



ADDENDUM 005

DATE: September 20, 2019
ADDENDUM NUMBER: 005
DG PROJECT NUMBER: 3050
PROJECT NAME: APS Coyote Willow Family School – Phase 2
PROJECT ADDRESS: 7125 Irving Blvd NW, Albuquerque, NM 87114
ISSUED BY: Wendy E.S. Caruso, AIA, Project Manager

NOTICE: *This addendum forms a part of the Contract Documents and modifies the Documents issued by The Hartman + Majewski Design Group and dated September 14, 2018. Acknowledge receipt of this Addendum in locations required on the Pricing Forms. Failure to do so may subject the Proposer to disqualification. All other provisions of the Contract Documents shall remain unchanged. This Addendum contains a total of Two (2) 8 ½" x 11" pages and Two (2) 30" x 42" sheet.*

GENERAL CLARIFICATIONS:

1. Direct Digital Control System:

Section 23 0900 Instrumentation and Control for HVAC: The DDC system on Coyote Willow Phase One is Alerton. Phase two DDC shall also be Alerton in order to allow full system operation.

2. Solar Photovoltaic System:

As mentioned in Addendum 3, Solar Photovoltaic System Work in the existing parking lot will be completed through APS Contractor. General Contractor shall coordinate this work with APS Solar Photovoltaic Contractor per APS General Conditions.

PRIOR APPROVALS:

1. 07 4113.16 Standing-Seam Metal Roof Panels

- A. The following manufactures have been approved to bid:
PAC CLAD Standing Seam Metal Roof Panels; Tite Loc Plus

CHANGES TO SPECIFICATIONS:

Spec Section 051200

Replace paragraph 1.03 A. with the following:

- A. Qualifications of Fabricator: Fabricator shall have a minimum of 5 years experience in the fabrication of structural steel and have a current AISC Certification for the fabrication facility. If the Fabricator is not AISC Certified a full time qualified inspector shall be provided at the fabrication facility during steel fabrication to verify proper welding and fabrication practices. The Inspector shall provide reports documenting acceptable fabrication practices during this operation.



CHANGES TO THE DRAWINGS:

Mechanical Sheets

SHEET M101

1. ADD: Sound Attenuator Device at all Supply Diffusers in all Classrooms, and Lecture Room. (Keyed Note #31).
2. REVISES: Duct work layout on north side of building.
3. Replace Sheet M101 in its entirety.

SHEET M501

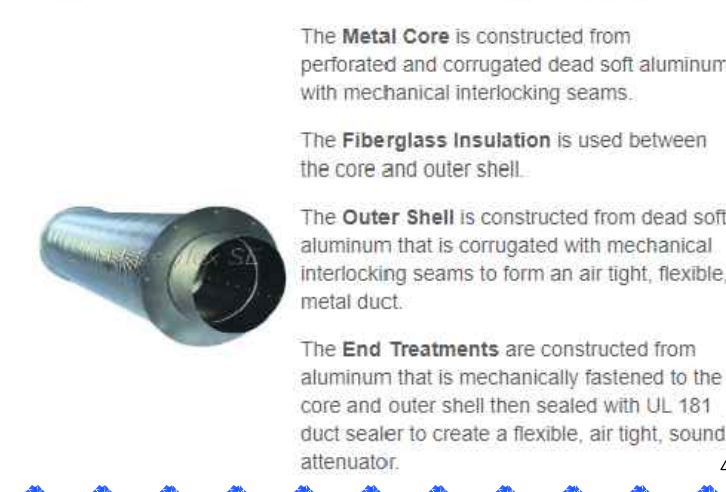
4. ADD: Clarification note in regard to existing BAS/ DDC system.
5. Replace Sheet M501 in its entirety.

