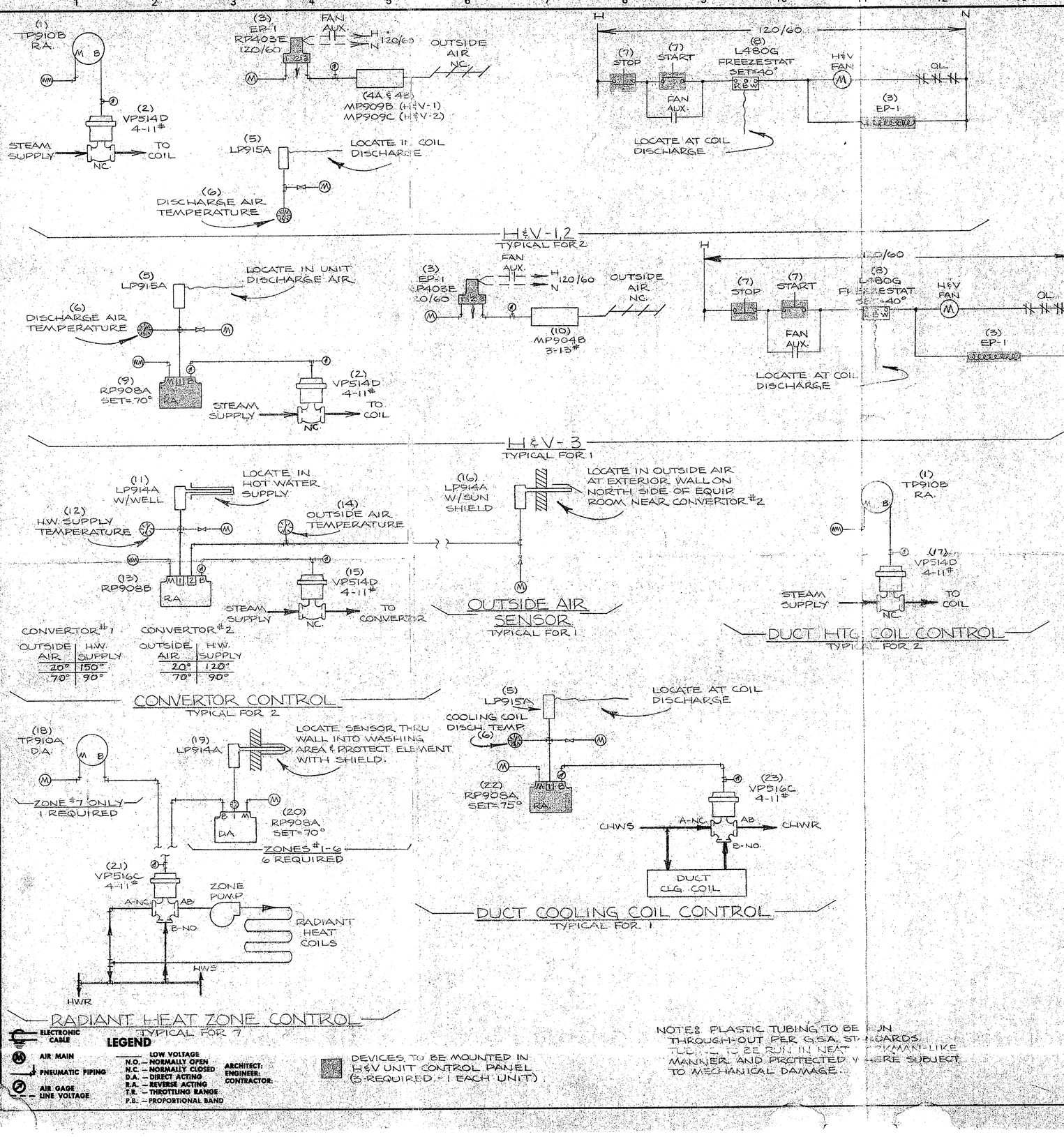


CONTROL SCHEDULE

ITEM #	QTY.	DESCRIPTION	LOCATION	NOTES
1	16	TP910B12 Room T'stat #315783- Cover	See Plans	R.A.,set=70°,blank cover
2	5	VP514D Valve assembly -see schedule-	At Unit	N.C.,4-11#
3	3	RP403E10 DP Relay	Unit Panel	120/60
4A	1	RP909B10 Damper Operator	O.A.Damper	3-15#
4B	1	RP909C10 Damper Operator	O.A.Damper	3-15#
5	4	LP915A10 Sensor	Coil Discharge	0-200°
6	4	#S040725 Temp. Gage	Unit Panel	0-200°,2½" dia.
7	3	AMD21470 AMD21470	Unit Panel Face	Mom. contact
8	3	L486G100 Freezestat	Coil Discharge	Set=40°
9	1	RP908A10 Controller	Unit Panel	R.A.,set=70°, P.B.=5%
10	1	MP904B10 Damper Operator	O.A. Damper	3-15#
11	2	LP914A10 Sensor #315046A Well	M.W. Supply	40 to 240°
12	2	#305949 Temp. Gage	At Controller -Item #13	40 to 240°,3½"dia.
13	2	RP908B10 Controller	On wall near convertor	R.A., P.B.=10%, auth=160% (Conv.#1) auth=100% (Conv.#2)
14	2	#305947 Temp. Gage	At Controller -Item #13	-40 to 160°,3½" dia.
15	2	VP514D Valve Assembly -see schedule	Near Convertor	N.C., 4-11#
16	1	LP914A10 Sensor #311085-17 Shield	O.A. at ext.wall North side of equip. room	-40 to 160°
17	2	VP514D Valve Assembly -see schedule-	At duct coils - See Plans	N.C., 4-11#
18	1	TP910A14 Room T'stat #315783- Cover	Chapel Area - See Plans	D.A., set=70°, blank cover
19	6	LP914A10 Sensor #311085- 7 Shield	Thru Wall into washing area	-40 to 160°
20	6	RP908A10 Controller	In Chase behind washing area	D.A.,P.B.=2½%, set=70°
21	7	VP516C Valve assembly -see schedule -	In Equip.Room at Manifold	4-11#
22	1	RP908A10 Controller	H&V #3 Panel	R.A., P.B.=3%, Set=75°
23	1	VP516C Valve Assembly - see schedule	At Coil-See Plans	4-11#
24	1	SP401B10 Summer-Winter Switch	Wall of Equip. Room #1, as required	
25	1	LP914A10 Sensor #315046F Well	Hot-Chilled Water return line	40 to 240°
