RANGE HOOD

SYMBOL	RH-1
MANUFACTURER	CAPTIVEAIRE
MODEL	4224EX-2-B
SERVICE	DELI AREA
PHYSICAL SIZE	111"L X 42"D
INTEGRAL FIRE SUPPRESSION	NO
MOUNTING HEIGHT	6'-8" AFF
TYPE	TYPE 1
EXHAUST FAN	
MARK	EF-1
MANUFACTURER AND MODEL #	CAPTIVEAIRE - DU85HFA
EXHAUST CFM/ESP	1850 / 1.0"
ELECTRICAL (V/φ/HZ)	115 / 1 / 60
FAN HP/RPM	1 HP / 1359
FLA	10.2
WEATHER PROOF DISCONNECT	YES
GREASE DRAIN	YES

REMARKS:

1. RANGE HOOD IS OWNER FURNISHED, OWNER INSTALLED.
2. PROVIDE THE HOOD IN ONE SECTION. ATTACH UNIT TO WALL WITH MANUFACTURER'S WALL BRACKET. COORDINATE MOUNTING LOCATION WITH THE ARCHITECT.
3. ALL COMPONENTS OF THE RANGE HOOD SHALL BE UL LISTED.
4. UNIT TO BE PROVIDED WITH ELECTRIC RELAY SWITCH BOX FOR ELECTRIC RANGE. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR.
5. PROVIDE EXHAUST FAN WITH GREASE BOX, GREASE CUP, AND MANUFACTURER'S ROOF CURB.
6. PROVIDE HOOD WITH LED LIGHT FIXTURES.
7. INFORMATION IS PROVIDED FOR COORDINATION PURPOSES.
8. FAN IS TO BE UL LISTED FOR KITCHEN USE AND GREASE LADEN VAPORS.
9. PROVIDE HOOD WITH 24" FIELD WRAPPER.
10. FAN AND LIGHT CONTROLS ARE TO BE MOUNTED ON FRONT OF HOOD. EACH SWITCH SHALL HAVE AN INDICATOR LIGHT AND IDENTIFICATION PLACARD. COORDINATE EXACT LOCATION WITH OWNER.
11. THE FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE UL LISTED AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
12. THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.
13. THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.
14. THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/LINKAGE ASSEMBLY.
15. BALANCING CONTRACTOR TO BALANCE EXHAUST FAN TO WITHIN 5% OF LISTED AIRFLOW.

MAKE-UP AIR UNIT

GENERAL INFORMATION	
SYMBOL	MAU-1
MANUFACTURER	CAPTIVEAIRE
MODEL	A1-D.250-G10-MPU
CFM / ESP	1665 / 0.45"
HP / RPM	1 HP / 1073
V/φ/HZ	115 / 1 / 60
FLA	9.0
INPUT (GAS)	109.6 MBH
TEMP. RISE	59° F
WEIGHT	1250 LBS
CONDENSING UNIT INFORMATION	
V/φ/HZ	208 / 1 / 60
MCA / MOP	18.1 / 30
TOTAL / SENSIBLE CAPACITY (MBH)	31.4 / 20.9
ENTERING AIR DB / WB	88.0° F / 73.0° F
LEAVING AIR DB / WB	75.7° F / 67.7° F

REMARKS:

1. ALL COMPONENTS OF THE MAKEUP AIR UNIT SHALL BE UL LISTED.
2. PROVIDE UNIT WITH COOLING INTERLOCK RELAY.
3. PROVIDE WITH LOW-FIRE START.
4. THIS UNIT HAS TWO POWER CONNECTIONS.
5. PROVIDE WITH DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT.
6. PROVIDE MAKEUP AIR UNIT WITH FACTORY MOUNTED AND WIRED CONTROL PANEL. PANEL SHALL CONTAIN (1) POWER DISCONNECT SWITCH AND (1) STARTER FOR SUPPLY FAN AND (1) STARTER FOR THE EXHAUST FAN. PANEL SHALL BE PRE-WIRED IN A NEMA OUTDOOR ENCLOSURE WITH STAINLESS STEEL HINGED AND LOCKABLE COVER.
7. PROVIDE A FULL PERIMETER ROOF CURB FOR MAKE-UP AIR UNIT.
8. PROVIDE WITH MOTORIZED BACKDRAFT DAMPER IN INTAKE OF UNIT INTERLOCKED TO OPEN WITH SUPPLY FAN. DAMPER SHALL HAVE SEALS.
9. PROVIDE A REMOTE RANGEHOOD CONTROL PANEL WHERE INDICATED ON THE NEW WORK DRAWINGS. PANEL SHALL HAVE TWO (2) SWITCHES; (1) ACTIVATE SUPPLY AND EXHAUST FAN, (2) ACTIVATE HOOD LIGHTS, EACH SWITCH SHALL HAVE AN INDICATOR LIGHT AND IDENTIFICATION PLACARD.
10. PROVIDE WITH MODULATING GAS VALVE.
11. BALANCING CONTRACTOR TO BALANCE MAU TO WITHIN 5% OF LISTED AIRFLOW.

PACKAGED COOLING UNIT

SYMBOL	PCU-1
AREA SERVED	GENERAL
TYPE OF SYSTEM	DX COOLING / GAS HEAT
MANF. & MODEL	TRANE YHC120
CONFIGURATION	HORIZONTAL
SINGLE POINT CONNECTION	YES
VOLTAGE / PHASE	208 / 3φ
MCA / MOP	46.1 / 60.0
REMARKS (SEE NOTES BELOW)	ALL
SUPPLY FAN	
DESIGN CFM/RPM	4000 / 1552
MIN. OUTSIDE AIR (CFM)	575
HP / BHP	3.18 / 3.18
VOLTS / PHASE / HZ	208 / 3 / 60
ESP	1.0"
TSP	1.46"
DX COIL	
NET TOTAL COOLING CAP. (MBH)	99.4
NET SENSIBLE COOLING CAP. (MBH)	83.1
TOTAL CFM	4000
FACE VELOCITY (FPM)	240
NUMBER OF COMPRESSORS	2
EAT - SUMMER (DB/WB)	76.0 F / 63.0 F
LAT - SUMMER (DB/WB)	57.2 F / 54.3 F
EER @ AHRI	12.4
HOT GAS REHEAT CAPACITY	
CAPACITY	89.1
LAT (DB)	75.2 F
COIL MOISTURE REMOVAL (LB/HR)	17.9
GAS HEATING	
FUEL	NATURAL GAS
INPUT / OUTPUT HEATING CAP. (MBH)	150.0 / 120.0
EAT - WINTER (DB/WB)	70.0 F
LAT - WINTER (DB/WB)	98.1 F
DISPOSABLE PRIMARY FILTER	
TYPE	THROWAWAY
EFFICIENCY	MERV 7 PLEATED
SIZE (W" x H" x D")	20x25x2

REMARKS:

1. PROVIDE FLEXIBLE CONNECTIONS FOR ALL DUCTWORK AND PIPING CONNECTIONS TO UNIT.
2. SLOPE CONDENSATE DRAIN TO OUTLET.
3. PROVIDE WITH HIGH EFFICIENCY FAN MOTORS.
4. PROVIDE ALL UNITS WITH A SINGLE POINT CONNECTION, AND FACTORY INSTALLED STARTERS AND NON-FUSIBLE DISCONNECTS.
5. PROVIDE WITH HONEYWELL MODEL TH8321R1001 REDLINK PROGRAMMABLE THERMOSTAT, HONEYWELL MODEL C7189R1004 REDLINK REMOTE TEMPERATURE SENSORS, AND HONEYWELL MODEL THM6000R1002 REDLINK INTERNET GATEWAY.
6. PROVIDE UNIT WITH HAIL GUARD.
7. PROVIDE WITH A 120V SERVICE OUTLET.
8. PROVIDE WITH 14" TALL FACTORY MOUNTED SHEET METAL CURB. CURB SHALL NOT EXTEND BEYOND UNIT.
9. MOTORIZED OUTSIDE AIR DAMPER. (BALANCE MINIMUM OA TO 575 CFM.)
10. PROVIDE UNIT WITH ENTHALPY ECONOMIZER AND ECONOMIZER HOOD.
11. PROVIDE UNIT WITH HINGED ACCESS DOORS FOR FILTER RACK.
12. BALANCE REPORT SHALL BE TURNED OVER TO GENERAL CONTRACTOR.
13. UNIT MANUFACTURER SHALL BE TRANE, NO EXCEPTIONS.
14. PROVIDE REMOTE MOUNTED BARAMETRIC RELIEF HOOD. HOOD SHALL BE MOUNTED ON RETURN DUCT. REFER TO MECHANICAL DRAWINGS FOR LOCATION.
15. UNIT SHALL HAVE RETURN AIR DUCT SMOKE DETECTOR. INSTALL UPSTREAM OF BARAMETRIC RELIEF HOOD.
16. PROVIDE UNIT WITH HOT GAS REHEAT FOR DEHUMIDIFICATION MODE AND DUCT-MOUNTED HUMIDISTAT SET AT 50% RELATIVE HUMIDITY.
17. PROVIDE UNIT WITH MULTI-SPEED SUPPLY FAN STAGED WITH COMPRESSORS.

EXHAUST FAN

SYMBOL	EF-2	EF-3
MANUFACTURER	COOK	COOK
MODEL	GC-182	GC-162
CFM	225	150
S.P.	0.25"	0.25"
VOLTAGE	115/1/60	115/1/60
WATTS	169	96

REMARKS:

1. UNIT TO BE SUPPLIED WITH A BACKDRAFT DAMPER AND ALUMINUM EXTERIOR WALL CAP WITH BIRDSCREEN.
2. UNIT TO BE PROVIDED WITH SPEED CONTROLLER.

MECHANICAL LEGEND

AFF	ABOVE FINISHED FLOOR
TYP	TYPICAL
NTS	NOT TO SCALE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
	TAGGED NOTE
	INDICATES AIR DISTRIBUTION DEVICE SPECIFICATION (L=LOUVER, T=TRANSFER GRILLE, S=SUPPLY DIFFSER OR REGISTER, R=RETURN GRILLE OR REGISTER, E=EXHAUST GRILLE OR REGISTER)
	MECHANICAL EQUIPMENT DESIGNATOR
20X12 SA	SUPPLY AIR DUCT - INSIDE DIMENSION (TURNED UP/DOWN)
20X12 RA	RETURN AIR DUCT - INSIDE DIMENSION (TURNED UP/DOWN)
20X12 EA	EXHAUST/RELIEF AIR DUCT - INSIDE DIMENSION (TURNED UP/DOWN)
	FLEXIBLE DUCT
AD	ACCESS DOOR IN BOTTOM OF DUCT
AD	ACCESS DOOR IN SIDE OF DUCT
M	OPPOSED BLADE DAMPER (MOTORIZED)
	VOLUME DAMPER (MANUAL)
	TURNING VANES
TS	TEMPERATURE SENSOR
T	REMOTE TEMPERATURE SETPOINT CONTROLLER
DS	DUCT SMOKE DETECTOR

REGISTERS, GRILLES, AND DIFFUSERS

SYMBOL	MANUF. & MODEL	MATERIAL & TYPE	CFM RANGE	PHYSICAL SIZE			REMARKS
				OVERALL FACE SIZE	NECK SIZE	INLET DUCT SIZE	
S-1	TITUS TMRA	STEEL CONSTRUCTION 4 CONE 360° UNIFORM PATTERN	0-130	20"φ	6"φ	6"φ	3
S-2	TITUS TMRA	STEEL CONSTRUCTION 4 CONE 360° UNIFORM PATTERN	131-250	22.5"φ	8"φ	8"φ	3
S-3	TITUS TMRA	STEEL CONSTRUCTION 4 CONE 360° UNIFORM PATTERN	251-375	22.5"φ	10"φ	10"φ	3
S-4	TITUS TMSA	STEEL CONSTRUCTION 3 CONE 360° PATTERN	0-100	12"x12"	6"φ	6"φ	1, 2, 3, 5, 7
S-5	TITUS 300RS	EXTRUDED ALUMINUM DOUBLE DEFLECTION 3/4" SPACING	0-450	14"x12"	12"x10"	12"x10"	3, 4
R-1	TITUS 350ZRL	STEEL LOUVERED GRILLE 3/4" BLADE SPACING 0° DEFLECTION	425	14"x12"	12x10"	12"x10"	3, 4
R-2	TITUS 23RL	STEEL RETURN GRILLE 45° DEFLECTION 3/4" BLADE SPACING	3000	48"x48"	46"x46"	46"x46"	3, 5, 6
R-3	TITUS 355RL	STEEL LOUVERED GRILLE 1/2" BLADE SPACING 35° DEFLECTION	0-100	12"x10"	10"x8"	10"x8"	3, 4
T-1	HART & COOLEY TG	ALUMINUM CONSTRUCTION "Y" TYPE BLADE VISION PROOF	0-100	12"x12"	10"x10"	10"x10"	3, 4