END OF ADDENDUM 005

KEYED NOTES: ☒

1. ENERGY RECOVERY VENTILATOR (ERV). PROVIDE AND INSTALL ERV ON 4" THICK CONCRETE HOUSEKEEPING PAD. PLAN-VIEW OF HOUSEKEEPING PAD SHALL BE LARGER THAN FOOTPRINT OF ERV-ALL AROUND.
2. OUTSIDE AIR INTAKE LOUVER. PROVIDE WITH BIRDSCREEN.
3. EXHAUST AIR LOUVER. PROVIDE WITH BIRDSCREEN.
4. OUTSIDE AIRFLOW MONITORING STATION. INSTALLED ON INTAKE AIR DUCTWORK. CONNECT TO BAS/DOC SYSTEM. SEE SHEET M501.
5. OUTSIDE AIR INTAKE DUCT: 22"x22" - TRANSITION DUCTWORK AS REQUIRED, AND CONNECT TO INTAKE LOUVER AND ERV INTAKE CONNECTION. INSTALL FLEXIBLE CONNECTION AT ERV.
6. ERV EXHAUST AIR DUCT: 22"x22" - TRANSITION DUCTWORK AS REQUIRED. CONNECT TO EXHAUST LOUVER AND ERV EXHAUST CONNECTION. INSTALL FLEXIBLE CONNECTION AT ERV.
7. SPLIT-SYSTEM AC UNIT-EVAPORATOR. INSTALL HIGH ON WALL. INSTALL AC UNIT PER ALL MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
8. SPLIT-SYSTEM AC UNIT CONDENSING UNIT. INSTALL ON 4" THICK CONCRETE HOUSEKEEPING PAD. PLAN-VIEW OF HOUSEKEEPING PAD SHALL BE LARGER THAN FOOTPRINT OF CONDENSING UNIT-ALL AROUND.
9. REFRIGERANT PIPING- INSTALL PIPING ABOVE CEILING TOWARDS CONDENSING UNIT. ROUTE REFRIGERANT PIPING DOWN IN EXTERIOR WALL. EXTEND PIPING OUT OF WALL AT 12" ABOVE ADJACENT GRADE. INSULATE BOTH REFRIGERANT LIQUID AND SUCTION LINES WITH 1-1/2" THICK CLOSED-CELL INSULATION, ARMAFLEX (mfg), OR EQUAL. SEAL PENETRATION THRU WALL TO BE SEALED WATER TIGHT.
10. CARBON-DIOXIDE SENSOR. CONNECT TO BAS / DOC SYSTEM. SEE SHEET M501.
11. OUTSIDE AIRFLOW MONITORING STATION. INSTALLED ON INTAKE AIR DUCTWORK - IN VERTICAL RISE, CONNECT TO BAS/DOC SYSTEM. SEE SHEET M501.
12. 6" EXHAUST DUCT THRU WALL, WITH WALL CAP. PROVIDE WITH BACKDRAFT DAMPER.
13. 12"x12" EXHAUST DUCT UP THRU ROOF TO RELIEF HOOD RH-201, PROVIDE / INSTALL DAMPER (GRAVITY) PENETRATION THRU ROOF WALL SHALL BE SEALED WATER TIGHT.
14. OWNER PROVIDED KILN VENT EXHAUST. ROUTE 6" EXHAUST DUCT UP THRU ROOF. WITH CONTRACTOR PROVIDED ROOF VENT CAP. ROOF PENETRATION SHALL BE SEALED WATER-TIGHT.
15. OPERATION OF KILN ROOM (227):
INSTALL MOTORIZED DAMPER IN EXHAUST DUCT AT KILN ROOM (227). EXHAUST AIR FROM KILN ROOM IS CONNECTED TO ERV-202 EXHAUST.
SEQUENCE OF OPERATION(S):
a. NORMAL OPERATION OF KILN ROOM (227):
- KILN EQUIPMENT IS ENABLED "OFF".
- SUPPLY AIR TO KILN ROOM IS SUPPLIED AT 330CFM (from HP-210).
- MOTORIZED DAMPER IN EXHAUST DUCT SHALL BE ENABLED "OPEN". EXHAUST AIR FROM KILN ROOM SHALL T&B TO BE 350CFM. (PROVIDES 8% NEGATIVE PRESSURE).
- EXHAUST FAN EF-203 SHALL BE ENABLED "OFF".
b. WHEN KILN EQUIPMENT IS ENABLED TO BE "ON":
- SUPPLY AIR TO KILN ROOM IS SUPPLIED AT 330CFM (from HP-210).
- WHEN KILN IS "ON", AND IF TEMPERATURE IN KILN ROOM (227) RISES ABOVE 78°F. (USER ADJUSTABLE). EXHAUST FAN EF-203 SHALL BE ENABLED TO BE "ON".
- MOTORIZED DAMPER INSTALLED IN EXHAUST DUCT SHALL BE ENABLED TO BE "CLOSED".
