

GRILLE, REGISTER, AND DIFFUSER SCHEDULE					
PLAN SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NO.	MATERIAL	FINISH	NOISE CRITERIA
CDR-1	SQUARE FACE, ROUND NECK, 4-WAY DEFLECTION CEILING DIFFUSER, SPRING LOCK INNER CORE, FOR LAY-IN CEILING INSTALLATION.	PRICE SCD (4C)	STEEL	WHITE	-
CDR-2	SQUARE FACE, ROUND NECK, 4-WAY DEFLECTION CEILING DIFFUSER, SPRING LOCK INNER CORE, FOR SURFACE MOUNT INSTALLATION.	PRICE SCD (4C)	STEEL	WHITE	-
RG-1	SQUARE PATTERN GRILLE, FIXED CORE OF 1/2"x1/2"x1/2" FABRICATED ALUMINUM SQUARES, FLAT FRAME WITH 1 1/4" MARGIN, FOR LAY-IN CEILING INSTALLATION.	PRICE 80	ALUMINUM	WHITE	-

NOTES:
SEE PLANS FOR QUANTITY AND SIZES.
M.C. TO FIELD VERIFY CEILING TYPE FOR ALL GRD BEFORE PURCHASING EQUIPMENT. PROVIDE REQUIRED MOUNTING.

SYSTEM	LOW PRESSURE			MED. PRESS.		HIGH PRESS.		INSULATION			NOTES	
	MAX. PRES.	SEAL		MAX. PRES.	SEAL A	MAX. PRES.	SEAL A	INTERNAL	THICKNESS	EXTERNAL		THICKNESS
SUPPLY AIR WITHIN 10' OF UNIT	2"	X	-	-	-	-	-	YES	1"	NO	-	-
SUPPLY AIR BEYOND 10' OF UNIT	2"	X	-	-	-	-	-	NO	-	YES	2" FSK	-
RETURN AIR WITHIN 10' OF UNIT	2"	-	X	-	-	-	-	YES	1"	NO	-	-
RETURN AIR BEYOND 10' OF UNIT	2"	-	X	-	-	-	-	NO	-	YES	2" FSK	-
OUTSIDE AIR/MIXED AIR	2"	-	X	-	-	-	-	NO	-	YES	3" FSK	-

NOTES:

ROOF HOOD SCHEDULE - BASE DESIGN							
RH #	THROAT SIZE DIMENSION (IN)	THROAT AREA (FP)	DAMPER BDD OR MOD	CONSTRUCTION	MANUFACTURER & MODEL NO.	COMMENTS	NOTES
3	8X24	1.33	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1-3

NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSIONAL, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT.
1. M.C. TO PROVIDE ROOF HOOD WITH ALUMINUM BIRDSCREEN.
2. M.C. SHALL PROVIDE ROOF CURB, CURB INSTALLATION BY G.C.
3. M.C. SHALL PROVIDE LOW VOLTAGE MOTORIZED DAMPER.

GAS FURNACE SCHEDULE - BASE DESIGN																
F #	TYPE	INPUT MBH	OUTPUT MBH	CFM	MIN. F.A.	EXT. S.P.	HEAT EXCH. MTL.	BLOWER							MANUFACTURER & MODEL NO.	NOTES
								SIZE	DRIVE	H.P.	ELEC. CHAR	PILOT	VENT	FILTER MERV 8 MIN.		
1	HORIZ	100	96	1450	350	0.6	ALUMINIZED STL	11X10	DIRECT	3/4	120/1	HOT S	3"	2" TA	YORK TM9V100C16MP12	1-4

NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSION, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT.
1. PROVIDE CONCENTRIC VENT. INSTALL PER MANUFACTURER INSTRUCTIONS. MAINTAIN MINIMUM CLEARANCES: 36" BETWEEN VENTS, 10'-0" FROM ANY FRESH AIR INTAKE.
2. PROVIDE CO₂ SENSOR, INSTALLATION BY CONTROLS CONTRACTOR. INTERLOCK CO₂ SENSOR WITH MOTORIZED DAMPER IN OUTSIDE AIR DUCT.
3. PROVIDE FURNACE WITH 2 STAGE HEATING.
4. DUCT SMOKE DETECTOR AND REMOTE TEST STATION PROVIDED BY AND INSTALLED BY E.C. REMOTE TEST STATION TO BE LOCATED IN OCCUPIED SPACE AND CONNECTION TO FIRE ALARM SYSTEM BY E.C. COORDINATE WITH E.C.

