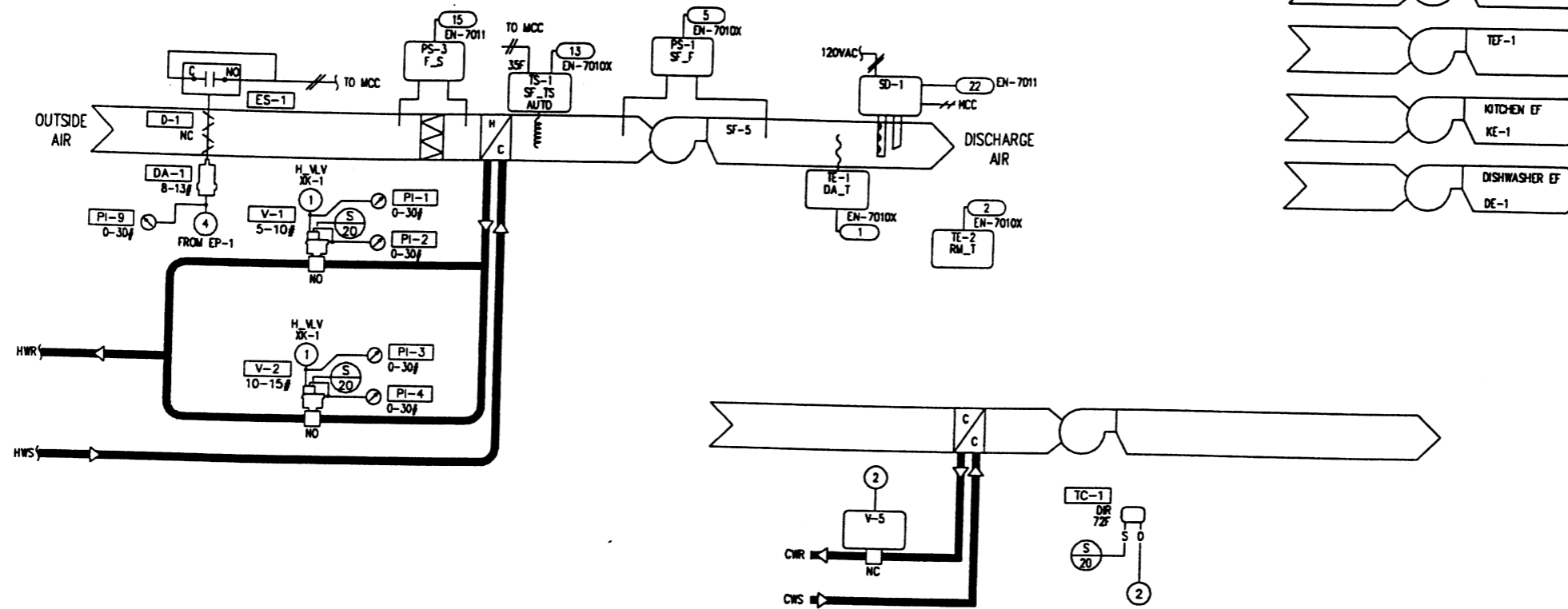
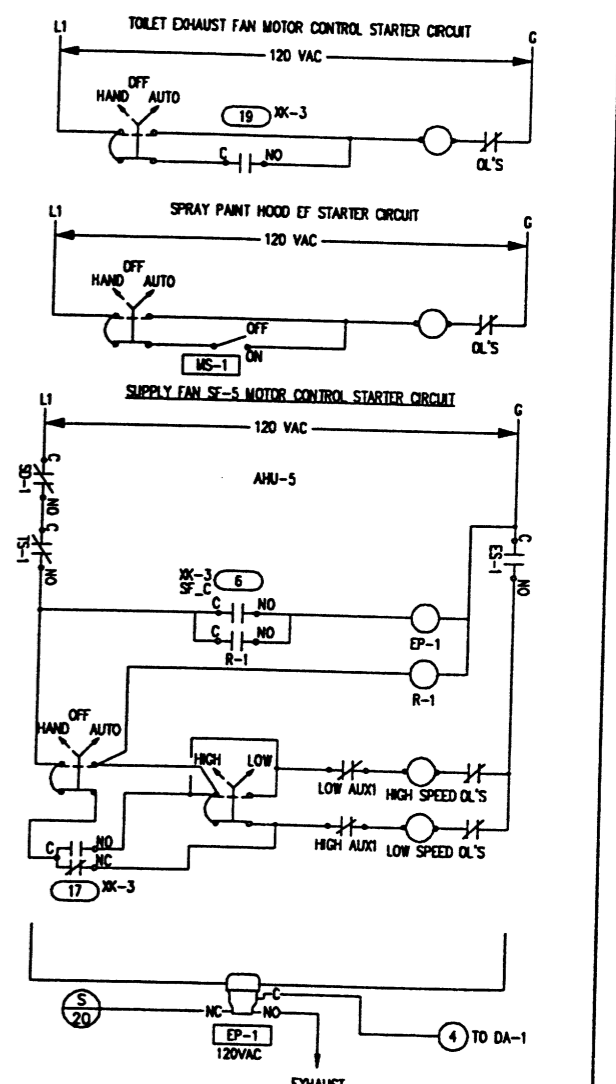


