SZ Rooftop Units w/ DX (RTU-B5)							
Supply fan(s)				■			
OA damper							
RA damper							
Stages of DX cooling							
Return air							
Mixed air							
Supply air					■		
Freezestat sensor						■	
Relief fan(s)				■			
Relief damper							
Zone differential pressure							
Space							
SZ Rooftop Units w/ DX (HP-1)							
Supply fan(s)				■			
OA damper							
RA damper							
Stages of electric heat							
Stages of DX cooling							
Return air							
Mixed air							
Supply air					■		
Freezestat sensor						■	
Space							
VRF split system (FCU, ACCU)							
Unit status				■			
Alarm status					■		
Space							
Air Handler SZ w/ DX and reheat (AHU-C1)							
Supply fan(s)				■			
OA damper							
RA damper							
Face and Bypass damper							
Heating coil valve (preheat)							
Stages of DX cooling							
Return air							
Mixed air							
Supply air					■		
Freezestat sensor						■	
Space							
Unit Ventilator w/ DX and reheat (UV-B4)							
Supply fan				■			
OA/RA dampers							
Heating coil valve (preheat)							
Stages of DX cooling							
Mixed air							
Supply air					■		
Freezestat sensor						■	
Space							

ALARMS — ANALOG

Point Description	Scheduled On/Off	Optimum Start/Stop	Totalization	O.A. Reset	Load Shed Control	BACNET software point	Lighting Control Integration	Color Graphics Item
Outside Air								■
SZ Rooftop Units w/ DX (RTU-B5)	■							■
Supply fan(s)								■
OA damper				■				■
RA damper								■
Stages of DX cooling								■
Return air								■
Mixed air								■
Supply air								■
Freezestat sensor								■
Relief fan(s)								■
Relief damper								■
Zone differential pressure								■
Space								■
SZ Rooftop Units w/ DX (HP-1)	■							■
Supply fan(s)								■
OA damper				■				■
RA damper								■
Stages of electric heat								■
Stages of DX cooling								■
Return air								■
Mixed air								■
Supply air								■
Freezestat sensor								■
Space								■
VRF split system (FCU, ACCU)	■							■
Unit status						■		■
Alarm status								■
Space								■
Air Handler SZ w/ DX and reheat (AHU-C1)	■							■
Supply fan(s)								■
OA damper				■				■
RA damper								■
Face and Bypass damper								■
Heating coil valve (preheat)								■
Stages of DX cooling								■
Return air								■
Mixed air								■
Supply air								■
Freezestat sensor								■
Space								■
Unit Ventilator w/ DX and reheat (UV-B4)	■							■
Supply fan								■
OA/RA dampers				■				■
Heating coil valve (preheat)								■
Stages of DX cooling								■
Mixed air								■
Supply air								■
Freezestat sensor								■
Space								■

SOFTWARE

EMCS FUNCTIONS

UNIT VENTILATOR SCHEDULE (DX COOLING)

								DX COOLING					HEATING									
TAG	MFR.	MODEL	SERVICE	AIRFLOW (CFM)	MIN O.A. (CFM)	FAN SPEED (RPM)	FAN (HP)	ESP (IN. W.C.)	TOTAL CAP. (MBH)	SENS. CAP. (MBH)	EDB/EWB (DEG F)	LDB/LWB (DEG F)	TOTAL CAP. (MBH)	EAT/LAT (DEG F)	EWT/LWT (DEG F)	FLOW (GPM)	WPD (FT)	ROWS	CONTROL VALVE	ELEC (V/PH)	MCA	MAX FUSE SIZE	FILTER TYPE	REMARKS
UV-B4	TRANE	HUVC15020	CHOIR	1500	450	1050	1	-	37.7	29.9	75/63	57/55	111.7	60/136	180/150	7.5	4.9	1	2-WAY	208/1	8.7	15	1" MERV 8	1, 2, 3, 4, 5, 6, 7, 8

REMARKS:
1. PROVIDE AND INSTALL WITH FACTORY WIRED ELECTRICAL DISCONNECT AT UNIT WIRING CONTROL BOX.
2. SUPPLY FAN SHALL BE ECM WITH 4-20 mA INPUT FROM BMS FOR SPEED CONTROL WITH FULL RANGE SPEED CONTROL.
3. ALL ACCESS DOORS SHALL BE HINGED WITH INTEGRAL DOOR POWER KILL SWITCH.
4. MANUFACTURER SHALL FACTORY INSTALL TCC FURNISHED CONTROL VALVES, ACTUATORS, SENSORS, AND CONTROLS. COORDINATE WITH TCC.
5. FAN SPEED SHALL NOT EXCEED 1500 RPM UNLESS SPECIFICALLY NOTED.
6. PROVIDED WITH EXTENDED SIDE PIPE CHASE.
7. PROVIDE AND INSTALL WITH STAINLESS STEEL DRAIN PAN.
8. UNDER AN ALTERNATE BID.

