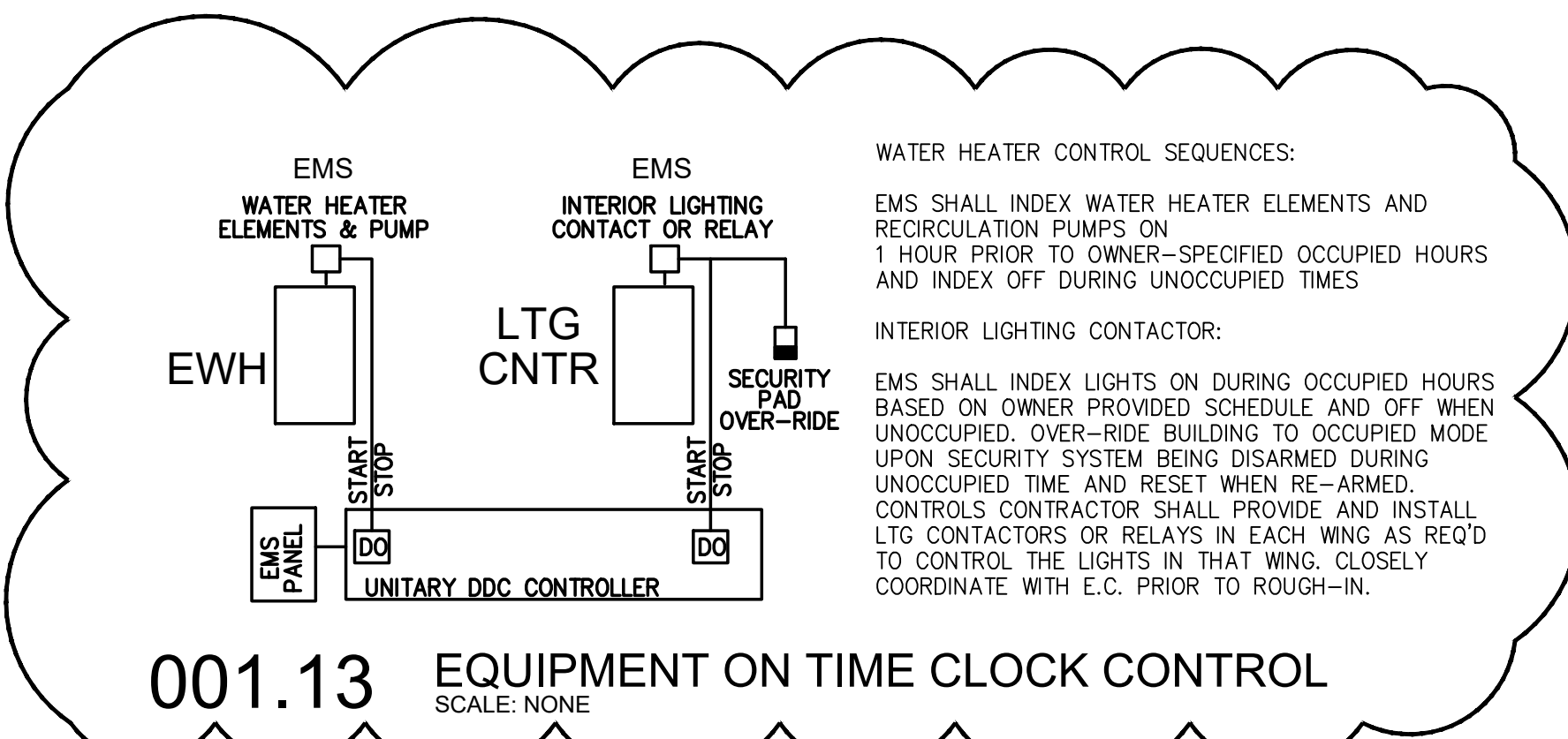
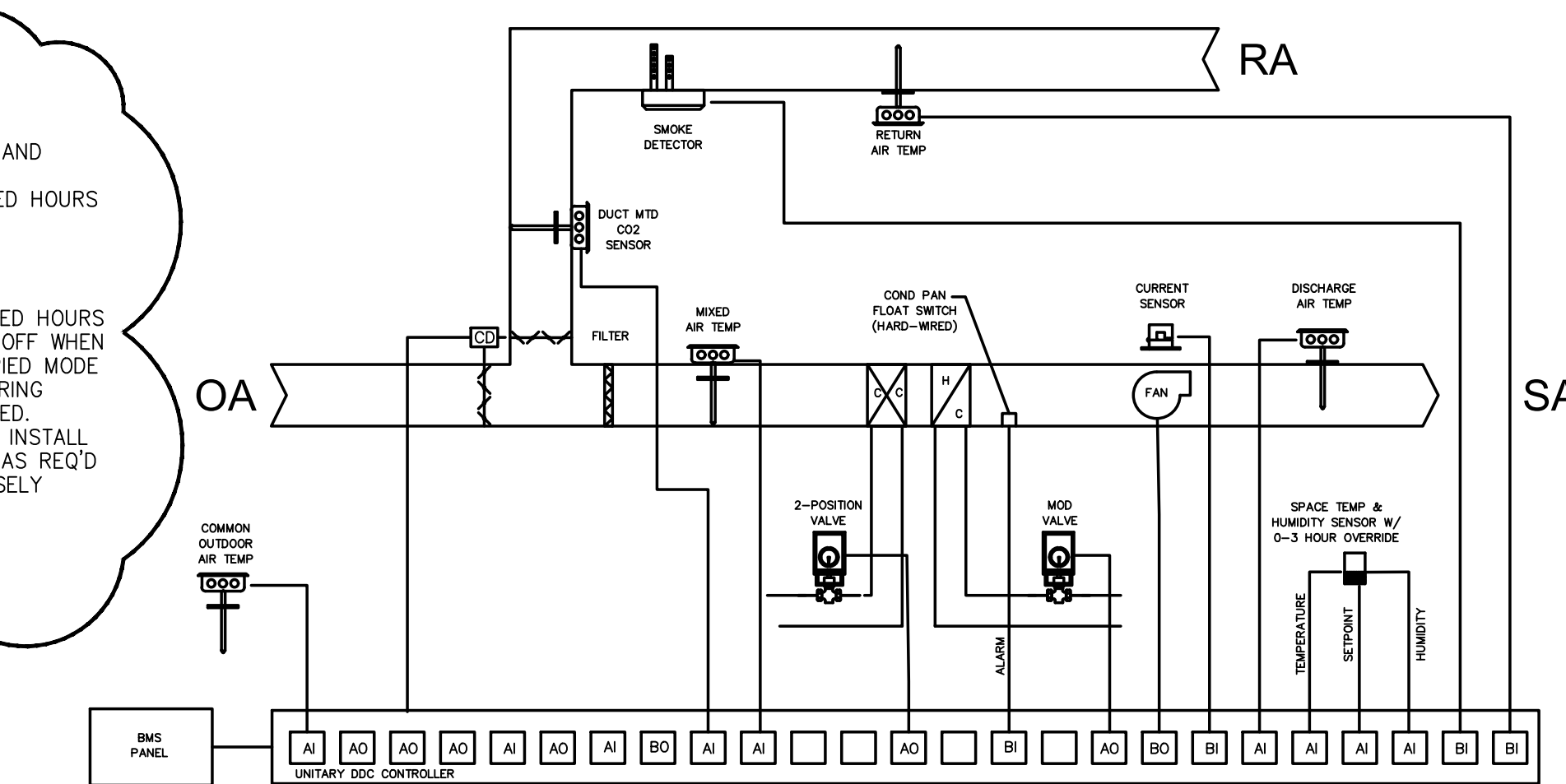


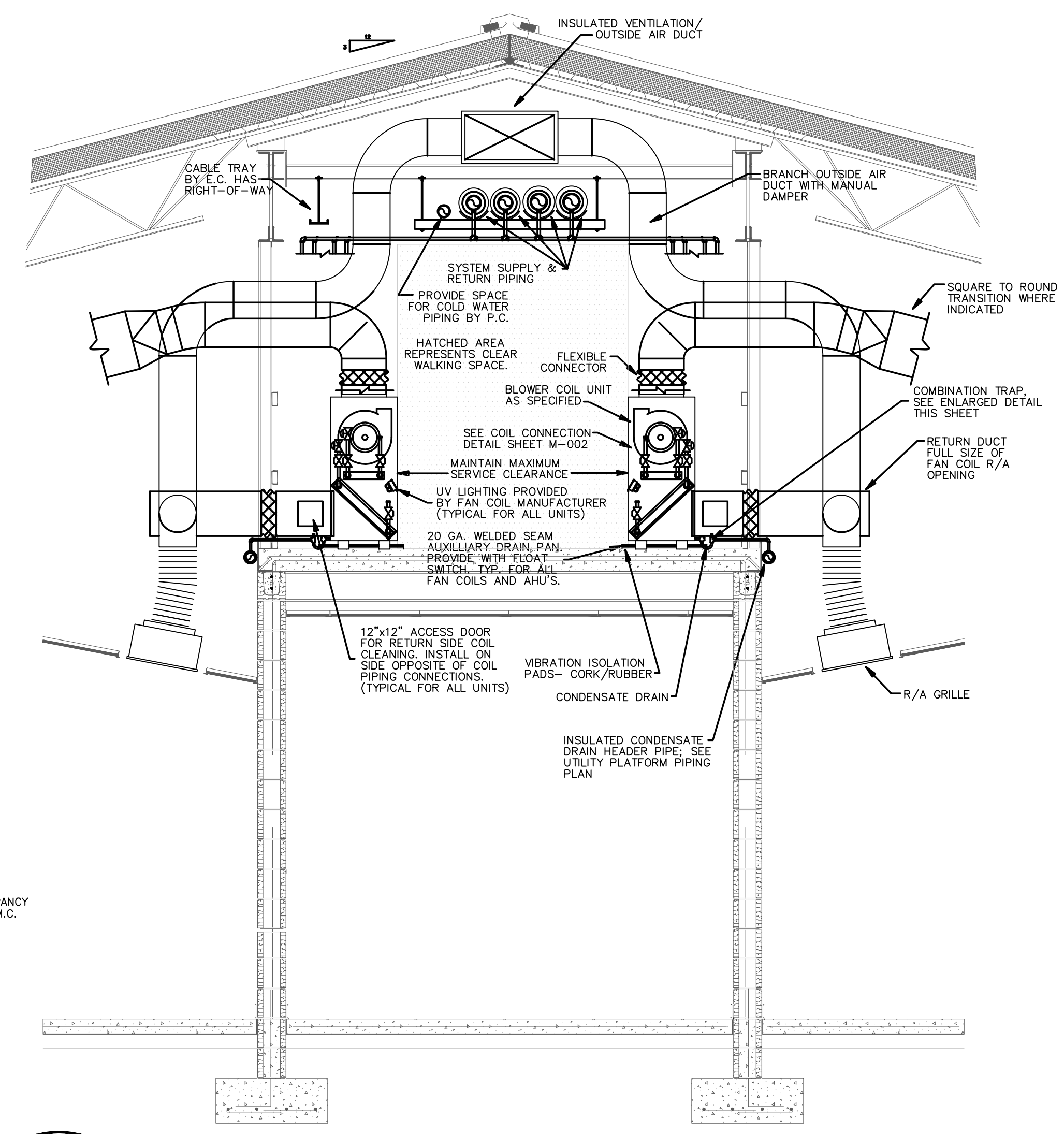