26	1	RP908A10 Controller	On wall near switch-item#24	R.A., P.B.=2½%, set=90°
27	1	RP404A10 Relay	On wall near switch-item#24	
28	1	VP516H Valve assembly -see schedule	Equip. Room See Plans	4-11#
29	1	PA404A10 PE switch	Near Panel "ML"	Set=8-10#
30	1	R421GK100 Contactor #129703A Enclosure	Near Panel "ML"	120/60, 4PST
31	1	R421GG10 Contactor #129703A Enclosure	Near Panel "ML"	120/60, 3 PST
32	1	PA404A1 PE Switch	At chiller in panel	Set=10-12#
33	1	TP9 Room T'stat #314 er	See Plans	R.A.-Summer D.A.-Winter Marked: "warmer-cooler"
34	28	VP526A Valve Assembly -see schedule	At fan coil Unit	3-10#
35	12	VP513B Valve assembly -see schedule	At Convectors	N.C., 3-10#
36	14	L4029N12 Firestat	Locate at inlet to fans	Set=125°
37	1	T473A1025 Room T'stat	In Equip. Room #1	Set=65°
38	1	WP220B1C Air Compressor and Air Dryer w/ URd-4 belt guard	In Equip.Room #1	1/2 H.P., 20 gal. tank 120/60/1ø
39	1	FP901B10 Two-Pressure P.R.V.	At Compressor	Set=14# & 20#
40	1	FP902A10 P.R.V. & Filter	At Compressor	Set=20#
41	1	MC01T01S Pall Trinity Micro Filter	At Compressor	Reverse Ultipor Element

STEAM VALVE SCHEDULE

LOCATION	Q(#/HR.)	Cv	SIZE	VALVE NUMBER	OPERATOR NO.
H&V-1	360	10	1"	V5011C1201	MP953D1131
H&V-2	322	10	1"	V5011C1201	MP953D1131
H&V-3	526	16	1½"	V5011C1268	MP953D1131
Convertor #1	205	6.3	3/4"	V5011C1144	MP953D1131
Convertor #2	500	16	1½"	V5011C1268	MP953D1131
Duct Htg:					
Coil #1	7.1	.4	1/2"	V5011C1698	MP953D1131
Coil #2	28.4	.63	1/2"	V5011C1003	MP953D1131
Convectors:					
"M"	4.5	1.0	1/2"	VP513B1004	
"N"	5.5	1.6	1/2"	VP513B1020	
"O"	6.5	1.6	1/2"	VP513B1020	
"P" (2 Req.)	4.9	1.0	1/2"	VP513B1004	
"Q"	3.0	1.0	1/2"	VP513B1004	
"R"	1.0	1.0	1/2"	VP513B1004	
"S"	6.5	1.6	1/2"	VP513B1020	
"T" (4 Req.)	4.0	1.0	1/2"	VP513B1004	

