

### BLOWER COIL UNIT SCHEDULE

EQUIPMENT TAG	DESIGN COOLING AIRFLOW (CFM)	OUTDOOR AIRFLOW (CFM)	MINIMUM EXTERNAL STATIC PRESSURE (IN.W.G.)	FAN MOTOR (HP)	TOTAL COOLING CAPACITY (BTUH)	AIR CONDITIONS				WATER CONDITIONS		ELECTRICAL		BASIS OF DESIGN				
						LEAT-WB (DEG.F)	LEAS (DEG.F)	LAT-WB (DEG.F)	LAT (DEG.F)	CHILLED WATER FLOW (GPM)	VOLTAGE	PHASE	MCA	MOCP	MANUFACTURER	MODEL		
2ND FLOOR - HVAC BCU2-01	2200	305	1.0	2.0	92560	80.6	66.0	53.5	52.8	45	55	18.3	208	3	10.5	15	ENVIRO-TEC	VR

- NOTES:**
- OVERALL EQUIPMENT DIMENSIONS SHALL NOT EXCEED BASIS OF DESIGN UNIT DIMENSIONS. UNITS SHALL BE AS MANUFACTURED BY ENVIRO-TEC OR PRIOR APPROVED EQUIVALENT.
  - PROVIDE 2" 30% PLEATED (MERV-A8) FILTERS.
  - PROVIDE ACCESS DOOR- DOUBLE WALL DOOR WITH LIP RETURN FASTENERS.
  - PROVIDE FACTORY BASE RAILS.
  - PROVIDE MIXING RETURN AIR PLENUM. RETURN PLENUM SHALL BE PROPERLY SEALED AND INSULATED.
  - PROVIDE CONDENSATE FLOAT SWITCH.
  - PROVIDE DOOR INTERLOCK FUSIBLE CONNECT SWITCH.
  - PROVIDE EXTERNAL VIBRATION ISOLATORS - SPRING TYPE.
  - PROVIDE FAN CONTROL PACKAGE- STARTER, MOTOR FUSING, 240V STANDARD 50VA TRANSFORMER. PROVIDE 2-WAY, FULL-MODULATING, CHILLED WATER CONTROL VALVES.
  - PROVIDE HAND-OFF-TO SWITCH.
  - PROVIDE 1/2" GA. 304 STAINLESS STEEL EMERGENCY DRAIN PAN. SIDES SHALL BE MIN. 2" WITH 1/2" HEMM. PAN SHALL EXTEND 6" BEYOND ALL SIDES OF UNIT AND COIL PIPING CONNECTIONS. PROVIDE 1" CONDENSATE LINE TO FLOOR DRAIN. PIPE SHALL BE INSTALLED IN A MANNER THAT DOES NOT POSE A TRIPPING HAZARD.
  - PROVIDE HIGH EFFICIENCY MOTOR, WRING AND CONTROL FOR VARIABLE SPEED (VFD) APPLICATIONS.
  - PROVIDE UNLESS STEEL AND COIL CASING.

### DIFFUSERS, REGISTERS, AND GRILLES

DESIGN TAG	AIRFLOW		NECK SIZE	MAX. PRESS. DROP (IN.W.G.)	NOISE CRITERIA (dBA)	DESCRIPTION	BASIS OF DESIGN MANUF. / MODEL
	MIN. CFM	MAX. CFM					
IGV-1	140	220	8"	0.05 in-wg	20	24"x24" LAY-IN SUPPLY TYPE L	NAILOR / SPD
IC	221	315	10"	0.07 in-wg	20	24"x24" LAY-IN SUPPLY TYPE L	NAILOR / SPD
IC	0	1,000	16"x18"			NAILOR Egg Crate Face Return	NAILOR / S1EC

### GRAVITY INTAKE SCHEDULE

TAG	AIR FLOW (CFM)	MAX. EXT. STATIC PRESS.	BASIS OF DESIGN	
			MANUFACTURER	MODEL
IGV-1	305 CFM	0.02 in-wg	GREENHECK	GRSI-15

- NOTES:**
- PROVIDE ALUMINUM CONSTRUCTION HOUSING AND CURB CAP WITH PREUNCHED MOUNTING HOLES.
  - PROVIDE HINGED, ALUMINUM ROOF CURB WITH FOAM SEAL AND TIE-DOWN POINTS.
  - REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
  - REFER TO ARCHITECTURAL FOR ADDITIONAL INSTALLATION DETAILS.

