SPLIT SYSTEM HEAT PUMP SCHEDULE

ITEM	MANUFACTURER	MODEL	LOCATION	SERVICE	COOLING CAPACITY NOM. TONS	TOT. MBH	SEN. MBH	E.D.B.	E.W.B.	MAX. VEL.	INDOOR FAN CFM	HP	E.S.P.	HUMD. CAP. LBS/HR	ELECT. DATA (INDOOR) VOLTS	PHASE	MFS	MOTOR HP	FLA	CONDENSER(OUTDOOR) MODEL	ELECT. DATA VOLTS	PHASE	MFS	REMARKS
AC-2	TRANE	TWH-240	SUB BSMT	NORMAL ELECTRIC RM	20	244.9	188.7	80	67		9600	7.5	1.2	–	460	3	15			TTA240B4	460	3	50	1,2,3,4,5,6,7,8
AC-3	TRANE	TWH-180	SUB BSMT	EMERGENCY ELECTRIC RM	15	185	129.5	80	67		6000	5	1.2	–	460	3	15			TTA180B4	460	3	35	1,2,3,4,5,6,7,8
AC-4	TRANE	TWH-042	SUB BSMT	MEDICAL VAC. RM	3.5		18	80	67		1200	(1) 1/2	0.5	–	208	1		(1) 1/2	3.3	TWP042C-100A	208	1	15	1,2,3,4,5,6,7,8
AC-5	TRANE	TWH-018	SUB BSMT	TEL/DATA RM	1.5		42	80	67		600	(1) 1/8	0.35	–	208	1		(1) 1/8	0.9	TWP018C-100A	208	1	45	1,2,3,4,5,6,7,8

NOTES:

3. PROVIDE CONDENSATE DRAIN TRAP AND PIPING CONNECTIONS PER MANUFACTURER'S REQUIREMENTS. PROVIDE CONDENSATE PUMPS WHERE SHOWN. PIPE TO NEAREST FLOOR DRAIN. COORDINATE WITH PLUMBING DRAWINGS.
4. FAN COIL UNIT IS SUSPENDED FROM STRUCTURE ABOVE. PROVIDE WITH HANGER RODS AND TRAPEZE STEEL SUPPORTS, HORIZONTAL SUPPLY AND RETURN ARRANGEMENT. PROVIDE DUCTWORK FOR SELECT UNITS AS SHOWN ON PLANS.
5. MAINTAIN SERVICE CLEARANCES PER MFR REQUIREMENTS.
6. PROVIDE CONCRETE MOUNTING PADS FOR ACCU.S LOCATED ON GRADE, NEAR THE AREAWAY AS SHOWN ON PLANS.
7. MOTOR HEAT GAINS INCORPORATED INTO SENSIBLE MBH LOAD VALUES.
8. PROVIDE ADJUSTMENTS FOR LONGER PIPING RUNS PER MANUFACTURERS GUIDELINES.
9. SPLIT SYSTEM NOMENCLATURE: INDOOR FAN COIL COMPONENTS NOTED AS FCU AND OUT DOOR COMPONENTS NOTED AS ACCU.

AC UNIT SCHEDULE

ITEM	MANUFACTURER	MODEL	LOCATION	SERVES	EVAPORATOR DATA FAN CFM	S.P.	HP	TC	SC	ENT AIR	CONDENSER DATA FAN CFM	S.P.	HP	ENT AIR	COMPRESSORS QTY	RLA	ELEC. HEAT KW	ELECTRICAL DATA VOLTS	PHASE	MAX FUSE SIZE	TOTAL UNIT WEIGHT	REMARKS
AC-1	TRANE	WCH180B	ROOF	ELEV. MACH. RM	6600	1.25	5	188	137	80/67	11,200	–	(2)1/2 HP	95	2		18	460	3	70	1660	1 THRU 12

NOTES:

1. 15 TON NOMINAL HEAT PUMP UNIT, MOUNTED ON MIN. 14" HIGH ROOF CURB BY MANUFACTURER. THIS IS A HORIZONTAL FLOW UNIT.
2. CONDITIONS BASED ON 95 DEGREES F. AMBIENT OUTDOOR CONDITION
3. HACR TYPE CIRCUIT BREAKER PER N.E.C.
4. SINGLE STAGE ELECTRIC HEATING COIL.
5. PROVIDE WITH REMOTE THERMOSTAT(80 DEG. F.SETPOINT-ADJUSTABLE), AND DIFFERENTIAL ENTHALPY CONTROL.
6. PROVIDE UNIT WITH HORIZONTAL ECONOMIZER PACKAGE, REMOTE POTENTIOMETER, POWERED EXHAUST AND MOTORIZED OUTSIDE AIR DAMPER.
7. PROVIDE OVERSIZED MOTOR OPTION.
8. UNIT SHALL HAVE SINGLE POINT POWER CONNECTION.
9. PROVIDE AT LEAST THE MINIMUM SERVICE CLEARANCE REQUIREMENTS PER MANUFACTURER.
10. INSULATE SUPPLY AND RETURN DUCTS AND WRAP WITH WEATHER TIGHT COVERING FOR THE EXTERIOR DUCTWORK.
11. PROVIDE UNIT WITH CONDENSATE TRAP TO MEET OR EXCEED MANUFACTURER'S REQUIREMENTS. ALSO SEE DETAILS.
12. THIS UNIT SHALL HAVE LOW AMBIENT OPERATION CAPABILITY.

FAN SCHEDULE

ITEM	MANUFACTURER	MODEL	TYPE	SERVES	LOCATION	CFM	S.P. IN. W.G.	FAN RPM	MOTOR DATA HP	V	PH	RPM	DRIVE TYPE	NC	REMARKS
RF-1	COOK	490	CIC	AHU-1 RETURN FAN	PENTHOUSE	35,000	4.0 IN.	945	40	460	3	1750	BELT		1,2,4
RF-2	COOK	490	CIC	AHU-2 RETURN FAN	PENTHOUSE	35,000	4.0 IN.	945	40	460	3	1750	BELT		1,2,4
RF-3	COOK	490	CIC	AHU-3 RETURN FAN	PENTHOUSE	35,000	4.0 IN.	945	40	460	3	1750	BELT		1,2,4
RF-4	COOK	490	CIC	AHU-4 RETURN FAN	PENTHOUSE	35,000	4.0 IN.	945	40	460	3	1750	BELT		1,2,4
RF-5	COOK	490	CIC	AHU-5 RETURN FAN	PENTHOUSE	40,000	4.0 IN.	1000	50	460	3	1750	BELT		1,2,4
RF-6	FUTURE	490	CIC	FUTURE RETURN FAN	PENTHOUSE				40	460	3	1750			1,2,4
RF-7	FUTURE	490	CIC	FUTURE RETURN FAN	PENTHOUSE				40	460	3	1750			1,2,4
EF-1	COOK	195	CIC	GENERAL EXHAUST	PENTHOUSE	10,000	2.5 IN.	2425	15	460	3	1750	BELT		1,2,4
EF-2	COOK	195	CIC	GENERAL EXHAUST	PENTHOUSE	10,000	2.5 IN.	2425	15	460	3	1750	BELT		1,2,4
EF-3	COOK	180	CIC	ISOLATION EXHAUST	PENTHOUSE	5,500	4.0 IN.	2280	7.5	460	3	1750	BELT		1,2,3,4
EF-4	COOK	180	CIC	PENTHOUSE VENTILATION	PENTHOUSE	5000	1.0 IN.	1627	3	460	3	1750	BELT		1,2,4
EF-5	COOK	180	CIC	PENTHOUSE VENTILATION	PENTHOUSE	5000	1.0 IN.	1627	3	460	3	1750	BELT		1,2,4

NOTES:

1. PROVIDE ACCESS PANELS IN APPROPRIATE LOCATIONS AND AS SPECIFIED FOR BELT SERVICE AND FAN INSPECTION.
2. PROVIDE STEEL RAIL AND CHAINFALL ABOVE ALL FAN FOR FAN SERVICE.
3. PROVIDE WELDED AND HIGH PRESSURE TESTED DUCTWORK AT THE DISCHARGE OF THIS FAN TO THE PLENUM AND LABEL THIS DUCTWORK "INFECTIOUS ISOLATION EXHAUST".
4. ARRANGEMENT 9(STYLE CM) FOR ALL UNITS WITH FAN MOTORS IN THE "C" OR "G" POSITION. COORDINATE ONE OF THESE FINAL POSITION DURING THE COORDINATION PROCESS