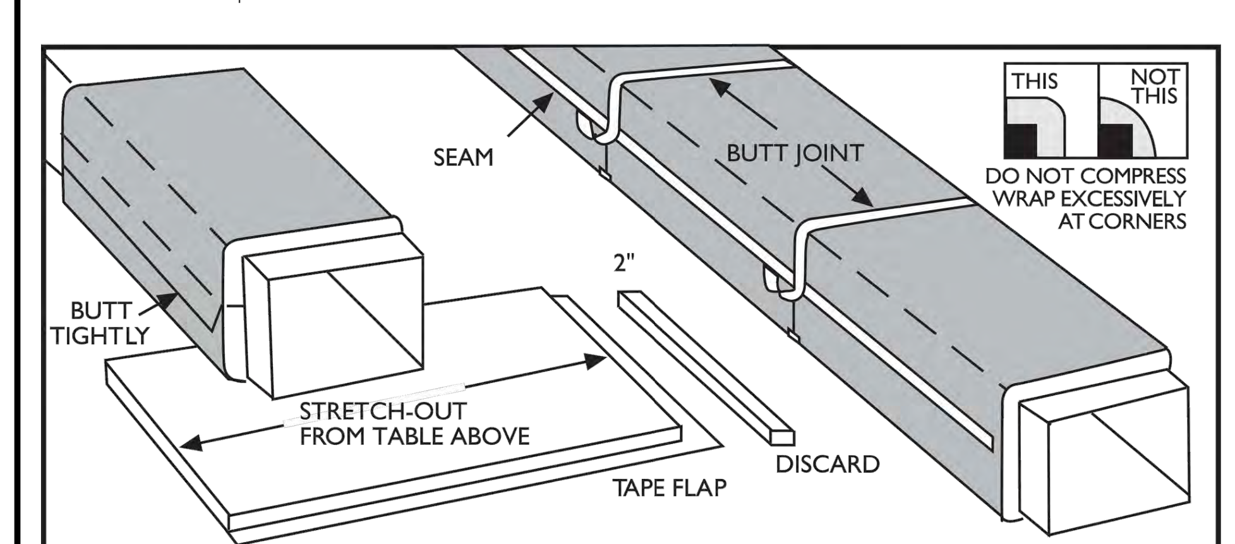
REMARKS

1. INLET TRANSITION BOX, ROUND TO RECTANGULAR.
2. PROVIDE WITH MOLDED INSULATION BLANKET ON DIFFUSER.
3. PROVIDE WHITE IN COLOR.
4. GRILLE SHALL BE SIDEWALL/DUCT MOUNTED.
5. CEILING SURFACE MOUNTED.
6. PROVIDE WITH PLENUM BOX. PAINT INTERIOR OF PLENUM BOX WITH FLAT BLACK PAINT.
7. PROVIDE DESIGNATED TYPE "B" DIFFUSERS WITH 3-WAY THROW.

Material Requirements to Achieve Installed R-Value

Nominal Thickness in.	(mm)	Installed Thickness in.	(mm)	Stretch Out Dimensions, in. (mm) Round and Oval Ducts		Square Ducts		Rectangular Ducts	
1½	(38)	1⅛	(29)	P+9½	(240)	P+8	(205)	P+7	(180)
2	(51)	1½	(38)	P+12	(305)	P+10	(255)	P+8	(205)
2⅕	(56)	1⅝	(41)	P+13	(330)	P+11	(280)	P+8½	(215)
3	(76)	2¼	(57)	P+17	(430)	P+14½	(370)	P+11½	(290)
4	(102)	3	(76)	P+22	(560)	P+19	(483)	P+16	(406)

P = measured duct perimeter



All seams and joints stapled approximately 6" (150mm) on centers before sealing with tape or mastic.

GENERAL NOTES (APPLICABLE TO ALL DRAWINGS)

A. EACH CONTRACTOR, SUPPLIER AND, OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS AND AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.

B. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSERS' DISCRETION.

C. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).

D. ALL SYSTEMS, EQUIPMENT, AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT DONE SO SHALL BE REMOVED AND REINSTALLED SATISFACTORILY.

E. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

F. DO NOT SCALE FROM DRAWINGS, PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.

G. THE PURPOSE AND INTENT OF ALL THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.

H. ANY VIBRATING, OSCILLATING, OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

I. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORD WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, NOTIFY THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION.

J. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT, OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.

K. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

L. THE GENERAL CONTRACTOR FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING, AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC.

M. VALVES, BALANCING DAMPERS, OR ANY MECHANICAL/ELECTRICAL ITEM SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT.

N. THE GENERAL CONTRACTOR SHALL ENSURE PROPER COORDINATION BETWEEN ALL TRADES SUCH THAT CONDUITS, PIPING, DUCTWORK, ETC. DO NOT BLOCK ACCESS TO VALVES, EQUIPMENT, DUCT ACCESS DOORS, ETC. ITEMS THAT HAVE BEEN INSTALLED WHERE ACCESS IS COMPROMISED SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.

O. REFER TO DETAIL SHEETS FOR ADDITIONAL PIPING/DUCTWORK INSTALLATION REQUIREMENTS.

P. THE EQUIPMENT ROUGH-IN ITEMS AND THEIR DIMENSIONED LOCATIONS FOR ALL CONNECTIONS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE AND SHALL BE VERIFIED WITH THE EQUIPMENT SUPPLIER, OWNER AND/OR THE EQUIPMENT ROUGH-IN DRAWINGS. IN SOME INSTANCES, THE OWNER OR SUPPLIER MAY MAKE SUBSTITUTIONS OR THE EQUIPMENT ITEM MAY VARY FROM WHAT IS SHOWN. THEREFORE, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED, PRIOR TO CONSTRUCTION OF ANY DEVIATIONS FROM WHAT IS SHOWN OR IMPLIED ON THESE DRAWINGS. FAILURE OF THE APPROPRIATE CONTRACTOR TO VERIFY ROUGH-INS OR THEIR LOCATIONS SHALL PLACE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION AND/OR ADDITIONAL ROUGH-INS DIRECTLY UPON THE CONTRACTOR.

