

























































BUILDING 83 AHU-1 VAV BOX SCHEDULE

MARK NO.	CFM RANGE	TOTAL CFM	GPM	WPD FT	HEATING RISE	HEAT MBH	LAT °F	MANUF. (OR APP'D EQUAL)	MODEL NO.	INLET SIZE	NOTES:
 1-1	0-900	280	1.0	0.30	20	16.0	114	TITUS	DESV	8	SEE BELOW
 1-2	0-900	590	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 1-3	0-900	305	1.0	0.30	20	16.0	114	TITUS	DESV	8	SEE BELOW
 1-4	0-500	400	1.0	0.60	20	27.3	121	TITUS	DESV	6	SEE BELOW
 1-5	0-500	305	1.0	0.30	20	16.0	114	TITUS	DESV	6	SEE BELOW
 1-6	0-900	325	1.0	0.30	20	16.0	114	TITUS	DESV	8	SEE BELOW
 1-7	0-900	660	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 1-8	0-500	325	1.0	0.30	20	16.0	114	TITUS	DESV	6	SEE BELOW
 1-9	0-900	550	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 1-10	0-1400	940	1.0	0.80	20	44.0	108	TITUS	DESV	10	SEE BELOW
 1-11	0-500	350	1.0	0.30	20	16.0	114	TITUS	DESV	6	SEE BELOW
 1-12	0-900	515	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 1-13	0-500	280	1.0	0.30	20	16.0	114	TITUS	DESV	6	SEE BELOW
 1-14	0-900	625	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 1-15	0-500	245	1.0	0.30	20	16.0	114	TITUS	DESV	6	SEE BELOW
TOTAL		15.0									
① PRESSURE INDEPENDENT ② 65°F HEATING EAT ③ DAMPER OPERATOR ④ CONTROL TYPE: DDC											




BUILDING 83 AHU-2 VAV BOX SCHEDULE

MARK NO.	CFM RANGE	TOTAL CFM	GPM	WPD FT	HEATING RISE	HEAT MBH	LAT °F	MANUF. (OR APP'D EQUAL)	MODEL NO.	INLET SIZE	NOTES:
 2-1	0-1400	850	1.0	0.80	20	42.1	108	TITUS	DESV	10	SEE BELOW
 2-2	0-900	690	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 2-3	0-900	560	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 2-4	0-1400	880	1.0	0.80	20	42.1	108	TITUS	DESV	10	SEE BELOW
 2-5	0-900	585	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 2-6	0-900	770	1.0	0.80	20	33.4	110	TITUS	DESV	8	SEE BELOW
 2-7	0-900	520	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 2-8	0-500	365	1.0	0.60	20	27.3	121	TITUS	DESV	6	SEE BELOW
 2-9	0-500	380	1.0	0.60	20	27.3	121	TITUS	DESV	6	SEE BELOW
 2-10	NOT IN CONTRACT NOT IN BLDG-83										
 2-11	NOT IN CONTRACT NOT IN BLDG-83										
 2-12	NOT IN CONTRACT NOT IN BLDG-83										
 2-13	NOT IN CONTRACT NOT IN BLDG-83										
 2-14	NOT IN CONTRACT NOT IN BLDG-83										
 2-15	NOT IN CONTRACT NOT IN BLDG-83										
 2-16	NOT IN CONTRACT NOT IN BLDG-83										
 2-17	NOT IN CONTRACT NOT IN BLDG-83										
 2-18	NOT IN CONTRACT NOT IN BLDG-83										
 2-19	NOT IN CONTRACT NOT IN BLDG-83										
 2-20	NOT IN CONTRACT NOT IN BLDG-83										
TOTAL		8.0									
① PRESSURE INDEPENDENT ② 65°F HEATING EAT ③ DAMPER OPERATOR ④ CONTROL TYPE: DDC											

