

ROOF TOP UNIT SCHEDULE

UNIT ID	MANUFACTURER	EFFICIENCY	MODEL	AREA SERVED	NOMINAL TONS	SUPPLY FAN				HEATING				COOLING				ELECTRICAL				COP @47°F	EER	IEER	SEER	OPERATING WEIGHT	NOTES	
						TOTAL CFM	OUTSIDE AIR	EXT. OP	TOT. OP	RPM	HP	HP MBH	AUX KW	TOTAL MBH	SENS. MBH	AMBIENT DB	EXT. DB	INT. WB	VOLTS	PHASE	FLA							MCA
RTU-1	CARRIER	STANDARD	50TCD08	KITCHEN	10	3000	700	0.58	0.78	847	3	61.8	12.0	111.5	82.3	100.1	61.0	68.1	208	3	94	95	100	3.4	11.0	12.2	1290	1-19
RTU-2	CARRIER	STANDARD	50TCD08	SERVICE STATION	7.5	2625	500	EX	EX	-	3	48.0	12.0	81.4	55.3	100.1	78.0	68.6	208	3	82	83	90	3.4	11.2	12.2	1176	1-19
RTU-3	CARRIER	STANDARD	50TCD08	DINING	8.5	3400	500	EX	EX	-	3	0.0	31.8	96.0	66.3	100.1	77.1	68.1	208	3	97	120	125	3.4	11.2	12.2	1290	1-17

- NOTES:**
- ELECTRICAL CONNECTION TO BE SINGLE POINT AND TO BE THROUGH THE BOTTOM OF THE UNIT.
 - PROVIDE DISCONNECT SWITCH AND AN UNPOWERED GFCI RECEPTACLE.
 - 1" ROOF CURB - CONTRACTOR SHALL FIELD INSULATE.
 - CABINET WITH 1/2" PBERGLASS INSULATION.
 - 2 STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR (SAY).
 - DUAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF.
 - PROVIDE 8-WIRE, 24VAC, AUTOMATIC CHANGEOVER, 2-STAAGE HEAT/COOL, REMOTELY PROGRAMMABLE THERMOSTAT.
 - REMOTE SENSORS SHALL BE PROVIDED IN SPACE W/RESD BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.
 - ANTI SHORT CYCLE TIMER.
 - THROWAWAY 2" FILTERS (MERV 8).
 - PROVIDE LOW AMBIENT COOLING CAPABILITY DOWN TO 0 DEGREE F.
 - PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
 - RETURN AIR SMOKE DETECTOR - UNIT MOUNTED.
 - MULTI SPEED INDOOR FAN BY SYSTEM.
 - PROVIDE EACH UNIT WITH FACTORY OPTIONAL CONDENSATE DRAIN PAN OVERFLOW SWITCH IF ACTIVATED SWITCH SHALL SHUT DOWN UNIT.
 - UNIT TO BE PROVIDED WITH H-MEASURER SYSTEM OPTION.
 - RTU-3 SHALL BE CONFIGURED WITH VERTICAL DISCHARGE FOR THE SUPPLY AND HORIZONTAL INTAKE FOR THE RETURN. PROVIDE WITH HORIZONTAL ECONOMIZER.

DBI HVAC NATIONAL ACCOUNTS
 DBI HAS NATIONALLY ACCREDITED TWO HVAC MANUFACTURERS TO SUPPLY ROOFTOP EQUIPMENT FOR THE BRAND. CONTACT INFORMATION IS AS NOTED FOR EACH OF THE MANUFACTURERS BELOW.

TRANE, INC
 ACCOUNT REPRESENTATIVE: JONATHAN RALYS
 P: 978.737.3814
 F: 978.737.3921
 E: JONATHAN.RALYS@TRANE.COM
 WEB: WWW.TRANE.COM

CARRIER CORPORATION
 ACCOUNT REPRESENTATIVE: PAUL HERT
 P: 315.432.3653
 F: 800.622.0343
 E: PAUL.HERT@CARRIER.UTCCOM
 E: STRATEGICACCOUNTS1@CARRIER.UTCCOM

