INSTALLATION NOTES:

1. A/E TO DETERMINE EQUIPMENT ID#
2. MANUF PROVIDED STEAM VALVE
3. SMOKE DETECTOR PROVIDED, MOUNTED, AND WIRED BY DIVISION 16.

100% OA CONSTANT VOLUME AHU WITH HOT WATER HEAT CONTROL DIAGRAM
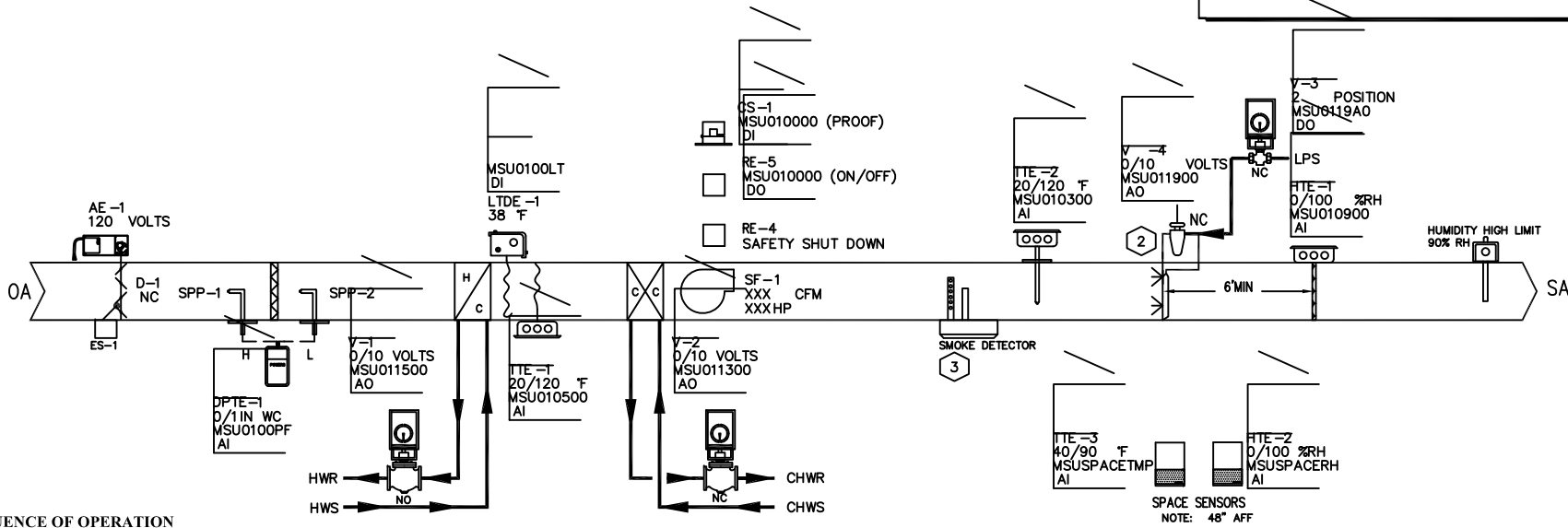
SEQUENCE OF OPERATION

100% OA CONSTANT VOLUME AHU WITH HOT WATER HEAT

NOTE: ALL SETPOINTS DESCRIBED IN SEQUECE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS). APPROPRIATE DEADBANDS SHALL BE USED TO PREVENT SHORT CYCLING SITUATIONS. ALL FAN MOTOR CONTROL SWITCHES SHALL BE IN "AUTO" POSTION.

1. SUPPLY FAN SHALL HAVE START/STOP CAPABILITY FROM THE DDC SYSTEM. HVAC UNIT SHALL OPERATE BASED ON TIME SCHEDULED OCCUPIED MODE COMPENSATED BY OPTIMUM START PROGRAM AND UNOCCUPIED CYCLE MODE.

2. FOR HEATING AND COOLING OCCUPIED MODE, HVAC UNIT SHALL BE CONTROLLED TO MAINTAIN DISCHARGE AIR TEMP SETPOINT. THE DISCHARGE AIR TEMP SETPOINT WILL BE RESET BY THE SPACE TEMPERATURE SENSOR TO MAINTAIN SPACE TEMPERATURE SETPOINT.

