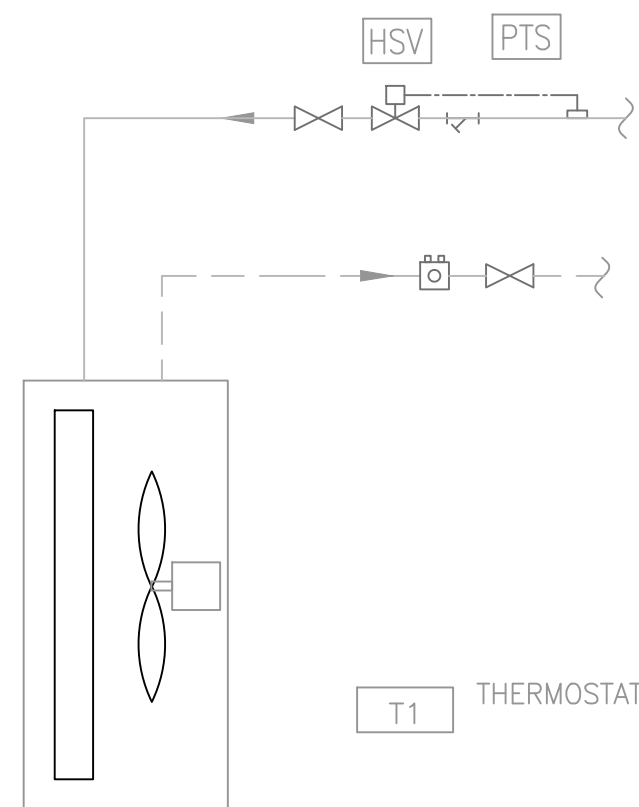


1 AIR HANDLING UNIT (CAC-2,4,5) CONTROL DIAGRAM
SCALE: NONE

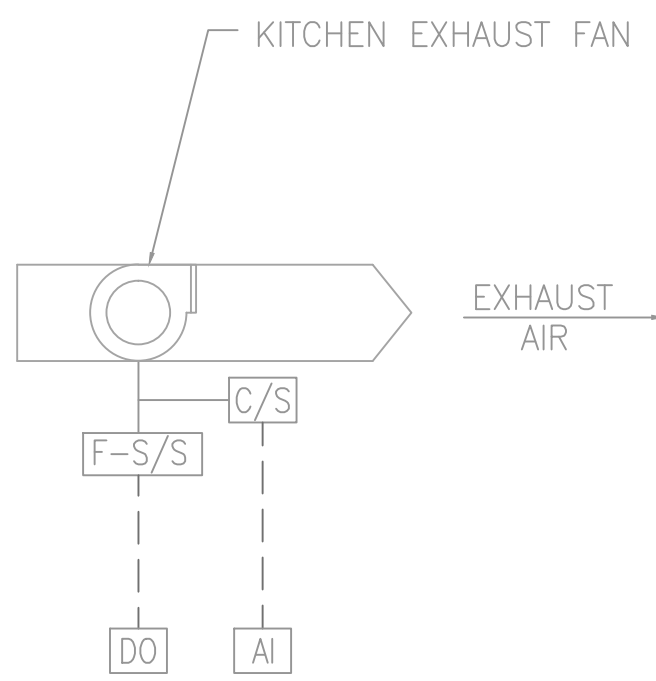


DEVICE	DESCRIPTION	TYPE	QTY.
T1	TEMP. SENSOR OR THERMOSTAT	AI	1
HSV	SOLENOID VALVE	DO	1
PTS	PIPE TEMPERATURE SENSOR	AI	1

SEQUENCE OF OPERATION

UNIT IS IN STAND ALONE CONTROL:

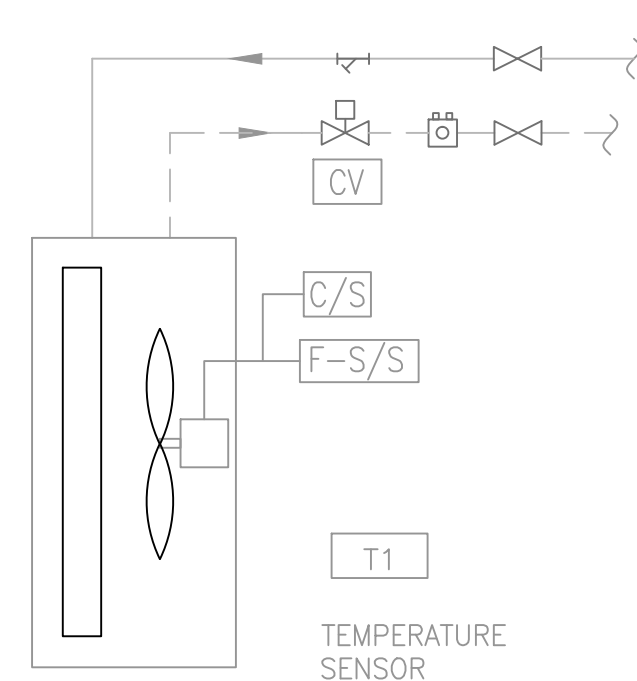
- ON A DROP IN SPACE TEMPERATURE LOWER THAN THE THERMOSTAT SET POINT OF 70°F (ADJUSTABLE), UNIT FAN SHALL BE ON AND VISE VERSA.
- THE SOLENOID VALVE (NORMALLY OPEN) SHALL BE CLOSED TO PREVENT CHILLED WATER TO FLOW TO THE UNIT WHEN SENSING PIPE TEMPERATURE IS LESS THAN 60° F.