FAN SCHEDULE

UNIT ID	MANUFACTURER	HOOD LENGTH	MODEL	CFM	TYPE	DRIVE	FAN RPM	S.P. (IN. W.G.)	HP	VOLTS	PHASE	SERVICE	INTERLOCKED WITH	NOTES/ACCESSORIES
EF-1	CAPTIME-AIRE	4'-0"	DL121FA	450	ROOF	DIRECT	1500	0.5	1/4	115	1	BACKHOUSE OVEN	HOOD CONTROL	1,2,3,4,5,6,7,8
EF-2	CAPTIME-AIRE	5'-3"	DL031FA	625	ROOF	DIRECT	1212	0.5	1/3	115	1	TOASTER AND TURBO	HOOD CONTROL	1,2,3,4,5,7,8
EF-3	CAPTIME-AIRE	-	CFA 250CA	225	CABINET	DIRECT	830	0.125	0.22	120	1	RESTROOMS	OCCUPANCY SENSORS	2, 6, 9
EF-4	CAPTIME-AIRE	-	CFA 250CA	225	CABINET	DIRECT	830	0.125	0.22	120	1	RESTROOMS	OCCUPANCY SENSORS	2, 6, 9

- NOTES-ACCESSORIES:**
- BROODSCREEN
 - PROOF DISCONNECT SWITCH
 - VARIABLE SPEED CONTROL
 - SPEED CONTROL SWITCH
 - THERMAL OVERLOAD PROTECTION
 - GRAVITY BACKCRAFT DAMPER
 - ROOF CURB
 - AMCA SEAL & UL CERTIFIED

HOOD SCHEDULE

UNIT ID	MANUFACTURER	HOOD LENGTH	MODEL	SERVICE	COOKING TEMPERATURE	EXHAUST AIR	EXHAUST COLLAR	SP	CONSTRUCTION	WEIGHT
HOOD-1	CAPTIME-AIRE	4'-0"	6624 VHR	BACK HOUSE OVEN	700 DEG F	450 CFM	10"	0.041"	430 STAINLESS STEEL	287 LBS
HOOD-2	CAPTIME-AIRE	5'-3"	3024 VHR	SANDWICH STATION	700 DEG F	625 CFM	10"	0.056"	430 STAINLESS STEEL	172 LBS

DIFFUSER AND REGISTER SCHEDULE

UNIT ID	MANUFACTURER	MODEL	SIZE	DESCRIPTION	REMARKS
A	METALAIR	5700 AL	24"x24"	ALUMINUM 2-CORE SQUARE FACE DIFFUSER WITH ROUND NECK, ALUMINUM WITH ADJUSTABLE DISCHARGE AND RADIAL OPPOSED BLADE DAMPER, MODEL DS	1,2,3,4,5
B	METALAIR	5700 AL	12"x12"	ALUMINUM 2-CORE SQUARE FACE DIFFUSER WITH ROUND NECK, ALUMINUM WITH ADJUSTABLE DISCHARGE AND RADIAL OPPOSED BLADE DAMPER, MODEL DS	1,2,3,4,5
C	METALAIR	RH	24"x24"	ALUMINUM RETURN GRILLE -0.667" SPACING SET AT 45 DEGREE ANGLE, VOLUME CONTROL, OPPOSED BLADE DAMPERS, MODEL FBDA	1,2,4
D	METALAIR	RH	12"x12"	ALUMINUM RETURN GRILLE -0.667" SPACING SET AT 45 DEGREE ANGLE, VOLUME CONTROL, OPPOSED BLADE DAMPERS, MODEL FBDA	1,2,4

- NOTES:**
- MAXIMUM NOISE CRITERION RATING < 35 DBA.
 - BAKED ENAMEL FINISH, COLOR TO BE SELECTED BY ARCHITECT.
 - DIFFUSERS SHALL BE 4-WAY BLOW UNLESS OTHERWISE INDICATED ON PLAN.
 - MOUNTING FRAME TYPE SHALL BE COORDINATED WITH CEILING/WALL CONSTRUCTION TYPE.
 - NECK SIZE SHALL BE AS SCHEDULED.
- ROUND NECK SIZE SCHEDULE**
- | | |
|-----------------|---------|
| 60 TO 100 CFM | 6" DIA |
| 101 TO 150 CFM | 8" DIA |
| 151 TO 200 CFM | 10" DIA |
| 201 TO 250 CFM | 12" DIA |
| 251 TO 300 CFM | 14" DIA |
| 301 TO 350 CFM | 16" DIA |
| 351 TO 400 CFM | 18" DIA |
| 401 TO 450 CFM | 20" DIA |
| 451 TO 500 CFM | 22" DIA |
| 501 TO 550 CFM | 24" DIA |
| 551 TO 600 CFM | 26" DIA |
| 601 TO 650 CFM | 28" DIA |
| 651 TO 700 CFM | 30" DIA |
| 701 TO 750 CFM | 32" DIA |
| 751 TO 800 CFM | 34" DIA |
| 801 TO 850 CFM | 36" DIA |
| 851 TO 900 CFM | 38" DIA |
| 901 TO 950 CFM | 40" DIA |
| 951 TO 1000 CFM | 42" DIA |

