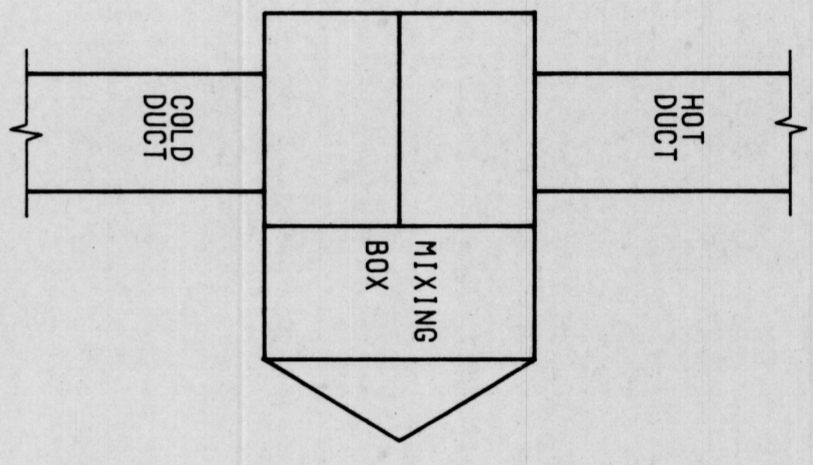




HOT WATER SYSTEM CONTROL

1. BOILERS SHALL BE PROVIDED WITH LEAD LAG SELECTOR SI AND ISOLATION VALVES V1 AND V2.
2. WHENEVER ANY ONE OF THE SIX (6) WARM DECK AIR HANDLING UNITS IS OPERATED, THE OCCUPIED CYCLE, THE LEAD PRIMARY PUMP SHALL RUN. WHEN LEAD PRIMARY PUMP IS RUNNING, LEAD BOILER ISOLATION VALVE SHALL BE OPEN AND BOILER SHALL BE ENERGIZED THROUGH FLOW SWITCH.
3. ON A FALL IN GAS TEMPERATURE, T1 SHALL ENERGIZE LEAD BOILER CONTROLS. ON A CONTINUED FALL, T1 SHALL ENERGIZE LEAD PRIMARY PUMP. OPEN LAG BOILER ISOLATION VALVE AND ENERGIZE LAG BOILER CONTROLS THROUGH FLOW SWITCH. ON A RISE IN TEMPERATURE, THE REVERSE SHALL OCCUR.
4. INTERLOCK COMBUSTION AIR INTAKE DAMPER TO OPEN WHENEVER EITHER BOILER IS ENERGIZED.