BUILDING 83 AHU-4 VAV BOX SCHEDULE

MARK NO.	CFM RANGE	TOTAL CFM	GPM	WPD FT	HEATING RISE	HEAT MBH	LAT °F	MANUF. (OR APP'D EQUAL)	MODEL NO.	INLET SIZE	NOTES:
 4-1	0-2000	1400	---	---	---	---	---	TITUS	DESV	12	SEE BELOW
 4-2	0-2000	1200	1.0	0.80	20	45.6	100	TITUS	DESV	12	SEE BELOW
 4-3	0-900	530	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 4-4	0-2000	1005	1.0	0.80	20	44.0	108	TITUS	DESV	12	SEE BELOW
 4-5	0-2000	995	1.0	0.80	20	44.0	108	TITUS	DESV	12	SEE BELOW
 4-6	0-900	675	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-7	0-500	405	1.0	0.60	20	27.3	121	TITUS	DESV	6	SEE BELOW
 4-8	0-900	780	1.0	0.80	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-9	0-1400	960	1.0	0.80	20	44.0	108	TITUS	DESV	10	SEE BELOW
 4-10	0-900	535	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 4-11	0-900	610	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-12	0-900	640	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-13	0-900	540	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 4-14	0-900	580	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-15	0-500	365	1.0	0.60	20	27.3	121	TITUS	DESV	6	SEE BELOW
 4-16	0-900	575	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-17	0-900	525	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 4-18	0-900	660	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-19	0-900	405	1.0	0.60	20	30.4	116	TITUS	DESV	8	SEE BELOW
 4-20	0-900	610	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
 4-21	0-900	590	1.0	0.60	20	33.4	110	TITUS	DESV	8	SEE BELOW
TOTAL			22.0								
① PRESSURE INDEPENDENT ② 65°F HEATING EAT ③ DAMPER OPERATOR ④ CONTROL TYPE: DDC											

HYDRONIC HOT WATER BOILER SCHEDULE

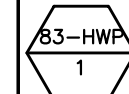
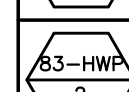
MARK NO.	TYPE	W&H (N.)	VOLTAGE	NATURAL GAS INPUT MBH	NATURAL GAS OUTPUT MBH	FLUE DIA.	WATER CONNECTION	GAS CONNECTION	DESIGN MFR. (OR APPROVED EQUAL)
 3-1	HYDRONIC WATER	31.125"x67.125"x50.0"	120-1-60	1500	1440	8"ø	2-1/2"	1-1/4"	RAYPAK XTHERM—TYPE H MODEL H7-1505
 3-2	HYDRONIC WATER	31.125"x67.125"x50.0"	120-1-60	1500	1440	8"ø	2-1/2"	1-1/4"	RAYPAK XTHERM—TYPE H MODEL H7-1505
 3-3	HYDRONIC WATER	31.125"x67.125"x50.0"	120-1-60	1500	1440	8"ø	2-1/2"	1-1/4"	RAYPAK XTHERM—TYPE H MODEL H7-1505

NOTES:

① ELECTRONIC IGNITION, 3-TRY
 ② ASME RELIEF VALVE, 60psig
 ③ BOILER TO INCLUDE MOTORIZED MODULATION CONTROL.
 ④ BOILER TO INCLUDE CONDENSATE DRAIN TRAP AND CONDENSATE NEUTRALIZER KIT.
 ⑤ BRONZE BOILER PUMP
 ⑥ INDOOR, HORIZONTAL VENTING: OPTION D-15

⑦ PVC VENT ADAPTER (INCLUDES 200°F MANUAL HIGH LIMIT) MAXIMUM RETURN WATER TEMPERATURE ALLOWED 170°F.
 ⑧ LOW WATER CUT-OFF, REMOTE PROBE.
 ⑨ HIGH LIMIT, AUTO RESET, ADJ., 100-240°F
 ⑩ LOW GAS PRESSURE SWITCH, MANUAL RESET.
 ⑪ HIGH GAS PRESSURE SWITCH, MANUAL RESET.

PUMP SCHEDULE

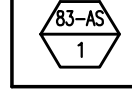
MARK NO.	SERVICE	TYPE	GPM	TOTAL HEAD FT. W.G.	MAXIMUM H.P.	MINIMUM EFFICIENCY	ELECTRICAL	DESIGN MFR.	DESIGN MFR. MODEL NO.	NOTES
 1	HYDRONIC LOOP	FRAME MOUNTED	265	75	7.5	70%	460-3-60	TACO	F13011	① ②
 2	HYDRONIC LOOP	FRAME MOUNTED	265	75	7.5	70%	460-3-60	TACO	F13011	① ②

① FACTORY MOUNTING FRAME TO BE PROVIDED, SUCTION DIFFUSER

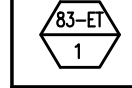
② EACH PUMP SYSTEM SHALL INCLUDE VARIABLE SPEED PUMPING COMPLETE WITH ALL CONTROLS AND INTERFACE TO BUILDING AUTOMATION SYSTEM. ELECTRONIC VARIABLE SPEED CONTROLS SHALL BE BY BELL AND GOSSETT, ABB, OR AN APPROVED EQUAL. SYSTEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR A VARIABLE SPEED WATER SOURCE HEAT PUMP INSTALLATION. FULL COORDINATION WITH THE HEAT PUMP SUPPLIER IS REQUIRED. THE VARIABLE SPEED DRIVE SYSTEM SHALL REQUIRE ONLY SINGLE POINT ELECTRICAL SERVICE AND SHALL INCLUDE A FACTORY DISCONNECT.