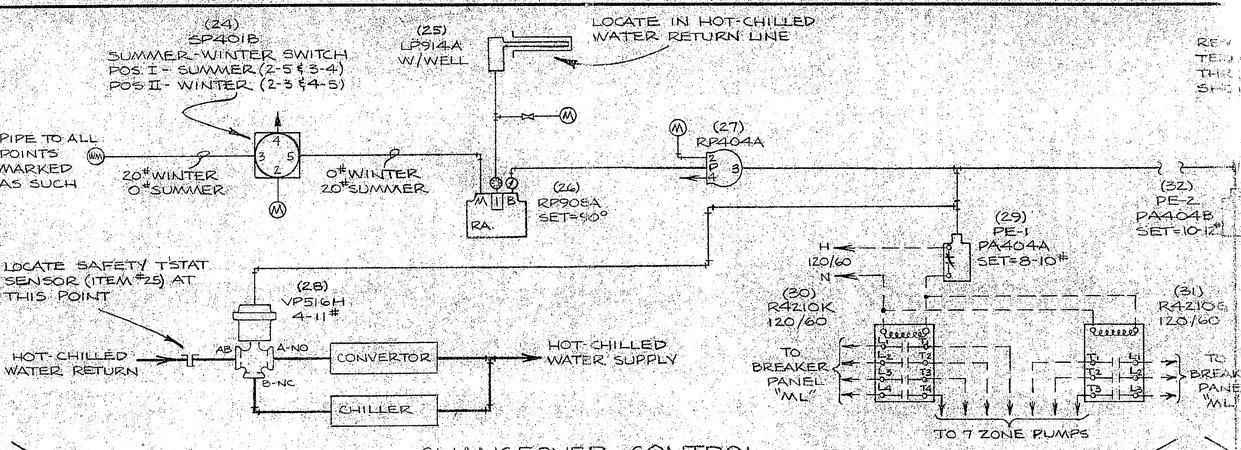
1041
OLD PART

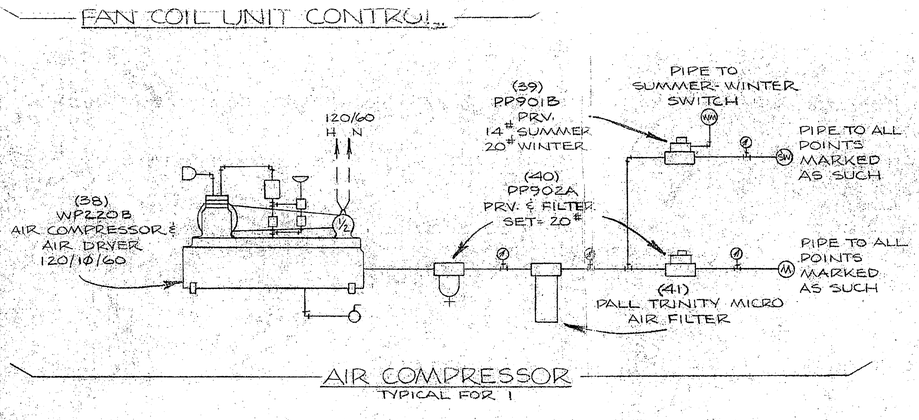
HONEYWELL, INC.
2410 DUNAVANT ST, CHARLOTTE, NC
BDK-CAMP LEJEUNE
JACKSONVILLE, NC.

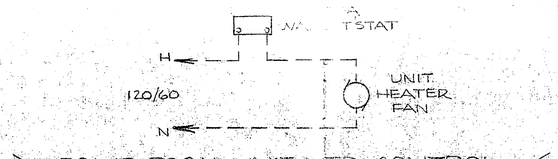
Revisions	Date	Appd.
C		
B		
A		

Supersedes	Drawn By: KTJ	Date: 1-6-67
Superseded By	Approved By: RBA	Sheet 1 Of 2

DRAWING NUMBER 939-67074-1XI







TERMINALS ON McQUAY CHILLER

LEGEND

- ELECTRONIC CABLE
- AIR MAIN
- PNEUMATIC PIPING
- AIR GAGE
- LINE VOLTAGE
- LOW VOLTAGE

N.O. — NORMALLY OPEN
N.C. — NORMALLY CLOSED
D.A. — DIRECT ACTING
R.A. — REVERSE ACTING
T.R. — THROTTLING RANGE
P.B. — PROPORTIONAL BAND

ARCHITECT:
ENGINEER:
CONTRACTOR:

SEQUENCE OF OPERATIONS

H & V-1, 2:
The unit fan is stopped and started manually from push button station (7). When the unit fan is running, EP-1 (3) is energized opening the outside air damper (4A & 4B). On unit fan shutdown EP-1 (3) is deenergized and the dampers close. A manually reset freezestat (8) stops the unit fan if discharge air temperature from the coil becomes too low.
When the system is indexed to "winter" operation, main air is supplied to room thermostat (1), allowing it to modulate valve (2) as required to maintain constant room temperature. When the system is indexed to "summer" operation, no air is supplied to room thermostat (1) and valve (2) remains closed. Sensor (5) transmits discharge air temperature to pneumatic temperature gage (6).

H & V-3:
The unit fan is stopped & started manually from push button station (7). When the unit fan is running, EP-1 (3) is energized opening the outside air damper (10). On unit fan shutdown, EP-1 (3) deenergizes closing the outside air damper. A manually reset freezestat (8) stops the unit fan if discharge air temperature becomes too low.
When the system is indexed for "winter" operation, sensor (5) and controller (9) modulate valve (2) as required to maintain constant discharge air temperature. When the system is indexed to "summer" operation, no air is supplied to controller (9) and valve (2) remains closed. Pneumatic temperature gage (6) displays unit discharge air temperature.

CONVERTOR CONTROL:
When the system is indexed to "winter" operation, sensor (11) and controller (13) modulate steam valve (15) as required to maintain constant hot water supply temperature. Outside air sensor (16) resets the control point of controller (13) according to the schedule shown on the drawings.
When the system is indexed to "summer" operation, no air is supplied to controller (13) causing the steam valve (15) to remain closed.
Pneumatic temperature gage (12) displays hot water supply temperature, while pneumatic temperature gage (14) displays outside air temperature.

DUCT COOLING COIL CONTRL:
When the system is indexed for "summer" operation and chilled water is available, sensor (5) and controller (22) modulate chilled water valve (23) as required to maintain constant discharge air temperature. On a rise in discharge air temperature, valve (23) opens to the coil. Pneumatic temperature gage (6) displays the coil discharge air temperature.

RADIANT HEAT ZONE CONTRL:
In each of the six dormitory heating zones, remote bulb sensor (19) and controller (20) modulate the zone heating valve (21) as required to maintain constant room temperature. In the Chapel heating zone, room t'stat (18) modulates the zone heating valve (21) as required to maintain constant room temperature. The zone pumps are stopped & started automatically, as described below in "Changeover Control."

FAN COIL UNIT CONTROL:
When the system is indexed to "winter" operation, room t'stat (33) is direct-acting. On a fall in room temperature (33) modulates the fan coil unit valve (34) opened to the coil.
When the system is indexed for "summer" operation, room t'stat (33) is reverse-acting. On a fall in room temperature t'stat (33) modulates the valve (34) closed to the coil.

CONVECTOR CONTROL:
When the system is indexed to "winter" operation, main air is supplied to room t'stat (1), allowing it to modulate control valve (35), as required to maintain constant room temperature. When the system is indexed to "summer" operation, no air is supplied to t'stat (1) and valve (35) remains closed.