FLOW DIAGRAM AND EQUIPMENT LOCATIONS FOR AIR HANDLING UNIT AHU-5



FIELD MATERIAL			
DEVICE TAG	QTY	CODE NUMBER	DESCRIPTION
D-1	1	---	SEE DAMPER SCHEDULE
DA-1	1	D-3153-2	DAMPER ACTUATOR 8-138
EP-1	1	V11HAA-100	3-WAY AIR VALVE, V/BARBED
ES-1	1	002T-CMPF	END SWITCH-ALLEN BRAD
PI-1-PI-6,	7	G-2018-5	AIR GAGE 1-1/2"
PI-9	1	---	---
PS-1, PS-3	2	P22AF-2C	SENSITIVE DIFF PRES CTL
SD-1	1	DM400ACDC1	DUCT DETECTOR, 1DN,
	1	RTS451	REMOTE TEST STATION DUCT
	1	ST-10	SAMPLING TUBE FOR
TE-1	1	TE-6180-1	TEMP SENSING ELEMENT 17'
TE-2	1	TE-6080-1	SENSOR, 1000 OHM +/- 12
	1	T-4008-3139	COVER, WHITE PLASTIC, HRZ
	1	TE-6081-4	ELEMENT HOLDER F/TE &
TS-1	1	A70GA-1C	TEMP CONTROL 4 WIRE, 2-C
V-1-V-3	3	---	SEE VALVE SCHEDULE
MS-1	2	PD-106-1	SELECTOR SWITCH, 2-POS.



SEQUENCE OF OPERATIONS

SYSTEM: 100 Percent Outside Air, Single Path
AHU-5

CONFIGURATION: Discharge Air Control Reset by Space Temperature
100 Percent Single Path

AHU-5 - Kitchen Make-Up Air

Occupied Mode, if range exhaust fan is ON

The Supply Fan will operate continuously at high speed.

Unoccupied Mode, if range exhaust fan is OFF

The Supply Fan will operate continuously at low speed.

Fan status will be reported to the ICS.

Filter status will be reported to the ICS.

Heating/Cooling Valve Control

As the heating discharge air temperature, TE-4 decreases below the heating setpoint, the digital controller commands the heating valves in sequence. As the disch. air temperature travels through the various proportional bands, the output to the device is 0 to 100 percent open.

The discharge air temperature setpoint will be reset by space temperature, TE-2, based on the following reset schedule:

Discharge setpoint reset schedule	
Discharge Air Setpoint	Space Temperature
xx F. Adj.	75 F.
xx F. Adj.	65 F.

Smoke detector, SD-1 will stop the supply fan in the event that smoke is detected in the supply air. An alarm will be sent to the ICS.

Dishwasher Exhaust Fan

The dishwasher exhaust fan will run whenever the dishwasher status shows ON.

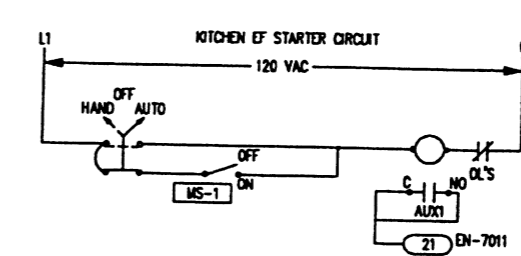
Toilet Exhaust Fan

The Toilet exhaust fan will be enabled by digital controller, EN-7010x and will be scheduled by the ICS.

Spray Paint Exhaust Fan, E-1

Manual switch, MS-1 will control exhaust fan, E-1.

- NOTES:**
- INTERLOCK DISHWASHER EXHAUST FAN WITH DRY CONTACT IN DISHWASHER.
 - WIRE MANUAL SWITCH, MS-1 INTO START CIRCUIT FOR EXHAUST FAN, E-1.
 - WIRE AUX CONTACT FROM KITCHEN EXHAUST TO B1-2 OF EN-7010S.



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DRAWING TITLE AHU-5 FLOW DIAGRAM AND EQUIPMENT LOCATION		FILE: CLO_AHU5 DDCODE: 19940728.XX1	
PROJECT The Argonne National Labs Advanced Photon Source Campus 9700 Cass Avenue South Argonne, IL 60439		CONTRACT NUMBER 91390-0009 DRAWING NUMBER 91-9-G-04A	
SALES ENGR PROJECT MGR/APPL ENGR JP SF		APPROVED DATE	
DRAWN DCS		DATE 12/18/93	
BY DCS DATE 12/18/93		DATE	
3007 MALMO ROAD ARLINGTON HEIGHTS ILLINOIS 60005 708/364-1500 Main 708/806-4438 Eng		JOHNSON CONTROLS Systems & Services Division	