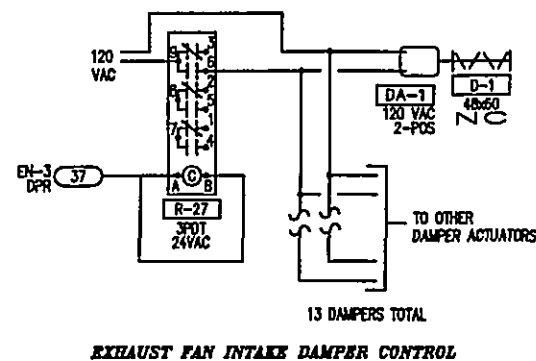
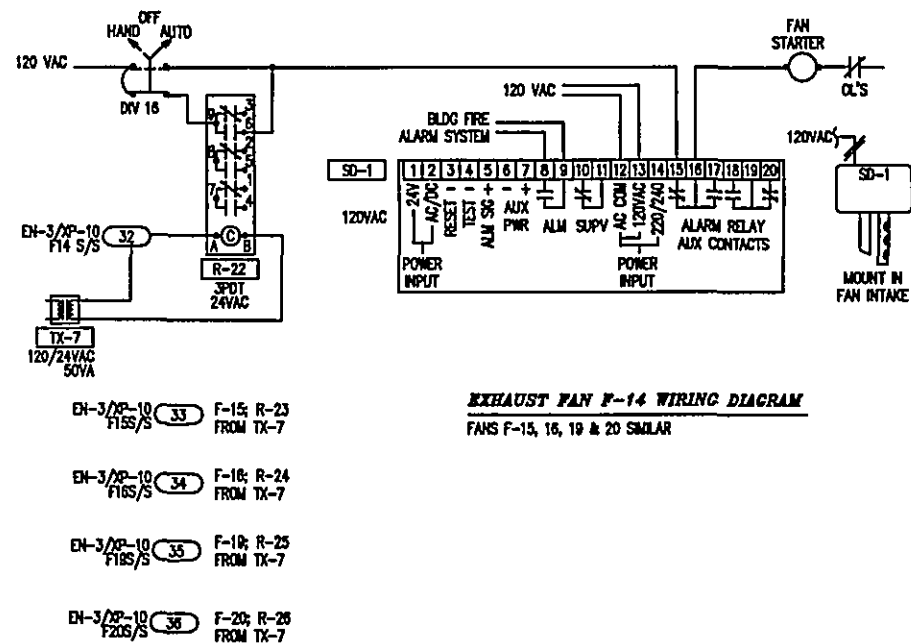
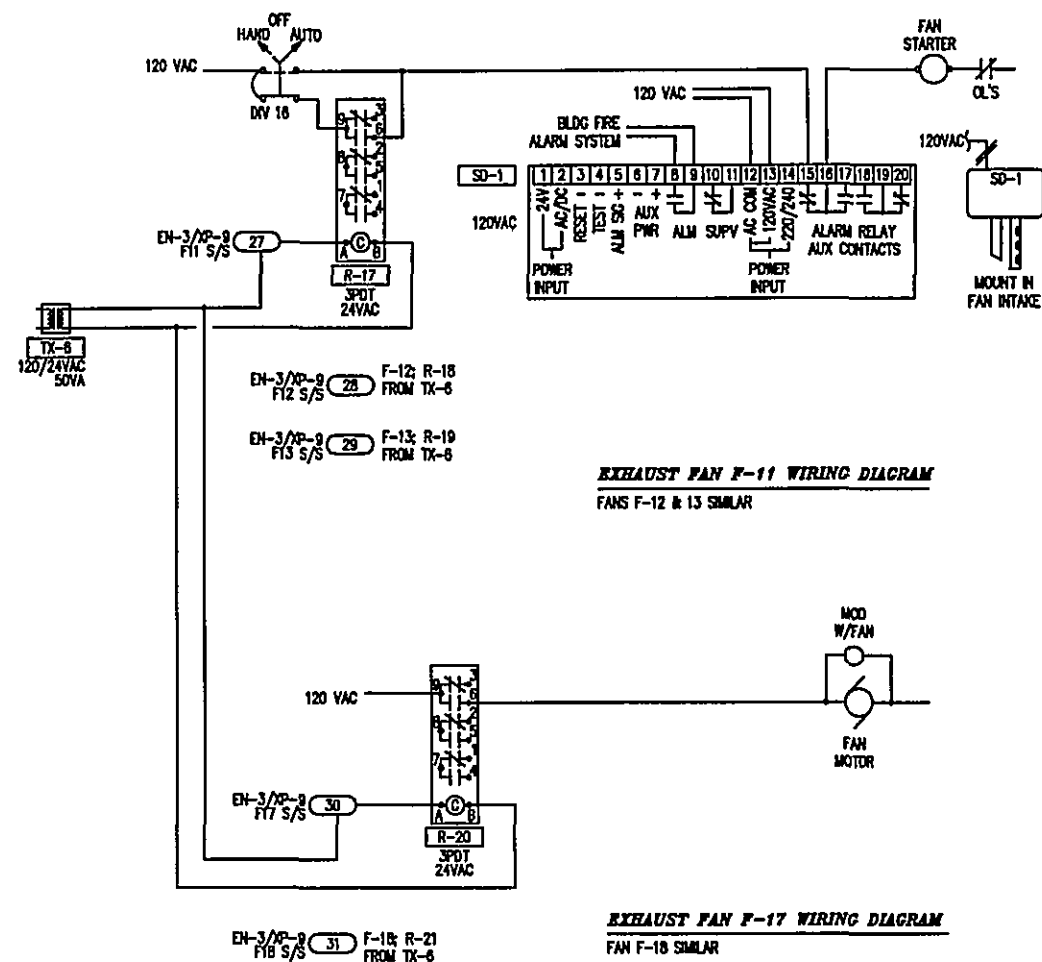




