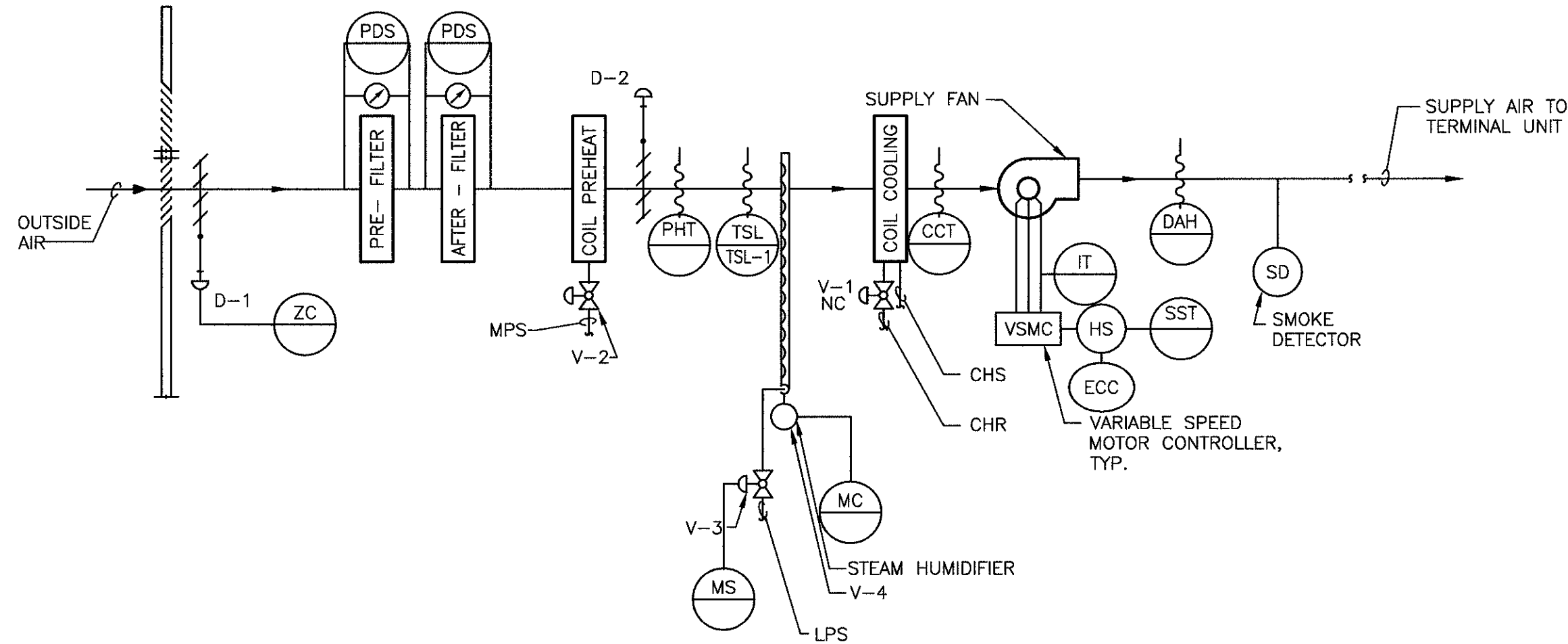


JOB:	POINT LEGEND	SYSTEM OUTPUTS		SYSTEM INPUTS		SYSTEM SOFTWARE/CONTROL		PAGE:
		BINARY	ANALOG	BINARY	ANALOG	ALARM PROCESSING	APPLICATION/FUNCTION	
BUFFALO, NY VA WESTERN NEW YORK HEALTHCARE SYSTEM								
SYSTEM: CV AIR HANDLER								
SYSTEM COMPONENT:	POINT ID ABBREVIATION	PREHEAT COIL TEMPERATURE	DISCHARGE AIR HUMIDITY	ZONE TEMPERATURE	ZONE TEMPERATURE	ZONE TEMPERATURE	ZONE TEMPERATURE	REMARKS
	AI-1 PHT							
	AI-2 CCT							
	AI-3 DAH							
	AI-4 RH-12							
	AI-5 RH-13							
	AI-6 RH-14							
	AI-7 RH-15							
	AI-8 RH-16							
	AI-9 RH-17							
	AI-10 RH-18							
	AI-11 RH-19							
	AI-12 RH-14							
	AI-13 RH-15							
	AI-14 RH-16							
	AI-15 RH-17							
	AI-16 RH-18							
	AI-17 RH-19							
	AI-18 RH-12							
	AI-19 RH-13							
	AI-20 RH-14							
	AI-21 RH-15							
	AI-22 RH-16							
	AI-23 RH-17							
	AI-24 RH-18							
	AI-25 RH-19							
	BI-1 SF-SFS							
	BI-2 TSL-1							
	BI-3 SF-ALA							
	AO-1 SF-SPD							
	AO-2 QAD D-1							
	AO-3 PHT-V2							
	AO-4 CLG-V1							
	AO-5 HUM-V4							
	AO-6 D-2							
	AO-7 RH-12							
	AO-8 RH-13							
	AO-9 RH-14							
	AO-10 RH-15							
	AO-11 RH-16							
	AO-12 RH-17							
	AO-13 RH-18							
	AO-14 RH-19							
	BO-1 SF-SST							
	BO-2 HUM-ISO-V3							

D4 POINTS LIST FOR CONSTANT VOLUME AIR HANDLING UNIT WITH MINIMUM OUTSIDE AIR  
NOT TO SCALE



F4 CONSTANT AIR VOLUME AIR HANDLING UNIT 100% OUTSIDE AIR CONTROL DIAGRAM  
NOT TO SCALE

NOTES

- A. REFER TO DWG. M-001 FOR MECHANICAL ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES RELATED TO THIS SHEET.
- B. ALL EXISTING PIPING, DUCTWORK, SPRINKLERS, CONDUIT, LIGHTING OR OTHER CONSTRUCTION SHALL BE RELOCATED AS REQUIRED FOR ALL DEMOLITION AND INSTALLATION WORK.
- C. REFER TO MH102, MH402, MP102, AND MP402 FOR MECHANICAL HVAC AND PIPING PLANS RELATED TO THIS SHEET.