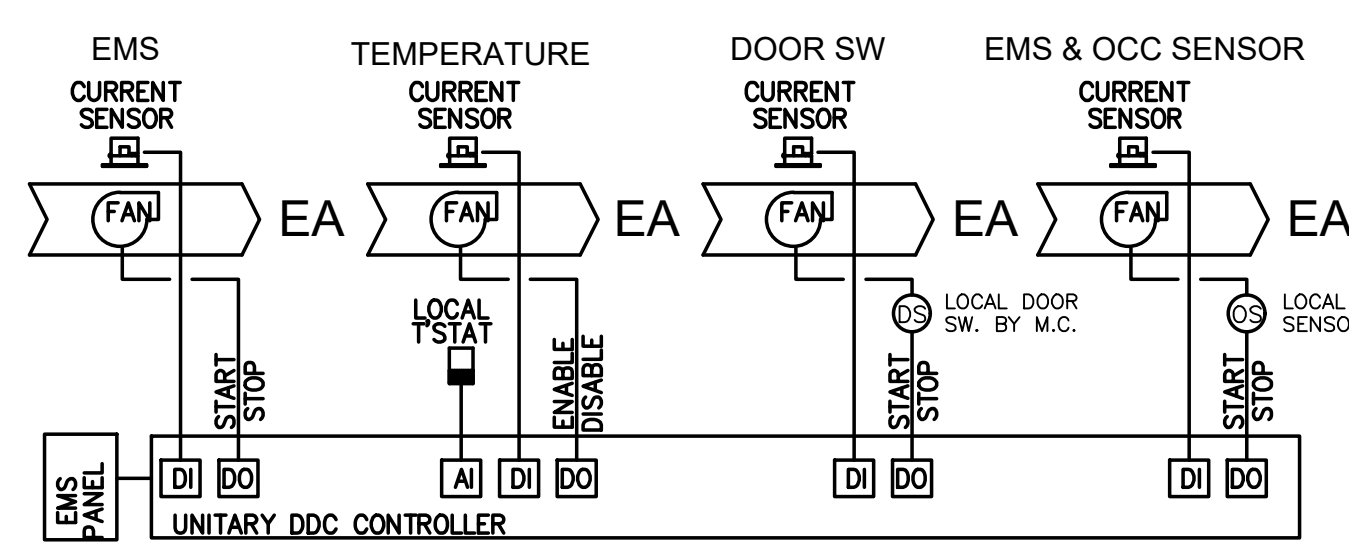
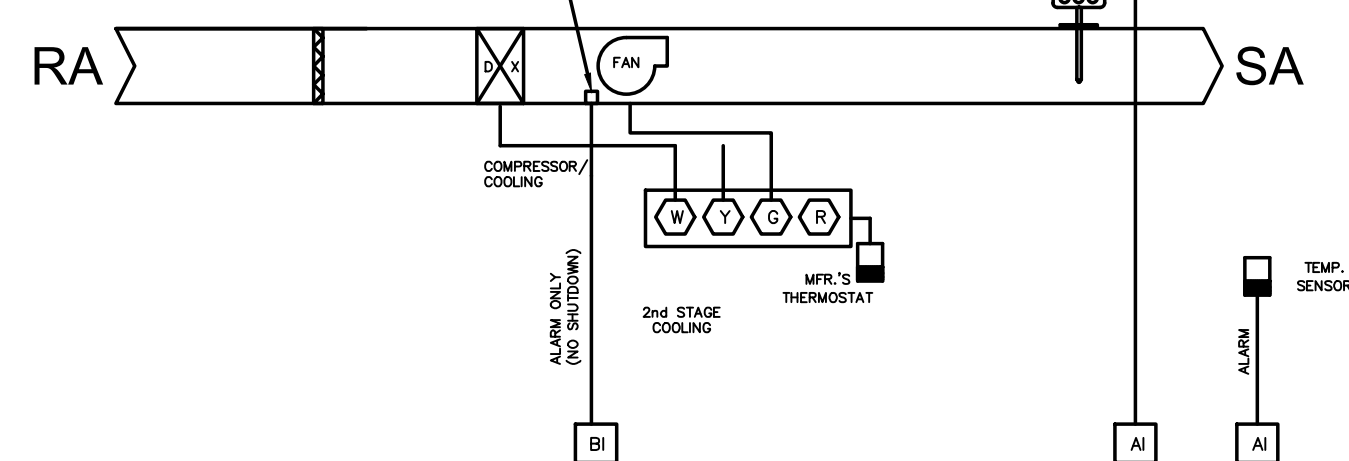
005.14 GLOBAL FAN SHUT-DOWN
SCALE: N.T.S.