CONDENSING UNIT SCHEDULE - BASE DESIGN														
CU #	CONDENSING UNIT						EVAPORATOR UNIT						NOTES	
	NOMINAL TONNAGE	ELEC. CHAR	MCA	MOCP	S.E.E.R	WEIGHT (LBS)	MANUFACTURER & MODEL NO.	CFM	MAX S.P.	BLOWER MOTOR	ELEC. CHAR	MCA		MANUFACTURER & MODEL NO.
1	4	240/1	24	40	14	210	YORK YC2E48	1450	0.3	-	SEE FURNACE SCHEDULE	-	YORK XAH48FBCN1	1-7

NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSIONAL, ELECTRICAL, MECHANICAL, AND STRUCTURAL ALTERATIONS NECESSITATED BY PROVIDING ALTERNATE EQUIPMENT.
1. E.C. TO PROVIDE AND INSTALL POWER DISCONNECT FOR UNIT. COORDINATE WITH M.C.
2. M.C. TO INCLUDE PRE-CHARGED LINE KIT. INSULATE SUCTION LINE.
3. TWO STAGE COOLING.
4. FOR LINE LENGTH EXCEEDING 50', M.C. MUST PROVIDE FACTORY DESIGNED AND FACTORY OR FIELD FABRICATED REFRIGERANT PIPING.
5. MOUNT UNITS ON CONDENSING UNIT SUPPORTS RE: 10/4501 FOR MORE INFORMATION.
6. INSULATE SUCTION LINE WITH 5/8" AP ARMAFLEX INSULATION OR EQUAL. SEAL ALL JOINTS WATER TIGHT TO PREVENT CONDENSATE IN THE CEILING.
7. PROVIDE UNIT WITH HAIL GUARD.