### VAV TERMINAL UNIT SCHEDULE (ELECTRIC HEAT)

TAG	EQUIPMENT SERVED	LEVEL	COOLING		HEATING		ELECTRICAL		BASIS OF DESIGN MANUF. / MODEL		
			MAX. CFM	MIN. CFM	CFM	EAT	LAT	KW**		MCA**	MOCP**
VAV2-1	BCU2-01	2ND FLOOR - HVAC	1,100	330	559	55	83	4.9	17.35	20	ENVIRO-TEC / SDR
VAV2-2	BCU2-01	2ND FLOOR - HVAC	1,100	330	400	55	83	3.6	12.14	20	ENVIRO-TEC / SDR

- NOTES:**
- APPROVED MANUFACTURERS SHALL INCLUDE ENVIRO-TEC, NAILOR INDUSTRIES, PRICE, TITUS, KRUEGER, OR PRIOR APPROVED EQUIVALENT.
  - PROVIDE ELECTRIC HEATER WITH MAGNETIC CONTACTORS AND SSR/SCR CONTROL. PROVIDE 208V/3PH POWER. COORDINATE WITH ELECTRICAL.
  - VAV TERMINAL UNIT DDC CONTROLLER SHALL PROVIDED BY THE CONTROLS CONTRACTOR AND INSTALLED BY THE VAV TERMINAL UNIT MANUFACTURER. PROVIDE NECESSARY POWER TRANSFORMERS FOR CONTROLS.
  - VAV TERMINAL UNITS SHALL INCLUDE AN IDENTIFICATION TAG PROVIDED BY THE MANUFACTURER.
  - MAX. AIR PRESSURE DROP SHALL BE 0.4" W.G. BASED ON THE MAXIMUM COOLING AIRFLOW.
  - TERMINALS SHALL MEET REQUIREMENTS OF UL 181 AND NFPA 90A.
  - TERMINALS SHALL BE SINGLE DUCT, DDC WITH STANDARD MULTIPORT CENTER AVERAGING VELOCITY SENSOR.
  - UPSIZE BRANCH DUCT RUNOUT TO VAV TERMINAL UNIT INLET BY 2 INCHES IN DIAMETER.
  - CONTROL CONTRACTOR SHALL PROVIDE 120V TRANSFORMER AT EACH VAV TERMINAL UNIT FOR CONTROLS.
  - PROVIDE STAND-ALONE CONTROLS FOR VAV TERMINAL UNITS. PROVIDE NECESSARY HARDWARE AND SOFTWARE AS NECESSARY FOR FUTURE INTERLOCK OF VAV TERMINAL UNITS WITH BAS CONTROLS.
  - DURING HEATING MODE, LEAVING AIR TEMPERATURE SHALL BE CONTROLLED NOT TO EXCEED 15' F ABOVE SPACE TEMPERATURE SET-POINT.

### VARIABLE FREQUENCY DRIVE SCHEDULE

- NOTES:**
- REFER TO SPECIFICATION SECTION 23 09 20.
  - MECHANICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, AIR HANDLING UNITS, BLOWER COIL UNITS, EXHAUST FANS, CENTRIFUGAL PUMPS, ETC. SHALL HAVE VFD'S SUPPLIED BY ONE VFD MANUFACTURER.
  - ALL VFD'S SHALL BE 6 PULSE EXCEPT MOTORS SHALL BE 18 PULSE.
  - PROVIDE VFD'S WITH CIRCUIT BREAKER DISCONNECT AND BYPASS. VFD'S FOR AIR HANDLING UNIT, BLOWER COIL UNITS AND EXHAUST FANS SHALL BE PROVIDED WITHOUT A BYPASS. VFD'S SHALL BE ABB ACH SERIES, EMERSON, YASKAWA, DANFOSS OR PRIOR APPROVED EQUIVALENT.
  - REFER TO THE INDIVIDUAL EQUIPMENT SCHEDULES FOR THE HORSEPOWER REQUIREMENTS FOR EACH PIECE OF EQUIPMENT REQUIRING VFD'S.
  - PROVIDE EQUIPMENT START-UP, TRAINING AND TROUBLESHOOTING BY A CERTIFIED FACTORY REPRESENTATIVE AFTER ALL MECHANICAL SYSTEMS AND BUILDING AUTOMATION SYSTEM CONTROLS ARE IN PROPER OPERATING CONDITION.
  - UNLESS OTHERWISE NOTED, ALL VFD'S SHALL BE PROVIDED WITH A UL, NEMA-1 RATED ENCLOSURE.
  - CONTRACTOR SHALL COORDINATE AND VERIFY COMPATIBILITY OF EQUIPMENT MOTOR HP WITH VFD'S.
  - VFD'S LOCATED MORE THAN 10 FT. AWAY OR OUTSIDE OF THE EQUIPMENT MOTOR DISCONNECTS LINE OF SIGHT, SHALL BE INTERLOCKED WITH THE MOTOR DISCONNECT. REFER TO ELECTRICAL.
  - PROVIDE JUNG OUTPUT FILTERS TO ALL VFD'S WHICH REQUIRE A WIRING LENGTH IN EXCESS OF 100 FEET TO SERVE ELECTRIC MOTORS LOCATED DOWNSTREAM OF THE VFD. CONTRACTOR SHALL COORDINATE WITH THE VFD MANUFACTURER FOR PROPER SELECTION, COMPATIBILITY AND INSTALLATION OF VFD'S, OUTPUT FILTERS AND EQUIPMENT MOTORS.