VARIABLE VOLUME VARIABLE TEMPERATURE MIXING BOX

OCCUPIED - UNOCCUPIED
 1. SYSTEM OPERATION IS CONTROLLED BY EMS

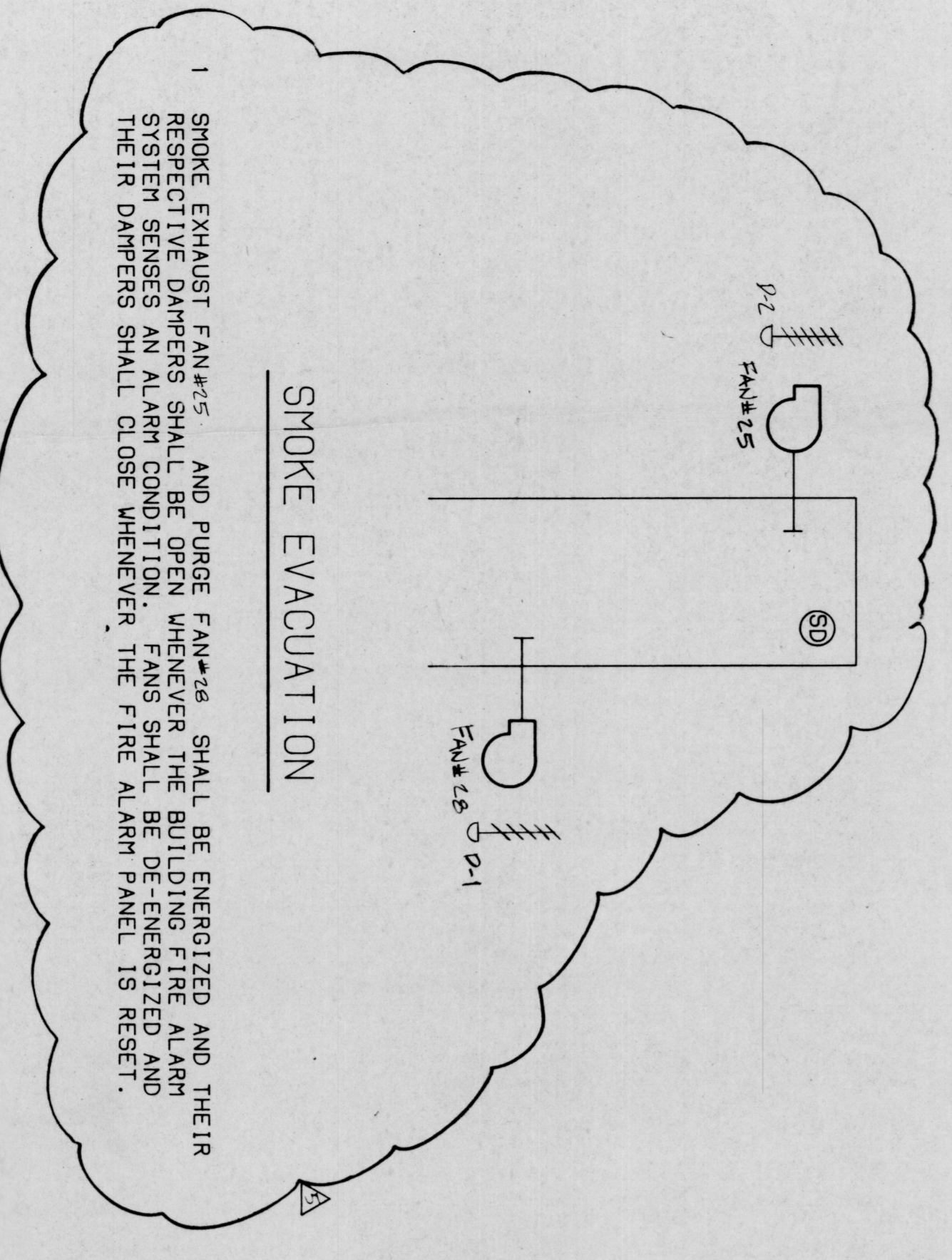
2. PROVIDE TWO (2) ZONES OF OCCUPIED - UNOCCUPIED CONTROL PER FLOOR. ZONES SHALL BE DETERMINED BY WARM DECK AHU LAYOUT.

1. RESPECTIVE WARM DECK AND COLD DECK UNITS SHALL BE INDEXED TO OCCUPIED CYCLE AND CHILLED WATER PUMP SHALL BE ENERGIZED.
2. DAMPER ON VAV BOX WARM DUCT SHALL BE POSITIONED AS DETERMINED BY RESPECTIVE WARM DECK AND SUPPLY/WATER CYCLE.
3. DAMPER ON VAV BOX COLD DUCT SHALL BE MODULATED BY SPACE STAT T1 TO MAINTAIN 75°F.

- UNOCCUPIED (1800-0530)
1. BOTH WARM DUCT AND COLD DUCT DAMPERS SHALL BE CLOSED.
 2. WHEN ALL ZONES OF VAV BOXES ARE INDEXED TO UNOCCUPIED, WARM DECK AHU'S AND COLD DECK AHU'S SHALL BE INDEXED TO UNOCCUPIED.
- PREPARATORY (0630-1730) **0730**
1. WARM DUCT DAMPERS SHALL BE OPEN, AND COLD DUCT DAMPERS SHALL BE PLACED UNDER CONTROL OF THEIR RESPECTIVE SPACE STAT.
 2. RESPECTIVE WARM DECK AHU SHALL BE INDEXED TO PREPARATORY CYCLE.