3. FOR HEATING UNOCCUPIED MODE, HVAC UNIT SHALL CYCLE ON & OFF TO MAINTAIN A SETBACK SPACE TEMPERATURE OF 62 DEGF (ADJ). (IF REHEAT IS PRESENT IN THE SPACE THEN THE UNIT WILL NOT RESET DAT. THE UNIT WILL DISCHARGE 55 DEGREES CONTINUOUSLY.)

4. SUPPLY FAN SHALL BE MONITORED BY DDC THRU A CURRENT RELAY AND A ABNORMAL STATUS CONDITION SHALL ACTIVATE ALARM.

5. WHEN HVAC UNIT IS ACTIVATED THE OUTDOOR AIR DAMPER SHALL OPEN AND BE HARD-WIRED INTO THE SUPPLY FAN MOTOR STARTER TO START THE SUPPLY FAN.

6. COOLING CONTROL, THE COOLING COIL CONTROL VALVE SHALL BE CONTROLLED IN SEQUENCE WITH THE HEATING VALVE TO PREVENT SIMULTANEOUS HEATING AND COOLING. THE VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT AS DESCRIBED.

7. HEATING CONTROL, THE HEATING COIL CONTROL VALVE SHALL BE CONTROLLED IN SEQUENCE WITH THE COOLING VALVE TO PREVENT SIMULTANEOUS HEATING AND COOLING. THE VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT AS DESCRIBED.

8. HEATING COIL AIR TEMP LOW LIMIT SETPOINT OF 45 DEGF SHALL PROVIDE OVERRIDE CONTROL TO PREVENT THE LOW LIMIT DETECTOR FROM TRIPPING.

9. DURING MORNING WARM-UP OR UNOCCUPIED HEATING CYCLE, DAT SETPOINT SHALL BE 90 DEGF UNTIL BUILDING OCCUPANCY TIME OR WHEN SPACE TEMP SETPOINT IS REACHED. POST WARMUP DISCHARGE AIR SETPOINT WILL BE SLOWLY MODULATED DOWN TO SETPOINT OVER THE COURSE OF 30 MINS TO PREVENT TRIPPING OF THE LTDE-1.

10. WHEN OA TEMP IS BELOW 55 DEGF, AND SF AIRFLOW IS PROVEN BY A SUPPLY FAN HARD-WIRED STATUS ; DDC SHALL ACTIVATE HUMIDIFIER TO MAINTAIN SPACE HUMIDITY SETPOINT OF 30% RH. DISCHARGE AIR HUMIDITY HIGH LIMIT WITH SETPOINT OF 90% RH SHALL PROVIDE OVERRIDE CONTROL. A HARD-WIRED HUMIDITY HIGH LIMIT SHALL ALSO BE USED TO PREVENT DISCHARGE HUMIDITY FROM EXCEEDING 90% RH.

11. FILTER STATUS SHALL BE MONITORED THROUGH A UNIT MOUNTED DPS SWITCH AND ALARMED BACK TO THE DDC SYSTEM.

12. FREEZESTAT(S) SHALL DEACTIVATE THE SUPPLY FAN WHEN TEMPERATURE IS 38 DEGF OR BELOW. DDC SHALL MONITOR FREEZESTAT STATUS AND ACTIVATE ALARM ON DDC SYSTEM IF CONDITION OCCURS. THERE SHALL ALSO BE A LOCAL PILOT-LIGHT FOR INDICATION ON AUXILIARY PANEL FOR ALARM

13. DUCT SMOKE DETECTOR(S) SHALL DEACTIVATE SUPPLY AND CLOSE THE OUTDOOR AIR DAMPER WHEN PRODUCTS OF COMBUSTION ARE DETECTED.

14. WHEN HVAC UNIT IS DEACTIVATED, COOLING COIL VALVE SHALL REMAIN CLOSED AND HEATING COIL VALVES SHALL BE MODULATED BY DDC BASED ON HC TEMP TO MAINTAIN LOW LIMIT PLENUM TEMP SETPOINT OF 50 DEGF. RH VALVE SHALL REMAIN CLOSED.

ALARMING
NORMAL
- SUPPLY FAN FAILURE
- FREEZESTAT
- DISCHARGE AIR TEMPERATURE (+/- 5 DEGREES OF SETPOINT)
- DISCHARGE HUMIDITY HIGH LIMIT (90%)
- FILTER STATUS

"ENHANCED" 24/7
- IF SYSTEM SERVES CRITICAL AREA
- SUPPLY FAN FAILURE
- DISCHARGE AIR TEMPERATURE