SEQUENCE OF OPERATION

- A HAND-OFF-AUTO SWITCH SHALL BE LOCATED IN THE KITCHEN AREA FOR THE KITCHEN EXHAUST FAN.
- WHEN FAN IS IN AUTO MODE, THE OPERATION IS SET BY TIME SCHEDULE.
- FAN SHALL BE LINK TO THE MAKE-UP AIR UNIT. WHEN FAN IS ON, THE MAKE-UP AIR UNIT SHALL BE ALSO ON.
- ALARM SHALL BE DISPLAYED AT THE FRONT END WHEN:
 - NO AIR FLOW WHEN FAN IS ENERGIZED.

DEVICE	DESCRIPTION
C/S	CURRENT SWITCH
F-S/S	FAN START AND STOP



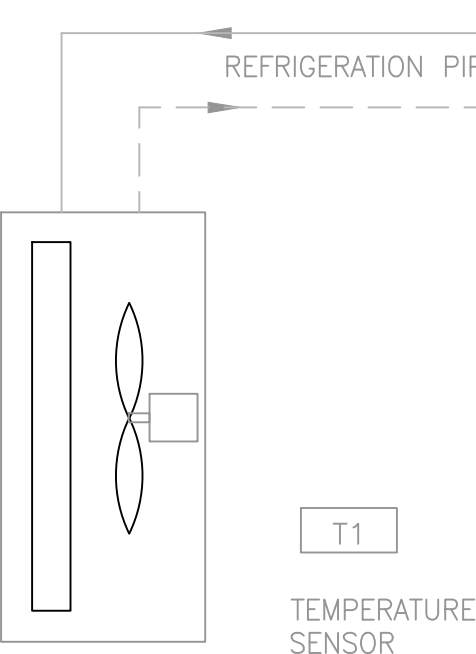
FOR FCU-8,9,10: ONE TEMPERATURE SENSOR CONTROLS ONE VALVE AND THREE FANS FOR THREE UNITS.

SEQUENCE OF OPERATION

UNIT CONTROL IS LINK TO BAS SYSTEM:

- UNIT OPERATION IS SET FOR DAY SCHEDULE (HEATING OR COOLING) AND TIME SCHEDULE (OCCUPIED MODE OR UNOCCUPIED MODE).
- DURING OCCUPIED MODE: FAN SHALL RUN CONTINUOUSLY. CONTROL VALVE SHALL MODULATE TO SATISFY THE ROOM COOLING SET POINT TEMPERATURE (75°F COOLING DATES AND 70°F HEATING DATES).
- DURING UNOCCUPIED MODE: FAN SHALL BE ON WHEN ROOM TEMPERATURE IS HIGHER THAN 80°F (COOLING DATES NIGHT SETBACK TEMPERATURE) OR LOWER THAN 60°F (HEATING DATES NIGHT SETBACK TEMPERATURE). CONTROL VALVE SHALL MODULATE TO LET CHILLED WATER OR HEATING WATER TO THE UNIT TO SATISFY THE NIGHT SETBACK TEMPERATURE. FAN IS OFF WHEN NIGHT SETBACK TEMPERATURE IS SATISFIED.
- SET POINT TEMPERATURE SHALL BE ADJUSTABLE.
- ALARM SHALL BE DISPLAYED AT FRONT END COMPUTER WHEN FAN IS FAILED TO OPERATE AFTER ENERGIZED.