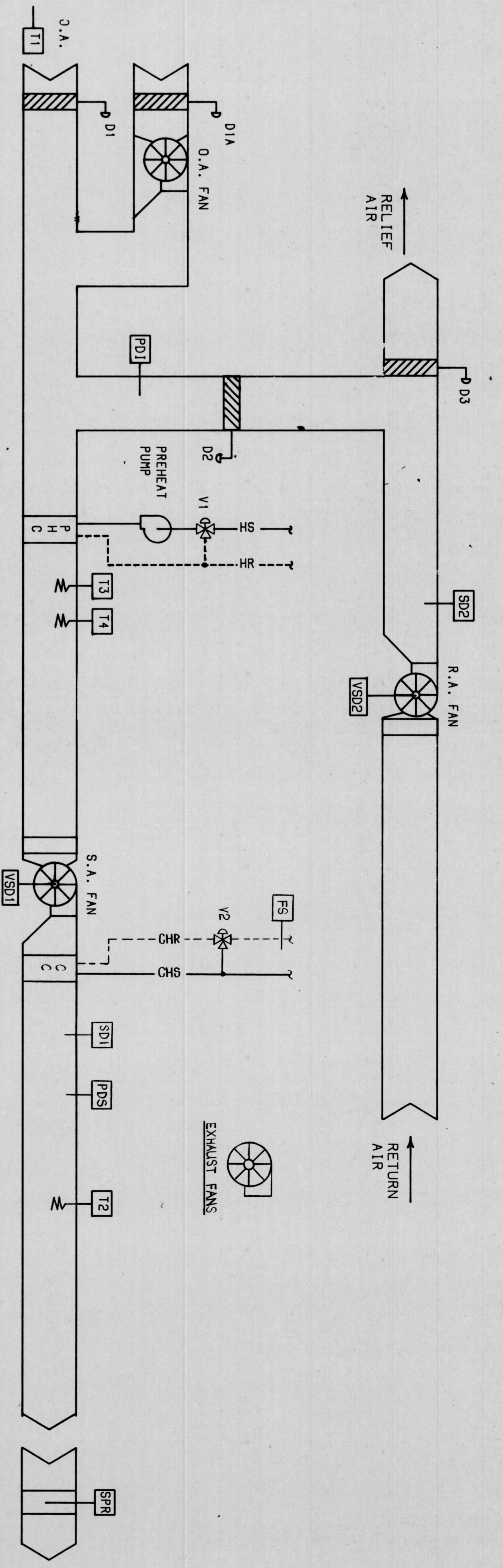
ICE STORAGE SYSTEM

1. ICE STORAGE SYSTEM SHALL OPERATE UNDER ITS OWN FACTORY FURNISHED AND INSTALLED CONTROLS.
2. A/C CONTRACTOR SHALL FURNISH AND INSTALL INTERLOCK WIRING BETWEEN ICE STORAGE SYSTEM CONTROL PANEL, CONDENSER WATER PUMPS AND COOLING TOWER.
3. WHENEVER CONDENSER WATER PUMP IS ENERGIZED, COOLING SHALL BE ENERGIZED.
4. ADD STANDARD C.T. SPECIFICATIONS FOR CONTROLS.



SMOKE EVACUATION

1. SMOKE EXHAUST FAN#1'S AND PURGE FAN#2'S SHALL BE ENERGIZED AND THEIR RESPECTIVE DAMPERS SHALL BE OPEN WHENEVER THE BUILDING FIRE ALARM SYSTEM SENSES AN ALARM CONDITION. FANS SHALL BE DE-ENERGIZED AND THEIR DAMPERS SHALL CLOSE WHENEVER THE FIRE ALARM PANEL IS RESET.



