

OUTSIDE AIR CALCULATIONS*												
UNIT	OCCUPANCY CLASS/AREA [SF] (Az)	OCCUPANCY DENSITY [#]/1,000 SF	CALCULATED OCCUPANCY [# PEOPLE](Pz)	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE [CFM/PERSON](Rp)	CALCULATED PEOPLE RATE [CFM](Rp x Pz)	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE [CFM/SF](Ra)	CALCULATED AREA RATE [CFM](Ra x Az)	REQUIRED OUTSIDE AIR RATE [CFM](Vbz) = [(Rp*Pz)+(Ra*Az)] / Ez	EXHAUST AIRFLOW RATE [CFM/SF]	CALCULATED EXHAUST RATE [CFM]	SUPPLIED EXHAUST AIR [CFM]	SUPPLIED OUTSIDE AIR [CFM]
RTU-1 KITCHEN ROOFTOP UNIT MAU-1 MAKEUP AIR UNIT	KITCHEN (COOKING) 972 SF	20	19.44	7.5	145.8	0.12	116.64	328.05	0.7	-682.5	-2925	2275 [RTU-1 + MAU-1]
	OFFICE SPACE 48 SF	5	0.24	5	1.2	0.6	28.8	37.5	--	--	--	
RTU-2 DINING ROOFTOP UNIT	DINING 771 SF	70	54	7.5	405	0.18	138.78	679.73	--	--	--	1000 [RTU-2]
	CORRIDORS 143 SF	--	--	--	--	0.06	8.58	8.6	--	--	--	
	TOILET ROOMS - PUBIC 189 SF	--	--	--	--	--	--	--	50 CFM/WATER CLOSET OR URINAL	-100	-100	

\*PER ASHRAE 62.1-2013  
\*\*ZONE AIR DISTRIBUTION EFFECTIVENESS = 0.8

### GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE

TAG	DESCRIPTION	FACE SIZE	MATERIAL	FINISH	MOUNTING	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		NOTES
								MANUFACTURER	MODEL	
BS1	BATHROOM AIR PURIFICATION UNIT	5.44" X 16"	ALUMINUM	STAINLESS STEEL	GYP CEILING	TUV	GC	RGF ENVIRONMENTAL GROUP	BRU ASSEMBLY	SEE ELECTRICAL SHEETS FOR CONNECTION INFORMATION
CD1	PERFORATED CEILING DIFFUSER	24" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4320A TYPE L	PROVIDE INTEGRAL OBD
CD2	PERFORATED CEILING DIFFUSER	24" X 12"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4320A TYPE L	PROVIDE INTEGRAL OBD, REMOVE 4-WAY DEFLECTOR
ER1	PERFORATED CEILING EXHAUST	12" X 12"	ALUMINUM	WHITE	GYP CEILING	GC	GC	NAILOR	4330R TYPE S	PROVIDE INTEGRAL OBD
RG1	PERFORATED CEILING RETURN	48" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4330R TYPE L	
RG2	PERFORATED CEILING RETURN	48" X 24"	ALUMINUM	WHITE	GYP CEILING	GC	GC	NAILOR	4330R TYPE S	
RG3	PERFORATED CEILING RETURN	24" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAILOR	4330R TYPE L	
SR1	ADJUSTABLE TURBO NOZZLE	SEE NECK SIZE	ALUMINUM	WHITE	WALL	GC	GC	AIR CONCEPTS	ANR-14	PROVIDE WITH CONCEALED MOUNTING AND FACE-ACCESSIBLE OBD
SR2	DOUBLE DEFLECTION SUPPLY REGISTER	SEE NECK SIZE	ALUMINUM	WHITE	WALL	GC	GC	NAILOR	51DH	PROVIDE INTEGRAL OBD

### VIROGUARD SCHEDULE

TAG	QUANTITY	DESCRIPTION	DUCT CONNECTION SIZE	FAN	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN
VG-1	1	VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM	18" X 18"	CAPTIVE-AIRE DU240HFA	TDC	GC	ENVIROMATIC

### FAN SCHEDULE

TAG	DRIVE TYPE	EXHAUST FLOW [CFM]	E.S.P. [in. W.C.]	WEIGHT [lbs]	ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
					MOTOR POWER	V/P/H			MANUFACTURER	MODEL	
EF-1	DIRECT	3200 CFM	1.20 in-wg	400	3 HP	208/3/60	HS	GC	CAPTIVE-AIRE	DU240HFA	FURNISHED WITH DISCONNECT AND VENTED ROOF CURB
EF-2	DIRECT	150 CFM	0.60 in-wg	100	0.18 HP	120/1/60	HS	GC	CAPTIVE-AIRE	DR12HFA	FURNISHED WITH DISCONNECT, VARIABLE SPEED CONTROLLER, BACKDRAFT DAMPER AND ROOF CURB

### MAKEUP AIR UNIT SCHEDULE

TAG	DESCRIPTION	AIRFLOW		INPUT [MBH]	HEATING CAPACITY		EAT [°F]	APPROXIMATE WEIGHT [lbs]	ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
		SUPPLY FLOW [CFM]	E.S.P. [in. W.C.]		OUTPUT [MBH]	MAXIMUM TURNDOWN			MOTOR POWER	V/P/H			MANUFACTURER	MODEL	
MAU-1	MAKEUP AIR UNIT	1950	0.80	225	220	12.5:1	0°F	650	2 HP	208/3/60	HS	GC	CAPTIVE-AIRE	A1-D.250-G10	FURNISHED WITH DISCONNECT, ROOF CURB, SCREEN INTAKE, AND WASHABLE ALUMINUM FILTERS