NOTES:
1. ALL TRIM PIECES AND ACCESSORIES SHALL HAVE FACTORY FINISH MATCHING TO UNIT VENTILATOR FINISH, INCLUDING EXACT PAINT COLOR, SHEEN, AND TEXTURE.

VRF OUTDOOR HEAT PUMP UNIT SCHEDULE

TAG	MODULE #	MFR.	MODEL	EQUIP. SERVED	COOLING CAP (MBH) AT 115 DEG F	SENS COOLING CAP (MBH)	CAPACITY TURNDOWN	HEATING CAP (MBH) AT -10 DEG F	# OF MODULES	MAX REF LINE LENGTH (FT)	COOLING EER	HEATING COP	REFRIG	REFRIG CHARGE (LBS)	ELEC (V/PH)	MCA/UNIT	MOP/UNIT	WT/UNIT (LBS)	REMARKS
ACCU-20	1	MITSUBISHI	NTXSST24A112AA	-	22.4	22.4	3:1	27.6	1	100	12.5	3.4	R410A	5	208/1	17	20	140	1, 2, 3, 4, 5, 6

REMARKS:
1. UNIT SHALL BE INSTALLED ON FACTORY PROVIDED 12" TALL EQUIPMENT STANDS.
2. REFRIGERANT LINE SETS SHALL BE INSULATED WITH 1/2" AEROCEL EPDM OR ARMAFLEX UT SOLAR EPDM CLOSED CELL INSULATION WITH ALUMINUM JACKET OUTDOOR.
3. TCC SHALL PROVIDE AND INSTALL TRANSFORMER, MANUFACTURER SHALL PROVIDE PIGTAIL.
4. TIE INTO EXISTING MASTER CONTROLLER FOR FULL INTEGRATION WITH BACNET TO BMS. MFR SHALL ASSIST THE TCC WITH INTEGRATION AS NEEDED WITH ONSITE SUPPORT.
5. PROVIDE AND INSTALL WIND BAFFLE, FOR LOW AMBIENT COOLING APPLICATIONS DOWN TO 0 DEG F.
6. PROVIDE AND INSTALL WITH LOUVERED HAIL GUARDS ON ALL CONDENSER COILS. SHIP WITH COIL PROTECTION PANELS TO PREVENT DAMAGE DURING SHIPPING, RIGGING, INSTALLATION.

VRF INDOOR UNITS

TAG	MFR.	MODEL	TYPE	LOCATION	COOLING CAP. (MBH)	HEATING CAP. (MBH)	CFM	REFRIG.	CONTROL TYPE	ELEC (V/PH)	MCA (A)	REMARKS
FCU-20.1	MITSUBISHI	NTXWST24A112AA	WALL	IDF	22.4	27.6	388	410A	WIRED WALL	208/1	1.00	1, 2, 3, 4, 5, 6

REMARKS:
1. PROVIDE WITH REMOTE WALL MOUNTED THERMOSTAT EQUAL TO TAC-VTS3CRAU-J AND WIRED TO BMS GATEWAY, INSTALLED BY TEMPERATURE CONTROLS CONTRACTOR.
2. EACH SYSTEM TO ALLOW BMS TO ENABLE/DISABLE AND MONITOR THIS EQUIPMENT. COORDINATE WITH TCC FOR INTEGRATION.
3. PROVIDE WITH GOBI INTEGRAL CONDENSATE PUMP TO LIFT CONDENSATE. WIRE TO COOLING UNIT WITH ALARM INTERLOCKS.
4. PROVIDE WITH WHITE PVC 'LINE HIDE' CONDUIT SYSTEM TO CONCEAL ALL PIPING/WIRING IN EXPOSED LOCATIONS.
5. REFRIGERANT LINE SETS AND CONDENSATE LINES SHALL BE INSULATED WITH 1/2" AEROCEL EPDM OR ARMAFLEX UT SOLAR EPDM TO INCLUDE CONDENSATE TUBING.
6. E.C. SHALL PROVIDE AND INSTALL DISCONNECT SWITCH. COORDINATE LOCATION PRIOR TO ROUGH-IN.