SEQUENCE OF OPERATION  
CONSTANT AIR VOLUME AIR HANDLING UNIT 100% OUTSIDE AIR

1. GENERAL
- 1.1 UNIT IS NORMALLY STARTED AND STOPPED REMOTELY AT THE ECC. H-O-A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION. "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE. WHEN THE UNIT IS "OFF", D-1 SHALL BE FULLY CLOSED. WHEN THE UNIT IS "ON", D-1 SHALL BE FULLY OPEN WITH THE FOLLOWING SEQUENCE.
- 1.2 EXHAUST FANS SHALL OPERATE AT ALL TIMES (OUTSIDE OF THIS SCOPE).
2. TEMPERATURE CONTROL
- 2.1 SUPPLY AIR TEMPERATURE, SENSED BY CCT, SHALL BE MAINTAINED AT SETPOINT VIA DIGITAL CONTROL PANEL BY OPENING V-1, MODULATING V-1, V-2, AND D-2 IN SEQUENCE.
- 2.2 WHEN THE TEMPERATURE OF THE OUTSIDE AIR, SENSED BY OAT, IS ABOVE 55°F (ADJ), THE DIGITAL CONTROL PANEL SHALL MODULATE V-1 TO MAINTAIN THE SUPPLY AIR TEMPERATURE, SENSED BY CCT.
- 2.3 WHEN THE TEMPERATURE OF THE OUTSIDE AIR IS BELOW THE SUPPLY AIR TEMPERATURE, SETPOINT SENSED BY CCT AND ABOVE 50°F, THE FAN SHALL ONLY OPERATE.
- 2.4 WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN 50°F, V-2 SHALL OPEN, AND D-2 SHALL MODULATE TO MAINTAIN TEMPERATURE, SENSED BY PHT, TO A SETPOINT OF 55°F.
- 2.5 ON AHU SHUTDOWN, CLOSE D-1 AND MODULATE V-2 TO MAINTAIN A 50°F CABINET TEMPERATURE, AS SENSED BY PHT.
3. AIR FLOW CONTROL
- 3.1 THE SUPPLY AIR FLOW SHALL BE FIXED TO A CONSTANT VOLUME AT THE DIGITAL CONTROL PANEL AND THE SUPPLY FAN VARIABLE SPEED MOTOR CONTROLLER (FIELD ADJUSTABLE). THIS WILL BE SET IN COORDINATION WITH TAB.
4. HUMIDITY CONTROL
- 4.1 ROOM HUMIDITY SENSORS SHALL BE MONITORED TO MAINTAIN A MINIMUM OF 30% RH IN ANY ZONE. UPON ANY SPACE REACHING 60% RH, THE HUMIDIFIER SHALL BE DISABLED.
- 4.2 WHEN THE DIGITAL CONTROL PANEL IS NOT CALLING FOR HUMIDITY, 2-WAY "ON-OFF" CONTROL VALVE V-3 SHALL REMAIN CLOSED. WHEN THE DIGITAL CONTROL PANEL IS CALLING FOR HUMIDITY, V-3 SHALL REMAIN OPEN.
