

PACKAGED ROOFTOP UNIT (RTU) SCHEDULE

PACKAGED ROOFTOP UNIT (RTU) SCHEDULE																														EQUIPMENT FURNISHED BY OWNER, INSTALLED BY MECHANICAL CONTRACTOR							
DWG LABEL	UNIT LOCATION	SERVES	MODEL	EVENT MODE OA (CFM)	CLRM OA (CFM)	SUPPLY FAN						ELECTRICAL DATA				COIL DATA		COOLING DATA				HEATING DATA				HW COIL DATA				R410A		NOTES					
						FAN ARR.	SA (CFM)	DISCH. ARR.	ESP (IN WG)	RPM	BHP	HP	V/PH	MCA	MOP	WEIGHT (LBS)	NO. ROWS	APD (IN WG)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TC (MBH)	SC (MBH)	NO. ROWS	EAT (°F)	LAT (°F)	MBH	APD (IN WG)	EWT (°F)	LWT (°F)		GPM	WPD (FT HD)	IEER	COMPRESSOR DESCRIPTION	
RTU-B-1	ROOF - AREA A	AUD 157	VXE-212-52B	4050	1000	DIRECT PLENUM	8200	SIDE	1.25	1975	8.1	10.0	208/3	158 A	200 A	5100	6	0.62	76.8	66.2	53.0	52.6	340.0	214.8	6	59.3	74.9	138.3							13.1	(1) 15T INVERTER SCROLL, (1) 10T SCROLL	1-8,10-11
RTU-B-2	ROOF - AREA A	CAFETERIA 147	VX-212-25A	5800	3620	DIRECT PLENUM	5800	SIDE	0.75	1465	3.4	5.0	208/3	137 A	175 A	3600	6	0.35	88.0	72.6	54.7	54.5	351.8	212.5	6	40.0	78.3	240.0							13.1	(1) 20T INV. SCROLL, (1) 10T SCROLL	1-6,9,11,12,14
RTU-B-3	ROOF - AREA B	AUX GYM 144	VX-112-12.5I	1850	1850	DIRECT PLENUM	5800	SIDE	1.25	2617	6.2	7.5	208/3	68 A	100 A	2200	6	0.67	79.1	66.0	57.3	57.1	162.4	138.6											18.2	(1) 12.5T INV. SCROLL	1-6,10-11
RTU-B-4	ROOF - AREA B	GYM 145	VX-312-30I	4200	2000	DIRECT PLENUM	12000	BOTTOM	0.75	1496	3.3	5.0	208/3	161 A	200 A	5100	4	0.33	79.6	66.3	55.2	55.2	411.6	315.1	2	47.2	88.1	530.3	0.09	150.0	110.0	26.9	1.8	14.5	(1) 15T INV. SCROLL, (1) 15T SCROLL	1-6,11-13	

NOTES:

1. GASKETED ACCESS DOORS WITH DOUBLE WALLED 2" R-13 GALVANIZED STEEL PANELS WITH THERMAL BREAK.

2. PROVIDE 2" MERV8 PRE-FILTER AND MERV13 FILTERS BEFORE COILS.

3. PROVIDE 120V/1PH (FLA=8A) GFI SERVICE OUTLET FOR SEPARATE POWER.

4. PROVIDE FACTORY-INSTALLED SUPPLY AND EXHAUST FAN VFDs.

5. PROVIDE NEMA 3R UNIT DISCONNECT SWITCH FOR UNIT.

6. DESIGN BASIS: VALENT

7. FOR RTU-B-1, PROVIDE HIGH EFFICIENCY ENERGY WHEEL:
A. VENTILATION: 4050 CFM, PD: 0.90 in-wg
a. SUMMER= EDB:88.0°F, EWB:72.6°F, LDB: 78.6°F, LWB: 67.5°F, 67.6% TOTAL EFFECTIVENESS
b. WINTER= EDB:7.0°F, EWB:4.9°F, LDB: 50.9°F, LWB: 40.6°F, 69.4% TOTAL EFFECTIVENESS
B. EXHAUST: 4050 CFM, ENTERING SUMMER: 75.0°F/65.0°F, ENTERING WINTER: 68.0°F/51.5°F, PD: 0.9 in-wg
PROVIDE DIRECT PLENUM EXHAUST FAN, 4,050 CFM MAX (1,000 CFM MIN), ESP=0.5 IN WG, 1133 RPM, 1.56 BHP, 2 HP