CHANGEOVER CONTROL:
When summer-winter switch (24) is indexed to the "winter" position, main air is placed on the winter main "WM" allowing heating only portion of the control system to operate. At the same time, no air pressure is placed on the pilot port of relay (27) causing it to position so that the changeover valve (28) opens to the convertor, PE-1 (29) closes to activate zone heating pump relays (30 & 31), and PE-2 (32 opens to prevent the chiller from operating. When main air pressure is placed on the winter main "WM", dual pressure P.R.V. (39) supplies 20# main air pressure to the fan coil room t'stats (33) causing them to be direct-acting.
When the summer-winter switch (24) is placed in the "summer" position, air is exhausted from the winter main "WM", causing the heating only portion of the system to become inoperative. At the same time, main air is supplied to changeover safety controller (26). When hot-chilled water return temperature drops [illegible]s sensed by sensor (25), then controller (26) passes the main air pressure to the pilot port of relay (27), causing it to position so that changeover valve (28) opens to the chiller, PE-1 (29) opens deenergizing the zone heating pumps, and PE-2 (32) closes to activate the chiller. When all air is exhausted from the winter main "WM", dual pressure P.R.V. (39) is positioned so that 14# main air is supplied to the fan coil room t'stats (33) causing them to be reverse-acting.

CHILLER CONTROL:
The chiller is stopped & started automatically by PE-2 (32) as described above in "Changeover Control." A chilled water flow switch prevents operation of the chiller unless chilled water flow through the machine is sensed.

EXHAUST FAN FIRESTATS:
A manually reset firestat (36) stops the exhaust fan if inlet air temperature becomes too high.

EQUIPMENT ROOM UNIT HEATER CONTROL:
A room thermostat (37) cycles the unit heater fan as required to maintain constant space temperature.

WATER VALVE SCHEDULE

LOCATION	GPM	Cv	SIZE	VALVE NUMBER	OPERATOR NO.
Duct Cooling Coil	13	16	1½"	V5013A1047	MP953C1026
Radiant Heat:					
Zone #1	6.6	6.3	3/4"	V5013A1021	MP953C1026
Zone #2	6.6	6.3	3/4"	V5013A1021	MP953C1026
Zone #3	3.8	6.3	3/4"	V5013A1021	MP953C1026
Zone #4	6.6	10.0	1"	V5013A1039	MP953C1026
Zone #5	6.6	10.0	1"	V5013A1039	MP953C1026
Zone #6	10.6	16.0	1¼"	V5013A1047	MP953C1026
Zone #7	8.9	16.0	1½"	V5013A1047	MP953C1026
Fan Coil Units:					
"A"(14 Req.)	1.0	1.0	1/2"	VP526A1068	
"B"	1.5	1.0	1/2"	VP526A1068	
"C"	2.5	1.0	1/2"	VP526A1068	
"D" (2 Req.)	1.5	1.0	1/2"	VP526A1068	
"E"	1.5	1.0	1/2"	VP526A1068	
"G"	4.0	1.6	1/2"	VP526A1076	
"H" (4 Req.)	2.0	1.0	1/2"	VP526A1068	
"I"	2.0	1.0	1/2"	VP526A1068	
"J"	2.0	1.0	1/2"	VP526A1068	
"[illegible]"	2.0	1.0	1/2"	VP526A1076	
Changeover	54	63	2½"	V501C01001	MP953C1083

#1041
OLD PART

HONEYWELL, INC.
2410 DUNAVANT ST., CHARLOTTE, NC.
BRIG - CAMP LEJEUNE
JACKSONVILLE, NC.

Revisions	Date	Appd.
C		
B		
A		

Supersedes
Superseded By
Drawn By: KTJ
Approved By: RBW
Date 11-6-67
Sheet 2 Of 2
DRAWING NUMBER 939-67074-2X1
Rev.

81-3288-012

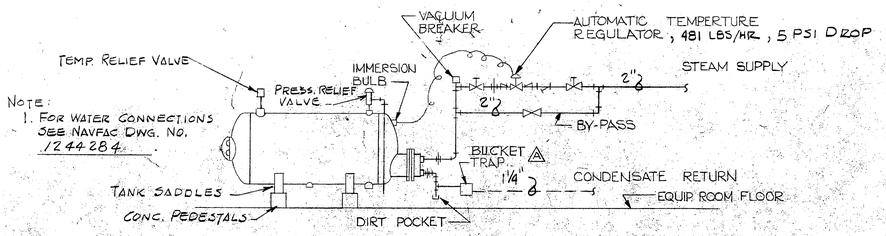
1041
OLd

Air Control
old plant

1041
OLd

AIR Diagram

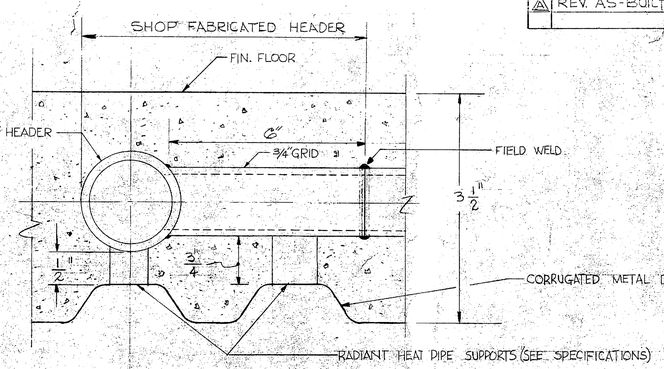
NO.	DESCRIPTION	DATE
1	REV. AS-BUILT	



NOTE:
1. FOR WATER CONNECTIONS SEE NAVFAC DWG. NO. 1244284.

