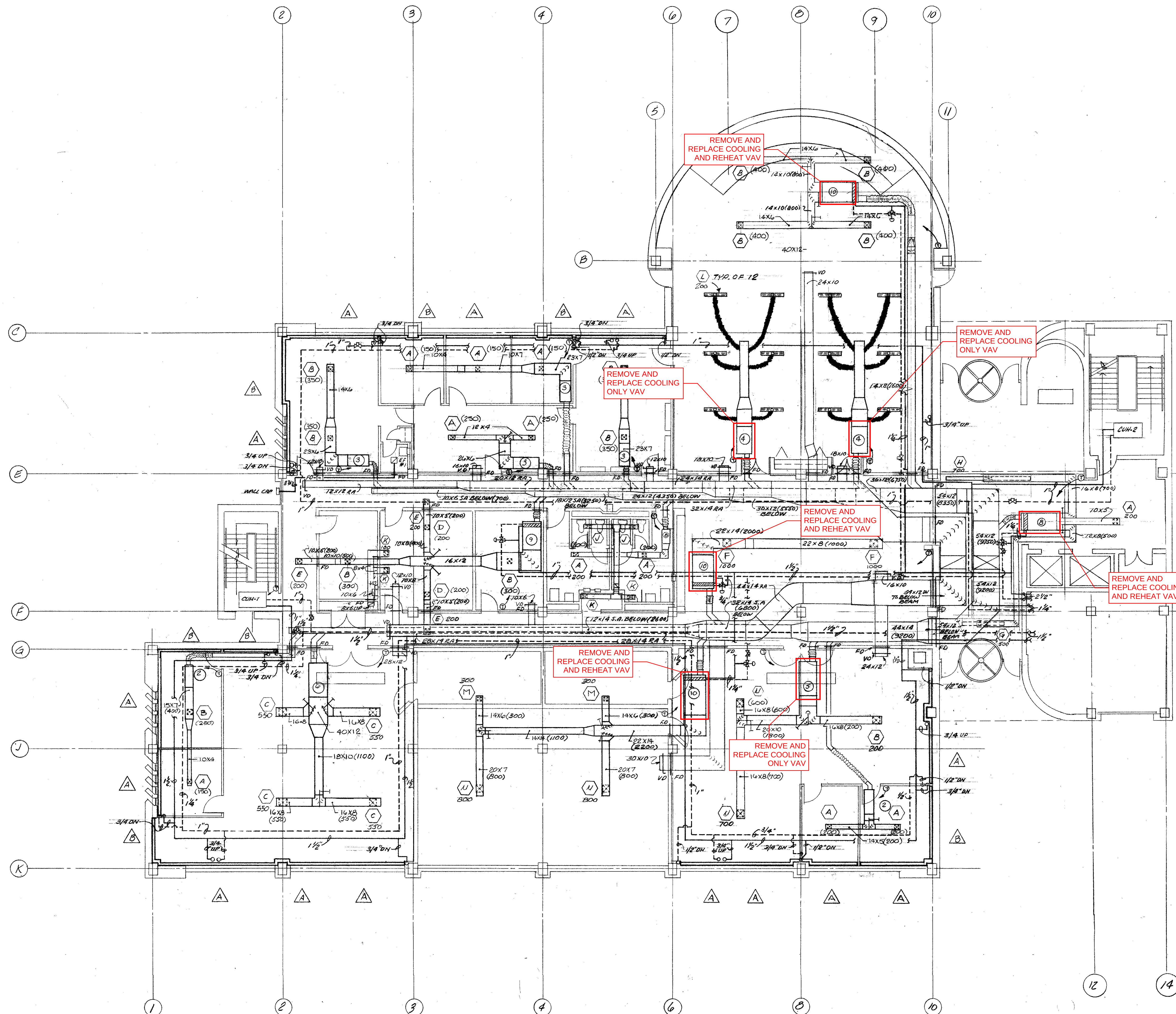
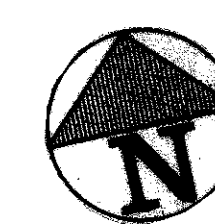