8. PROVIDE DIRECT PLENUM EXHAUST FAN, 4,050 CFM MAX (1,000 CFM MIN), ESP=0.5 IN WG, 1133 RPM, 1.56 BHP, 2 HP

9. PROVIDE SPRING ISOLATED 24" ROOF CURB.

10. PROVIDE 24" ROOF CURB.

11. PROVIDE ACoustically LINED CURB PER DETAIL.

12. PROVIDE DX REHEAT COIL, LAT=71.6°F (105.4 MBH)

13. PROVIDE 30" ROOF CURB.

14. RTU-B-2 EVENT MODE IS FOR KITCHEN MAKE-UP AIR.

REMOTE CONDENSING UNIT (RCU) SCHEDULE

DWG LABEL	LOCATION	SERVES	MODEL NO.	REFRIG.	SUCTION SIZE	LIQUID SIZE	NOMINAL CAPACITY	COOLING CAPACITY	COMPRESSOR QTY & TYPE	ELECTRICAL				NET WEIGHT (LBS)	NOTES
										EER	MCA	MOP	V/PH		
RCU-B-2	ROOF - AREA B	HP-B-1	TRUZAD12KA70NA	R-410a	1/2"	1/4"	1 TON	12000 Btu/h	1 INVERTER TWIN ROTARY	13	11.0 A	15 A	208 V1ø	90	1-10

NOTES:
1. DESIGN BASIS: TRANE/MITSUBISHI
2. PROVIDE NEMA 3R DISCONNECT.
3. PROVIDE DEFROST CONTROLS.
4. VERIFY LINE SIZES WITH MANUFACTURER.
5. PROVIDE LOW AMBIENT OPERATION BELOW 60°F.
6. PROVIDE INTERNAL THERMAL PROTECTION.
7. PROVIDE BRAZED TUBING REFRIGERANT LINE SETS AND COUPLINGS.
8. FIELD CHARGE REFRIGERANT FOR SUPPLY LINE, CONDENSER AND COILS.
9. PROVIDE POWER TO INDOOR UNIT FROM RCU.
10. PROVIDE 24" EQUIPMENT SUPPORT STAND.

REHEAT COIL (RHC) SCHEDULE

REHEAT COIL (RHC) SCHEDULE																				
DWG LABEL	SERVES	LOCATION	EQUIP SERVED	DESIGN MAKE: PRECISION COILS MODEL:	DUCT SIZE (IN X IN)	FACE AREA (SF)	FACE VELOCITY (FPM)	TUBE WALL THICKNESS (IN)	AIRSIDE DATA					HYDRONIC DATA					STEAM INLET PRESS. (PSI)	NOTES
									NO. ROWS	AIRFLOW	APD (IN. WC)	EAT (°F)	LAT (°F)	HEAT CAP. (MBH)	HWS (°F)	HWR (°F)	GPM	WPD (FT HD)		
RHC-B-144	AUX GYM 144	AUX GYM 144	RTU-B-3	D5WB	36x36	9.00	609	0.020	2	5480	0.36	47.0	85.0	289.7	160	110	14.72	6.90	N/A	1
RHC-B-145	WEIGHT ROOM 145	GIRLS TOILET 143	RTU-B-3	D5WB	12x12	1.00	220	0.020	3	220	0.11	47.0	85.0	10.97	160	109.8	0.55	0.13	N/A	1
RHC-B-156	AUDITORIUM / STAGE	STAGE 156	RTU-B-1	N/A	54x36	13.50	607	0.020	2	8200	0.08	50.0	86.8	325.8			N/A		3	1.2
RHC-B-147	CAFETERIA 147	CAFETERIA 147	RTU-B-2	N/A	30x28	5.83	840	0.020	1	4900	0.20	47.0	86.4	208.5			N/A		3	1.2
RHC-B-171	CAFETERIA 147	CAFETERIA 147	RTU-B-2	N/A	18x14	1.75	514	0.020	1	900	0.07	47.0	85.6	37.5			N/A		3	1.2
NOTES: 1. COILS SHALL HAVE SAME SIDE CONNECTIONS. 2. DESIGN MAKE: USA COIL																				

PUMP (P) SCHEDULE

EQUIP NO.	LOCATION	TYPE	SERVES	SERIES/ MODEL NO.	MODEL / SIZE	FLOWRATE (GPM)	WPD (FT HD)	MAX. OPER. TEMP (°F)	MIN. EFF. %	SUCTION CONNECTION (IN)	DISCHARGE CONNECTION (IN)	MOTOR		ELECTRICAL		NOTES
												RPM	HP	V/PH	FLA	
P-B-1	GYMNASIUM 145	Wet Rotor Circulator	RTU-B-4	ecocirc	ecocirc 19-16	7	5	230.0	34.9	1"	1"	3800	0.08	115 V/1	1	1,2,3,4

NOTES:
1. DESIGN BASIS: BELL & GOSSETT
2. PROVIDE NEMA12 DISCONNECT
3. PROVIDE ELECTRICALLY COMMUTATED PERMANENT MAGNET MOTOR (ECMP/PM).
4. PROVIDE MAXIMUM IMPELLER FOR NON-OVERLOADING CONDITIONS.