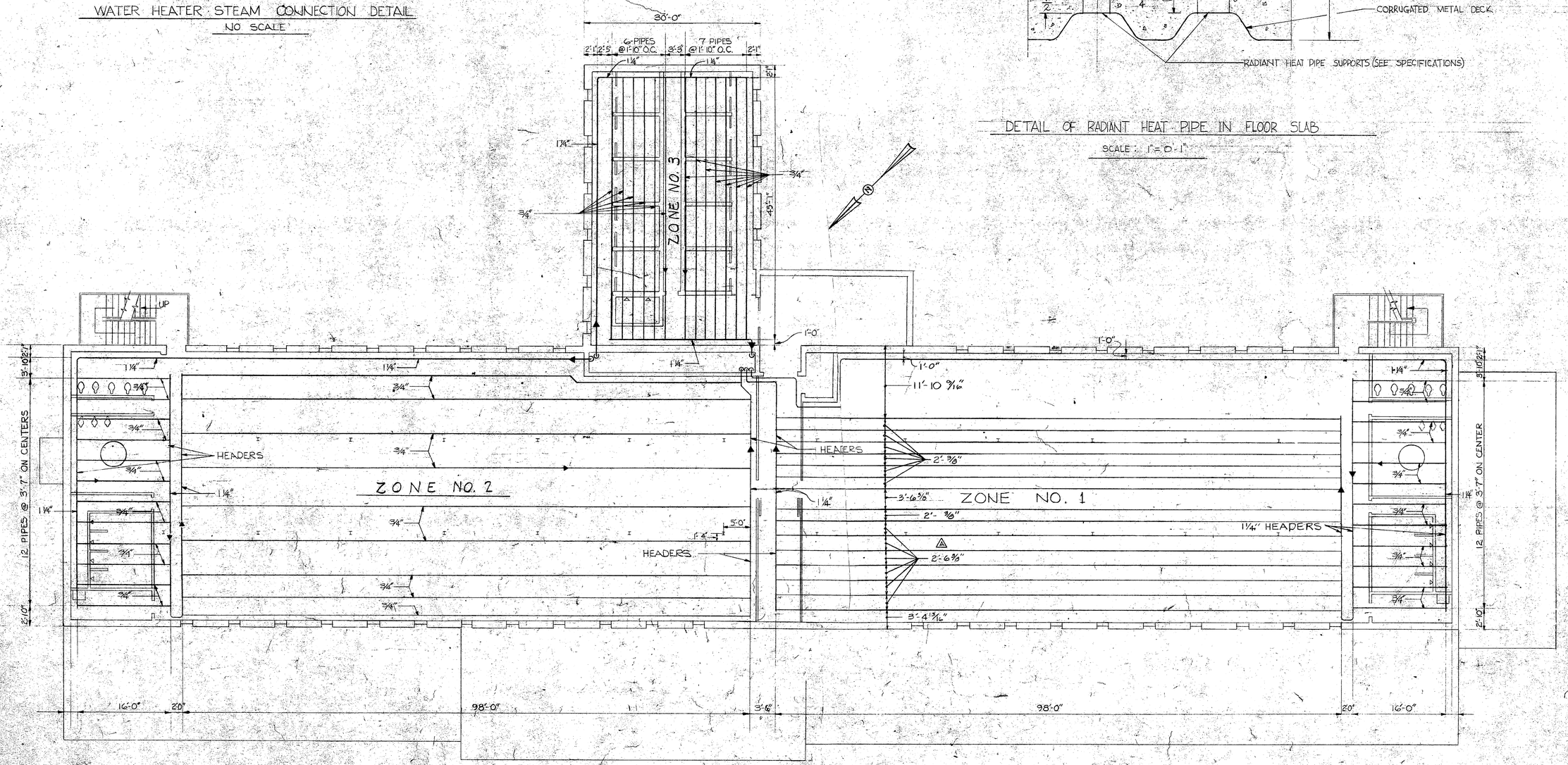
WATER HEATER STEAM CONNECTION DETAIL

NO SCALE



DETAIL OF RADIANT HEAT PIPE IN FLOOR SLAB

SCALE: 1"=0'-1"



SECOND FLOOR PLAN RADIANT HEATING

SCALE ⅛"-1'-0"

BLDG 1041 SHIP

NOTE:
1. FOR LEGEND SEE NAVFAC DWG. NO. 1244296
2. FOR THERMOSTAT LOCATION SEE NAVFAC DWG. NO. 1244292

RECORD DRAWING
LETTER DATED 24 JUN 1968

GRAPHIC SCALE
SCALE 1"=0'-1"
1" 3" 6" 1' 0 1' 2' 3' 4'
SCALE 1/8"=1'-0"
5' 0 5' 10' 15' 20' 25' 30'

EFD DWG. NO.	77289
WORK REQ. NO.	66-322
DES.	BROWN
DRWN.	KERN
TR.	
CHK.	
BR. MGR.	
DES. DIR.	J. Davis
SATISFACTORY TO / DATE	
APPROVED / DATE	8/25/67
FOR: EFD, FOR COMMANDER NPEE	

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
MARINE CORPS BASE — CAMP LEJEUNE, N.C.

BRIG
MECHANICAL
2ND FLOOR HEATING - PLAN & DET'S.