- 4.3 SPACE HUMIDITY SHALL BE MAINTAINED AT SETPOINT OF 30-60% RH (ADJ) VIA DIGITAL CONTROL PANEL BY ENABLING V-3 AND MODULATING CONTROL VALVE V-4 TO MAINTAIN THE DESIRED HUMIDITY. DCP SHALL CLOSE VALVE V-3 WHENEVER THE SUPPLY FAN IS OFF. VALVE V-4 SHALL BE INTERLOCKED WITH A TEMPERATURE SWITCH TO KEEP THE HUMIDIFIER OFF UNTIL CONDENSATE TEMPERATURE APPROACHES STEAM TEMPERATURE.
5. FREEZE PROTECTION
- 5.1 IF THE AIR TEMPERATURE AS SENSED BY PWT FALLS BELOW 45°F, AN ALARM SIGNAL SHALL INDICATE AT THE DCP AND ECC. IF THIS TEMPERATURE FALLS BELOW 40°F, AS SENSED BY PWT, THE SUPPLY AND RETURN FANS SHALL SHUT DOWN AND A CRITICAL ALARM SHALL INDICATE AT THE DIGITAL CONTROL PANEL AND ECC. TSL SHALL BE HARDWIRED TO THE SUPPLY FAN UPD AND UNIT SHALL BE SHUTDOWN IN HAND/AUTO OR BYPASS MODE. TSL WILL REQUIRE MANUAL RESET AT THE DEVICE.
6. AUTOMATIC SHUTDOWN/RESTART
- 6.1 WHEN SMOKE IS DETECTED BY DUCT SMOKE DETECTOR, SD, THE SUPPLY FAN SHALL SHUT "OFF" AND AN ALARM SIGNAL SHALL BE TRANSMITTED TO THE FIRE ALARM SYSTEM.
- 6.2 EXHAUST FANS SERVING AREA OF THE SUPPLY FAN SHALL CONTINUE TO RUN. SUPPLY AND RETURN FANS SHALL RESTART WHEN FIRE ALARM CIRCUIT IS RESET.
7. EMERGENCY CONSTANT SPEED OPERATION
- 7.1 UPON FAILURE OF THE VSMC, THE SUPPLY AND RETURN FANS SHALL BE STARTED/STOPPED MANUALLY AT THE DIGITAL CONTROL PANEL OR THE ECC THROUGH THE BY-PASS STARTER. FANS SHALL THEN BE OPERATED AT CONSTANT SPEED.

FULLY SPRINKLERED  
BID DOCUMENTS  
FOR CONSTRUCTION

ISSUED FOR BID Revisions	9-7-2017 Date	VA WESTERN NEW YORK HEALTHCARE SYSTEM 3495 BAILEY AVENUE BUFFALO, NEW YORK 14215	 Architecture   Engineering   Design-Build 200 Envoy Circle, Suite 201 Louisville, KY 40299 www.paradigmusa.com	 stamp	MANAGER DATE ENGINEERING MANAGER DATE INFECTION CONTROL DATE MANAGER DATE SAFETY OFFICER DATE CHIEF OF STAFF DATE	Drawing Title MECHANICAL CONTROL DETAILS MEDICAL CENTER DIRECTOR ASSOCIATE MEDICAL CENTER DIRECTOR	Project Title BUFFALO GU AHU Building Number 1 Checked KLP Drawn JDM Location V.A.M.C. BUFFALO, NEW YORK	Date 09-07-2017 Station No. 528 17-S06-MH502	 Department of Veterans Affairs
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