PROJECT NO: 22-4311
DRAWN BY: WTD
DATE: 05/02/2022

STATE OF KENTUCKY
LICENSED PROFESSIONAL ENGINEER

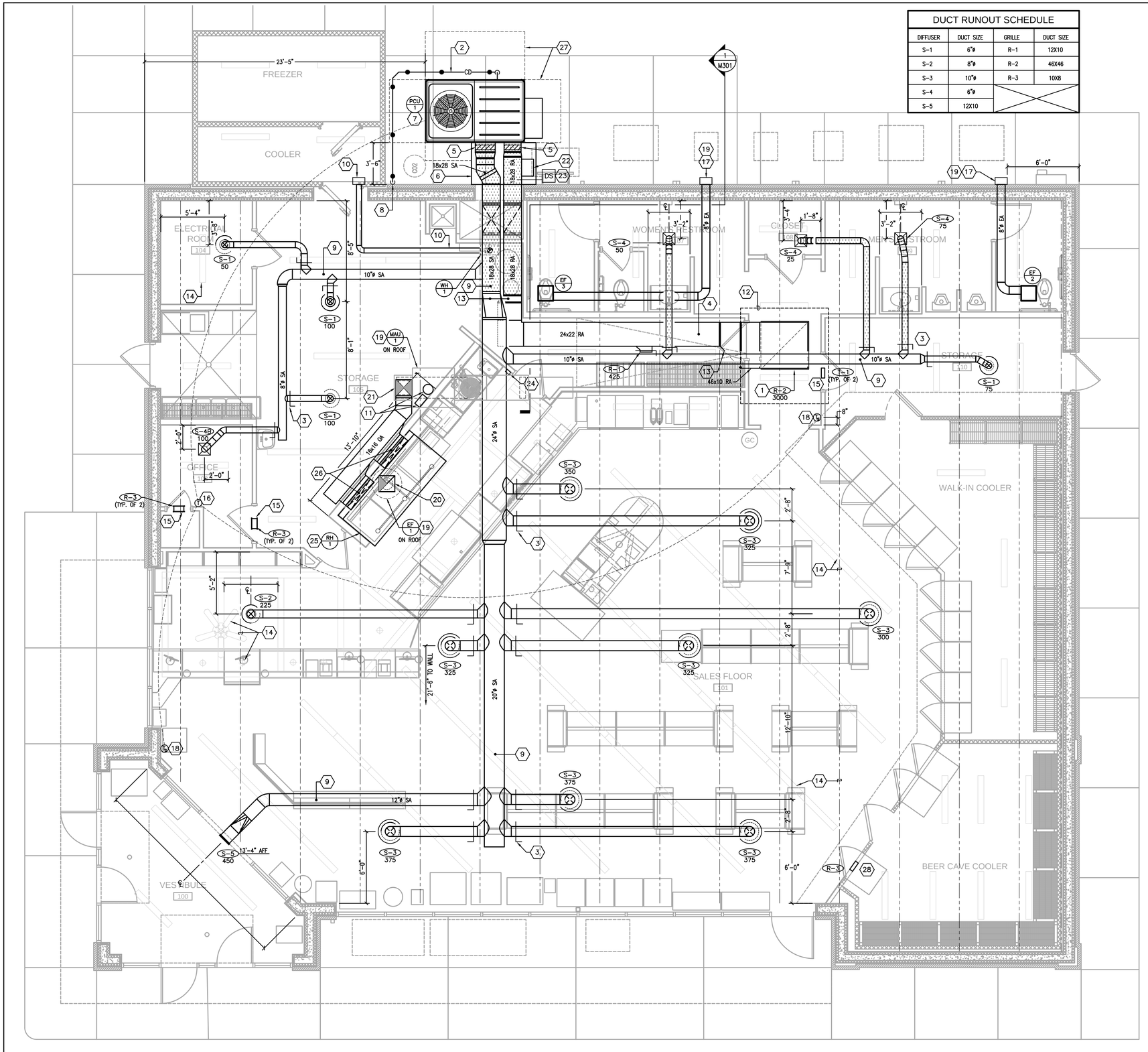
CMTA
10411 Meeting Street, Prospect, Kentucky 40059
502 326.3085 I 502 326.2691 www.cmta.com

KEYES ARCHITECTS & ASSOCIATES
4717 PRESTON HIGHWAY
LOUISVILLE, KENTUCKY 40213 (502) 636-5113

NEWCOMB OIL CO., LLC.
FIVESTAR STORE #9000
1830 COMMERCE DRIVE
SCOTTSVILLE, KY 42164

MECHANICAL LEGEND AND SCHEDULES

M1.01



01 FLOOR PLAN - MECHANICAL
SCALE: 1/4" = 1'-0"

DUCT RUNOUT SCHEDULE

DIFFUSER	DUCT SIZE	GRILLE	DUCT SIZE
S-1	6"ø	R-1	12X10
S-2	8"ø	R-2	46X46
S-3	10"ø	R-3	10X8
S-4	6"ø		
S-5	12X10		

GENERAL NOTES:

A. ALL OPEN-CEILING AREAS SHALL UTILIZE A RIGID DUCT CONNECTION (WITH SUPPORTS) TO DIFFUSER. DIFFUSER SHALL BE MOUNTED AT A TYPICAL ELEVATION OF 11'-0" UNLESS OTHERWISE SHOWN ON DRAWING. TYPICAL PLACEMENT OF DIFFUSER IN OPEN-CEILING AREAS ARE CENTERED BETWEEN JOISTS UNLESS SPECIFIC DIMENSION IS SHOWN ON DRAWING.

B. ALL RECTANGULAR, ROUND, AND FLEXIBLE DUCTS SHALL BE SIZED AS SHOWN ON THESE DRAWINGS. MINIMUM INTERNAL DIMENSIONS ARE GIVEN.

C. INSTALL TURNING VANES IN ALL 90 DEGREE SUPPLY AND RETURN DUCT ELBOWS AND AT ALL DUCT TEES.

D. CONDENSATE DRAIN LINES SHALL BE SLOPED AT A MINIMUM 1/8" PER LINEAR FOOT OF RUN. ALL DRAIN EXITS FROM PCU-1 SHALL INCLUDE A TRAP AND CLEAN-OUT PLUG.

E. CONTRACTOR SHALL HAVE ALL THERMOSTATS/TEMPERATURE SENSORS CALIBRATED TO MANUFACTURER'S SPECIFICATIONS PRIOR TO TURNING SYSTEM OVER TO OWNER.

F. BALANCE DIFFUSERS AND GRILLES TO AIRFLOWS INDICATED ON PLAN. PROVIDE AIR-BALANCE REPORT TO GENERAL CONTRACTOR.

G. MANUFACTURER'S RECOMMENDED CLEARANCES SHALL BE MAINTAINED FOR ALL MECHANICAL EQUIPMENT. ALL PIPING VALVES AND MANUAL VOLUME DAMPERS SHALL BE EASILY ACCESSIBLE.

H. FLEXIBLE DUCTWORK IS ALLOWED FOR USE ON CONCEALED DUCTWORK. REFER TO DETAIL SHEET FOR MORE INFORMATION.

I. HATCHED PORTION OF DUCTWORK SHALL BE WRAPPED WITH OWENS/CORNING ALL SERVICE FIBERGLASS DUCT WRAP, "FACED DUCT WRAP - TYPE 75", 3" THICK FIBERGLASS DUCT WRAP, WITH A MINIMUM R-VALUE OF 8, FACTORY LAMINATED TO A REINFORCED FOIL KRAFT VAPOR BARRIER. REFER TO INSULATION CHART ON SHEET M1.01 FOR INSTALLATION REQUIREMENTS.

J. ANY ROUND DUCTWORK EXPOSED TO VIEW SHALL HAVE SPIRAL OUTER SHELL, LOCK-SEAM CONSTRUCTION FABRICATED FROM PAINT GRIP GALVANIZED STEEL MEETING ASTM-527 STANDARDS. ANY DUCTWORK EXPOSED TO VIEW SHALL BE CONSTRUCTED OF G90 GALVANIZED STEEL AND SHALL BE SUPPORTED AS REQUIRED WITH AIRCRAFT CABLES WITH SELF-TIGHTENING LOCKS. EXPOSED METAL DUCT SHALL BE PREPPED AND PAINTED BY OWNER.

K. DUCTWORK, PLENUMS AND OTHER APPURTENANCES SHALL BE CONSTRUCTED OF THE MATERIALS OF THE MINIMUM WEIGHTS OR GAUGES AS REQUIRED BY THE LATEST SMACNA 2" W.G. STANDARD OR BELOW TABLE. WHEN GAUGE THICKNESS DIFFERS, THE HEAVIER GAUGE SHALL BE SELECTED. THE BELOW TABLE SHALL SERVE AS A MINIMUM.

ROUND DIAMETER	DUCT GAUGE	RECTANGULAR WIDTH	DUCT GAUGE
3-12 INCHES	26 GA.	3-12 INCHES	26 GA.
13-18 INCHES	24 GA.	13-30 INCHES	24 GA.
19-28 INCHES	22 GA.	31-54 INCHES	22 GA.