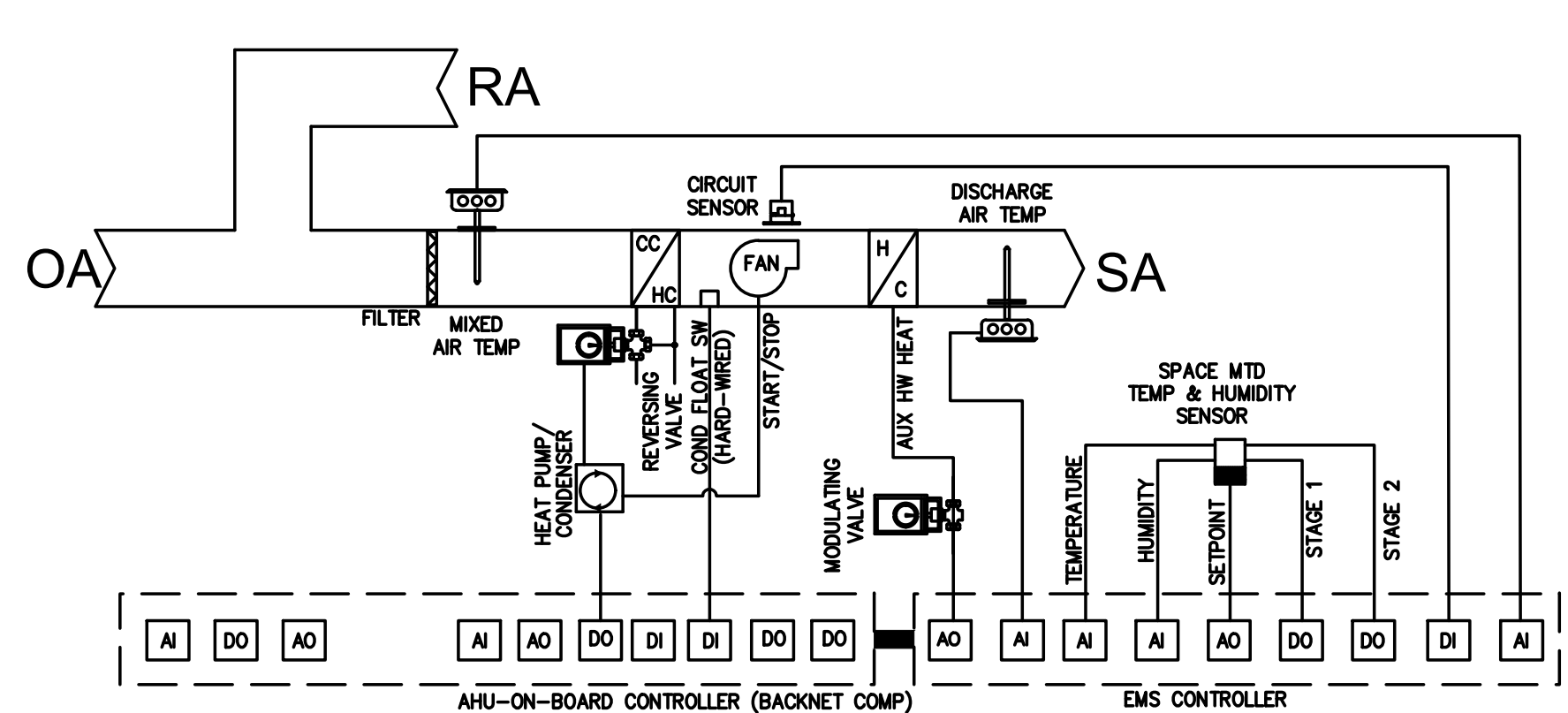
DINING UNIT CONTROL SEQUENCE:
START/STOP: EMS shall index system during School's specified occupied and setback periods. Unit fans shall run continuously during occupied times and cycle during unoccupied times.
TEMPERATURE CONTROL: Each unit is provided with combination temp/humidity sensors w/temperature setpoint adjust capabilities and timed local over-ride in their respective zones. The EMS will monitor the supply air temperature. The space sensor controls the modulating heating valve and the cooling valve to maintain temperature for scheduled hours and night setback setpoint after scheduled hours.
DEHUMIDIFICATION CYCLE: Upon the space temp being satisfied and sensing a humidity level above set point (60% RH) the supply air (SA) fan shall be set to heating O/A, the chilled water valve shall index open, and the hot water valve (coil in the re-heat position) shall modulate as required to maintain a 70°F discharge air temperature until space humidity falls below set point.
SAFETIES: The electrical contractor to provide duct type smoke detector to be installed in return air duct per NFPA 72 item 5-10.5.2.2 for fan shut-down. M.C. shall provide float-out switch in main drain pan and a freeze stat (remote reset capable) at the chilled water coil to shut-down unit and place into alarm status. C.C. shall provide a freeze-stat reset and a fan status input to the BMS.
VENTILATION: EMS shall index common building outside air control damper open during occupied school hours. System fan shall run continuously during occupied hours. Unit damper shall start at minimum position. Unit damper shall drive to max position upon the CO2 monitor sensing a level above set point (800 PPM) after system start-up. Unit OA dampers shall close during night setback and morning warm-up (verify sched. w/Owner). controls contractor is responsible for providing all dampers, motors, sensors, programming, etc. for the DDC system.