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	1244289

CONSTR. CONTR. NO. N62470-B-67-0741
SCALE GRAPHIC — SPEC. 8192/61 NO. 8192 — SHEET 41 OF 61

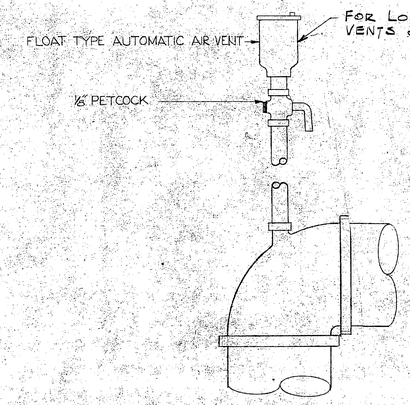
Four Piping

BIS 1041

1041

MECHANICAL

REV. AS-BUILT



RADIANT HEAT AIR VENT DETAIL
NO SCALE

THIRD FLOOR PLAN - RADIANT HEATING
SCALE 1/8"=1'-0"

Blr 1241
Shop

NOTE:
1. FOR LEGEND SEE NAVFAC DWG. NO. 1244296.
2. FOR THERMOSTAT LOCATION SEE NAVFAC DWG. NO. 1244292.

RECORD DRAWING
LETTER DATED 24 JUN 1969

GRAPHIC SCALE
SCALE 1/8"=1'-0"
5' 0 5' 10' 15' 20' 25'

EFD DWG. NO.	77290
WORK REQ. NO.	66-322
DES.	BROWN
DRWN.	KERN
TR.	
CHK.	
BR. MGR.	
DES. DIR.	
SATISFACTORY TO / DATE	
APPROVED / DATE	for COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
MARINE CORPS BASE CAMP LEJEUNE, N.C.

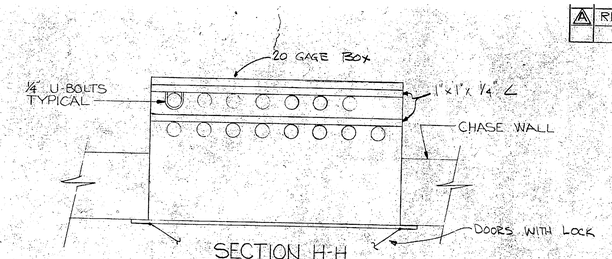
BRIG
MECHANICAL
3RD FLOOR HEATING - PLAN & DET'S

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	1244290

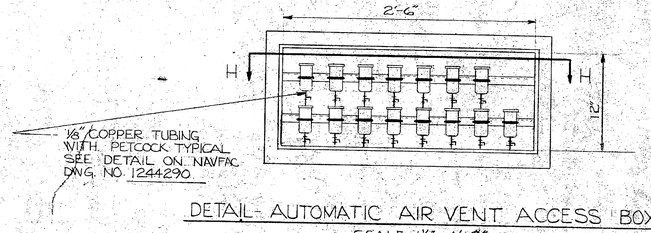
CONSTR. CONTR. NO. N62470-67-B-0741
SCALE GRAPHIC SPEC. 81927/67 NO. 81927 SHEET 42 OF 61

Bldg # 1041
Heat in 7 Floor

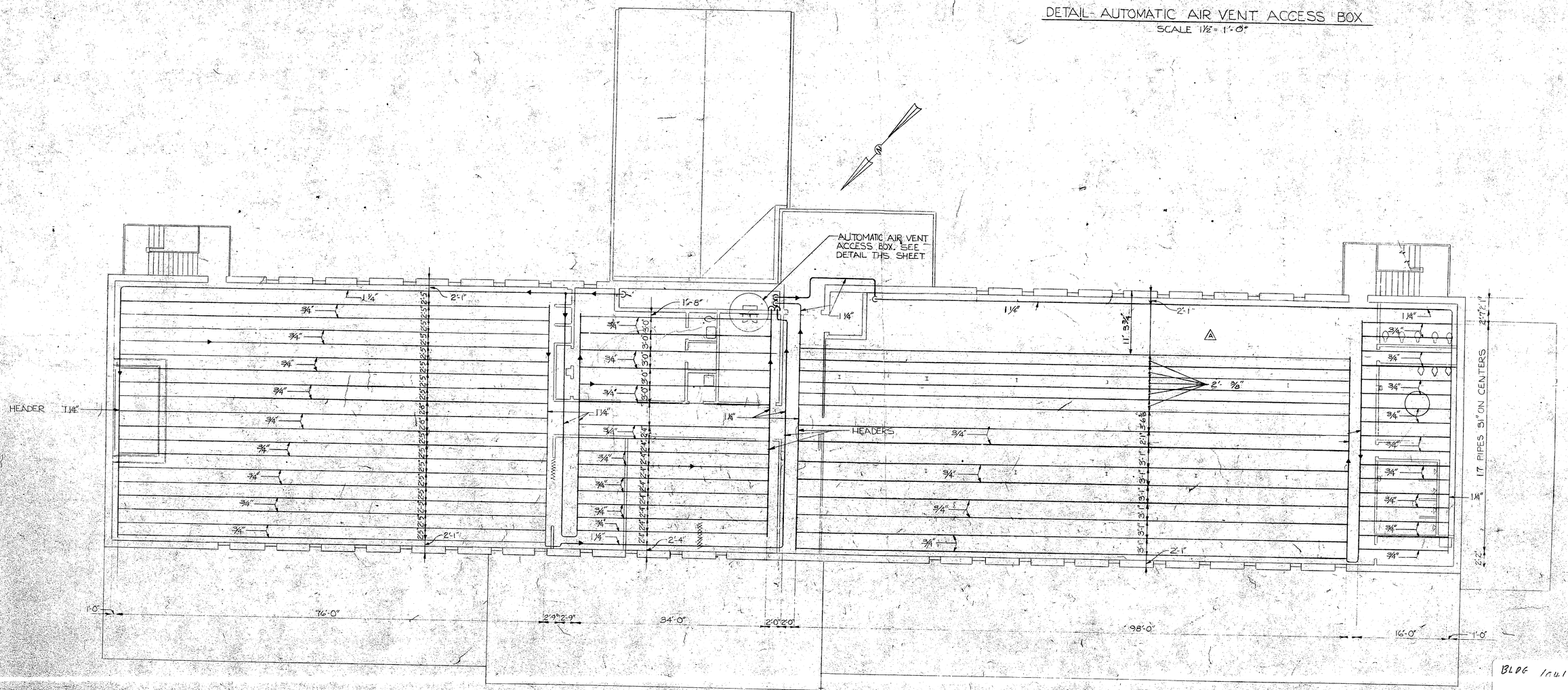
	REV. AS-BUILT	DATE	APPROVED
4		8/2/77	JHW