### CONDENSING UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY [TONS]	NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT TYPE	REFRIGERANT CHARGE	WEIGHT	ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
								MOC	FLA	V/P/H			MANUFACTURER	MODEL	
CU-1	WALK-IN COOLER REMOTE CONDENSING UNIT	--	1	1	R-404A		200	15 A	6.5 A	208/3/60	WCS	GC	HARFORD	PCL99MOP-3	FURNISHED WITH WALK-IN COOLER
CU-2	ICE MAKER - REMOTE CONDENSER	--	0	1	R-404A	11 lbs 7.4 oz	100			120/1/60	KES	GC	-	-	FURNISHED WITH ICE MAKER
CU-3	ICE MAKER - REMOTE CONDENSER	--	0	1	R-404A	11 lbs 7.4 oz	100			120/1/60	KES	GC	-	-	FURNISHED WITH ICE MAKER

### KITCHEN HOOD SCHEDULE

TAG	DESCRIPTION	MAX COOKING TEMP.	EXHAUST PLENUM				PERFORATED SUPPLY PLENUMS										BASIS FOR DESIGN				REMARKS					
			AIRFLOW [CFM]	SP [in. W.C.]	DUCT COLLARS		SP [in. W.C.]	SUPPLY PLENUM LENGTH	SUPPLY PLENUM WIDTH	MAU PLENUM			AC PLENUM		NUMBER OF LIGHT FIXTURES	APPROXIMATE WEIGHT [lbs]	FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL						
					NO.	WIDTH				LENGTH	NO.	DIAMETER														
HD-1	TYPE I CANOPY HOOD WITH PERFORATED MAU AND AC SUPPLY PLENUMS	600°F	3200	0.86	2	10"	15"	14' - 3"	4' - 3"	0.2	15' - 3"	22"	1950	3	10"	28"	800	7	8"	10	1200	HS	GC	CAPTIVE-AIRE	5424 ND-2-ACPS5-F	MAT'L: 18 GA. TYPE 430 SS. PROVIDE WITH 16" TALL HE SS FILTERS, INTEGRAL UTILITY CABINET, ANSUL SYSTEM, DUCT COLLAR TEMPERATURE SENSOR, PREWIRE PACKAGE, SPARE FIRE SYSTEM DRY CONTACT, AND 4-POLE 20A CONTACTOR

### ROOFTOP UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY [TONS]	EER	AIRFLOW			NET COOLING CAPACITY				HEATING CAPACITY			# OF COMPRESSORS	# OF CIRCUITS	REFRIG. TYPE	REFRIG. CHARGE	APPROX. WEIGHT [lbs]	ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS	
				TOTAL [CFM]	OA [CFM]	ESP [in. W.C.]	TOTAL [MBH]	SENSIBLE [MBH]	EAT [DEG. F]	COND. EAT [DEG. F]	INPUT [MBH]	OUTPUT [MBH]	EAT [DEG. F]						MOC	FLA	V/P/H			MANUFACTURER	MODEL		
RTU-1	KITCHEN ROOFTOP UNIT	8.5	12	3400	600	0.8	113	68	75	67	95	180	184	59	2	2	R-410A	19.8	1300	60 A	39.0 A	208/3/60	HES	GC	CARRIER	48HC_D09	FURNISHED WITH HINGED ACCESS PANELS, STANDARD ECONOMIZER W/ DUAL ENTHALPY CONTROLS, BAROMETRIC RELIEF, SUP. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, MERV-8 FILTERS, CURB, HAIL GUARD, DISCONNECT, & UNIT-MOUNTED NON-POWERED CONVENIENCE RECEPTACLE
RTU-2	DINING ROOFTOP UNIT	10	12	4000	900	0.8	115	69	77	68	95	224	184	60	2	2	R-410A	25.6	1500	70 A	49.0 A	208/3/60	HES	GC	CARRIER	48HC_D11	FURNISHED WITH HINGED ACCESS PANELS, STANDARD ECONOMIZER W/ DUAL ENTHALPY CONTROLS, BAROMETRIC RELIEF, SUP. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, MERV-8 FILTERS, CURB, HAIL GUARD, DISCONNECT, & UNIT-MOUNTED NON-POWERED CONVENIENCE RECEPTACLE

### AIR BALANCE SCHEDULE

Tag	Supply Flow [CFM]	Return Flow [CFM]	Exhaust Flow [CFM]	Subtotal [CFM]
EF-1	0	0	3200	-3200
EF-2	0	0	150	-150
MAU-1	1950	0	0	1950
RTU-1	3400	2800	0	600
RTU-2	4000	3100	0	900
Net Pressurization [CFM]				100

### CONTROL FUNCTIONS

- THE MAIN COOKING EXHAUST FAN AND MAKE-UP AIR UNIT SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.
- THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE OFFICE. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN THE HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.
- THE THERMOSTATS SHALL DETERMINE OCCUPIED/UNOCCUPIED STATUS BASED ON THE SCHEDULE IN THE ENERGY MANAGEMENT SYSTEM.

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Contents:  
HVAC SCHEDULES

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