MECHANICAL TAG NOTES: (X)

1. ORIENT RETURN GRILLE SO THAT OPENING IS DIRECTED TOWARD HALLWAY ENTRY (AWAY FROM BATHROOMS). PAINT INTERIOR OF RETURN PLENUM WITH FLAT BLACK PAINT.
2. NON-INSULATED PVC CONDENSATE LINE. PROVIDE SPLIT RING CLAMP EVERY 4'-0" ON CENTER AND CHANGE OF DIRECTION.
3. PROVIDE HIGH EFFICIENCY TAKEOFFS AND VOLUME DAMPERS IN ALL BRANCH DUCT WORK. REFER TO DETAIL ON SHEET M3.01 FOR ADDITIONAL INFORMATION. TYPICAL OF ALL.
4. INSTALL RETURN DUCTWORK AS HIGH AS POSSIBLE, HOLDING TIGHT TO STRUCTURE. BOTTOM OF DUCT WILL BE AT A MINIMUM OF 9'-0".
5. PROVIDE FLEX CONNECTION AT UNIT FOR SUPPLY/RETURN DUCTWORK.
6. CONTRACTOR TO INSTALL A 20 GAUGE RAIN SHIELD OVER ALL EXTERIOR DUCTWORK. PROVIDE WITH 16"Wx32"H ACCESS DOOR FOR DUCT MOUNTED SMOKE DETECTOR. POSITION DOOR AS CLOSE TO UNIT AS POSSIBLE. REFER TO SECTION VIEW ON SHEET M3.01 FOR ADDITIONAL INFORMATION.
7. PROVIDE UNIT WITH 14" TALL, FULL-LENGTH EQUIPMENT CURB. DO NOT EXTEND CURB PAST UNIT. CONCRETE PAD WILL BE SLOPED 1/4" PER FOOT. CURB AND DUCT SHROUD SHALL BE MODIFIED AS NECESSARY NEAR THE CONCRETE PAD IN ORDER TO FILL ANY VOIDS OR GAPS THAT WOULD ALLOW RODENTS AND PESTS FROM USING SHROUD AS SHELTER.
8. CONTRACTOR TO INSTALL A 2" OPEN RECEPTACLE IN STORM LINE. SPILL PCU-1 CONDENSATE TO OPEN RECEPTACLE. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR.
9. SUPPLY DUCT MAIN SHALL BE INSTALLED TO FOLLOW SLOPE OF ROOF WITHIN JOIST SPACE. ALL BRANCH DUCTWORK SHALL BE COORDINATED WITH JOIST OPENINGS.
10. CONCENTRIC WATER HEATER FLUE IS TO BE ROUTED FROM HEATER TO WALL AS SHOWN. INSTALLATION AND TERMINATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. HORIZONTAL OFFSET IS TO BE AS HIGH AS POSSIBLE ABOVE BATHROOM CEILING WITH FINAL TERMINATION ABOVE OUTSIDE COOLERS. MAINTAIN 10'-0" CLEARANCE FROM TERMINATION TO PCU-1'S INTAKE.
11. MOUNT FIRE SUPPRESSION SYSTEM FOR RH-1 AS HIGH AS POSSIBLE. SEE SHEET M101 FOR MORE INFORMATION.
12. SPACE IN THIS AREA IS LIMITED. COORDINATE DUCT ROUTING WITH CEILING AND STRUCTURAL JOISTS.
13. INSTALL ECCENTRIC TRANSITION DUCT FITTING. SLOPE OF TRANSITION IS NOT TO EXCEED 1:4.
14. CEILING FANS, STRUCTURAL JOISTS, AND LIGHTS ARE SHOWN FOR COORDINATION PURPOSES ONLY. (TYPICAL)
15. TRANSFER AIR GRILLES CENTERED ABOVE DOOR. REFER TO DETAIL SHEET.
16. INSTALL PCU-1 THERMOSTAT IN LOCATION SHOWN CENTERED BETWEEN CLOSET DOOR JAMB AND EDGE OF DRYWALL. INSTALL AT 60" AFF. THERMOSTAT NEEDS TO CONTROL HOT GAS REHEAT ON THE HVAC UNIT. DO SO BY CONNECTING U1 AND U1 ON THE THERMOSTAT IN THE GENERAL MANAGER'S OFFICE TO TERMINAL 7 AND 12 ON THE LTB BOARD LOCATED ON THE HVAC UNIT.
17. EXHAUST CAP AT ELEVATION OF 10'-8". REFER TO DETAIL SHEET FOR MORE INFORMATION.
18. INSTALL PCU-1 TEMPERATURE SENSOR IN LOCATION SHOWN. COORDINATE ELEVATION WITH OWNER PRIOR TO INSTALLATION.
19. MAINTAIN A 10'-0" MINIMUM DISTANCE FROM EXHAUST FAN OUTLET TO PCU-1/MAU-1'S INTAKE. ANY ROOF EQUIPMENT MUST MAINTAIN A 10'-0" MINIMUM DISTANCE BETWEEN EQUIPMENT AND EDGE OF ROOF.
20. TRANSITION GREASE DUCT FROM RH-1 HOOD OPENING TO 14"ø RISER. TRANSITION DUCTWORK TO FIT ROOF CURB PRIOR TO ROOF PENETRATION. ROOF CUTOUT SHALL BE 21"X21" FOR CURB. GREASE DUCT IS TO BE #16 GAUGE WELDED DUCT. PROVIDE CLEANOUTS AT EACH CHANGE IN DIRECTION. 3M FIREMASTER GREASE DUCT WRAP OR ALTERNATE FULLY ENCAPSULATED AND U.L. CLASSIFIED FOR 0" CLEARANCE TO COMBUSTIBLES (UL R14229) AND ENGINEER APPROVED.
21. 16X16 OA DUCT UP TO MAU-1. TRANSITION DUCTWORK TO FIT ROOF CURB BEFORE ROOF PENETRATION. ROOF CUTOUT FOR CURB SHALL BE 18"X18".
22. FIELD MOUNT FACTORY MANUFACTURED, BARAMETRIC RELIEF HOOD TO RETURN DUCTWORK.
23. INSTALL SMOKE DETECTOR UPSTREAM OF BARAMETRIC RELIEF HOOD.
24. PULL STATION LOCATION FOR RANGE HOOD FIRE SUPPRESSION SYSTEM.
25. RANGE HOOD IS OWNER FURNISHED, OWNER INSTALLED.
26. 36"X5" MAKEUP AIR DUCT ROUTED DOWN. TERMINATION POINT SHALL BE BELOW COOKING SURFACE. ALL ELECTRICAL AND PLUMBING CONNECTIONS MUST BE LOCATED BELOW THE BACK RETURN AIR PLENUM.
27. MAINTAIN EQUIPMENT MANUFACTURER'S RECOMMENDED SERVICE AREA.
28. TRANSFER GRILLE IS TO BE MOUNTED ABOVE COOLER ROOF, FACING OUT. PROVIDE GRILLE WITH 1/2" MESH SCREEN.