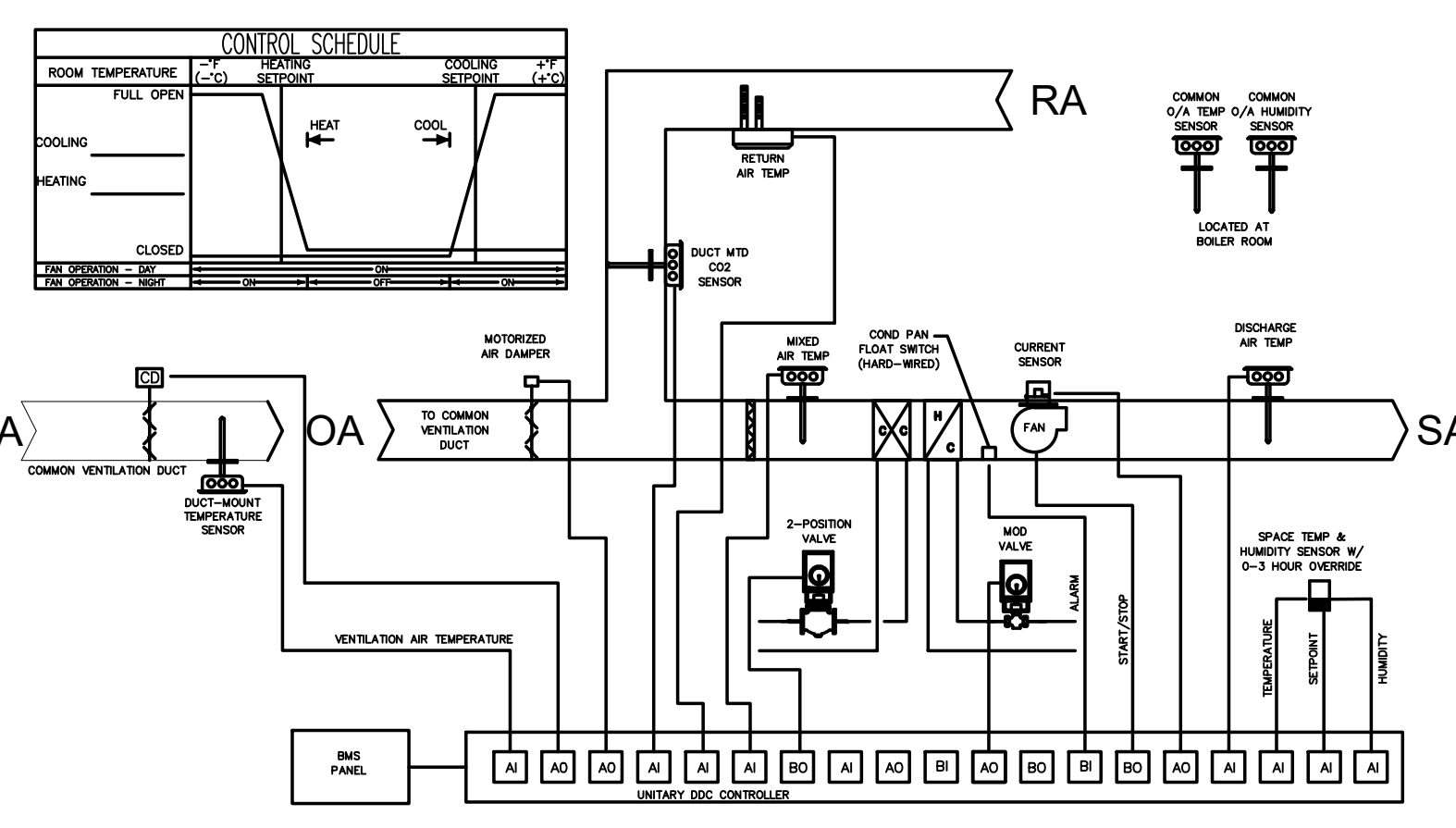
MDF UNIT CONTROL SEQUENCE:
START/STOP: Unit shall run to maintain min. 68°F (adj) year-round temperature.
TEMPERATURE CONTROL: Unit is provided with manufacturer's thermostat which controls the DX condenser and SA fan to maintain space temperature.
SAFETIES: A condensate pan float switch will activate an alarm upon being activated; however the unit shall continue to operate.



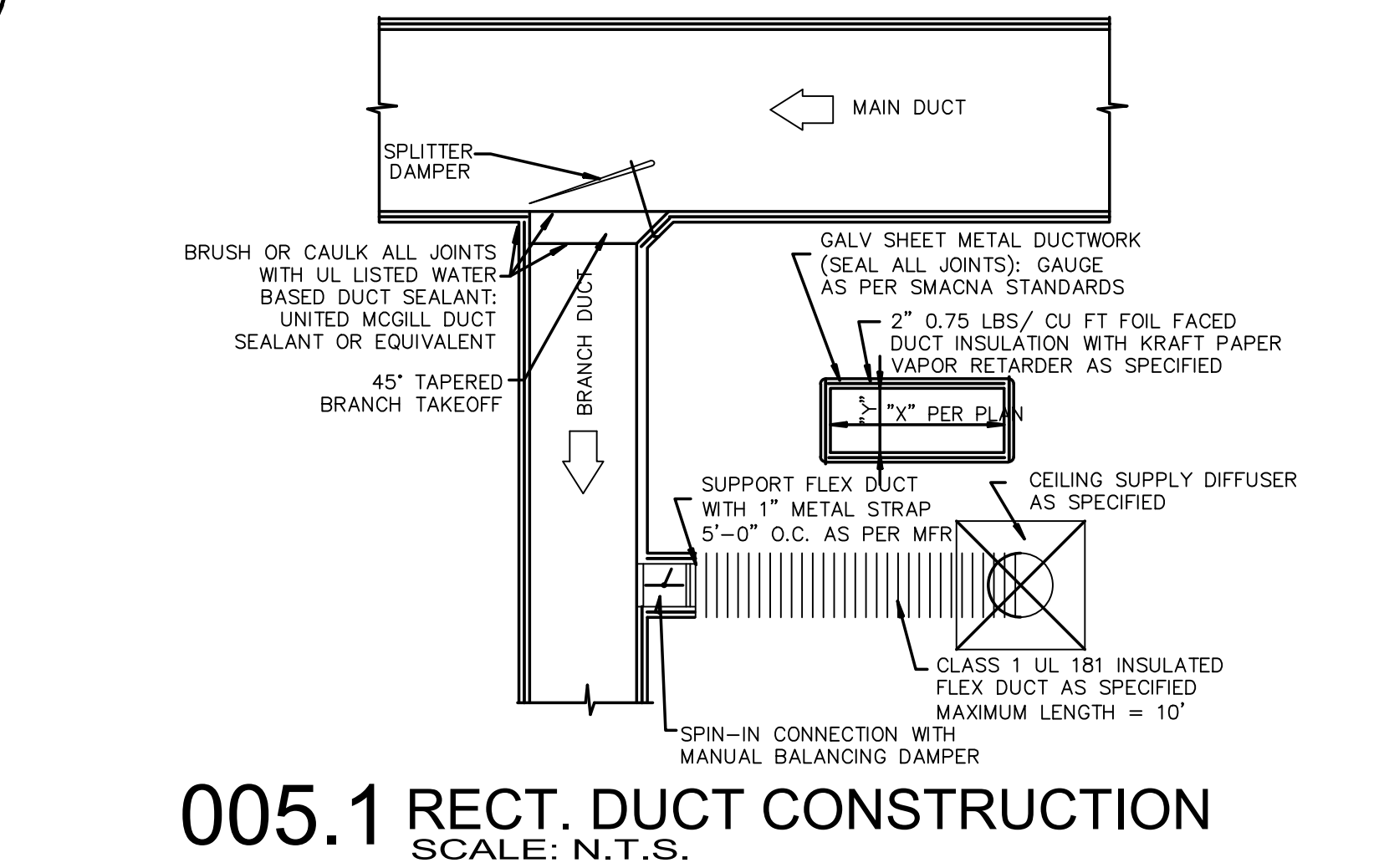