FIELD MATERIAL			
DEVICE TAG	QTY	CODE NUMBER	DESCRIPTION
D-1	13	—	SEE DAMPER SCHEDULE
DA-1	13	AF120	ELEC ACTUATOR-BELIMO
R-17, R-20, R-22	10	PD-109-21	RELAY, PLUG IN 3PDT
R-27	10	PD-101-35	RELAY SOCKET, 11PIN BLADE
SR-1	1	PD-109-21	RELAY, PLUG IN 3PDT
TX-6-TX-7	2	Y63A/B-1C	UTILITY ENCLOSURE
			RELAY SOCKET, 11PIN BLADE
			DUCT DETECTOR, 10N,
			SAMPLING TUBE FOR
			TRANSFORMER

SEQUENCE OF OPERATION

AH-11, 12, 13 & 14 CONTROL:

RETURN AIR THERMOSTAT TE-X WILL CONTROL THRU THE TX-9100 TO START THE AH FAN AND ENERGIZE THE FIRST STAGE OF ELECTRIC HEAT (HC-X) WHEN TEMPERATURE FALLS BELOW SETPOINT. ON CONTINUED FALLS IN TEMPERATURE BELOW SETPOINT HEATING STAGES 2 & 3 WILL BE ENERGIZED IN SEQUENCE. THE OUTSIDE AIR DAMPER WILL BE CLOSED. ON A RISE IN SPACE TEMPERATURE ABOVE HE-1 SETPOINT, AND IF THE OUTSIDE AIR TEMPERATURE AS SENSED THRU HE-2 IS LESS THAN THE SPACE TEMPERATURE HE-1, THEN AH FAN AND EXH FANS F-17, 18, 19 & 20 WILL BE ENERGIZED. THE AH UNIT OUTSIDE AIR DAMPER WILL OPEN. ON A CONTINUED RISE IN SPACE TEMPERATURE THE AH FAN AND EXH FANS F-17, 18, 19 & 20 WILL BE DEENERGIZED AND THE AH UNIT OUTSIDE AIR DAMPER WILL CLOSE. THEN EXH FANS F-13 & 16 WILL BE ENERGIZED AND EXH FAN INTAKE DAMPERS THRU R-27 WILL OPEN. ON A FURTHER INCREASE IN SPACE TEMPERATURE EXH FAN F-12 & 15 WILL BE ENERGIZED AND STILL ON A FURTHER INCREASE F-11 & 14 WILL BE ENERGIZED. THE REVERSE WILL OCCUR ON A FALL IN SPACE TEMPERATURE.

IF SPACE HUMIDITY EXCEEDS SETPOINT (HE-1), AND IF THE ENTHALPY OF THE OUTSIDE AIR AS SENSED THRU HE-2 IS LESS THAN THE INDOOR ENTHALPY, THEN AH UNIT AND EXH FAN CONTROL IS THE SAME AS FOR THE TEMPERATURE CONTROL AS OUTLINED ABOVE.

SAFETIES:

DUCT SMOKE DETECTOR WILL DEENERGIZE ITS ASSOCIATED FAN AND CLOSE THEIR ASSOCIATED DAMPERS AND SIGNAL THE BUILDING FIRE ALARM SYSTEM IF PRODUCTS OF COMBUSTION ARE SENSED IN THE FAN'S INTAKE AIR.

DAY	TERM	CONTR	DEVICE	SYSTEM	OBJECT	EXPANDED ID	REFERENCE DETAIL
NO	003	—	R-27	EXH FAN DPR	INTAKE DAMPER		L-BOUT-24V-21VIST
NO	001	—	R-17	EXH FAN F11 S/S	F-11 START/STOP		L-XP9103
NO	002	—	R-18	EXH FAN F12 S/S	F-12 START/STOP		L-XP9103
NO	003	—	R-19	EXH FAN F13 S/S	F-13 START/STOP		L-XP9103
NO	004	—	R-20	EXH FAN F14 S/S	F-14 START/STOP		L-XP9103
NO	005	—	R-21	EXH FAN F15 S/S	F-15 START/STOP		L-XP9103
NO	001	—	R-22	EXH FAN F16 S/S	F-16 START/STOP		L-XP9103
NO	002	—	R-23	EXH FAN F17 S/S	F-17 START/STOP		L-XP9103
NO	003	—	R-24	EXH FAN F18 S/S	F-18 START/STOP		L-XP9103
NO	004	—	R-25	EXH FAN F19 S/S	F-19 START/STOP		L-XP9103
NO	005	—	R-26	EXH FAN F20 S/S	F-20 START/STOP		L-XP9103

Δ ITEM NOT FURNISHED BY JCI

DRAWING TITLE EXHAUST FANS F-11-20 CONTROL TREATMENT BUILDING		GEN REV		09/12/84		CA
PROJECT ROANOKE COUNTY WATER TREATMENT FACILITY		REFERENCE DRAWING NO. 1 REVISION-LOCATION		ECN 1 DATE BY		
JOHNSON CONTROLS Systems & Services Division		SALES ENGINEER PROJECT MGR/APP/ENGR ECE RC DGA		DRAWN DATE 08/05/84 BY		APPROVED
CONTRACT NUMBER 95066-0013		DRAWING NUMBER 6 OF 14		DATE		