SOUND ATTENUATOR SCHEDULE

ITEM	MANUFACTURER	MODEL	SIZE	LOCATION	DIL 63	125	250	500	1K	2K	4K	8K	CFM	STATIC PRESSURE DROP IN W.G.	REMARKS
SA-1RA	VIBRO ACOUSTICS	RFL-HV	88"x30"x60"L	AHU-1 RETURN									35,000		
SA-1RB	VIBRO ACOUSTICS	RFL-HV	88"x30"x60"L	AHU-1 RELIEF									5,000		
SA-2RA	VIBRO ACOUSTICS	RFL-HV	36"x24"x60"L	AHU-2 RETURN									8,750		
SA-2RB	VIBRO ACOUSTICS	RFL-HV	36"x24"x60"L	AHU-2 RETURN									8,750		
SA-2RC	VIBRO ACOUSTICS	RFL-HV	68"x28"x60"L	AHU-2 RETURN									17,500		
SA-2RD	VIBRO ACOUSTICS	RFL-HV	94"x30"x60"L	AHU-2 RELIEF									5,000		
SA-3RA	VIBRO ACOUSTICS	RFL-HV	88"x30"x60"L	AHU-3 RETURN									35,000		
SA-3RB	VIBRO ACOUSTICS	RFL-HV	88"x30"x60"L	AHU-3 RELIEF									5,000		
SA-4RA	VIBRO ACOUSTICS	RFL-HV	98"x30"x60"L	AHU-4 RETURN									35,000		
SA-4RB	VIBRO ACOUSTICS	RFL-HV	98"x30"x60"L	AHU-4 RELIEF									5,000		
SA-5RA	VIBRO ACOUSTICS	RFL-HV	98"x34"x60"L	AHU-5 RETURN									40,000		
SA-5RB	VIBRO ACOUSTICS	RFL-HV	98"x30"x60"L	AHU-5 RELIEF									5,000		
SA-E1A	VIBRO ACOUSTICS	RFL-HV	34"x30"x60"L	GEN. EXH. - 1 INLET									10,000		
SA-E1B	VIBRO ACOUSTICS	RFL-HV	34"x30"x60"L	GEN. EXH. - 1 DISCH									10,000		
SA-E2A	VIBRO ACOUSTICS	RFL-HV	26"x26"x60"L	GEN. EXH. - 2 INLET									10,000		
SA-E2B	VIBRO ACOUSTICS	RFL-HV	26"x26"x60"L	GEN. EXH. - 2 DISCH									10,000		
SA-E3A	VIBRO ACOUSTICS	RFL-HV	28"x20"x60"L	ISOL. EXH. INLET									5,500		
SA-E3B	VIBRO ACOUSTICS	RFL-HV	28"x20"x60"L	ISOL. EXH. DISCH									5,500		
SA-6	VIBRO ACOUSTICS	RFL-HV	14"x10"36"L	CLASSROOM R.A.									650		
SA-7	VIBRO ACOUSTICS	RFL-HV	14"x10"36"L	CLASSROOM R.A.									650		
SA-8	VIBRO ACOUSTICS	RFL-HV	14"x10"36"L	CLASSROOM R.A.									650		

FILTER SCHEDULE

ITEM	MANUFACTURER	MODEL	RATED EFF. %	MAX S.P. DROP(IN. W.G.) INITIAL	FINAL	CFM	FACE AREA SQ. FT.	FACE VELOCITY F.P.M.	FILTER THICKNESS INCHES	REMARKS