GENERAL NOTES:

- ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
- THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THE MECHANICAL DRAWINGS UNLESS OTHERWISE NOTED. ALL EQUIPMENT SHALL BE UL LISTED. VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND / OR INSTALLATION.
- ALL ROOF PENETRATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE. COORDINATE WITH OWNER'S ROOFING CONTRACTOR SO AS NOT TO VOID ANY EXISTING ROOF WARRANTIES.
- EACH UNIT GENERATING CONDENSATE SHALL BE PROVIDED WITH A CONDENSATE DRAIN WITH EXTERNAL, 4" DEEP P-TRAP, EXTEND DRAIN TO A ROOF MOUNTED SPLASH PAD OR AN ACCEPTABLE LOCATION REQUIRED BY CODE.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSION.
- ALL METAL DUCT AND AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH R-6, 75 DENSITY FOIL BACKED INSULATION WITH FIRE AND SMOKE RATING 25-50)
- ALL DUCTWORK SHALL BE FABRICATED, INSTALLED, SEALED, AND INSULATED PER THE LATEST ISSUE OF SMACNA LOW-VELOCITY DUCT MANUAL.
- UNLESS OTHERWISE NOTED, ALL SUPPLY TAKEOFFS SHALL HAVE A MANUAL VOLUME CONTROL DAMPER.
- ALL FLEX DUCT SHALL BE UL LISTED, R-6, FOIL-BACKED, CLASSIFIED AS A CLASS 1 AIR TIGHT, MAXIMUM LENGTH TO BE 12'-0" PER DROP OR PER LOCAL CODE.
- THE CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
- THE CONTRACTOR IS TO MAKE ALL LOW-VOLTAGE WIRING CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, ROOF TOP UNITS, SMOKE DETECTOR AND CONTRACTOR PANEL.
- PROVIDE AND INSTALL SMOKE DETECTORS IN EACH AIR CONDITIONING UNIT RETURN DUCT GREATER THAN 2000 CFM. CONTRACTOR SHALL PROVIDE INTERCONNECTION AND WIRE TO THE FIRE ALARM CONTROL PANEL IF REQUIRED. DETECTOR SENSORS SHALL BE REMOTE TEST STATIONS MOUNTED IN THE OFFICE NEAR THE RESPECTIVE THERMOSTATS. VERIFY CODE REQUIREMENTS FOR SMOKE DETECTORS IN BOTH THE SUPPLY AND RETURN AIR STREAMS.
- THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND / OR REPLACE ANY DEFECTIVE MATERIAL OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
- ALL WORK SHALL BE SUBJECT TO THE CONCURRENCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL, UPON COMPLETION OF PROJECT, PERFORM A COMPLETE TEST AND BALANCE OF ALL EQUIPMENT. PROVIDE A WRITTEN REPORT TO THE ARCHITECT. ALL CAPACITIES MUST BE SET TO WITHIN ±10% OF AMOUNT INDICATED ON THE FLOOR PLAN AND SCHEDULES.
- SEE HOOD SHEETS FOR HOOD SYSTEM REQUIREMENTS.

VENTILATION SCHEDULE

SYSTEMS	VENT/EXHAUST REQ'D.	MIN. REQUIRED VENT. (CFM)	TOTAL MIN. REQUIRED VENT. (CFM)	PROVIDED VENT. (CFM)	MIN. REQUIRED EXHAUST (CFM)	PROVIDED EXHAUST (CFM)
RTU-1	KITCHENBAR PREP	SEE 2012 VAMC CALCS	-	-	426	450
	STORAGE - BACK OF HOUSE	SEE 2012 VAMC CALCS	19	790	-	-
	DINING	SEE 2012 VAMC CALCS	225	-	-	-
	ENTRY/ORDER	SEE 2012 VAMC CALCS	188	-	-	-
	SERVING	SEE 2012 VAMC CALCS	76	-	-	-
	OFFICE	SEE 2012 VAMC CALCS	11	1,000	-	-
	RESTROOMS	SEE 2012 VAMC CALCS	-	-	140	225
	STORAGE - GAS STATION	SEE 2012 VAMC CALCS	27	-	-	-
	GAS STATION - SALES	SEE 2012 VAMC CALCS	252	-	-	-
TOTALS		798	798	1,700	566	675