GENERAL MECHANICAL NOTES	
1. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.	14. DUCT MATERIAL SHALL BE GALVANIZED OR ALUMINUM CONSTRUCTION IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARD 2005 FOR THE PRESSURE AND SEAL CLASS LISTED IN DUCTWORK/INSULATION SCHEDULE.
2. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.	15. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INTERIOR DIMENSIONS.
3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.	16. SUPPLY AND RETURN BRANCH DUCTS MAY BE INSULATED FLEX DUCT IF THE RUN IS LESS THAN 5 FEET IN LENGTH. ANY LENGTHS OVER 5 FEET SHALL BE RIGID DUCTWORK, DUCT SHALL BE THE SAME SIZE AS THE LISTED DIFFUSER THROAT UNLESS NOTED OTHERWISE.
4. VERIFY ALL EXISTING CONDITIONS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN CONTRACT DRAWINGS AND ACTUAL CONDITIONS.	17. PROVIDE VOLUME CONTROL DAMPERS WHERE INDICATED AND AT ALL TAKEOFFS, BOTH SUPPLY AND RETURN SYSTEMS, AND MAJOR DUCT RUNS. DAMPERS SHALL BE FACTORY-FABRICATED WITH ZINC-PLATED, DIE-CAST CONTROL HARDWARE. CONTROL HARDWARE SHALL INCLUDE HEAVY GAUGE DIAL AND HANDLE WITH ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
5. EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED AND CAPPED AS REQUIRED BY CODE OR LOCAL ORDINANCE.	18. PROVIDE TURNING VANES IN ALL RECTANGULAR ELBOWS CONFORMING TO SMACNA DUCT CONSTRUCTION STANDARD 2005 FIG. 4-2 TYPE RE-3 WITH STANDARD RADIUS. WHERE SPACE PERMITS, PROVIDE RADIUS ELBOWS IN ACCORDANCE WITH FIGURES 4-2, TYPE RE-1.
6. THESE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. ADDITIONAL DATA SHALL BE FROM THE ENGINEER THROUGH WRITTEN CLARIFICATION ONLY. VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS BEFORE PROCEEDING WITH ANY PORTION OF ANY WORK. THE CONTRACTOR SHALL PROVIDE ALL OFFSETS AND TRANSITIONS REQUIRED TO MEET EXISTING CONDITIONS.	19. ALL RECTANGULAR MAIN TO RECTANGULAR BRANCH CONNECTIONS, BOTH CONVERGING AND DIVERGING CONFIGURATIONS, SHALL HAVE A 45 DEG. ENTRY TAP CONSTRUCTED IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARD 2005 FIG. 4-6.
7. THE CONTRACTOR SHALL PERFORM WORK IN A SKILLED AND PROFESSIONAL MANNER.	20. DIFFUSER PATTERN 4-WAY UNLESS OTHERWISE INDICATED. PROVIDE FIBERGLASS DUCT INSULATION WITH VAPOR BARRIER AS SCHEDULED UNLESS NOTED OTHERWISE.
8. ALL CONTRACTORS ARE RESPONSIBLE TO FIELD COORDINATE WORK SCHEDULE WITH OWNER REPRESENTATIVE.	21. MECHANICAL CONTRACTOR TO REPAIR ANY DAMAGE DONE TO THE FIRE PROOFING WHILE INSTALLING THE MECHANICAL TRADES. SEAL ALL PENETRATIONS THROUGH RATED STRUCTURES WITH UL LISTED FIRE SEAL DESIGNED FOR THE SPECIFIED APPLICATION.
9. THE CONTRACTOR SHALL WORK AND COORDINATE WITH THE OTHER TRADES.	22. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
10. ALL EQUIPMENT SHALL BE NEW AND IN UNDAMAGED CONDITION. ANY EQUIPMENT FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED FROM THE PROJECT.	23. THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR AS OTHERWISE REQUIRED IN THE SPECIFICATIONS.
11. PROVIDE 3 COPIES OF AN OPERATION AND MAINTENANCE MANUAL FOR ALL MAJOR EQUIPMENT REQUIRING SERVICE. MAJOR EQUIPMENT INCLUDES BUT IS NOT LIMITED TO COILS, FANS, AND CONTROL WIRING DIAGRAMS. EACH PIECE OF EQUIPMENT SHALL STATE THE CONTRACT DATE AND THE NAME, ADDRESS AND PHONE NUMBER FOR THE PRIME CONTRACTOR, SUBCONTRACTOR PERFORMING THE INSTALLATION, AND THE LOCAL VENDOR FOR SPARE PARTS. THE MANUALS SHALL CONTAIN MAINTENANCE INSTRUCTIONS REQUIRED FOR THE INSTALLED EQUIPMENT. MANUALS SHALL BE BOUND IN A THREE RING HARD COVER BINDER. O & M MANUALS SHALL BE SUBMITTED TO THE OWNER PRIOR TO FINAL WALK THROUGH OF THE PROJECT.	24. MECHANICAL CONTRACTOR TO INCLUDE THE TEST AND BALANCE, AND ANY PERMIT FEES IN THEIR BID.
12. PROVIDE 8 HOURS OF OWNER TRAINING FOR THE INSTALLED EQUIPMENT. TRAINING SHALL BE HELD ONLY AFTER ALL OF THE EQUIPMENT IS INSTALLED AND PROPER OPERATION IS VERIFIED.	25. MECHANICAL CONTRACTOR SHALL VERIFY ALL ROOFTOP EQUIPMENT WEIGHTS, SIZES, LOCATIONS AND OPENINGS REQUIRED AND SHALL COORDINATE ANY CHANGES WITH THE ARCHITECT.
13. CONTRACTOR SHALL SUBMIT A CERTIFIED REPORT INDICATING SYSTEM PERFORMANCE INCLUDING, BUT NOT LIMITED TO, VOLTAGE AND AMPERAGE MEASUREMENTS OF ALL EQUIPMENT GREATER THAN 1/3 H.P. WATER BALANCE MEASUREMENTS OF EACH COIL AND PUMP. AIR BALANCE MEASUREMENTS OF OUTSIDE AIR DELIVERY, AIR HANDLING UNIT SUPPLY, SUPPLY DIFFUSERS, EXHAUST AND RETURN GRILLES. AIR BALANCE SHALL BE WITHIN 10% OF DESIGN CONDITIONS. THE REPORT CERTIFICATION SHALL BE AS FOLLOWS: I (name) of (company) CERTIFY THAT ALL MEASUREMENTS, FIGURES AND STATEMENTS INDICATED IN THIS REPORT WERE TAKEN BY ME OR UNDER MY SUPERVISION AND ARE ACCURATE AS OF (date). DESIGN FLOWS WERE BASED UPON PLANS DATED (xx/xx/xx).	26. UPON PROJECT COMPLETION, RECORD (AS-BUILT) DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE BUILDING OWNER. ALL CHANGES MADE TO EQUIPMENT, DUCTWORK, AND GENERAL DESIGN SHALL BE NOTED ON THE DRAWINGS. PROVIDE IN PDF FORMAT OR PRINTED SET AT THE OWNER'S REQUEST.