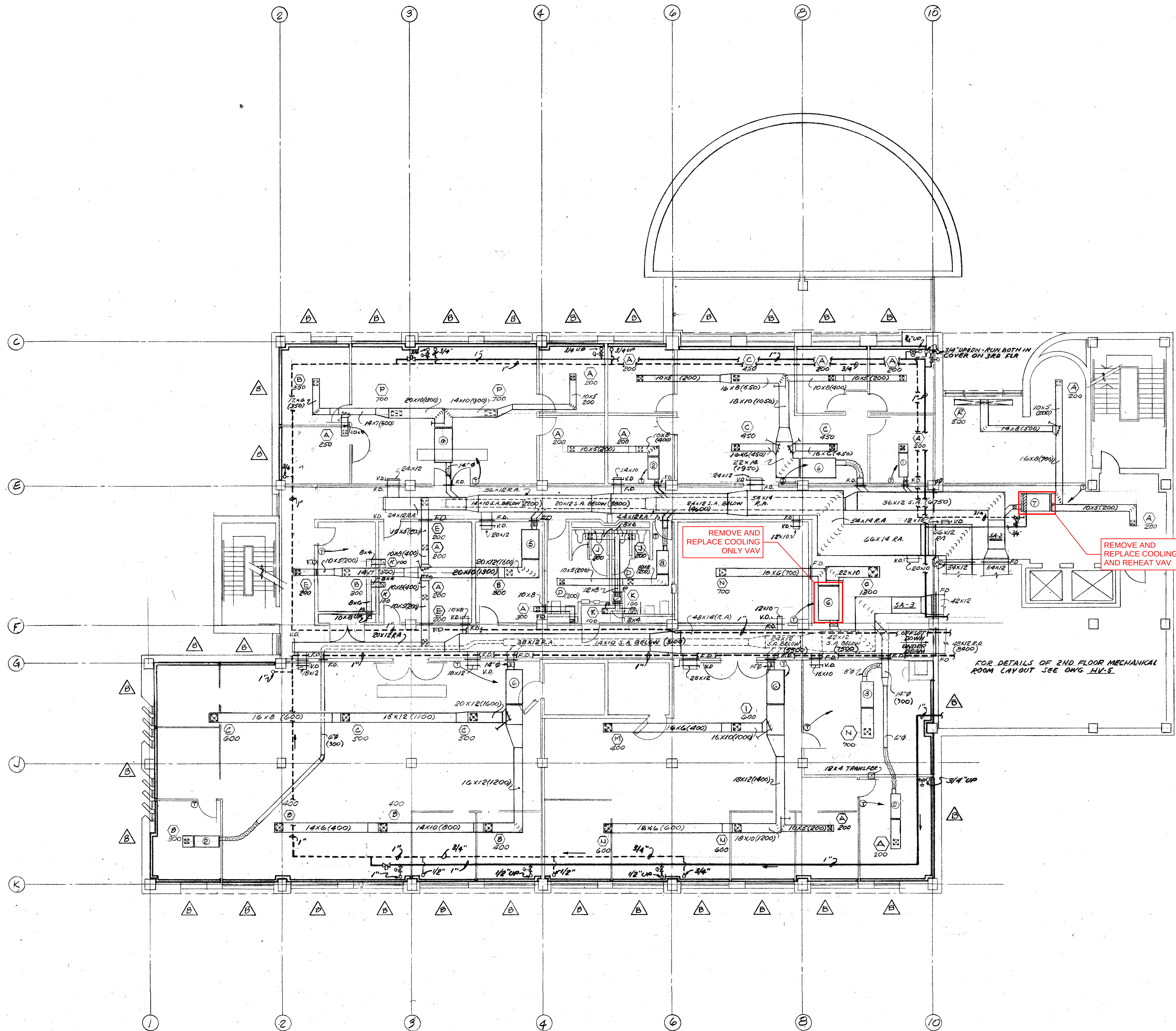