AIR HANDLING UNIT - COLD DECKS

(V.A.V. SYSTEMS AHU#1, AHU#2)
 REFER TO DWG M-20 FOR GENERAL CONTROL NOTES

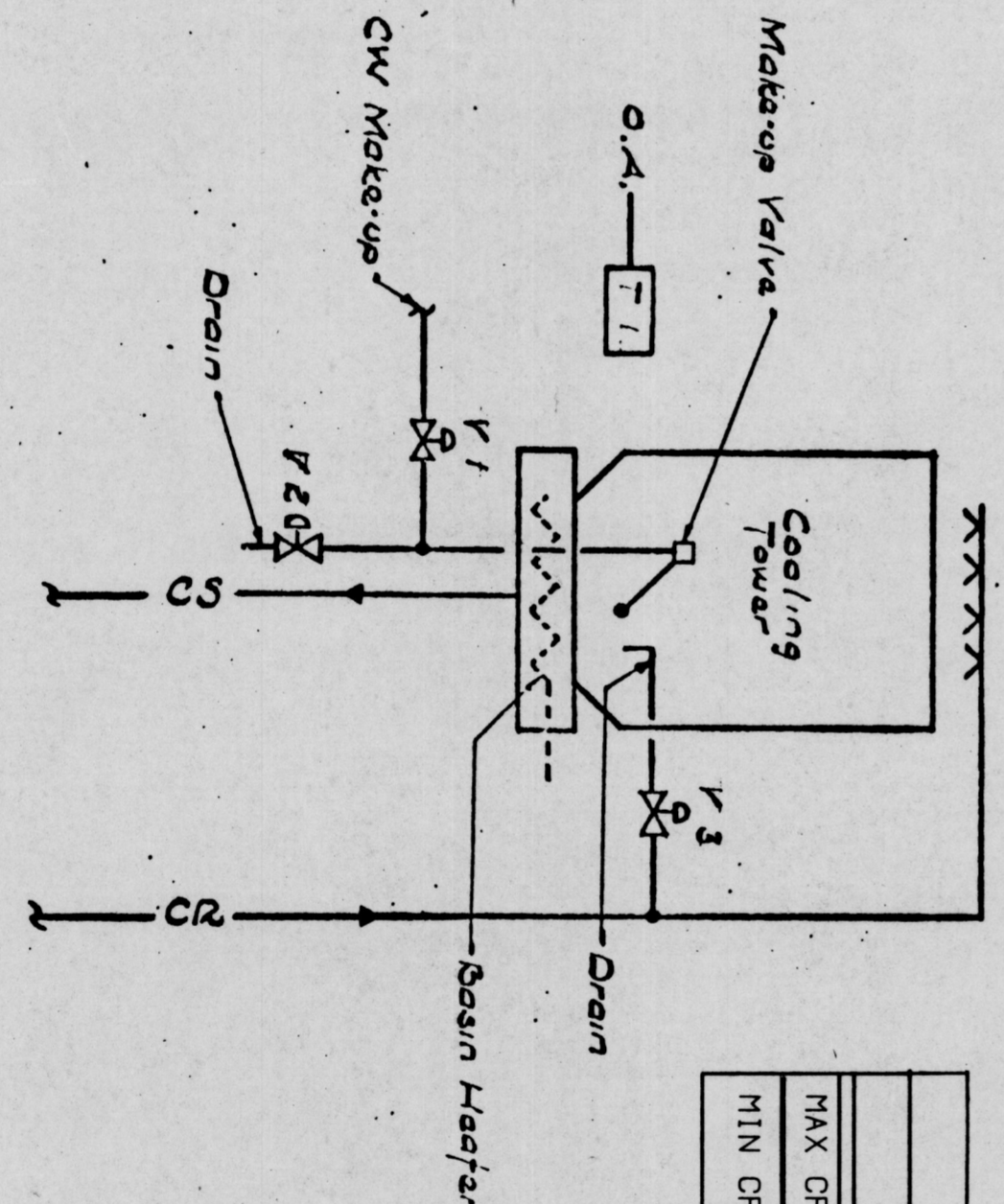
OCCUPIED - UNOCCUPIED - PREPARATORY CYCLE
 1. SYSTEM OPERATION IS CONTROLLED BY EMS.

- OCCUPIED (0700 TO 1800)
1. SA RA AND OA FANS ON, EXHAUST FANS ON.
 2. WHEN OA AT T-1 IS BELOW 60°F.
 3. T-3 MODULATES V-1, THEN D-1, D-2 AND D-3 AND T-2 MODULATES V-2. ALL IN SEQUENCE, ON TEMPERATURE RISE TO MAINTAIN 55°F. EXHAUST FANS OVERDRIVEN 1-3 TO LIMIT MIXED AIR TO 40°F. MINIMUM.

- UNOCCUPIED (1800 TO 0700)
1. SA RA AND OA FANS OFF, EXHAUST FANS, CHILLED WATER PUMPS OFF.
- STARTING AND STOPPING
1. WHEN SYSTEM OPERATION IS STARTED ON OCCUPIED CYCLE, SA, RA, AND EXHAUST FANS SHALL BE ON, AND D-3 SHALL BE OPEN TO MAINTAIN POSITION.
 2. WHENEVER FANS ARE STOPPED D-1, D-1A, AND D-3 CLOSE, D-2 REMAINS OPEN.

RESET SCHEDULE
T1
S5
S6
S6
S6
S6

AHU NO. 1		AHU NO. 2	
S.A. FAN	27,000	R.A. FAN	19,300
MAX CFM	27,000		
MIN CFM	6,500		
			2,300



COOLING TOWER FREEZE PROTECTION

1. When OA temperature falls to 35°F., T-1 closes V-1, opens V-2 and V-3 directing condenser return line into tower basin, places basin heater under control of basin thermostat provided by cooling tower manufacturer and places pipe extracting cable under control of thermostat provided under Electrical Division. Valve positions reverse and heaters are off when OA temperature rises to 40°F.

BID PACKAGE #3

REVISIONS

NO.	DATE	DESCRIPTION
1	4-20-90	ADD NOSH NO. 1
2	8-16-90	REVISIONS
3	8-16-90	CRM-1

PROJ. NO.	8914.10
DATE	4/11/90
DWG. NO.	M-21

CORPORATE HEADQUARTERS

McCormick & Company

LOVETON BUSINESS CENTER
 BALTIMORE COUNTY, MARYLAND

Henry Adams, Inc.
 Mech/Elect. Engineers

Gaudreau, Inc.
 Architects/Planners/Engineers

Faisant Associates, Inc.
 Structural Engineers

H.A. JOB NO. AM017980