5 TERMINAL COOLING/HEATING UNIT (FCU-5, 8, 9, 10) CONTROL DIAGRAM
SCALE: NONE

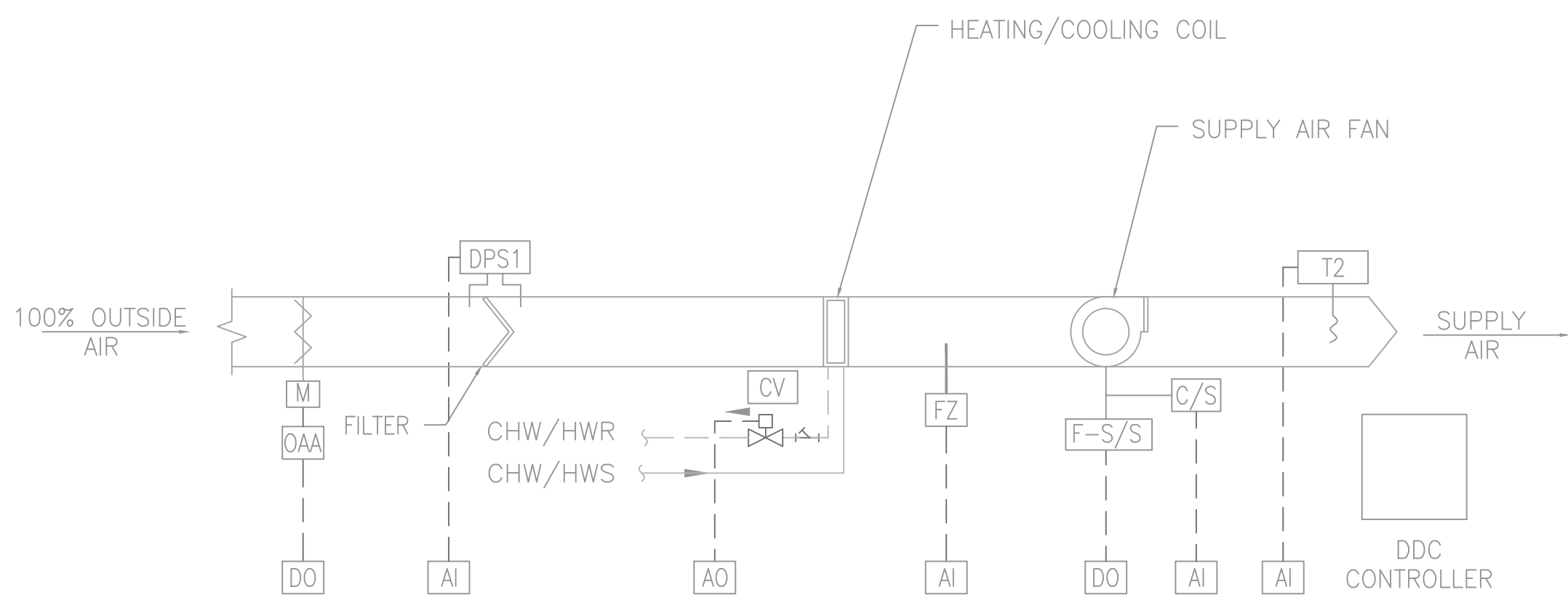


6 TERMINAL COOLING UNIT (FCU-B2,FCU-2,3,4,6,7) CONTROL DIAGRAM
SCALE: NONE

SEQUENCE OF OPERATION

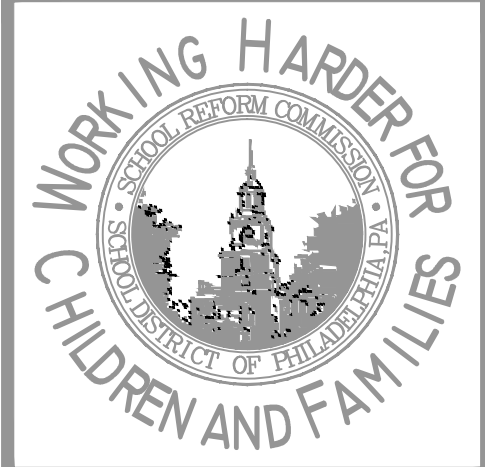
UNIT CONTROL LINK TO BAS SYSTEM:

- UNIT SHALL MAINTAIN ROOM TEMPERATURE BELOW 80°F.
- DISPLAY ALARM AT THE FRONT END COMPUTER WHEN ROOM TEMPERATURE IS HIGHER THEN 85°F.

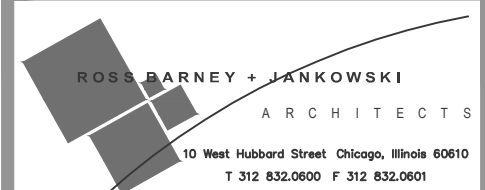


4 MAKE-UP AIR UNIT (MAU-1 WITH 100% OUTSIDE AIR) CONTROL DIAGRAM
SCALE: NONE

1 CONTROL SYSTEM DIAGRAM 3
NOT TO SCALE



SEAL



SCHOOL & LOCATION	Commodore John Barry Elementary School 5900 Race Street, Philadelphia PA 19139
PROJECT TITLE	NEW CONSTRUCTION
DRAWING TITLE	CONTROL SYS. DIAGRAM 3
APPROVED BY	

SCHOOL DISTRICT OF PHILADELPHIA THE SCHOOL REFORM COMMISSION	DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES
1000 ARCHER STREET PHILADELPHIA, PA 19130 (215) 400-7730 FAX (215) 400-4731	
CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS AT SITE	

9	8	7	6	5	4	3	2	1	NO.	DATE	REVISION

SPEC. NO. B-840C of 2005/06	DATE 12/29/06
SCALE NONE	LOCATION NO. 120
DRAWN BY WVC	TYPE NO. -
CHECKED BY MMT	FILE NO. -

DRAWING NO.
M309