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STATE OF KENTUCKY
ROGER W. R. CMTA, INC.
LICENSED PROFESSIONAL ENGINEER

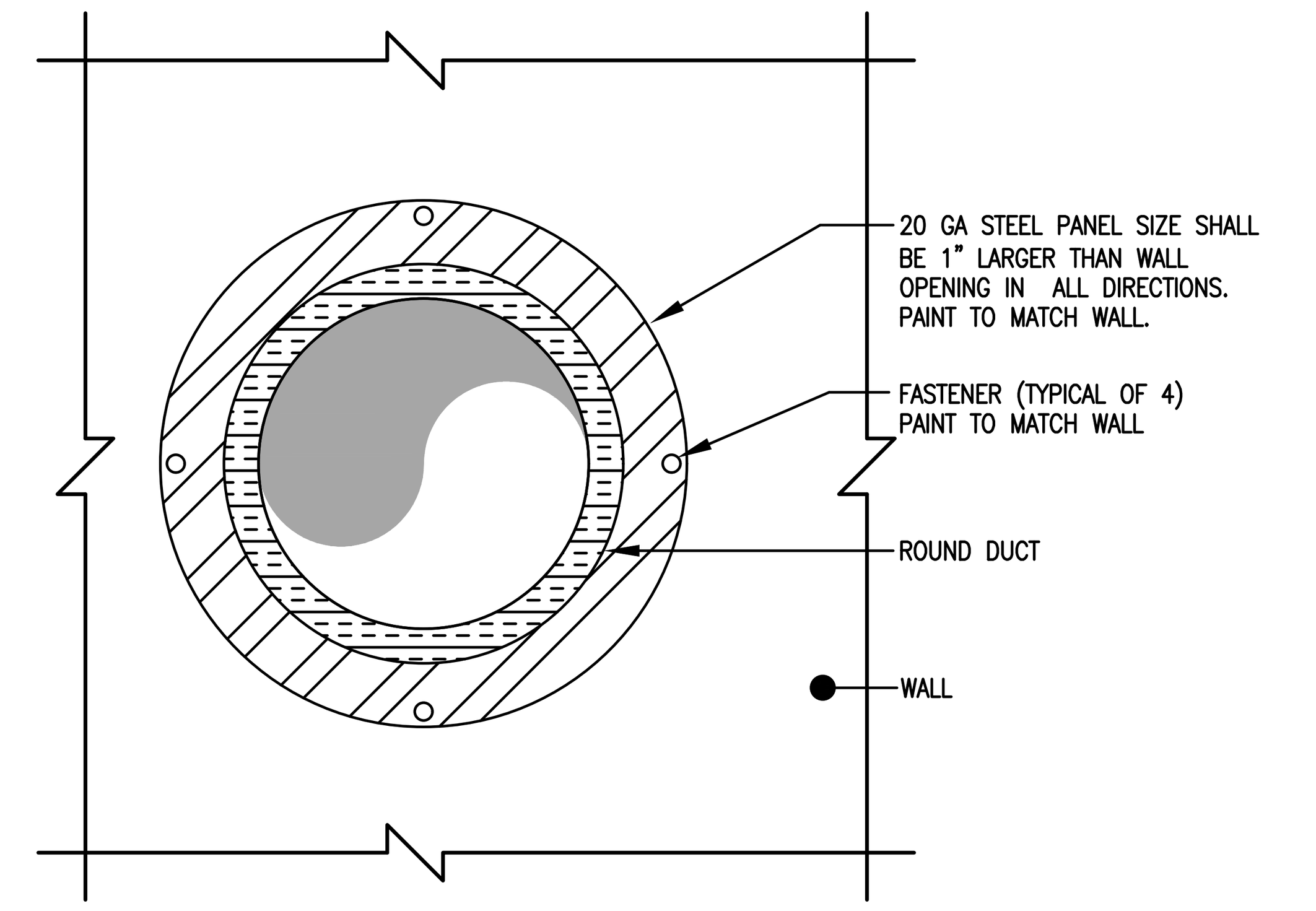
CMTA
10411 Meeting Street, Prospect, Kentucky 40059
502 326.3085 f 502 326.2691 www.cmta.com