HEAT PUMP (HP) SCHEDULE

DWG LABEL	LOCATION	DESIGN MAKE: TRANE MITSUBISHI MODEL:	UNIT TYPE	NOMINAL CAP.		SUPPLY FAN SETTING	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	SOUND PRESS. (dBA)	REFRIG PIPE DIM LIQUID/ SUCTION (inch)	ELECTRICAL DATA				NOTES
				CLG (BTU/h)	HTG (BTU/h)						VOLT/PH	MCA	MOP		
HP-B-1	WEIGHT RM 145	PEADA0121AA80A	4-WAY CEILING CASSETTE	12000	18000	HIGH	353	--	27-31-34	1/4 / 1/2	208V/1PH	2.23	15		1, 2, 3, 4, 5, 6, 7

NOTES:
1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DBWB), OUTDOOR OF 96°F (DB).
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 10°F (DB), OUTDOOR OF 45°F (WB).
3. SEE OUTDOOR UNIT SCHEDULE FOR OUTDOOR AMBIENT CONDITIONS, CONNECTED CAPACITY, AND OTHER FACTORS ASSOCIATED WITH CORRECTED CAPACITIES.
4. SEE SCHEMATIC PIPING/CONTROL DIAGRAM FOR INDICATION OF REQUIRED INDOOR UNIT REMOTE CONTROLLERS, SYSTEM CONTROLLERS, AND INTEGRATION DEVICES.
5. FULL DEMAND CORRECTED CAPACITY INCLUDES DE-RATE ASSOCIATED WITH INDOOR VS. OUTDOOR CONNECTED CAPACITY INDICATED ON OUTDOOR UNIT SCHEDULE FOR ASSOCIATED SYSTEM.
6. PROVIDE INTEGRAL CONDENSATE PUMP WITH 33" LIFT CAPABILITY.
7. PROVIDE TOGGLE DISCONNECT.

FAN (PRE) SCHEDULE

DWG LABEL	SERVES	TYPE	MODEL NO.	FAN DATA					ELECTRICAL				NOTES
				CFM	SP (IN WG)	SONES	RPM	TIP SPEED (FPM)	DRIVE	BHP	HP	V/PH	
PRE-B-1	LOCKER ROOMS	CENTRIFUGAL DOWNBLAST	210C1TD (VF2)	1850	0.38	4.9	1725	3110	ECM	0.211	0.75	208 V1ø	ALL

NOTES:
1. DESIGN BASIS: LOREN COOK
2. REUSE EXISTING ROOF CURB. PROVIDE CURB ADAPTER.
3. PROVIDE EC MOTOR.
4. PROVIDE HINGED CURB.
8. PROVIDE MOTORIZED AUTOMATIC AIR DAMPER (AAD) AND ACTUATOR BELOW ROOF STRUCTURE.
9. PROVIDE MOTOR STARTER
10. PROVIDE NEMA 1 DISCONNECT.
11. SONES, TIP SPEED AND BHP ARE MAXIMUM ALLOWABLE. CFM, SP AND OPENING ARE MINIMUM ALLOWABLE.

ROOFTOP HOOD (RTH) SCHEDULE

ROOFTOP HOOD (RTH) SCHEDULE													
DWG LABEL	SERVES	MODEL NO.	TYPE	CFM	VENT SIZE (IN x IN)	HOOD SIZE (IN x IN)	HOOD HEIGHT	CURB HEIGHT (IN)	FREE AREA (S.F.)	VELOCITY (FPM)	SP (IN WG)	HOOD FINISH	NOTES
RTH-B-1	GYM 145	42x42GR	RELIEF	6000	42x42	77x75	24.00	10	12.25	490	0.08	KYNAR	1,2,3,4
RTH-B-2	GYM 145	42x42GR	RELIEF	6000	42x42	77x75	24.00	10	12.25	490	0.08	KYNAR	1,2,3,4
NOTES:													
1.	DESIGN BASIS: LOREN COOK				3.	PROVIDE MOTORIZED AUTOMATIC AIR DAMPER (AAD) AND ACTUATOR BELOW ROOF STRUCTURE.							
2.	PROVIDE 14" CURB FOR RELIEF.					VERIFY EXISTING ROOF CURB AND VENT SIZE. MATCH EXISTING.							