GRILLES, REGISTERS AND DIFFUSER SCHEDULE

ITEM	MANUFACTURER	MODEL	RECT. NECK SIZE	ROUND NECK SIZE	CFM RANGE	S.P. IN. W.G.	MOUNTING	NC LEVEL	REMARKS
S-1	TITUS	TDV	6x6	–	50-150	<0.12	FLUSH	<20	
S-2	TITUS	TDV	9x9	–	155-275	<0.12	FLUSH	<20	
S-3	TITUS	TDV	12x12	–	280-450	<0.12	FLUSH	<20	
S-4	TITUS	TDV	15x15	–	455-700	<0.12	FLUSH	<20	
S-5	TITUS	TDV	18x18	–	705-900	<0.12	FLUSH	<20	
S-6	TITUS	TDV	21x21	–	905-1250	<0.12	FLUSH	<20	
S-7	TITUS	271RL	14x10	–	250-525	<0.05	FLUSH	<30	
S-8	TITUS	271RL	32x14	–	1500-2200	<0.1	DUCT	<30	
S-9	PRECISION AIR	PAT-B-2448	–	12"	225-500	<0.1	FLUSH	<30	
S-10	PRECISION AIR	PAT-B-2436	–	10"	150-220	<0.1	FLUSH	<30	
S-11	TITUS	271RL	48x24	–	6000	<0.05	FLUSH	<50	
S-12	TITUS	271RL	48x36	–	9600	<0.05	FLUSH	<50	
E/R-1	TITUS	23RL	6x6	–	50-80	<0.15	FLUSH	<30	
E/R-2	TITUS	23RL	8x8	–	85-150	CO	FLUSH	<30	
E/R-3	TITUS	23RL	10x10	–	155-225	<0.15	FLUSH	<30	
E/R-4	TITUS	23RL	12x12	–	230-300	<0.15	FLUSH	<30	
E/R-5	TITUS	23RL	16x16	–	305-600	<0.15	FLUSH	<30	
E/R-6	TITUS	23RL	18x18	–	605-700	<0.15	FLUSH	<30	
E/R-7	TITUS	3FL	6x6	–	50-80	<0.15	FLUSH	<30	
E/R-8	TITUS	3FL	8x8	–	85-150	<0.15	FLUSH	<30	
E/R-9	TITUS	3FL	10x10	–	155-225	<0.15	FLUSH	<30	
E/R-10	TITUS	3FL	12x12	–	230-300	<0.15	FLUSH	<30	
E/R-11	TITUS	3FL	16x16	–	305-600	<0.15	FLUSH	<30	
E/R-12	TITUS	350FF1	18x30	–	600-720	<0.15	FLUSH	<30	NOTE 4
E/R-13	TITUS	350FF1	18x36	–	725-850	<0.15	FLUSH	<30	NOTE 4
E/R-14	TITUS	350FF1	18x42	–	855-950	<0.15	FLUSH	<30	NOTE 4
E/R-15	TITUS	350FF1	12x18	–	150-250	<0.15	FLUSH	<30	NOTE 4
E/R-16	TITUS	25RL	48x30	–	6000	<0.15	FLUSH	<50	
E/R-17	TITUS	25RL	48x42	–	9600	<0.15	FLUSH	<50	

NOTES:
1. REFER TO FLOOR PLANS FOR LOCATIONS AND QUANTITIES
2. PROVIDE WITH BORDER AND FRAME SUITABLE FOR MOUNTING CONDITION. PROVIDE WITH CONCEALED FASTENING. CONTRACTOR SHALL VERIFY MOUNTING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS PRIOR TO PURCHASE OF GRILLES.
3. ALL TDV MODEL SUPPLY DIFFUSERS SHALL BE PROVIDED WITH 24"x24" LAY-IN MODULE. MODULES SHALL BE TRIMMED FOR APPLICATIONS WHERE DIFFUSER IS MOUNTED IN A CEILING GRID THAT IS SMALLER THAN 24"x24".
4. LOW RETURN ALUM. GRILLES IN C-SECTION,ISOLATION ROOMS AND NURSERY SUITES (USED WITHOUT FILTER). BLADES SHALL BE PARALLEL TO THE SHORT DIMENSION.