AIR BALANCE SCHEDULE

UNIT	AREA	DIRTY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-1	BACK	0 CFM	0 CFM	3300 CFM	-
RTU-2	FRONT	0 CFM	7500 CFM	2500 CFM	-
RTU-3	FRONT	0 CFM	500 CFM	2500 CFM	-
EF-1	OVEN	-	-	-	450 CFM
EF-2	TOASTER	-	-	-	525 CFM
EF-3	RESTROOMS	-	-	-	225 CFM
EF-4	RESTROOMS	-	-	-	225 CFM
TOTAL		0 CFM	1200 CFM	8800 CFM	1425 CFM

BUILDING PRESSURE: 0.25 CFM POSITIVE

2012 VAMC EXHAUST CALCULATIONS

KITCHENBAR PREP	0.7 CFM/FT ² (TABLE 403.3)	400 FT ²	EXHAUST RATE= 280 CFM/MIN REQUIRED EXHAUST RATE
RESTROOMS	70 CFM/UNIT (TABLE 403.3)	2 UNITS	EXHAUST RATE= 140 CFM/MIN REQUIRED EXHAUST RATE

2012 VAMC VENTILATION CALCULATIONS

DINING

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0.7 CFM/PERSON (TABLE 403.3)
 P_z = 1 PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 253 FT²

V_{bz} = 180 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

$$V_{bz} = V_{bz} E_z$$

V_{bz} = 180 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 225 CFM/MIN. ZONE OUTDOOR AIRFLOW

ENTRY/ORDER

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0.7 CFM/PERSON (TABLE 403.3)
 P_z = 1 PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 830 FT²

V_{bz} = 151 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

$$V_{bz} = V_{bz} E_z$$

V_{bz} = 151 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 188 CFM/MIN. ZONE OUTDOOR AIRFLOW

SERVING

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0.7 CFM/PERSON (TABLE 403.3)
 P_z = 1 PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 253 FT²

V_{bz} = 61 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

$$V_{bz} = V_{bz} E_z$$

V_{bz} = 61 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 76 CFM/MIN. ZONE OUTDOOR AIRFLOW

STORAGE - BACK OF HOUSE

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0 CFM/PERSON (TABLE 403.3)
 P_z = 0 PEOPLE
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 128 FT²

V_{bz} = 15 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

$$V_{bz} = V_{bz} E_z$$

V_{bz} = 15 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 19 CFM/MIN. ZONE OUTDOOR AIRFLOW

STORAGE - GAS STATION

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0 CFM/PERSON (TABLE 403.3)
 P_z = 0 PEOPLE
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 183 FT²

V_{bz} = 22 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

$$V_{bz} = V_{bz} E_z$$

V_{bz} = 22 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 27 CFM/MIN. ZONE OUTDOOR AIRFLOW

GAS STATION - SALES

* SECTION 403.3.1.1 - EQUATION 4-1

$$V_{bz} = R_p P_z + R_r A_z$$

R_p = 0.7 CFM/PERSON (TABLE 403.3)
 P_z = 3 PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 R_r = 0.12 CFM/FT² (TABLE 403.3)
 A_z = 863 FT²

V_{bz} = 201 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

* SECTION 403.3.1.3 - EQUATION 4-2

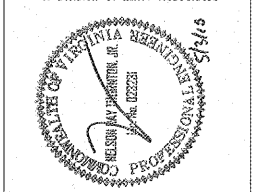
$$V_{bz} = V_{bz} E_z$$

V_{bz} = 201 CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 E_z = 0.80 ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)

V_{oz} = 252 CFM/MIN. ZONE OUTDOOR AIRFLOW

PROJECT NO.: 17229

NRD national restaurant designers
 ARCHITECTS & ENGINEERS
 3005 Carrington Mill Blvd., Morrisville, NC 27560
 ph: 919 544 7251 fax: 919 544 9399
 A Division of LMHT Associates



NO.	DESCRIPTION	DATE	SCALE	DRAWN	CKD	APPD
1	OWNER COMMENTS (RESTROOM CHANGE)	5/27/18				

DD FRESH BREW 1.0
 908 MARKET DRIVE, EMPORIA, VA

MECHANICAL SCHEDULES AND NOTES

PC# 358084

M-2.0