KEYES ARCHITECTS & ASSOCIATES
4717 PRESTON HIGHWAY
LOUISVILLE, KENTUCKY 40213 (502) 636-5113

FIVESTAR STORE #9000
NEWCOMB OIL CO., LLC.
1830 COMMERCE DRIVE
SCOTTSVILLE, KY 42164

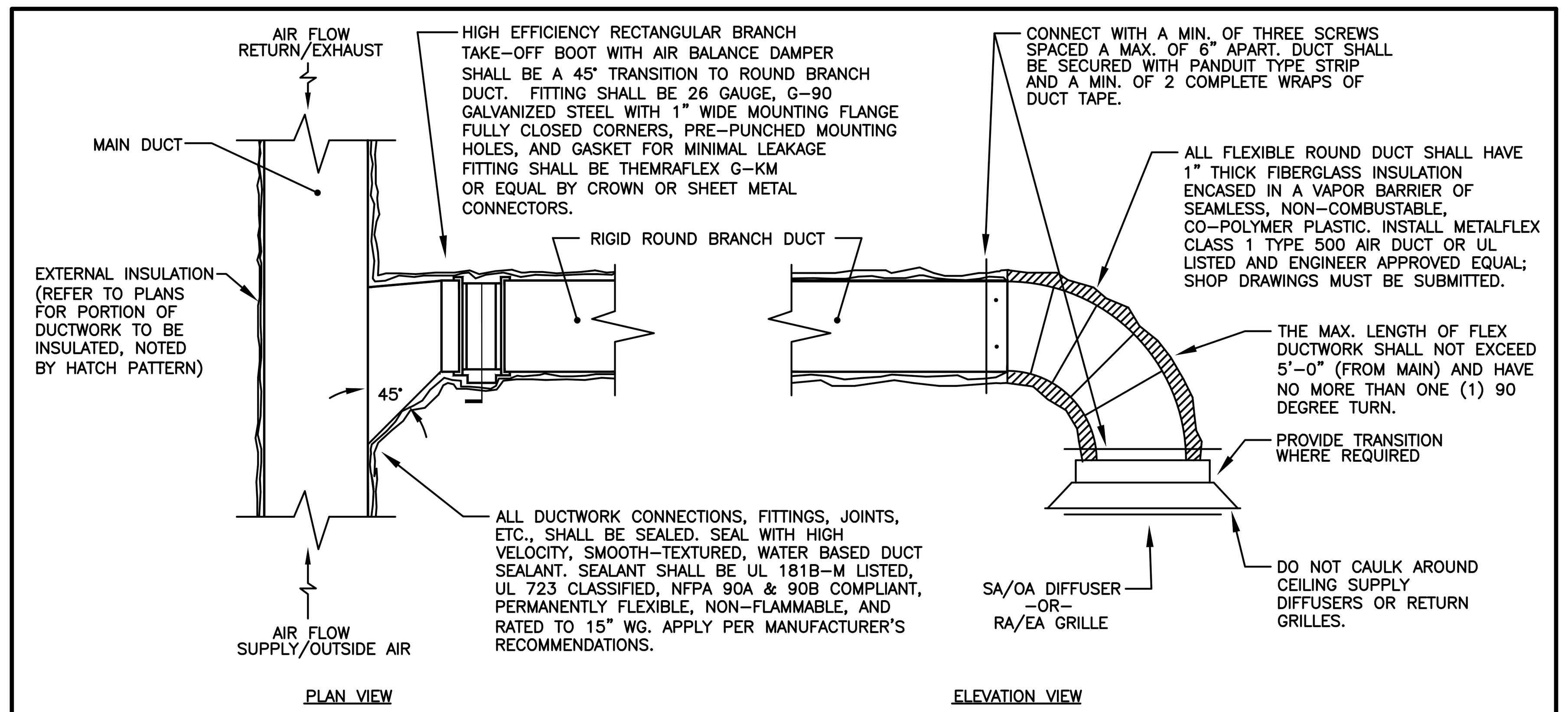
FLOOR PLAN - MECHANICAL

M2.01



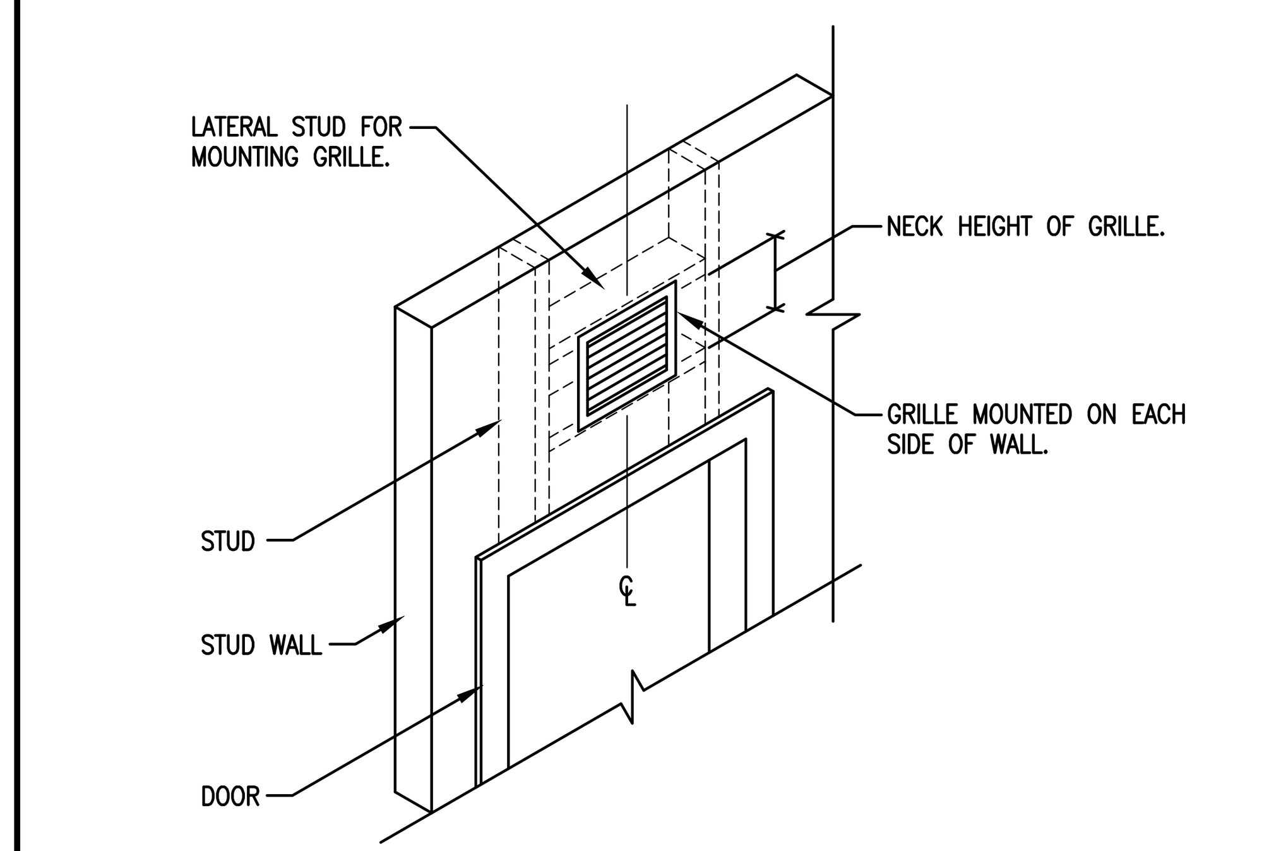
EXPOSED DUCT WALL PENETRATION DETAIL

NOT TO SCALE



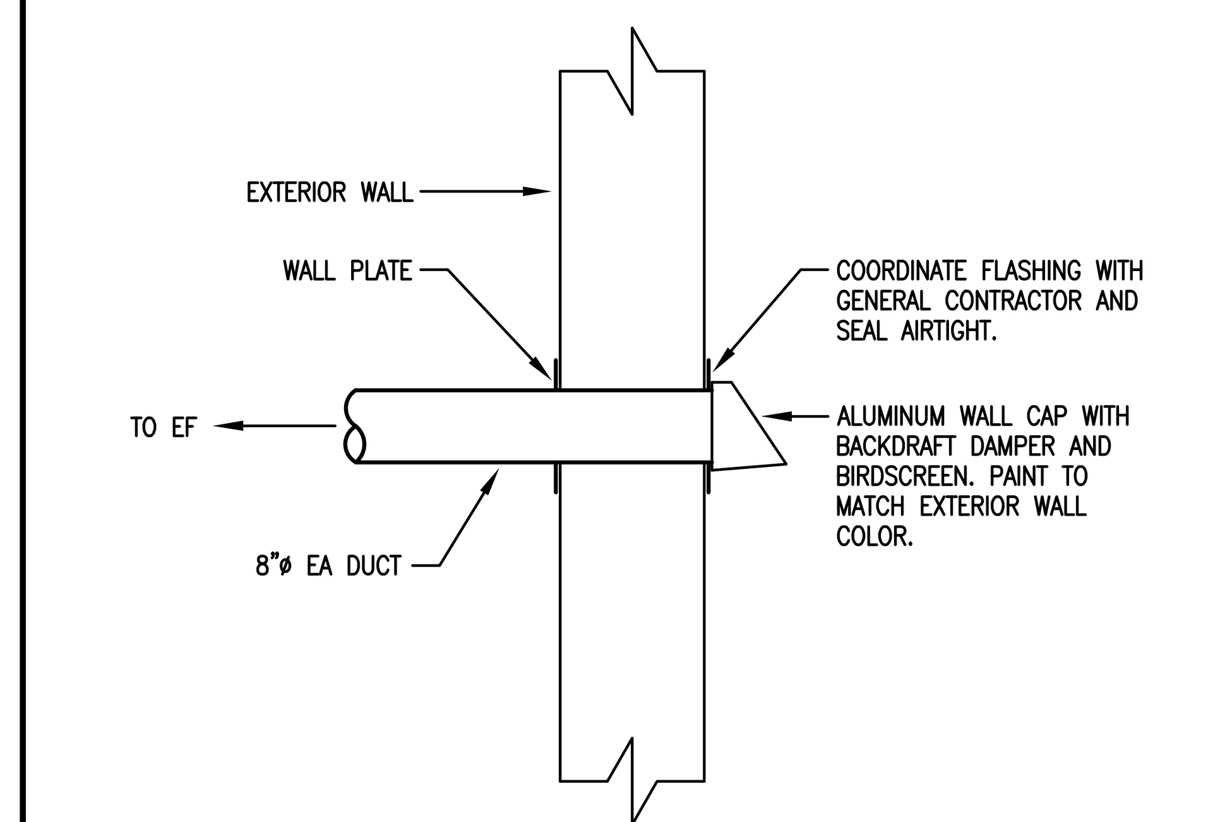
TYPICAL RECTANGULAR-TO-ROUND BRANCH DUCT DETAIL

NOT TO SCALE



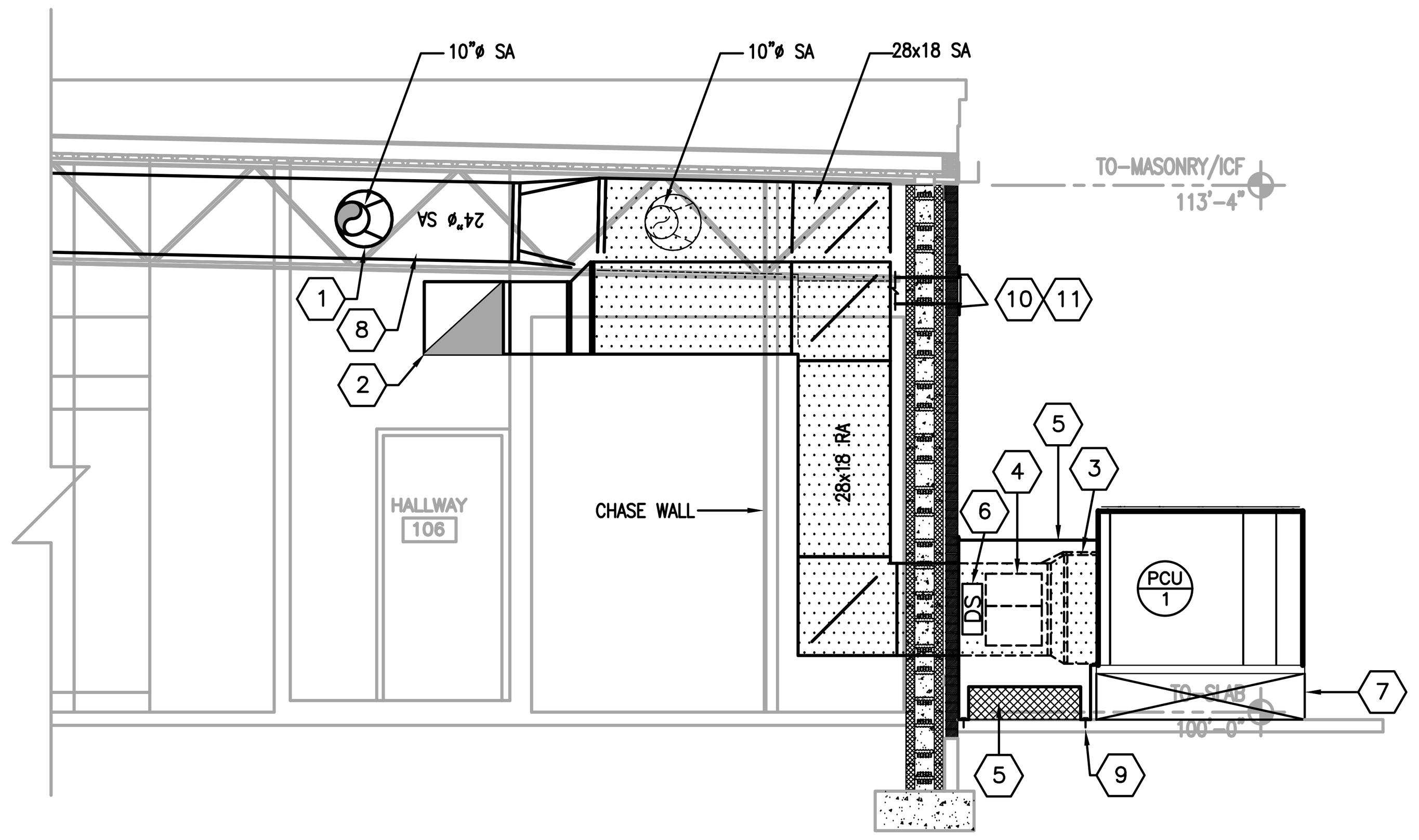
TRANSFER AIR GRILLE DETAIL

NOT TO SCALE



TYPICAL EXHAUST DETAIL

NOT TO SCALE



MECHANICAL - SECTION VIEW

SCALE: 1/4"=1'-0"

1
M201

GENERAL NOTES:

A. ALL OPEN-CEILING AREAS SHALL UTILIZE A RIGID DUCT CONNECTION (WITH SUPPORTS) TO DIFFUSER. DIFFUSER SHALL BE MOUNTED AT A TYPICAL ELEVATION OF 11'-0" UNLESS OTHERWISE SHOWN ON DRAWING. TYPICAL PLACEMENT OF DIFFUSER IN OPEN-CEILING AREAS ARE CENTERED BETWEEN JOISTS UNLESS SPECIFIC DIMENSION IS SHOWN ON DRAWING.