UNFIRED STEAM GENERATOR SCHEDULE

ITEM	MANUFACTURER	MODEL	LOCATION	STEAM PRESSURE ENT CONTROL VALVE	LVG CONTROL VALVE	SOURCE STEAM LBS/HR	TUBE BUNDLE DIA	TUBE BUNDLE LENGTH	HEAT TRANSFER AREA	STEAM PRODUCED OUTLET LBS/HR	PRESS. PSI	REMARKS
USG-1	CEMLINE	H670USG14120	PENTHOUSE	80-100	36-50	6340	42	120		5070	10	1 THRU 10

NOTES:

1. PROVIDE 4" HIGH CONCRETE PAD FOR UNIT MOUNTING.
2. UNIT IS APPROXIMATELY 65" HIGH TO THE FLANGE OF THE STEAM OUTLET, 56" WIDE AND 140" LONG OVERALL.
3. MFR. REQUIRES 4 FT CLEARANCE ON THE RIGHT SIDE OF THE UNIT AS YOU FACE THE TUBE BUNDLE.
4. PROVIDE MINIMUM RECOMMENDED SERVICE CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.
5. MFR. SHALL PROVIDE DUAL STEAM TRAPS.
6. USG-1 IS A SKID MOUNTED PACKAGED UNIT,AND SHALL BE SHIPPED COMPLETE AND READY FOR INSTALLATION.
7. ALL COMPONENTS SUBJECT TO STEAM SIDE SHALL BE 316 STAINLESS STEEL.
8. MFR SHALL PROVIDE STEAM SAFETY RELIEF VALVE, STRAINER, STEAM GAGE, LEVEL CONTROLLER, BLOW OFF VALVE, ETC.
9. HIGH PRESSURE STEAM INLET PRESSURE IS 100 PSIG IN THE DAY AND 80 PSIG IN THE NIGHT BY THE OWNER
10. UNIT PERFORMANCE IS BASED ON 40 DEGREE F MAKE-UP WATER
11. PNEUMATIC STEAM PRESSURE CONTROL VALVE BY MANUFACTURER, REQUIRES COMPRESSED AIR AT 15 PSIG

EXPANSION JOINT SCHEDULE

ITEM	QTY	SERVES	LOCATION	MANUFACTURER	MODEL	MOVEMENT AXIAL	LATERAL	SIZE DIA.	LENGTH	FLUID TEMP	MAX PRESSURE	SPRING RATE	NOTES
EJ-1	1	16" CHWR	SUB BSMT	HY-SPAN	3501IS-150-16-4	4"	4"	–	–	50F	100 PSIG	–	NOTE 1,6
EJ-2	1	16" CHWS	SUB BSMT	HY-SPAN	3501IS-150-16-4	4"	4"	–	–	50F	100 PSIG	–	NOTE 1,6
EJ-3	1	12" HPS	SUB BSMT	HY-SPAN	3502IS-150-12-4	4"	4"	19.75"	–	338F	100 PSIG	–	NOTE 1,6,7
EJ-4	1	4" PD	SUB BSMT	HY-SPAN	3501IS-150-4-4	4"	4"	9.75"	–	212F	100 PSIG	–	NOTE 1,6
EJ-5	1	12" HPS	SUB BSMT	HY-SPAN	3502-180-4	4"	–	18"	28.00"	338F	100 PSIG	–	NOTE 2,6,7
EJ-6	1	8" HPS	SHAFT-B / 5th FL	HY-SPAN	3502-150-16-4	4"	–	12.75"	25.75"	338F	100 PSIG		NOTE 3,6,7
EJ-7	1	EF-3 DISCHARGE	5th FLOOR	HY-SPAN	2507-087-4.0	3.5"	1"	26"	17"	100F	3" W.C.		NOTE 4,6
EJ-8	2	P-1	5th FLOOR	HY-SPAN	5502R-060	0.5"	0.25"	6"	5"	212F	100 PSIG	–	NOTE 5,6
EJ-9	2	P-2	5th FLOOR	HY-SPAN	5502R-060	0.5"	0.25"	6"	5"	212F	100 PSIG	–	NOTE 5,6
EJ-10	2	P-3	5th FLOOR	HY-SPAN	5502R-060	0.5"	0.25"	6"	5"	212F	100 PSIG	–	NOTE 5,6

NOTES:
1. SEISMIC TYPE EXPANSION JOINT ASSEMBLY WITH FLANGE CONNECTIONS.
2. THERMAL EXPANSION, EXTERNALLY GUIDED TYPE EXPANSION JOINT. HORIZONTAL INSTALLATION.
3. THERMAL EXPANSION, EXTERNALLY GUIDED TYPE EXPANSION JOINT. HORIZONTAL INSTALLATION.
4. LOW PRESSURE, EXHAUST BELLOWS EXPANSION JOINT WITH ANGLE FLANGE. GASKET TO DUCT AND FAN MATING FLANGES.
5. BELLOW PUMP CONNECTORS WITH GUIDES.
6. PROVIDE ALL ANCHORS AND GUIDES PER MFR'S RECOMMENDATIONS. REFER TO PLANS FOR LAYOUT.
7. HIGH PRESSURE STEAM PIPING COMPONENTS HAVE WELDED ENDS.