APPROVED EQUALS BY BELL AND GOSSETT, ARMSTRONG, AURORA WILL BE ACCEPTED

AIR/DIRT SEPARATOR SCHEDULE

MARK NO.	SYSTEM	SIZE	GPM	MAX. P.D. (FT)	MFG. (OR APPRV'D EQUAL)	MODEL
 1	HVAC WATER	3"	120	0.50	SPIROTHERM	SPIROVENT DIRT

EXPANSION TANK SCHEDULE

MARK NO.	SYSTEM	TANK VOLUME	SHIPPING WEIGHT (LBS)	CHARGE PRESSURE PSI	MFG.	MODEL NO.	NOTES
 1	HVAC WATER	23 GAL.	120	15	TACO	CABO	20" DIA. X 29.125" HIGH

HVAC SCHEDULES, DETAILS AND PIPING SCHEMATIC - BUILDING 83

N.T.S.

WHORTON ENGINEERING, INC.

HVAC - PLUMBING - PROCESS CONTROL

RANDALL WHORTON, P.E.
PH 256/820-9897 FAX 256/820-9896

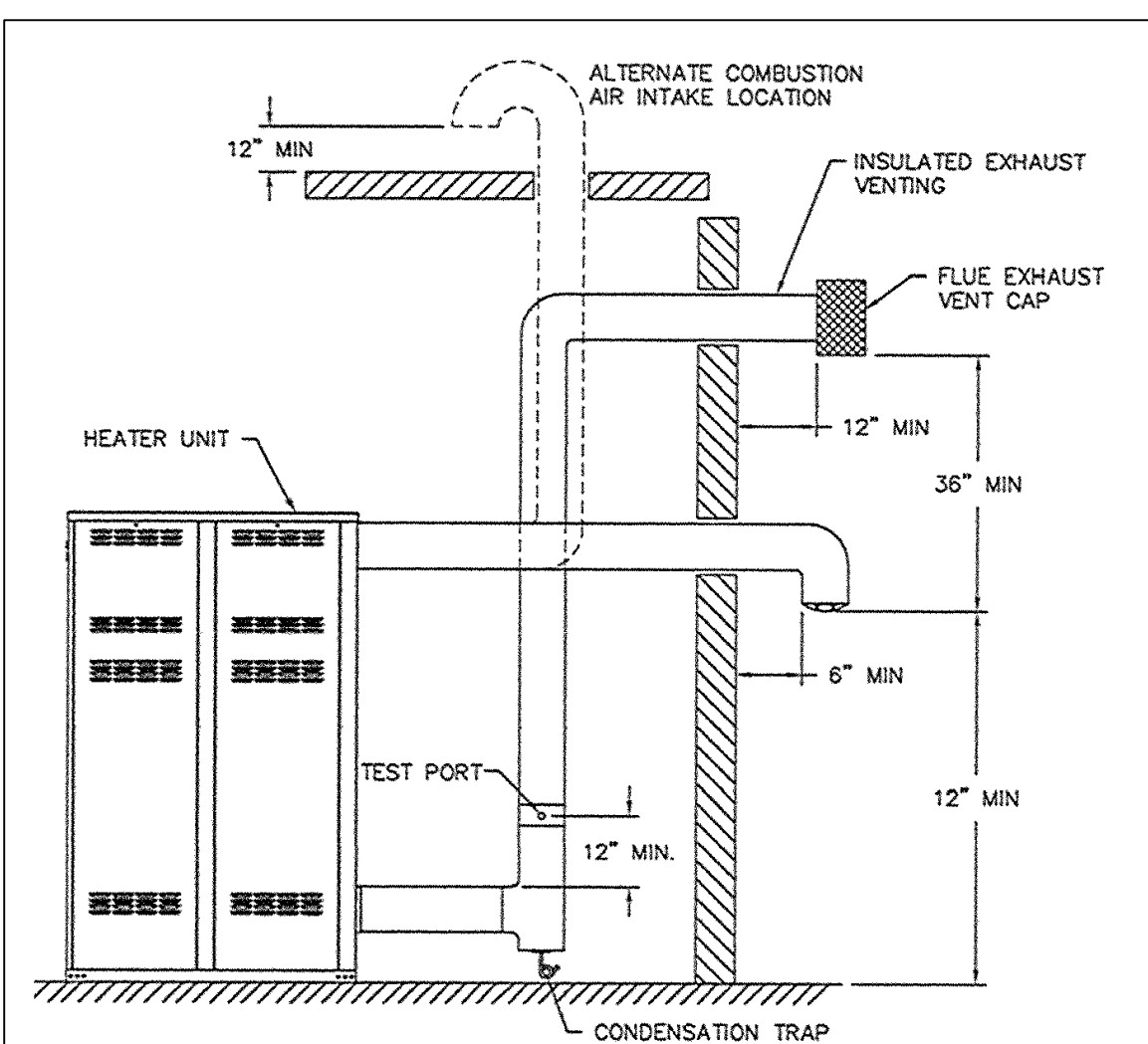
25 SUMMERALL GATE ROAD
ANNISTON, ALABAMA 36205

WHORTON ENGINEERING PROJECT NO. 10159