ABBREVIATIONS			
A	AMP	IN	INCH
ADD	ADDENDUM	LAT	LEAVING AIR TEMPERATURE
ADJ	ADJUSTABLE	LB	POUNDS
AF	ABOVE FINISH FLOOR	LWT	LEAVING WATER TEMPERATURE
AHU	AIR HANDLER UNIT	MAX	MAXIMUM
AI	ANALOG INPUT	MBH	1000 BTU PER HOUR
ALT	ALTERNATE	MC	MECHANICAL CONTRACTOR
AO	ANALOG OUTPUT	MCA	MINIMUM CIRCUIT AMPS
APPRX	APPROXIMATE	MECH	MECHANICAL
ARCH	ARCHITECT, ARCHITECTURAL	MIN	MINIMUM
BDD	BACK DRAFT DAMPER	MFR	MANUFACTURER
BLDG	BUILDING	NTS	NOT TO SCALE
BTUH	BRITISH THERMAL UNIT PER HOUR	OA	OUTSIDE AIR
C	CENTER	OC	ON CENTER
CD	CEILING DIFFUSER	P	PUMP
CFM	CUBIC FEET PER MINUTE	PC	PLUMBING CONTRACTOR
CO	CLEAN OUT	PLBG	PLUMBING
COND	CONDENSATE	PSI	POUNDS PER SQUARE INCH
CONT	CONTINUOUS	QTY	QUANTITY
COP	COEFFICIENT OF PERFORMANCE	RA	RETURN AIR
DB	DRY BULB	REQD	REQUIRED
DET	DETAIL	REV	REVERSE OR REVISION
DG	DOOR GRILLE	RG	RETURN AIR GRILLE
DI	DIGITAL INPUT	RPM	REVOLUTIONS PER MINUTE
DIA OR Ø	DIAMETER	RTU	ROOF TOP UNIT
DM	DIMENSION	SA	SUPPLY AIR
DN	DOWN	SQFT	SQUARE FEET
DO	DIGITAL OUTPUT	SG	SUPPLY GRILLE
DWG	DRAWING	SP	STATIC PRESSURE
EA	EXHAUST AIR	SPEC	SPECIFICATIONS
EAT	ENTERING AIR TEMPERATURE	SS	STAINLESS STEEL
EC	ELECTRICAL CONTRACTOR	T&B	TEST AND BALANCE
EER	ENERGY EFFICIENCY RATIO	TEMP	TEMPERATURE OR TEMPORARY
EF	EXHAUST FAN	TG	TRANSFER GRILLE
EG	EXHAUST GRILLE	TYP	TYPICAL
ELEC	ELECTRICAL	V	VOLT
ERV	ENERGY RECOVERY VENTILATOR	VAR	VARIABLE OR VARIES
ESP	EXTERNAL STATIC PRESSURE	VEL	VELOCITY
EWT	ENTERING WATER TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
EXIST	EXISTING	VTR	VENT THRU ROOF
FA	FRESH AIR	W/	WITH
FFM	FEET PER MINUTE	W/IN	WITH IN
FT	FOOT (FEET)	W/O	WITH OUT
GA	GAUGE/GAGE	WB	WET BULB
GALV	GALVANIZED	WC	WATER COLUMN (INCHES OF)
GC	GENERAL CONTRACTOR	WT	WEIGHT
GPM	GALLONS PER MINUTE		
GYP	GYPSPUM		
HORIZ	HORIZONTAL		
HP	HORSEPOWER		
HT	HEIGHT		
I/O	INPUT/OUTPUT		

MECHANICAL HVAC LEGEND		
EXHAUST AIR DUCT (DOWN)		EXHAUST AIR DUCT (UP)
RETURN AIR DUCT (DOWN)		RETURN AIR DUCT (UP)
OUTSIDE OR SUPPLY AIR DUCT (DOWN)		OUTSIDE OR SUPPLY AIR DUCT (UP)
DUCT SIZE		NEW DUCTWORK
FLEX DUCT		EXISTING DUCTWORK
DEMOLITION LINETYPE		SUPPLY AIR CEILING DIFFUSER
RETURN AIR GRILLE		EXHAUST AIR GRILLE
DIFFUSER, GRILLE, AND REGISTER CALL-OUTS		SCHEDULED EQUIPMENT TAG
MANUAL BALANCING DAMPER		PIPE PENETRATION THROUGH FIRE RATED WALL
FIRE DAMPER		SMOKE DAMPER
MOTORIZED DAMPER		FIRE/SMOKE DAMPER
THERMOSTAT		HUMIDISTAT
REMOTE SENSOR		CARBON DIOXIDE SENSOR
DUCT SMOKE DETECTOR		

MECHANICAL SHEET INDEX	
M000	MECHANICAL LEGEND, NOTES, AND SCHEDULES
M101	MECHANICAL DUCTWORK PLAN
M201	MECHANICAL ROOF PLAN
M501	MECHANICAL DETAILS

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