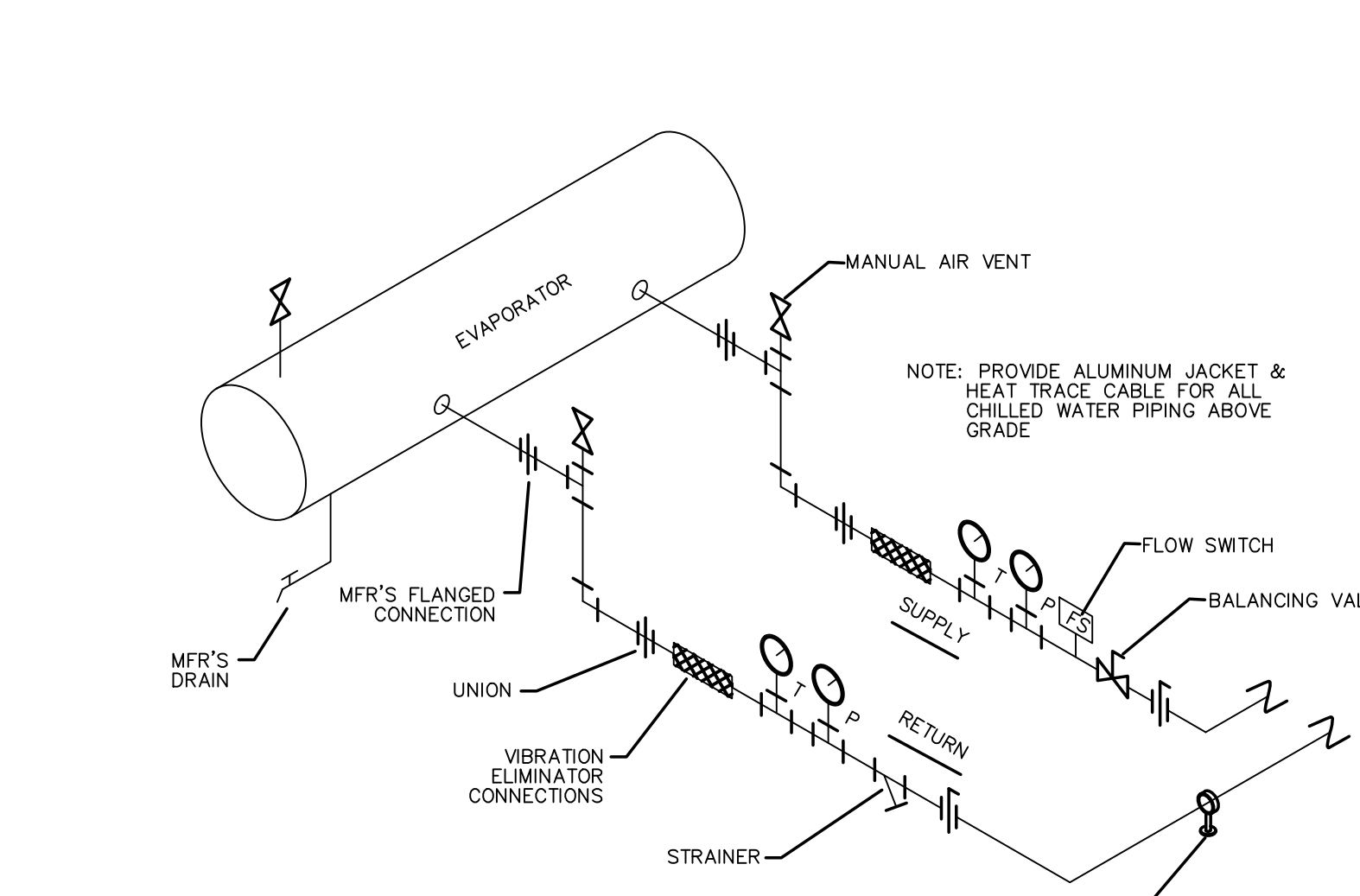
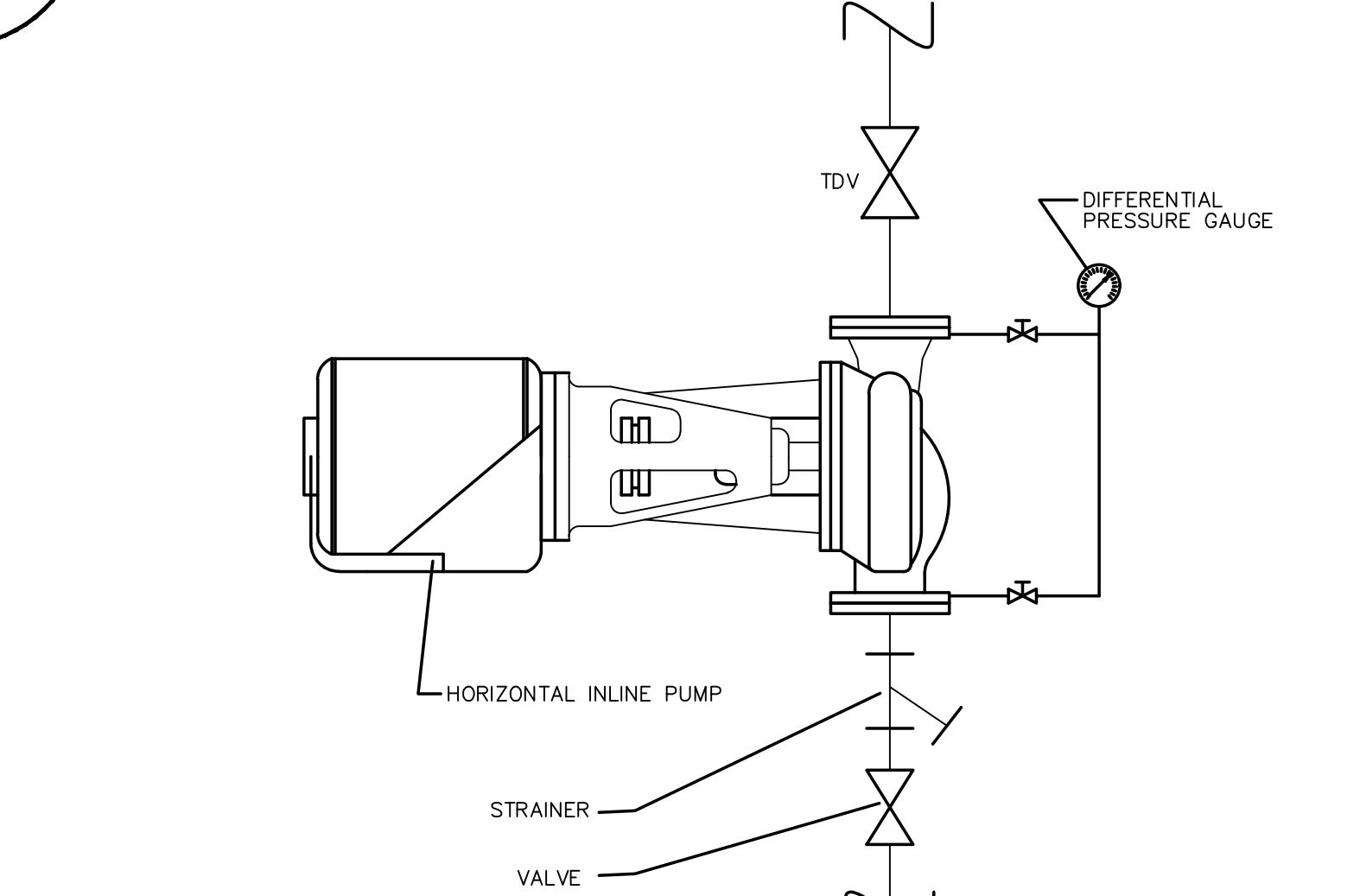
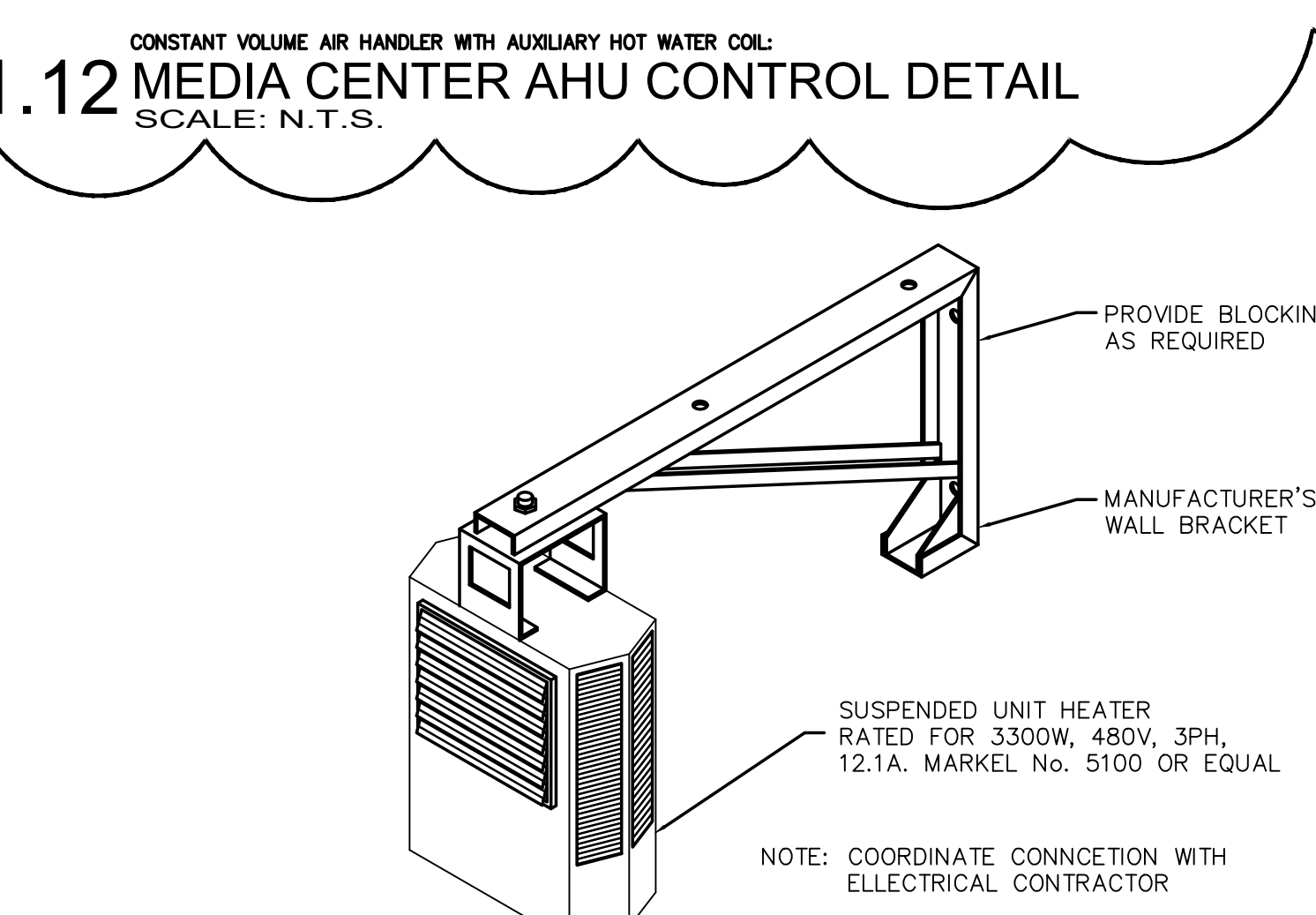
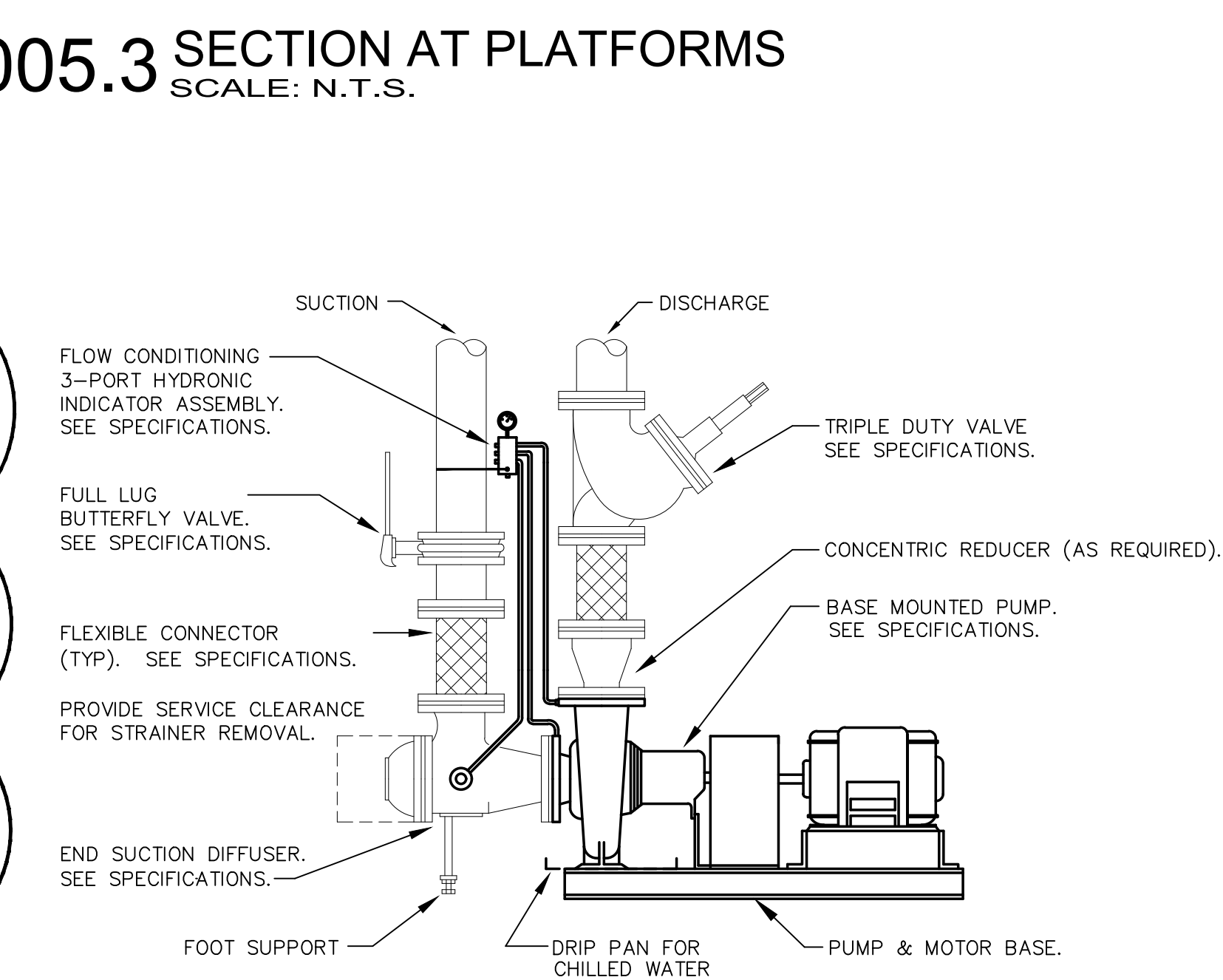
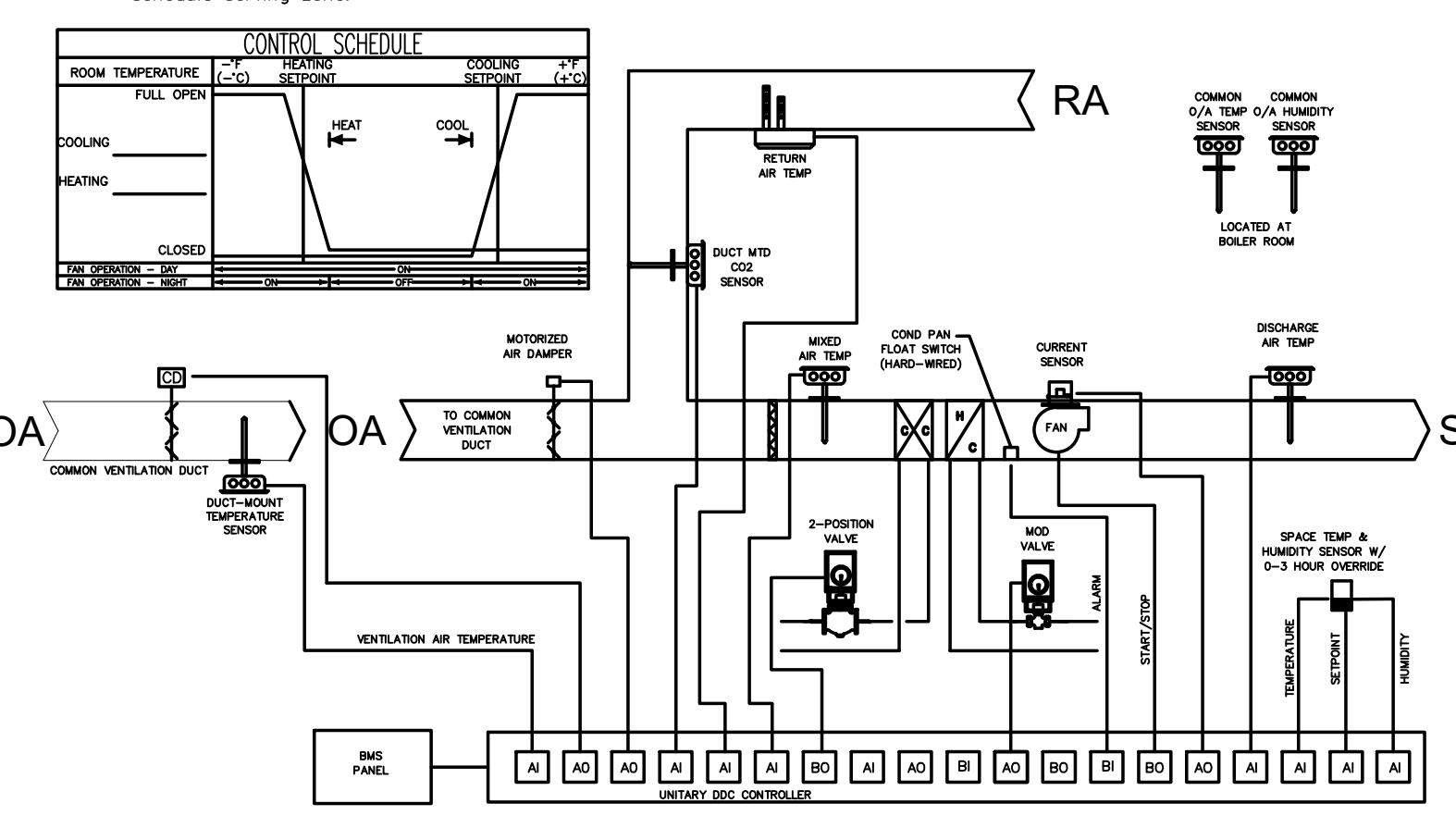
SPLIT SYSTEM HEAT PUMP WITH HW REHEAT CONTROL SEQUENCE:
SYSTEM IS AN AIR COOLED DX HEAT PUMP. SUPPLY FAN, DUCT MOUNTED HW COIL, AND LOW-AMBIENT COOLING OPTION. ALL FUNCTIONS SHALL BE CONTROLLED BY THE UNIT CONTROLLER EXCEPT TEMPERATURE SET POINT, AND DEHUMIDIFICATION, WHICH SHALL