- EXHAUST FAN EF-203 IS SPECIFIED TO BE 500CFM. SUPPLY AIR TO ROOM IS 330CFM. (PROVIDES FOR 33% NEGATIVE PRESSURE).
16. FIRE DAMPER w/FUSIBLE LINK. PROVIDE ACCESS DOOR.
17. EXISTING HPS MANIFOLD (INSTALLED IN PHASE 1 PROJECT). CONNECT TWO (2)-2-1/2" HPS LINES TO SPARE CONNECTIONS, AND ROUTE AS SHOWN.
18. EXISTING HPR MANIFOLD (INSTALLED IN PHASE 1 PROJECT). CONNECT TWO (2)-2-1/2" HPR LINES TO SPARE CONNECTIONS, AND ROUTE AS SHOWN.
19. HP-205: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 800 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 405 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 405 CFM.
20. HP-202: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 1,040 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 630 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 250 CFM.
21. HP-208: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 1,040 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 630 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 250 CFM.
22. HP-209: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 860 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 430 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 760 CFM.
23. HP-210: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 1,010 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 370 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 350 CFM.
24. HP-211: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. OUTSIDE AIR (to hp-unit); T&B OA TO BE 40 CFM.
b. EXHAUST AIR (to hp-unit); T&B EA TO BE 40 CFM.
CAP. ROOF PENETRATION SHALL BE SEALED WATER-TIGHT.
26. HP-201: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 440 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 690 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 580 CFM.
27. HP-202: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 640 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 610 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 500 CFM.
28. HP-203: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 390 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 690 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 760 CFM.
29. HP-204: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 60 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 690 CFM.
c. EXHAUST AIR (to hp-unit); T&B EA TO BE 690 CFM.
30. HP-205: INSTALL BALANCING DAMPER AND T&B PER THE FOLLOWING -
a. RETURN AIR (to hp-unit); T&B RA TO BE 690 CFM.
b. OUTSIDE AIR (to hp-unit); T&B OA TO BE 60 CFM.
c. EXHAUST AIR (from space); T&B EA TO BE 515 CFM.
31. PROVIDE / INSTALL "FLEXIBLE" SOUND ATTENUATOR AT CONNECTION BETWEEN DUCTWORK AND SUPPLY AIR DIFFUSER.
a. SOUND ATTENUATOR SHALL BE SAME SIZE AS DIFFUSER COLLAR.
b. SOUND ATTENUATOR SHALL BE CONFIGURED IN FIELD FOR 90° ELL (APPROX.).