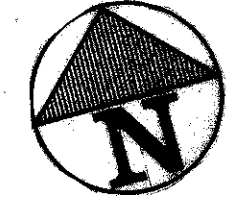
FIRST FLOOR PLAN
SCALE 1/8"=1'-0"



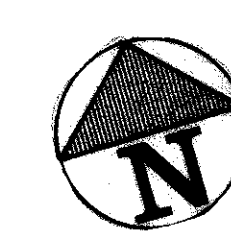
C E MAGUIRE, INC. ARCHITECTS ENGINEERS PLANNERS PROVIDENCE WALTHAM NEW BRITAIN	
PROJ. NO. 878 DESIGNED: T.M. DRAWN: V.P. SCALE: AS SHOWN DATE: NOV. 1977 PROJ. NO. 2760	EAST PROVIDENCE CITY HALL EAST PROVIDENCE, RHODE ISLAND FIRST FLOOR PLAN DUCTWORK AND PIPING LAYOUT
EDI PROJECT NO. 01-51-2584	
DRAWING NUMBER HV-2	
SHEET 34 OF 59	



SECOND FLOOR PLAN
SCALE 1/8"=1'-0"



CE MAGUIRE, INC. ARCHITECTS ENGINEERS PLANNERS PROVIDENCE WALTHAM NEW BRITAIN		RICHARD W. LONG No. 3629 REGISTERED PROFESSIONAL ENGINEER
PROJECT NO. 878 DESIGNED T/Y DRAWN J/R SCALE AS SHOWN DATE NOV. 1977 PROJ. NO. 2760		EAST PROVIDENCE CITY HALL RHODE ISLAND EAST PROVIDENCE, SECOND FLOOR PLAN DUCTWORK AND PIPING LAYOUT
DRAWING NUMBER HV-3		SHEET 35 OF 39



EAST PROVIDENCE CITY HALL EAST PROVIDENCE, RHODE ISLAND	PROJ. MARK <i>BTB</i> DESIGNED <i>T/M</i> DRAWN <i>J.R.</i> SCALE <i>AS SHOWN</i> DATE <i>Nov. 1977</i> PROJ. NO. <i>2760</i>	C E MAGUIRE, INC. ARCHITECTS ENGINEERS PLANNERS PROVIDENCE WALTHAM NEW BRITAIN	NO. DATE	REVISIONS
DRAWING NUMBER HV-4	SWEET 36 OF 57			

RADIATION RUNOUT SCHEDULE	
GPM	PIPE SIZE
0-2	1/2"
2-4	3/4"
4-6	1"
6-10	1 1/4"
10-15	1 1/2"
15-20	2"
20-30	2 1/2"
30-40	3"
40-50	4"

SOUND ATTENUATOR SCHEDULE											
SYM	MFG'R	MODEL	CFM	SP	SIZE			D.T.L. @ 1000 PPM DB	OCTAVE BAND	SELF-NOISE @ 10" W.G. 1000 PPM	REMARKS
					L	W	H				
SA-1	IAC	5ML	18350	27	5'	36"	36"	28"	4	43	
SA-2	IAC	5ML	7650	36	5'	36"	12	28"	4	43	
SA-3	IAC	5ML	8400	48	5'	36"	12	27"	4	43	
SA-4	IAC	5ML	17325	31	5'	36"	30	28"	4	43	

CABINET AND UNIT HEATER SCHEDULE											
SYM	MFG'R	MODEL	HP	CFM	SIZE			GPM MBH	RPM		REMARKS
					L	W	H				
UH-1	TRANE	38-S	1/20	543				1.4	14.0	1550	
UH-2	"	38-S	1/20	543				1.4	14.0	1550	
UH-3	"	60-S	1/20	815				2.23	27.4	1550	
UH-4	"	100-S	1/8	1535				3.23	50.2	1550	
UH-5	"	38-S	1/20	543				1.3	13.0	1550	
UH-6	"	38-S	1/20	543				1.4	14.0	1550	
UH-7	"	38-S	1/20	543				1.4	14.0	1550	
UH-8	"	38-S	1/20	543				1.4	14.0	1550	
UH-9	"	38-S	1/20	543				1.4	14.0	1550	
UH-10	"	120-S	1/8	1760				7.20	69.8	1100	
UH-11	"	126-S	1/8	1760				7.20	69.8	1100	
UH-12	"	126-S	1/8	1760				7.20	69.8	1100	