BE BY BAS. PROVIDE STANDARD JCS 24V CONVENTIONAL UNIT CONTROLLER WITH DIGITAL AND ANALOG (0-10V) POINTS AS INDICATED.
START/STOP: BAS SHALL INDEX THE SYSTEM ON AND PROVIDE INPUTS FOR MFC CONTROLLER TO MANAGE SYSTEM FUNCTIONS PER THE OWNER'S SPECIFIED OCCUPIED/UNOCCUPIED SCHEDULE. UPON START-UP, BOTH HEATING AND COOLING SET POINTS SHALL BE CHANGED FROM SETBACK VALUES TO THE OCCUPIED VALUES. THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS AND CYCLE DURING UNOCCUPIED HOURS.
TEMPERATURE CONTROL: UPON A CALL FOR EITHER COOLING OR HEATING FROM THE JCS CONTROLLER, THE AHU ON-BOARD CONTROLLER SHALL INITIATE AND STAGE THE HEAT PUMP COMPRESSOR AND REVERSING VALVE AS REQUIRED TO MAINTAIN ROOM TEMPERATURE WITHIN SET-POINT (ADJUSTABLE). THE AUXILIARY HW HEATER SHALL REMAIN DISABLED UNTIL A CONTINUED CALL FOR HEATING WHEN DX HEATING IS AT MAXIMUM CAPACITY. HW COIL CONTROL VALVE SHALL THEN MODULATE AS REQUIRED TO MAINTAIN SPACE SET POINT.