AIR FLOW CONTROL VALVE SCHEDULE

ITEM	MANUFACTURER	MODEL	LOCATION	CFM	TYPE SUPPLY/EXHAUST	MAX CFM	MIN CFM	FAN SERVED	REMARKS
ACD-1			BSMT	2000	SUPPLY	2000	2000	SF-3	TEMPORARY
ACD-2			BSMT	1700	RETURN	1700	1700	RF-3	TEMPORARY
ACD-3			BSMT	1500	SUPPLY	1500	1500	SF-4	TEMPORARY
ACD-4			BSMT	1300	RETURN	1300	1300	RF-4	TEMPORARY
ACD-5			BSMT	2000	SUPPLY	2000	2000	SF-5	TEMPORARY
ACD-6			BSMT	1700	RETURN	1700	1700	RF-5	TEMPORARY

RELIEF VENT SCHEDULE

ITEM	MANUFACTURER	MODEL	ORIFICE INCHES	LB/HR	FLOW GPM	FLOW SCFM	SET PRESS. PSIG	THROAT SIZE IN. x IN.	LOCATION	SERVES	REMARKS
SRV-1	SPENCE	31	0.8479	1000	–	–	15	1-1/2 X 2	SUB-BSMT CORR.	FT-1	
SRV-2	SPENCE	31	0.8479	1000	–	–	15	1-1/2 X 2	SUB-BSMT/SHAFT-B	FT-2	
SRV-3	SPENCE	31	0.8479	1000	–	–	15	1-1/2 X 2	PENTHOUSE	FT-4	
SRV-4	SPENCE	31	0.8479	1000	–	–	15	1-1/2 X 2	PENTHOUSE	FT-3	
SRV-5	SPENCE	25	–	–	–	–	160	1 X 1	PENTHOUSE	HX-1	
SRV-6	SPENCE	25	–	–	–	–	160	1 X 1	PENTHOUSE	HX-2	
SRV-7	SPENCE	41	6.564	15660	–	–	50	4 X 6	PENTHOUSE	PRV-2	
SRV-8	SPENCE	41	11.365	15660	–	–	15	6 X 8	PENTHOUSE	PRV-1	
SRV-9	SPENCE	50	–	–	–	–	25	–	PENTHOUSE	CAC-1	
SRV-10	SPENCE	50	–	–	–	–	60	–	PENTHOUSE	CAC-1	
SRV-11	SPENCE	41	6.564	16000	–	–	50	4 X 6	L.L. BEAN SUB-BSMT	PRV-3	
SRV-12	SPENCE	41	3.715	10860	–	–	15	3 X 4	L.L. BEAN SUB-BSMT	PRV-4	

NOTES:

1. PROVIDE ALL STEAM RELIEF VENTS WITH DRIP PAN ELBOWS. SEE STEAM SCHEMATIC, DETAILS AND SPECIFICATIONS.

General Notes:

MARK	ISSUE DATE	DESCRIPTION
PERMIT	09/24/04	PERMIT SET - NOT FOR CONSTRUCTION

FOR PERMIT ONLY-
NOT FOR CONSTRUCTION

Issue Log

Key Plan

CHARLES STREET
CHARLES STREET PROJECT
CONNECTOR
RICHARDS
LOBBY
PAVILION A
Project North

TRO
ARCHITECTURE
PLANNING
ENGINEERING
INTERIOR DESIGN
The Ritchie Organization
80 Bridge Street
Newton, MA 02458-1134
617-969-9400

Maine Medical Center
Charles Street Project
Portland, Maine MMC Project No. 21841

Drawing Title
HVAC SCHEDULES

0' 0 0 0 0

Commission No.	4673	Date Issued
Scale	NTS	Sheet Number
Drawn By	FWC	
Approved By	GW	**H702**
Filename	4673H702	

Copyright © 2004 The Ritchie Organization