LEGEND	
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
CFM	CUBIC FEET PER MINUTE
V.D.	VOLUME DAMPER
SD	SMOKE DETECTOR
	HOT WATER SUPPLY
	HOT WATER RETURN
	LOUVERED DOOR
GAL.	GALLONS
V	VENT LINE
D	DRAIN LINE
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BALANCING COCK (POSITIVE SHUT-OFF)
	AUTOMATIC CONTROL VALVE
	FIRE DAMPER WITH FUGIBLE LINK
	SAFETY OR RELIEF VALVE
	ECCENTRIC REDUCER
	STRAIGHT
	UNION
	AUTOMATIC AIR VENT
	THERMOSTAT LOCATED ON ELECTRIC PANEL
	MOTORIZED DAMPER
	THERMOMETER
	THERMOSTAT (DAY)
	THERMOSTAT (NIGHT)
	PRESSURE GAUGE
	VACUUM GAUGE
	SUPPLY AIR DUCT (CROSS SECTION)
	RETURN OR EXHAUST AIR DUCT (CROSS SECTION)
	TURNING VANES
	SPLITTER DAMPERS
	FLEXIBLE DUCT (ROUND)
E.F.	EXHAUST FAN (SEE SCHEDULE)
P-I	PUMP SYMBOL (SEE SCHEDULE)
R.A.	RETURN AIR
F.A.	FRESH AIR
S.A.	SUPPLY AIR
E.A.	EXHAUST AIR
S.P.	STATIC PRESSURE (INCHES OF WATER)
O.V.	OUTLET VELOCITY (FEET PER MINUTE)
P.D.	PRESSURE DROP
D.B.	DRY BULB
W.B.	WET BULB
R.A.F.	RETURN AIR FAN

GENERAL NOTES:

- FOR BASEMENT LEVEL FLOOR PLAN SEE DWG. HV-1.
- FOR FIRST LEVEL FLOOR PLAN SEE DWG. HV-2.
- FOR SECOND LEVEL FLOOR PLAN SEE DWG. HV-3.
- FOR THIRD LEVEL FLOOR PLAN SEE DWG. HV-4.
- FOR ENLARGED MECHANICAL ROOM PLANS & SECTIONS SEE DWG. HV-5.
- FOR ENLARGED BOILER RM. PLAN SEE DWG. HV-6.
- FOR LEGEND, SCHEDULES AND DETAILS, SEE DWGS. HV-7 & HV-8.
- FOR EXACT LOCATION OF ALL FLOOR AND ROOF OPENINGS, SEE STRUCTURAL PLANS.
- COORDINATE LOCATION OF ALL EQUIPMENT BEFORE INSTALLATION.
- SIZE OF CONCRETE BASES OF ALL EQUIPMENT SHALL BE CO-ORDINATED DURING APPROVAL OF SHOP DWGS.
- LOCATE SUPPLY AND RETURN DUCTWORK TO CLEAR LIGHTING FIXTURES.
- PROVIDE VOLUME DAMPERS WITH LOCKED QUADANTS ON ALL BRANCHES SUBORDINATE EQUIPMENT PIPING.
- PROVIDE BALANCING VALVES OF THE POSITIVE SHUT-OFF TYPE ON ALL RETURN BRANCHES SUBORDINATE EQUIPMENT PIPING.
- ALL VENTS AT HIGH POINTS SHALL BE LOCATED NEAR ACCESS PANELS FOR SERVICE.
- ALL VALVES 6" OR MORE ABOVE MECHANICAL AND EQUIPMENT ROOM FLOOR SHALL BE CONDUIT OPERATED.
- INSTALL FIRE DAMPERS WITH FUGIBLE LINK AT ALL PENETRATIONS THROUGH FIRE WALLS AND UNDRILL DUCT PENETRATIONS AND FLASH AS SPECIFIED. APPROVED ACCESS DOOR IN DUCT SHALL BE PROVIDED AT EACH FIRE DAMPER. FIRE DAMPERS TO BE UNDERWRITERS APPROVED.
- PIPING SHALL BE PITCHED UP IN DIRECTION OF FLOW. VENT HIGH POINTS WITH AUTOMATIC AIR VENTS & PIPE DISCHARGE ONE QUART HEAVY GAGE COPPER CUP. (PROVIDE SHUT-OFF UPSTREAM OF VENT.)
- PROVIDE DRAIN VALVES AT ALL LOW POINTS.
- INSTALL VOLUME EXTENSION ON ALL SQUARE TAKE-OFFS & TURNING VANES ON ALL SQUARE ELBOWS.
- ALL PIPING TO BE PROPERLY SUPPORTED FROM STRUCTURE.
- ALL TAKE-OFFS FROM THE MAINS SHALL BE OF THE SWING JOINT TYPE. NO "TEE" SHAPE TAKE-OFFS ARE ALLOWED.
- PROVIDE ACCESS FOR ALL CONCEALED VALVES, DAMPERS, VENTS, DRAINS, FLOW INDICATORS AND ALL OTHER MECHANICAL EQUIPMENT. EXIST LOCATION TO BE CO-ORDINATED WITH ARCHITECTURAL AND ALL OTHER TEAMS.
- PROVIDE BALANCING COCKS, AUTOMATIC AIR VENTS & 1" EXITS AT ALL ENDS OF MAINS.
- FINAL LOCATION OF ALL REGISTER & GRILLE & DIFFUSERS TO BE CO-ORDINATED WITH THE CEILING & LIGHTING PLANS BEFORE INSTALLATION.
- CONTRACTOR TO CO-ORDINATE EXIST LOCATION OF ALL THERMOSTATS WITH ARCHITECT FOR FINAL APPROVAL.
-
- SMOKE DETECTORS TO HAVE VISUAL AND AUDIBLE ALARM LOCATED AS DIRECTED BY ARCHITECT. DETECTORS TO STOP ASSOCIATED EXHAUST FAN SOUND ALARM AND CLOSE FRESH AIR DAMPERS.
- PROVIDE SUPPLEMENTARY STEEL AND SADDLES FOR PIPING & EQUIPMENT AS DIRECTED BY ARCHITECT.
- SECTIONALIZING VALVES FOR ALL PUMPS, BOLLERS, EQUIPMENT AND ALL BRANCH PIPING SHALL BE PROVIDED.
- DUCT SIZES AS SHOWN ON DWGS. REPRESENT CLEAR INSIDE DIMENSIONS.
- REFER TO SPECIFICATIONS FOR SPECIAL RADIATOR COVER FABRICATION.
- FOR EXACT LOCATION OF ALL CEILING REGISTERS, SEE REFLECTED CEILING PLANS ON ARCHITECTURAL DRAWINGS.
- SUPPORT ALL MAIN RISER PIPING WITH VIBRATION ISOLATORS AT BASE AND TOP OF RISERS.
- ALL RETURN DUCTS TO BE INSTALLED TIGHT AGAINST UNDERSIDE OF SLAB OR FAN SECTIONS. PIPE PENETRATIONS IN RETURN ONLY AS REQUIRED SHALL BE SLEEVED AND SEALED AS DIRECTED. USE 1/2" THICK FOAMED INSULATION TO AVOID METAL TO METAL CONTACT.
- PROVIDE COLLARS & OPPOSED BLADE VOLUME DAMPERS W/LOCKING QUADRANTS ON ALL RETURN OPENINGS.
- INSTALL EXPANDED METAL GRILLES ON ALL RETURN DUCT SYSTEMS ABOVE CEILINGS.
- PROVIDE VIBRATION ISOLATORS FOR ALL REFRIGERANT PIPING OUTSIDE OF BOILER ROOM. AS SPECIFIED IN SECTION 16050 PAR. 2.18.