SECTION H-H



DETAIL- AUTOMATIC AIR VENT ACCESS BOX
SCALE 1½" = 1'-0"



FOURTH FLOOR PLAN RADIANT HEATING
SCALE 1/8"=1'-0"

BLDG 1041 SHT 0

RECORD DRAWING
LETTER DATED 24 JUN 1969

NOTE
1. FOR LEGEND SEE NAVFAC DWG. NO. 1244293
2. FOR THERMOSTAT LOCATION SEE NAVFAC DWG. NO. 1244292

GRAPHIC SCALE
SCALE 1½"=1'-0"
12" 9" 6" 3" 0 1' 2' 3'
SCALE ¼"=1'-0"
3' 0 5' 10' 15' 20' 25'

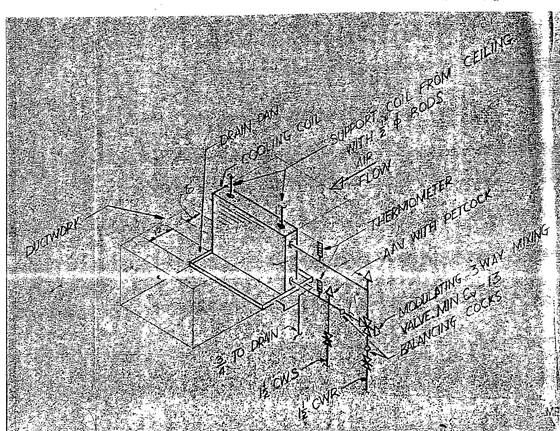
EFD DWG. NO.	77291
WORK REQ. NO.	66-322
DES.	BROWN
DRWN.	KERN
TR.	
CHK.	Jenkins
BR. MGR.	Foster
DES. DIR.	J. Davis
SATISFACTORY TO	DATE
APPROVED FOR BUR. FOR COMMANDER NFEC	DATE 8/25/67

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VA.
MARINE CORPS BASE CAMP LEJEUNE, N.C.
BRIG
MECHANICAL
4TH FLOOR HEATING - PLAN & DETS

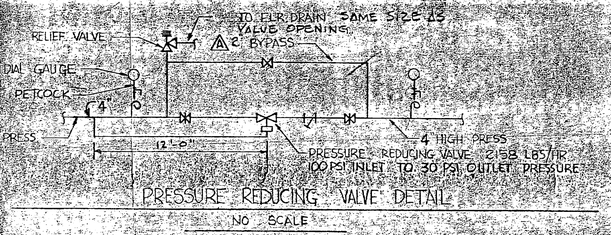
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	1244291

CONSTR. CONTR. NO. N62470-67-B-0741
SCALE GRAPHIC SPEC 81927/67 NDW 81927 SHEET 43 OF 61

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
A	REV AS BUILT	5/2/73	[illegible]



COOLING COIL DETAIL
NO SCALE



PRESSURE REDUCING VALVE DETAIL
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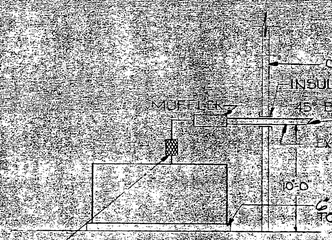