FLEXMASTER U.S.A.®
A MASTERTECT COMPANY
Triple Lock Sound Attenuator (SA-TLD)



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STAMP

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14466
MECHANICAL PROFESSIONAL
08.16.2019

PROJECT NAME

COYOTE WILLOW
FAMILY SCHOOL- PHASE 2
 7125 IRVING BOULEVARD NW
 ALBUQUERQUE, NEW MEXICO 87114

REVISIONS

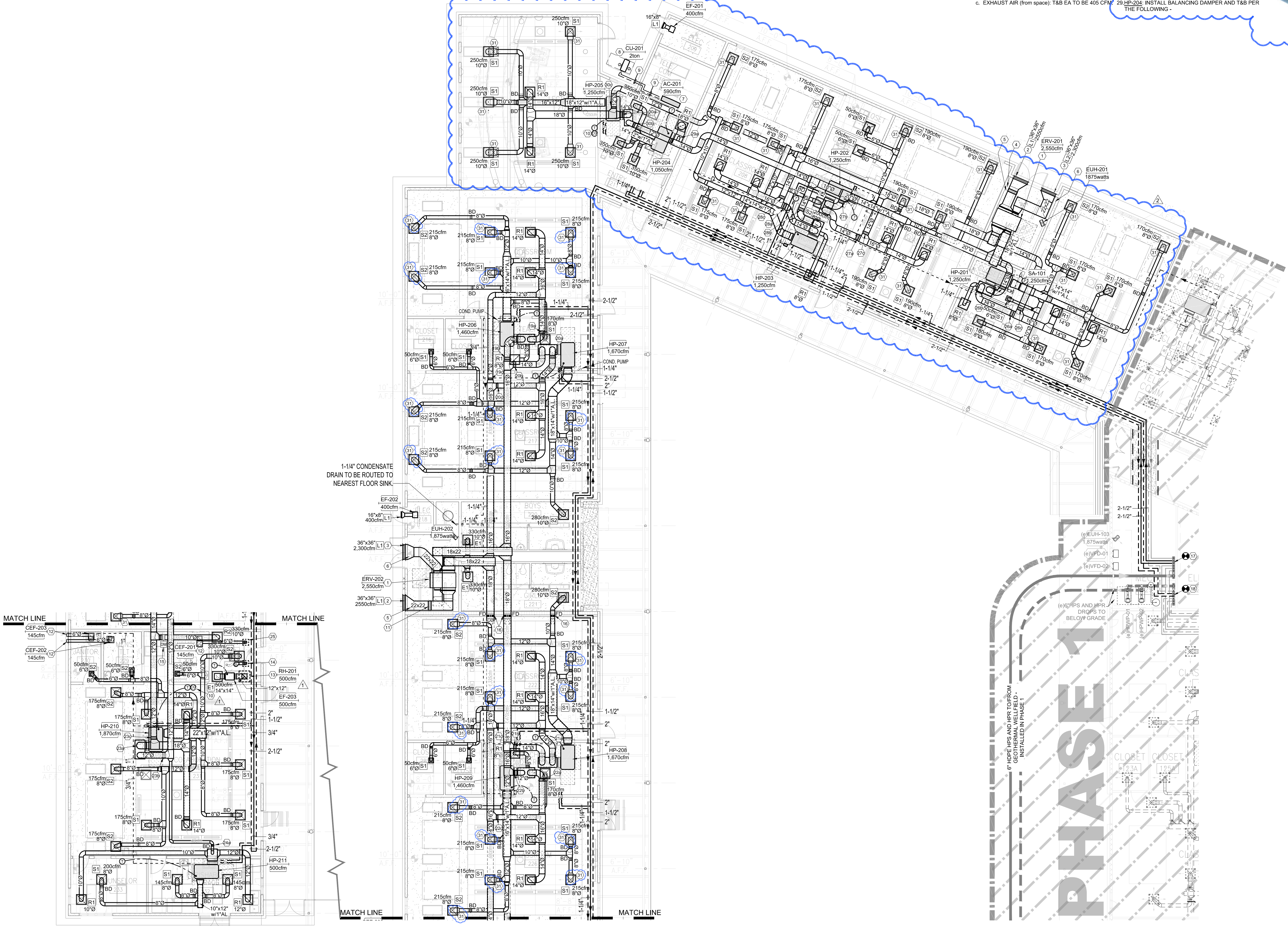
NO.	DATE	DESCRIPTION
△ 09.12.19		ADDENDA #005
△ 09.10.19		ADDENDA #003

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DESIGNER: JS
CHECKED: BA
DATE: 08.16.2019
SCALE: 1/8" = 1'-0"
JOB NO.: 3050
CAD FILE: 3050-M101

SHEET TITLE:
MECHANICAL - HVAC
FLOOR PLAN

SHEET NUMBER:
M101



M2 MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

M1 MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

EQUIPMENT CONTROL POINTS SCHEDULE

Table for HEAT PUMP WATER LOOP SYSTEM with columns for Point Name, Hardware Points (AI, AO, BI, BO, AV, BV, Sched, Trend, Alarm), Software Points, and Show On Graphic.

Table for WATER SOURCE HEAT PUMP UNITS with columns for Point Name, Hardware Points, Software Points, and Show On Graphic.

Table for ENERGY RECOVERY VENTILATORS (ERV's) with columns for Point Name, Hardware Points, Software Points, and Show On Graphic.

Table for EXHAUST FANS with columns for Point Name, Hardware Points, Software Points, and Show On Graphic.