CONDENSING UNIT SCHEDULE

TAG	MFR.	MODEL	EQUIP. SERVED	REFRIG	TOTAL CAP. (MBH)	SENS CAP. (MBH)	SUCTION TEMP (DEG F)	AMBIENT TEMP (DEG F)	EVAP CFM	EVAP EDB/EWB (DEG F)	CAPACITY STEPS	MIN EER	ELEC (V/PH)	MCA	MOP	WEIGHT (LBS)	REMARKS
ACCU-C1	TRANE	RAUJC30	AHU-C1	R-454B	360	-	45	95	8000	80/67	2	10.5	460/3	74	90	2100	1, 2, 3
ACCU-B4	TRANE	4TTA4042A	UV-B4	R-410a	24	-	45	95	800	80/67	2	11.0	208/1	17	25	450	1, 2, 3, 4

REMARKS:
1. UNIT SHALL BE INSTALLED ON FLASHED IN ROOF RAILS.
2. PROVIDE WITH COIL HAIL GUARDS ON ALL SIDES.
3. PROVIDE AND INSTALL LOW AMBIENT KIT FOR COOLING DOWN TO 20 DEG F.
4. UNDER AN ALTERNATE BID.

AIR HANDLER SCHEDULE - REV. 10/31/2024

TAG	AHU-C1					
SPACE SERVED	MULTI-PURPOSE					
MFR.	TRANE					
MODEL	CSAA017					
UNIT DIM WxLxH (IN)	72x138x55					
UNIT WEIGHT (LBS)	2550					
FILTER AREA (S.F.)	18.89					
FILTER APD (IN W.C.)	0.62					
FILTER TYPE	2" MERV 8					
SUPPLY FAN						
AIRFLOW (CFM)	8000					
OUTSIDE AIR (CFM)	1600					
TSP (IN W.C.)	4.43					
ESP (IN W.C.)	2.00					
RPM	2174					
FAN TYPE	PLENUM					
FAN QUANTITY	1					
DRIVE TYPE	DIRECT					
MOTOR (HP)	10					
MOTOR (BHP)	9.3					
ELECTRICAL (V / PH)	460/3					
MODULATION	VSD					
DX COOLING COIL						
TOTAL CAP (MBH)	360.0					
SENS CAP (MBH)	235.8					
EAT DB/WB (DEG F)	80/67					
LAT DB/WB (DEG F)	53/52					
REFRIGERANT	R-454B					
APD (IN W.C.)	0.72					
ROWS	6					
FINS/FT	143					
DRAW THRU TRAP DEPTH	9.6					
HOT WATER COIL (PREHEAT)						
TOTAL CAP (MBH)	425.1					
EAT / LAT (DEG F)	46/95					
EWT (DEG F)	180					
LWT (DEG F)	150					
COIL FLOW (GPM)	28					
WPD (FT)	1.7					
APD (IN W.C.)	0.12					
ROWS	2					
FINS/FT	74					
TUBE WALL THICK (IN)	0.016					
CONTROL VALVE	2-WAY					
REMARKS:	1, 2, 3, 4, 5, 6, 7, 8					

REMARKS:
1. ALL SECTIONS SHALL BE DOUBLE WALL CONSTRUCTION WITH INJECTED FOAM INSULATION.
2. PROVIDE AND INSTALL ON 2.5" HIGH FULL LENGTH BASE RAIL (MINIMUM).
3. MOTOR SHALL BE MOUNTED ON SLIDE BASE AND EACH SHAFT WITH INTEGRAL SHAFT GROUNDING RING AND COMPLY WITH NEMA MG1 FOR VARIABLE SPEED OPERATION.
4. MOTOR SHALL HAVE CLASS F INSULATION FOR USE WITH VARIABLE SPEED DRIVE.
5. COIL HEADERS SHALL BE COPPER OR RED BRASS AND FULLY DRAINABLE. STEEL HEADERS ARE NOT ALLOWED.
6. ALL COOLING COIL CASING SHALL BE STAINLESS STEEL.
7. PROVIDE EACH ACCESS DOOR WITH A FACTORY INSTALLED AIR PRESSSURE PORT WITH SCREW ON CAP FOR TAB USE.
8. PROVIDE UNIT WITH FULL 18" TALL INSULATED ROOF CURB.

** REFER TO DRAWINGS FOR DETAILS ON MODULE CONFIGURATIONS **

1 ADDENDUM #1 10/31/2024

PRIMARY ENGINEERING INC
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Fort Wayne
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Fort Wayne, Indiana 46805
260.424.4646 ph
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www.primary-eng.com

Clinton Central
Rooftop Unit Replacement
815 IN-29, Michigantown, IN 46057

CERTIFICATION:
LOGAN DANT REGISTERED PE12300220 STATE OF INDIANA PROFESSIONAL ENGINEER

DATE: 10-16-2024

COMM: 24594

SCHOOL: Clinton Central Jr/Sr High
815 IN-29
Michigantown, IN 46057

TITLE:
MECHANICAL SCHEDULE SHEET

SHEET:
HS-M501

IF THE WHEEL PRINTED BELOW IS NOT SHOWN IN COLOR, THIS SET OF PRINTS IS NOT REPRESENTING ALL LINE TYPES CORRECTLY. CONTACT PRIMARY ENGINEERING FOR DIRECTION ON HOW TO OBTAIN A FULL COLOR SET OF PRINTS