DIESEL GENERATOR DETAIL
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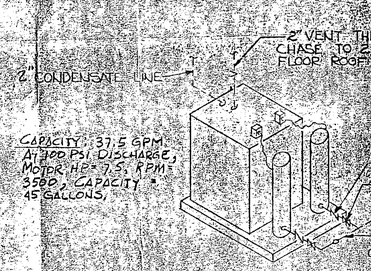
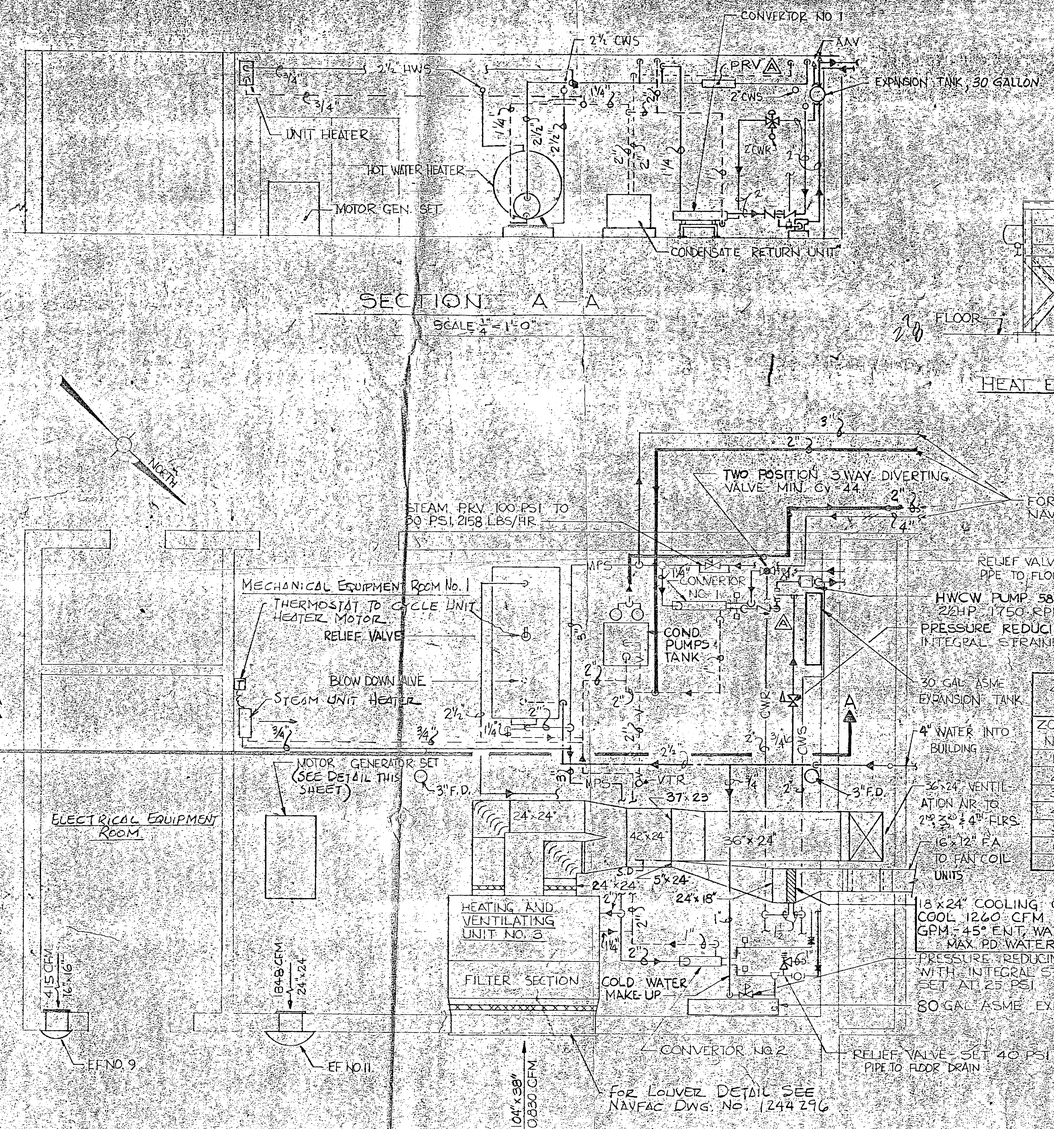
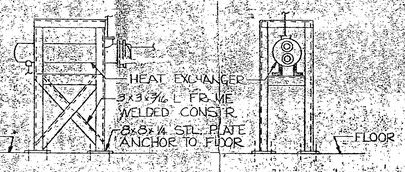


CONDENSATE PUMP & RECEIVER UNIT DETAIL
NO SCALE



SECTION A-A
SCALE ¼"=1'-0"

ZONE PUMP & 3 WAY VALVE SCHEDULE					
ZONE NO.	PUMP GPM	PUMP HEAD	VALVE MIN. Cv	PUMP HP	PUMP RPM
1	5.2	7.1	5.7	1/12	1750
2	6.6	7.1	5.7	1/12	1750
3	3.8	7.1	4.3	1/12	1750
4	6.6	7.1	5.6	1/12	1750
5	6.6	7.1	5.6	1/12	1750
6	10.4	16.5	13.0	1/3	1750
7	8.9	10.9	13.0	1/6	1750



HEAT EXCHANGER SUPPORT DETAIL
NO SCALE

RADIANT HEAT PIPING SCHEMATIC — M.E. ROOM No. 1
NO SCALE

NOTES:
1. PROVIDE DRAIN VALVES AT LOW POINTS OF ALL SYSTEMS.
2. VENT HIGH POINTS OF SYSTEMS.
3. WHERE GATE VALVE AND BALANCING VALVE ARE IN SERIES, COMBINATION GATE AND BALANCING VALVE (WHICH WILL RETURN TO BALANCED POSITION AFTER SHUT OFF) MAY BE USED.
4. ALL AAV SHALL BE FLOAT TYPE.

GRAPHIC SCALE
SCALE ¼"-1'-0"
5' 0 5' 10' 15'

MECHANICAL EQUIPMENT ROOM NO. 1
SCALE ¼"-1'-0"

Sheet 3 of 3
484-80

#1041 FOR BLDG COMP BLDG
RADIANT HEAT

DRAWING
D 24 JUN 1969

EFD DWG. NO.	77295
WORK REQ. NO.	66-322
DES.	BROWN
DRWN.	KERN
TR.	
CHK.	Jenkins
BR. MGR.	[illegible]
DES. DIR.	J Deurs
SATISFACTORY TO	DATE
APPROVED	DATE 18 DEC 67
FOR EFD FOR COMMANDER NAVFAC	

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VA.
MARINE CORPS BASE — CAMP LEJEUNE, N.C.
— BRIG —
MECHANICAL
LAYOUT MECH. EQUIP. RM. NO. 1

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	1244295

CONSTR. CONTR. NO. N62470-67-B-0741
SCALE GRAPHIC | SPEC. 81927/67 and 81927 | SHEET 47 OF 61