REGISTER, GRILLE & DIFFUSER SCHEDULE						
SYM	MFG'R	MODEL	SYS	MAT'L	FINISH	REMARKS
(A)	BARBER-COLMAN	TITLES & SPLIT	SUPPLY	STEEL	PRIME	9X9 CLG TYPE 4-WAY
(B)	"	"	"	"	"	12X12 " " 4-WAY
(C)	"	"	"	"	"	15X15 " " 4-WAY
(D)	"	"	"	"	"	9X9 " " 3-WAY
(E)	"	"	"	"	"	9X9 " " 2-WAY
(F)	"	"	"	"	"	21X21 " " 4-WAY
(G)	"	"	"	"	"	8"X11 1/2" 4-SLOT-CLG TYPE
(H)	"	"	"	"	"	15"X15" 4-SLOT-CLG TYPE
(J)	"	"	EXHAUST	"	"	9X9 EXH. CLG TYPE
(K)	"	"	"	"	"	4X6 EXH. CLG TYPE
(L)	"	"	BY CEILING MANUFACTURER	"	"	" " " "
(M)	"	"	SUPPLY	"	"	12"X12" " " 3-WAY
(N)	"	"	"	"	"	13"X13" " " 4-WAY
(O)	"	"	"	"	"	24"X24" " " 4-WAY
(P)	"	"	"	"	"	24X15" " " 4-WAY
(R)	"	"	"	"	"	10"X12" " " 4-WAY
(S)	"	"	"	"	"	21X9 " " 4-WAY
(T)	"	"	"	"	"	15X12 " " 4-WAY
(U)	"	"	"	"	"	15X15 " " 4-WAY

EXHAUST FAN SCHEDULE											
SYM	MFG'R	MODEL	SP	CFM	AREA	RPM	HP	DRIVE	WALL OR ROOF OPNG	REMARKS	
RAF-1	TRANE	Q-44	2"	31,000	340000	1100	20	BELT	AREAMT 9 HORIZONTAL		
RAF-2	"	Q-33	2"	17,000	340000	1471	15	"	AREAMT 1 HORIZONTAL		
EF-1	COOK	180C40	1/2"	1800	TOILETS	975	1/3	"	6 1/2"X18"		
EF-2	"	120C181	3/8"	300	REPRO	1000	1/6	"	14 1/2"X14 1/2"		
EF-3	"	120C181	3/8"	600	CONF	1200	1/6	"	14 1/2"X14 1/2"		
EF-4	TRANE	Q-16	3/4"	2500	BSMT	2200	1	"	AREAMT 9 HORIZONTAL		
EF-5	GRIMM	10-10	1/25"	100	TOILET	1050	1/16	DIRECT	9X3 W/WALL CAP		

NOTE: EF-4 NO INLET VANES REQUIRED - SWITCH OPERATED FOR SUMMER VENTILATION.

PUMP SCHEDULE							
SYM	MFG'R	MODEL	GPM	RPM	HEAD PRESS	HP	REMARKS
P-1	BELL & GOSSETT	YES 4141734	265	1750	55'	7 1/2	CHILLED WATER
P-2	"	YES 4141734	265	1750	55'	7 1/2	SAFETY CHILLED WATER
P-3	"	YES 4141734	245	1750	40'	5	PRIMARY HOT WATER
P-4	"	YES 4141734	245	1750	40'	5	SAFETY PRIMARY HOT WATER
P-5	"	60-15	20	1750	30'	1/2	BASEMENT HEATING
P-6	"	60-11	18	1750	20'	1/4	1ST FLOOR REHEAT
P-7	"	60-13	12	1750	20'	1/2	1ST FLOOR REHEAT
P-8	"	60-14	32	1750	25'	3/4	1ST FLOOR REHEAT
P-9	"	60-13	8	1750	25'	1/2	3RD FLOOR REHEAT
P-10	"	60-13	8	1750	25'	1/2	3RD FLOOR REHEAT
P-11	"	60-14	65	1750	20'	3/4	3RD FLOOR REHEAT
P-12	"	60-13	24	1750	25'	1/2	3RD FLOOR REHEAT
P-13	"	60-13	35	1750	20'	1/2	3RD FLOOR REHEAT

HEATING & AIR CONDITIONING UNIT SCHEDULE											
SYM	MFG'R	MODEL	CFM	SP	RPM	HP	HTG MBH	COIL FACE VEL	% FA	REMARKS	
AC-1	TRANE	# 69	35900	4 1/2"	1009	40	1052.2	543	12	480/60/3	
AC-2	"	# 35	18950	4 1/2"	1436	20	350	542	10	480/60/3	

COOLING COIL SCHEDULE											
SYM	MFG'R	MODEL	CFM	GPM	% FA	ENTERING AIR DB/WB	LEAVING AIR DB/WB	FACE VEL	MBH	REMARKS	
C-1	TRANE	TYPE "D"	35500	156	12	77.0°/62.0°	59°/56.3°	766	W/TURB		
C-2	"	"	18950	108	10	76.9°/63.8°	55.7°/54.3°	533	"		

- NOTES:
1. COOLING COILS TO BE DRAINABLE.
2. HVAC UNITS, COMPRESSOR CONDENSING UNITS AND CHILLER TO BE BY SAME MANUFACTURER.