LOUVER (L) SCHEDULE

DWG LABEL	SERVES	MODEL NO.	TYPE	LENGTH (IN)	HEIGHT (IN)	DEPTH (IN)	FREE AREA (S.F.)	AIRFLOW (CFM)	VELOCITY (FPM)	MAX APD (IN WG)	NOTES
L-B-1	AUX GYM 144	ESD-603	RELIEF	36	24	6	2.60	3950	1520	0.37	1-6

NOTES:
1. DESIGN BASIS: GREENHECK
2. PROVIDE WITH KYNAR FINISH
3. COLOR TO BE SELECTED BY ARCHITECT.
4. PROVIDE MOTORIZED AUTOMATIC AIR DAMPER (AAD).
5. PROVIDE WITH ALUMINUM BROSSCREEN IN REMOVABLE FRAME.
6. PROVIDE WITH EXTENDED SILL.

BORDEN MIDDLE SCHOOL BUILDING/EQUIPMENT VENTILATION CALCULATIONS

EQUIPMENT NUMBER	ZONE ID			MINIMUM VENTILATION RATES									
	ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	Az - AREA (SF)	Pz - ZONE OCCU. #/1000 FT	ZONE OCCU.	Rp (CFM/ Person)	RpP	Ra (CFM/SF)	RaA	Vbz (CFM)	EZ	Voz (CFM)
RTU-B-1	156	STAGE	Stages, studios	692	70	49	10	490	0.06	42	532	0.8	665
	157	AUDITORIUM	Auditorium seating area	3318	150	498	5	2490	0.06	199	2689	0.8	3360
RTU-B-4	145	MAIN GYM PLAYING AREA	Gym, sports arena (play area)	5052	7	36	20	720	0.18	909	1629	0.8	2035
	145	MAIN GYM BLEACHERS	Spectator areas	1408	150	212	7.5	1590	0.06	84	1674	0.8	2095
RTU-B-3	144	AUX GYM PLAYING AREA	Gym, sports arena (play area)	3014	7	22	20	440	0.18	543	983	0.8	1230
	144	AUX GYM BLEACHERS	Spectator areas	312	150	47	7.5	353	0.06	19	371	0.8	465
	110	WEIGHT RM	Health club/weight rooms	338	10	4	20	80	0.06	20	100	0.8	125
	104	OFFICE	OFFICE SPACE	146	5	1	5	5	0.06	9	14	0.8	15
RTU-B-2	111	OFFICE	OFFICE SPACE	146	5	1	5	5	0.06	9	14	0.8	15
	147	CAFETERIA	Cafeteria/fast-food dining	3110	100	311	7.5	2333	0.18	560	2892	0.8	3615

NOTES:
Rp = PEOPLE OUTDOOR AIR RATE, Ra = AREA OUTDOOR AIR RATE, Vbz = BREATHING ZONE OUTDOOR AIRFLOW ,
Ez = AIR DISTRIBUTION CONFIGURATION, Voz = ZONE OUTDOOR AIRFLOW

BORDEN MIDDLE SCHOOL BUILDING/EQUIPMENT VENTILATION CALCULATIONS

EQUIPMENT NUMBER	ZONE ID			MINIMUM VENTILATION RATES									
	ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	Az - AREA (SF)	Pz - ZONE OCCU. #/1000 FT	ZONE OCCU.	Rp (CFM/ Person)	RpP	Ra (CFM/SF)	RaA	Vbz (CFM)	EZ	Voz (CFM)
PRE-B-1	138	BOYS LOCKER	LOCKER	1052	0	0	0	0	0.5	526	526	1	525
	142	GIRLS LOCKER	LOCKER	1028	0	0	0	0	0.5	514	514	1	515
	108	TOILET	TOILET/SHOWER	121	3	3	50	150	0	0	150	1	150
	109	TOILET	TOILET/SHOWER	121	3	3	50	150	0	0	150	1	150
	104	OFFICE	OFFICE SPACE	146	5	1	5	5	0.06	9	14	0.8	15
	111	OFFICE	OFFICE SPACE	146	5	1	5	5	0.06	9	14	0.8	15
	103	STORAGE	Occupiable storage rooms for liquids or gels	45	2	1	5	5	0.12	5	10	0.8	15
	112	STORAGE	Occupiable storage rooms for liquids or gels	227	2	1	5	5	0.12	27	32	0.8	40
PRE-B-1	110	WEIGHT RM	Health club/weight rooms	338	10	4	20	80	0.06	20	100	0.8	125

NOTES:
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