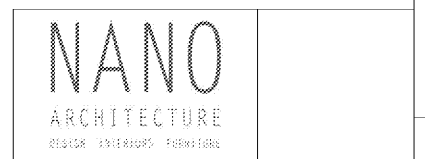
### SHEET NOTES:

- EXISTING SYSTEMS SHOWN ON THESE DRAWINGS ARE FROM BEST AVAILABLE INFORMATION AND LIMITED JOB-SITE ACCESS. EXISTING CONSTRUCTION DESIGN DRAWINGS ARE AVAILABLE FOR REFERENCE USE BY THE CONTRACTOR. CONTRACTOR SHALL VISIT THE JOB-SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS.
- CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS SHOWING PROPOSED LOCATION, ROUTING AND INSTALLATION OF NEW SYSTEMS, COMPONENTS AND ACCESSORIES. REFER TO SPECIFICATIONS FOR SHOP DRAWING REQUIREMENTS. EQUIPMENT SHALL NOT BE RELEASED FOR FABRICATION UNTIL DETAILED SHOP DRAWINGS HAVE BEEN APPROVED BY THE PROFESSIONAL OF RECORD.
- EXISTING SPRINKLER AND CHILLED WATER PIPING TO REMAIN. PORTIONS OF THE SPRINKLER SYSTEM PIPING AND AND COMPONENTS MAY NEED TO BE RELOCATED, RE-PLACED OR REPLACED TO ACCOMMODATE NEW WORK.
- EXISTING CHILLED WATER PIPING TO REMAIN. PORTIONS OF THE CHILLED WATER PIPING SHALL BE REMOVED AND REPLACED WITH NEW PIPING AS REQUIRED TO ACCOMMODATE CONNECTION TO NEW EQUIPMENT (BLOWER COIL UNIT(S), ETC.) REFER TO DETAILS AND SCHEMATICS FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL REPLACE ALL ACCESSIBLE CHILLED WATER PIPING INSULATION THAT IS CURRENTLY DAMAGED OR DAMAGED DURING CONSTRUCTION. PROVIDE BALANCING DAMPER AT ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DUCTWORK BRANCHES TO DIFFUSERS, GRILLES, ETC.
- INSTALL NEW INSULATION ON ALL NEW CHILLED WATER AND CONDENSATE DRAIN PIPING. REMOVE EXISTING AND INSTALL NEW INSULATION EXTENDING AT LEAST 5FT. IN BOTH DIRECTIONS FROM TIE-IN POINT OF NEW CHILLED WATER PIPING.
- CONTRACTOR SHALL OPEN AND CLEAN ALL EXISTING CONDENSATE DRAIN LINES BEFORE CONNECTING NEW EQUIPMENT TO THEM.
- NOT ALL PIPING AND DUCTWORK SYSTEM COMPONENTS AND ACCESSORIES (I.E. VALVES, SENSORS, DAMPERS, ETC.) ARE SHOWN. REFER TO DETAILS AND SCHEMATICS FOR ADDITIONAL REQUIREMENTS.



MECHANICAL, ELECTRICAL, PLUMBING FIRE PROTECTION  
 3020 N. I-10 SERVICE RD.  
 SUITE 200 METairie LA 70002  
 504-885-0110 FAX 504-885-0122

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HVAC FLOOR PLAN

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