HUMIDITY CONTROL: UPON A RISE IN ROOM HUMIDITY ABOVE 60% RH AND WITH NO CALL FOR COOLING, THE AHU CONTROLLER SHALL OVER-RIDE TEMPERATURE CONTROLS, AND CALL FOR FULL COOLING (BOTH STAGES). THE AHU AUXILIARY HW CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN A DISCHARGE AIR TEMPERATURE BETWEEN 70°F AND 72°F UNTIL THE HUMIDITY DROPS BELOW SET POINT OR THERE IS A CALL FOR COOLING.
SAFETIES: AUXILIARY DRAIN PAN OVER-FLOW FLOAT SWITCH AND STANDARD UNIT SHORT-CYCLE, COMPRESSOR FAIL, HIGH HEAD, ETC.



CLASSROOM FAN COIL CONTROL SEQUENCE:
START/STOP: Building Management System (BMS) shall index fan coils on during School's specified occupied periods for fan continuous. The Unit Call valve shall be indexed by zones with each building unit being a zone for start/stop and timed override operation. Timed override operation will be programmed and indexed through the County's BMS system.
TEMPERATURE CONTROL: Each unit is provided with combination temp/humidity sensors w/temperature setpoint adjust capabilities and timed local over-ride in their respective zones. The BMS will monitor the supply air temperature. The space sensor controls the modulating heating valve and the cooling valve to maintain temperature for scheduled hours and night setback setpoint after scheduled hours.
DEHUMIDIFICATION CYCLE: Upon the space temp being satisfied and sensing a humidity level above set point (60% RH) the supply air (SA) fan shall be set to heating O/A, the chilled water valve shall index open, and the hot water valve (coil in the re-heat position) shall modulate as required to maintain a 70°F discharge air temperature until space humidity falls below set point.
VENTILATION: Fan coil units do not pull any OA from the exterior. All OA in the existing classroom buildings is provided by roof-mounted Dedicated Outside Air Supply (DOAS) units through duct that is either directly tied into the fan coil return duct (Blg 800 & 900) or ducted and discharged independently in the space (Blg 300 & 400).
SAFETIES: Provide a Remote Relay (RR) to shutdown all FCUs with remote switch located adjacent to the Fire Alarm System. Activation of a duct smoke detector, fire alarm initiating device, or manual emergency fan shut-down switch shall shut down fan in accordance with NFPA 72. The fire alarm panel shall have a reset / defect switch (Provided E.C.) for fan reactivation. C.C. shall perform final connection to BMS system. Controls contractor shall provide float-out switch in each drain pan to shut-down unit and place into alarm status. C.C. shall provide all fan coil wiring inputs to the BMS indicating fan status.
EXHAUST FANS: Index local exhaust fans as indicated on exhaust fan equipment schedule with FCU operating schedule serving zone.

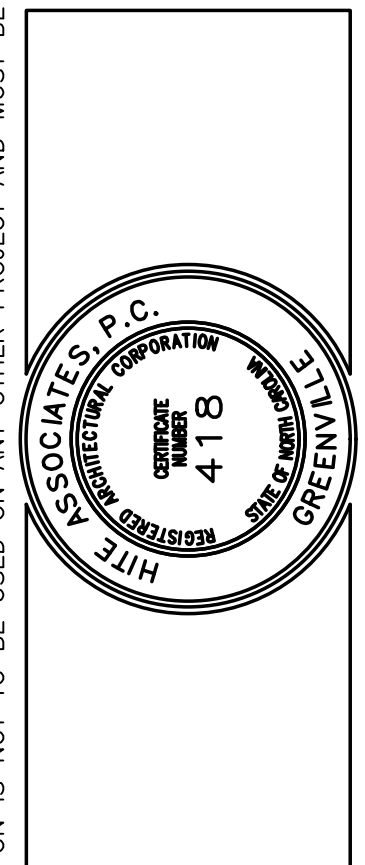


CLASSROOM BLOWER COIL CONTROL SEQUENCE:
START/STOP: Building Management System (BMS) shall index blower coils on during School's specified occupied periods for fan continuous. The blower coil units will be indexed by zones with each building unit being a zone for start/stop and timed override operation. Timed override operation will be programmed and indexed through the County's BMS system.
TEMPERATURE CONTROL: Each unit is provided with combination temp/humidity sensors w/temperature setpoint adjust capabilities and timed local over-ride in their respective zones. The BMS will monitor the supply air temperature. The space sensor controls the modulating heating valve and the cooling valve to maintain temperature for scheduled hours and night setback setpoint after scheduled hours.
DEHUMIDIFICATION CYCLE: Upon the space temp being satisfied and sensing a humidity level above set point (60% RH) the supply air (SA) fan shall be set to heating O/A, the chilled water valve shall index open, and the hot water valve (coil in the re-heat position) shall modulate as required to maintain a 70°F discharge air temperature until space humidity falls below set point.
VENTILATION: EMS shall index common building outside air control damper open during occupied school hours. System fan shall run continuously during occupied hours. Unit damper shall start at minimum position. Unit damper shall drive to max position upon the CO2 monitor sensing a level above set point (700 PPM) after system start-up. Unit OA dampers shall close during night setback and morning warm-up (verify sched. w/Owner).
SAFETIES: Provide a Remote Relay (RR) to shutdown of FCUs with remote switch located adjacent to the Fire Alarm System. Activation of a duct smoke detector, fire alarm initiating device, or manual emergency fan shut-down switch shall shut down fan in accordance with NFPA 72. The fire alarm panel shall have a reset / defect switch (Provided E.C.) for fan reactivation. C.C. shall perform final connection to BMS system. Controls contractor shall provide float-out switch in each drain pan to shut-down unit and place into alarm status. C.C. shall provide all blower coil wiring inputs to the BMS indicating fan status.
EXHAUST FANS: Index local exhaust fans as indicated on exhaust fan equipment schedule with FCU operating schedule serving zone.



1	1/27/23	ADDRESS # 1
2	1/27/23	ADDRESS # 2
3	1/27/23	ADDRESS # 3
4	1/27/23	ADDRESS # 4
5	1/27/23	ADDRESS # 5
6	1/27/23	ADDRESS # 6
7	1/27/23	ADDRESS # 7
8	1/27/23	ADDRESS # 8
9	1/27/23	ADDRESS # 9
10	1/27/23	ADDRESS # 10
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12	1/27/23	ADDRESS # 12
13	1/27/23	ADDRESS # 13
14	1/27/23	ADDRESS # 14
15	1/27/23	ADDRESS # 15
16	1/27/23	ADDRESS # 16
17	1/27/23	ADDRESS # 17
18	1/27/23	ADDRESS # 18
19	1/27/23	ADDRESS # 19
20	1/27/23	ADDRESS # 20

Hite associates
ARCHITECTURE / PLANNING / TECHNOLOGY
2600 Meridian Drive / Greenville, NC 27834 / Tel: (252) 757-0333



New Additions & Renovations to
West Carteret High School
4700 Country Club Road, Morehead City NC 28577
Carteret County Schools / North Carolina

Project No.	22112
Date	03 Oct 2023
Drawing no.	M 005