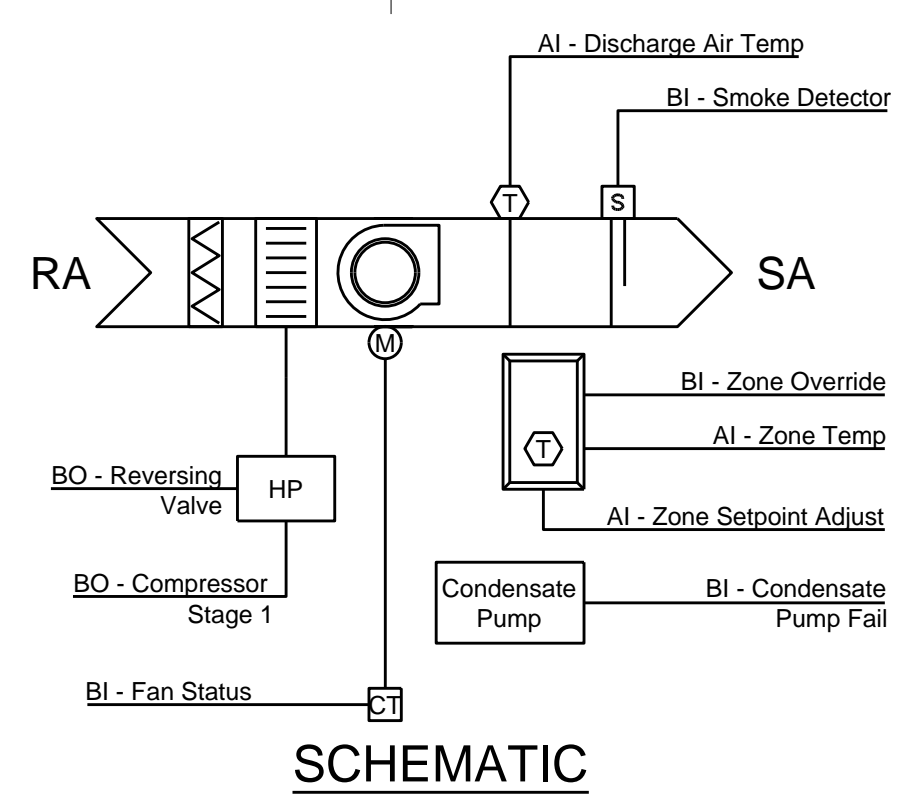
EQUIPMENT CONTROL POINTS SCHEDULE

Table for CARBON DIOXIDE (CO2) PPM with columns for Point Name, Hardware Points, Software Points, and Show On Graphic.

CARBON DIOXIDE (CO2) CONCENTRATION MONITORING: (212) LECTURE ROOM. THE CONTROLLER SHALL MEASURE THE CO2 CONCENTRATION LEVELS. ALARMS SHALL BE PROVIDED AS FOLLOWS:

(M9) CARBON DIOXIDE (CO2) SENSOR - MONITOR

SCALE: NONE [212] LECTURE ROOM



SCHEMATIC

SEQUENCE OF OPERATIONS

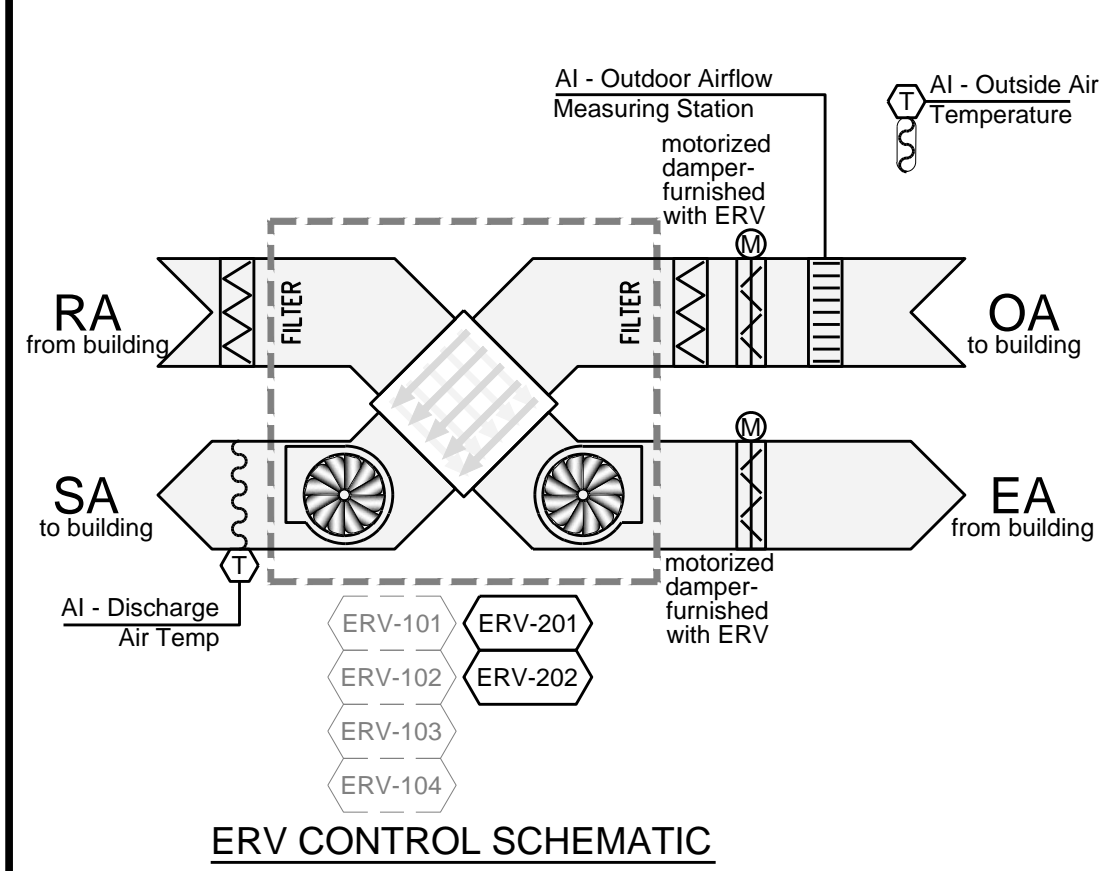
WATER SOURCE HEAT PUMP (TYPICAL OF 11, approx.) RUN CONDITIONS - SCHEDULED. THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:
• OCCUPIED MODE: THE UNIT SHALL MAINTAIN
- 74°F (ADJ.) COOLING SETPOINT
- 70°F (ADJ.) HEATING SETPOINT
• UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN
- 85°F (ADJ.) COOLING SETPOINT
- 55°F (ADJ.) HEATING SETPOINT.