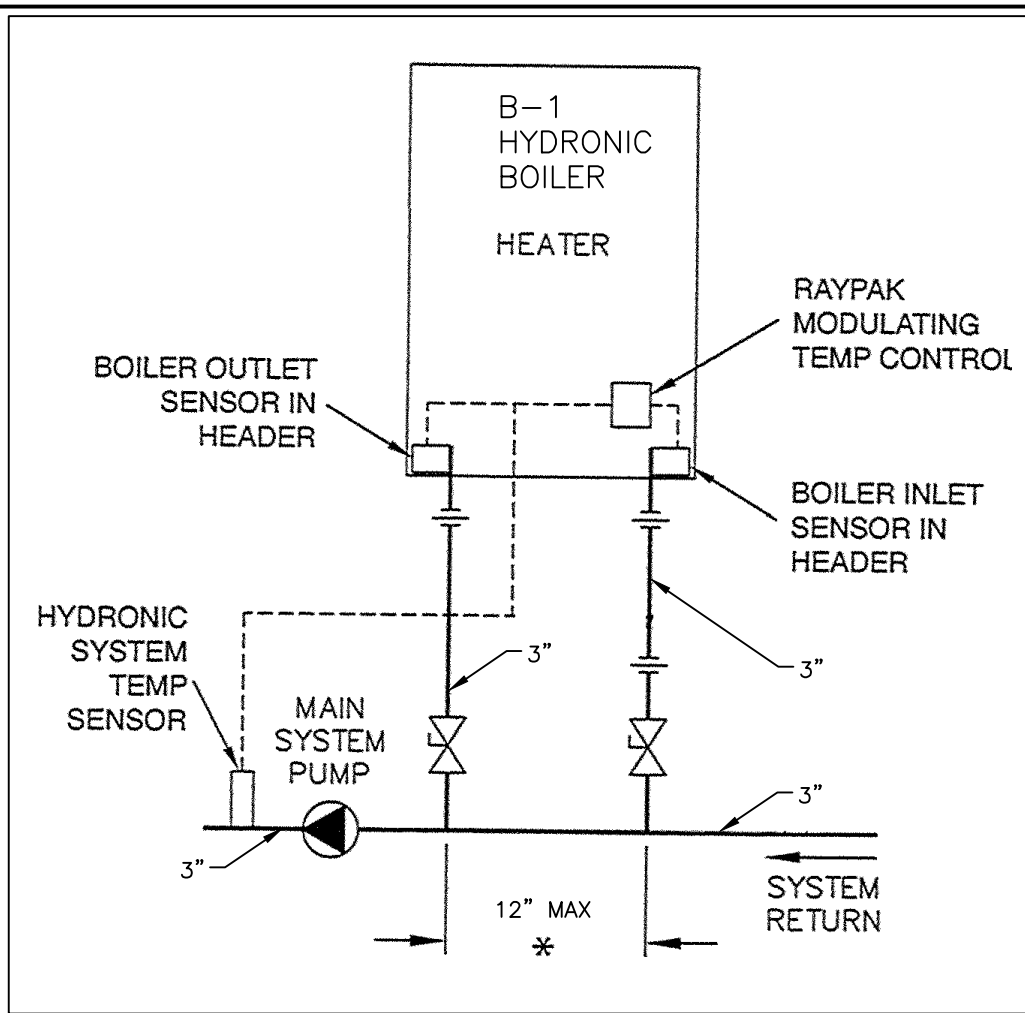
ENLARGED BOILER CROSS-OVER PIPING SCHEMATIC

NOT TO SCALE



BOILER VENT DETAIL

NOT TO SCALE



TYPICAL BOILER PRIMARY/SECONDARY PIPING DETAIL

Revisions	Date



MCE MILLS-CONOLY
ENGINEERING, P.C.

8218 Old Federal Road
TELEPHONE: (334) 270-0010

Montgomery, AL 36117
FAX: (334) 270-0040



Central Alabama Veterans Health Care System

Approved:

Approved:

Approved:

Approved:

Approved:

Approved:

Approved:

Approved:

Drawing Title
HVAC SCHEDULES, DETAILS, AND
PIPING SCHEMATIC - BUILDING 83

Safety Officer

Clinical Representative

Project Title
HVAC MODIFICATIONS TO
BUILDINGS 83, 90, & 93
TUSKEGEE, ALABAMA

Building Number

Checked

Drawn

Location
East Campus, Tuskegee, AL

Date
12/21/10