INDUCTION BOX SCHEDULE											
SYM	MFG'R	MODEL	CFM RANGE	SIZE			DUCT SIZE	REHEAT COIL MBH	GPM	AIR T.R.	H ₂ O T.D.
(1)	BARBER-COLMAN	HJP-4	100 - 260	52"	16"	9"	4"Ø				
(2)	"	HJP-6	250 - 600	52"	18"	10"	6"Ø				
(3)	"	HJP-8	550 - 1100	52"	26"	10"	8"Ø				
(4)	"	HJP-10	880 - 1650	60"	34"	12"	10"Ø				
(5)	"	HJP-12	1200 - 2400	72"	40"	14"	12"Ø				
(6)	"	HJP-14	1600 - 3200	72"	44"	16"	14"Ø				
(7)	"	HJPX-8	550 - 1100	52"	26"	10"	8"Ø	40	4	2	40
(8)	"	HJPX-10	880 - 1650	60"	34"	12"	10"Ø	66	2	40	20
(9)	"	HJPX-12	1200 - 2400	72"	40"	14"	12"Ø	100	10	2	40
(10)	"	HJPX-14	1600 - 3200	72"	44"	16"	14"Ø	150	15	2	40

FLOW INDICATOR SCHEDULE									
SYM	MFG'R	MODEL	LOCATION	SIZE	GPM	P.D. FT OF WATER	RANGE GPM	REMARKS	
F-1	"	TFI-4	BOILER RM.	4"	245	.6	150-500	HEATING HOT WATER	
F-2	"	TFI-4	BOILER RM.	2"	265	.6	150-500	CHILLED WATER	
F-3	"	TFI-2	3RD LEVEL MECH. RM.	2"	65	1.8	25-75	AC-1, HOT WATER	
F-4	"	TFI-1 1/2	3RD LEVEL MECH. RM.	1 1/2"	35	1.2	15-59	AC-2, HOT WATER	
F-5	"	TFI-3	2ND LEVEL MECH. RM.	3"	156	1.5	75-200	AC-1, CHILLED WATER	
F-6	"	TFI-3	3RD LEVEL MECH. RM.	3"	108	.8	75-200	AC-2, CHILLED WATER	
F-7	"	TFI-1 1/4	BOILER RM.	1 1/4"	20	.9	10-90	BASEMENT HEATING	
F-8	"	TFI-2	1ST LEVEL MECH. RM.	2"	52	1.0	25-75	1ST FLOOR REHEAT	
F-10	"	TFI-1 1/4	1ST LEVEL MECH. RM.	1 1/4"	18	.9	10-90	1ST FLOOR REHEAT	
F-11	"	"	1ST LEVEL MECH. RM.	1 1/4"	12	.9	10-90	1ST FLOOR REHEAT	
F-12	"	"	3RD LEVEL MECH. RM.	1 1/4"	24	1.2	10-90	3RD FLOOR REHEAT	

VARIABLE VOLUME BOX SCHEDULE								
SYM	MFG R	MODEL	CFM RANGE	SIZE			DUCT SIZE	REMARKS
				L	W	D		
(A)	BARBER-COLMAN	HVP-4	100 - 260	28"	14 3/8"	10 3/8"	4" Ø	
(B)	"	HVP-6	250 - 600	28"	16 3/8"	10 3/8"	6" Ø	
(C)	"	HVP-8	550 - 1100	30"	20 3/8"	11"	8" Ø	
(D)	"	HVP-10	850 - 1650	30"	22 3/8"	11"	10" Ø	
(E)	"	HVP-12	1200 - 2400	36"	24 3/8"	11"	18" Ø	
(F)	"	HVP-14	1600 - 3200	36"	26 3/8"	11"	14" Ø	