(M4) WATER SOURCE HEAT PUMP (WSHP) SYSTEM CONTROL

SCALE: NONE

SEQUENCE OF OPERATION:

- A. OUTSIDE AIR (ENERGY RECOVERY VENTILATING) UNIT SYSTEM
1. FACTORY ASSEMBLED UNIT - INCLUDES:
a. STATIC PLATE CORE HEAT EXCHANGER
b. SINGLE-POINT POWER CONNECTION AND A SINGLE-POINT 24 VAC CONTACTOR CONTROL CONNECTION
c. OA AND RA DAMPERS/MOTORIZED
d. ELECTRIC DUCT HEATERS.
B. ERV-xxx RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:
1. OCCUPIED MODE:
a. OA AND RA DAMPERS WILL BE OPEN.
2. UNOCCUPIED MODE (NIGHT SETBACK):
a. OA AND RA DAMPERS WILL BE CLOSED.



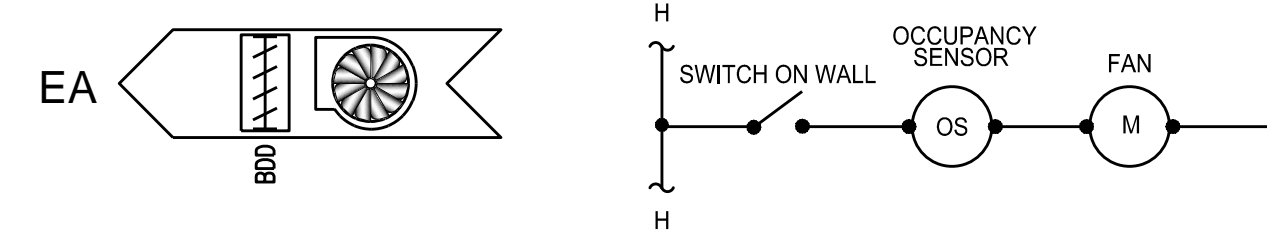
ERV CONTROL SCHEMATIC

(M5) OUTSIDE AIR (ENERGY RECOVERY VENTILATING) UNIT CONTROL

SCALE: NONE

SEQUENCE OF OPERATION:

- CEILING EXHAUST FAN - ON/OFF (TYPICAL OF 3)
RUN CONDITIONS - REQUESTED:
• CEILING EXHAUST FAN IS ENABLED ON/OFF USING A WALL SWITCH. OCCUPANCY SENSOR WILL ENABLE FAN OFF AFTER 30-MIN TIME DELAY. (ADJ.)
• COORDINATE WITH ELECTRICAL CONTRACTOR.

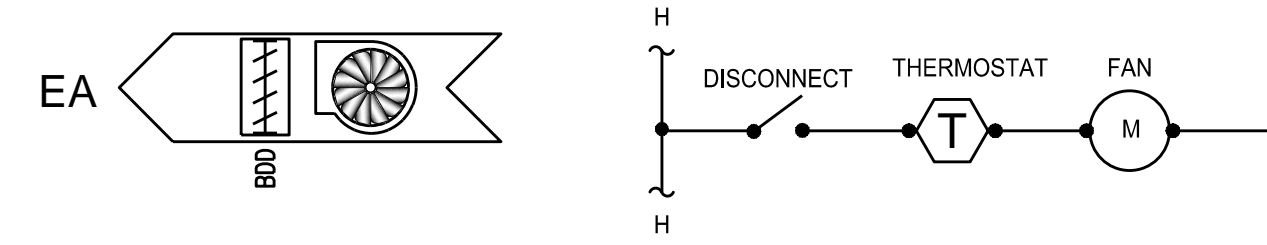


(M6) CEILING EXHAUST FAN (CEF) SYSTEM CONTROL

SCALE: NONE

SEQUENCE OF OPERATION:

- EXHAUST FAN - ON/OFF (TYPICAL OF 3)
RUN CONDITIONS - REQUESTED:
• EXHAUST FAN IS ENABLED ON WHEN THE CONTRACTOR SUPPLIED THERMOSTAT RISES ABOVE SETPOINT.
• WHEN THE THERMOSTAT FALLS BELOW SETPOINT, THE EXHAUST FAN WILL BE ENABLED OFF. AND THE DAMPER WILL BE ENABLED CLOSED.
• COORDINATE WITH ELECTRICAL CONTRACTOR.

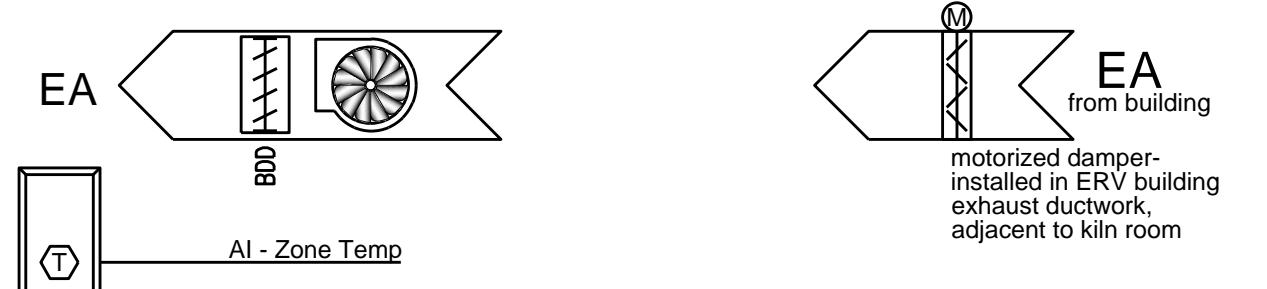


(M7) EXHAUST FAN (EF) SYSTEM CONTROL

SCALE: NONE

SEQUENCE OF OPERATION:

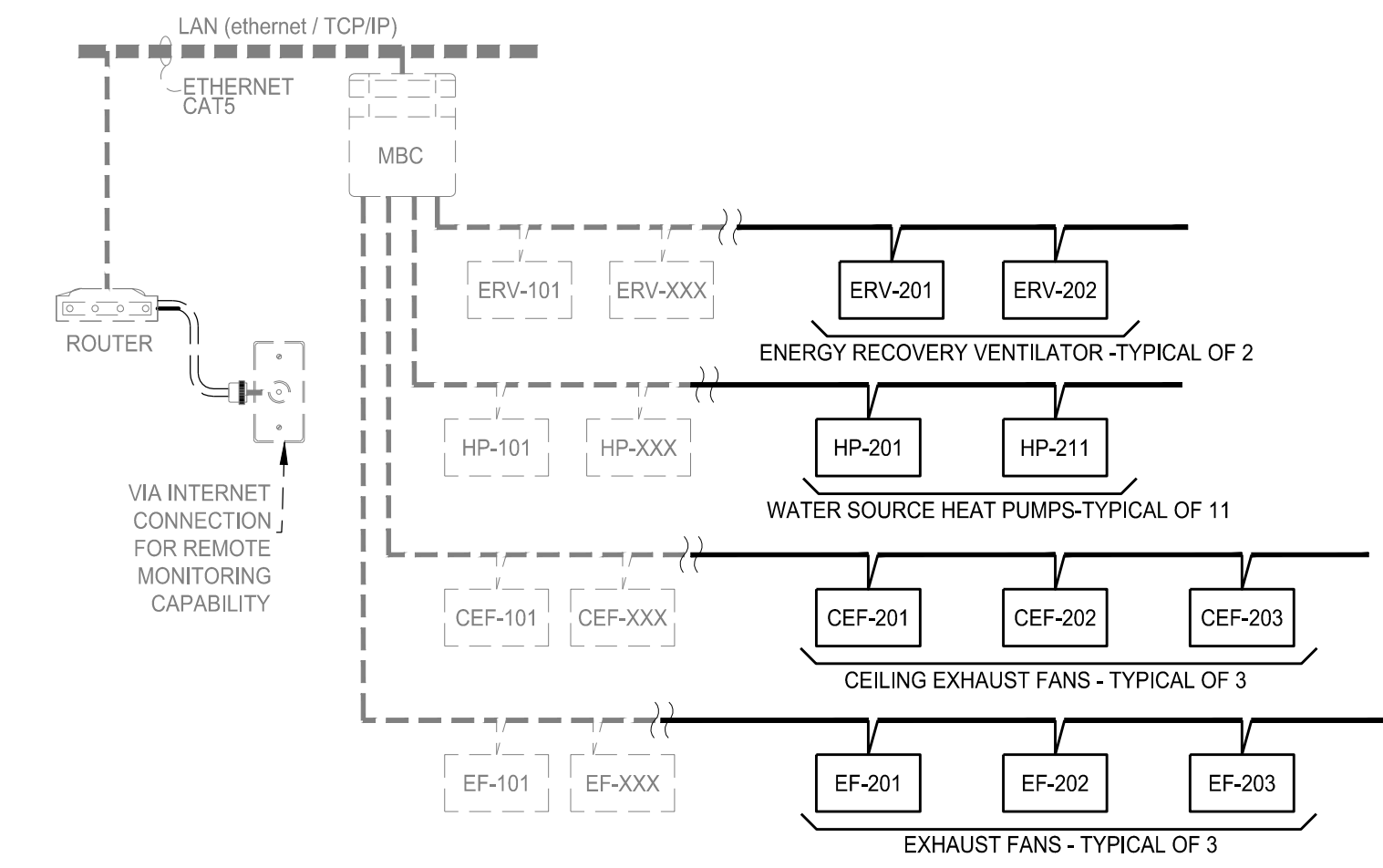
- EXHAUST FAN - ON/OFF (EF-203)
RUN CONDITIONS - REQUESTED:
• WHEN THE CONTRACTOR SUPPLIED THERMOSTAT RISES ABOVE SETPOINT, EXHAUST FAN IS ENABLED ON AND DAMPER IS ENABLED OPEN.
• WHEN THE THERMOSTAT FALLS BELOW SETPOINT, THE EXHAUST FAN WILL BE ENABLED OFF, AND THE DAMPER WILL BE ENABLED CLOSED.
• COORDINATE WITH ELECTRICAL CONTRACTOR.



(M8) EXHAUST FAN (EF) AT KILN ROOM CONTROL

SCALE: NONE

SYMBOL DESCRIPTION table listing symbols (BAS, MBC, LAN, UC, TEC, AI, BI, AO, BA, SA, RA, EA, OA, VA, HPS, HPR, VFD, VLV, WSPH) and their descriptions.



(M2) BAS DDC CONTROL NETWORK SCHEMATIC

SCALE: NONE

(M3) WATER SOURCE HEAT PUMP (WSHP) SYSTEM CONTROL

SCALE: NONE

dg THE HARTMAN + MAJEWSKI DESIGN GROUP ARCHITECTS ENGINEERS INTERIOR DESIGN LEED



PROJECT NAME: COYOTE WILLOW FAMILY SCHOOL - PHASE 2

COYOTE WILLOW FAMILY SCHOOL - PHASE 2 7125 IRVING BOULEVARD NW ALBUQUERQUE, NEW MEXICO 87114

REVISIONS table with columns for NO, DATE, DESCRIPTION, and DESIGNER/Checked/Date/Scale/Job No./CAD File.

SHEET TITLE: MECHANICAL BUILDING AUTOMATION SYSTEM DDC CONTROLS

SHEET NUMBER: M501

NOTE: 1. THE EXISTING BAS / DDC SYSTEM IS AN ALERTON BAC6000 BAS / DDC SYSTEM. 2. THE EXISTING BAS / DDC SYSTEM WAS INSTALLED DURING PHASE 1 CONSTRUCTION. 3. SCOPE OF THIS PROJECT IS TO EXPAND EXISTING ALERTON BAC6000 BAS / DDC SYSTEM TO INCLUDE EQUIPMENT INSTALLED DURING PHASE 2 CONSTRUCTION. ANY EQUIPMENT CONNECTED TO BAS / DDC SYSTEM MUST BE COMPATIBLE WITH EXISTING ALERTON BAC6000 SYSTEM. 4. EXISTING EQUIPMENT INSTALLED DURING PHASE 1 CONSTRUCTION IS SHOWN "FADED-DASHED".