B. ALL RECTANGULAR, ROUND, AND FLEXIBLE DUCTS SHALL BE SIZED AS SHOWN ON THESE DRAWINGS. MINIMUM INTERNAL DIMENSIONS ARE GIVEN.

C. INSTALL TURNING VANES IN ALL 90 DEGREE SUPPLY AND RETURN DUCT ELBOWS AND AT ALL DUCT TEES.

D. CONDENSATE DRAIN LINES SHALL BE SLOPED AT A MINIMUM 1/8" PER LINEAR FOOT OF RUN. ALL DRAIN EXITS FROM PCU-1 SHALL INCLUDE A TRAP AND CLEAN-OUT PLUG.

E. CONTRACTOR SHALL HAVE ALL THERMOSTATS/TEMPERATURE SENSORS CALIBRATED TO MANUFACTURER'S SPECIFICATIONS PRIOR TO TURNING SYSTEM OVER TO OWNER.

F. BALANCE DIFFUSERS AND GRILLES TO AIRFLOWS INDICATED ON PLAN. PROVIDE AIR-BALANCE REPORT TO GENERAL CONTRACTOR.

G. MANUFACTURER'S RECOMMENDED CLEARANCES SHALL BE MAINTAINED FOR ALL MECHANICAL EQUIPMENT. ALL PIPING VALVES AND MANUAL VOLUME DAMPERS SHALL BE EASILY ACCESSIBLE.

H. FLEXIBLE DUCTWORK IS ALLOWED FOR USE ON CONCEALED DUCTWORK. REFER TO DETAIL SHEET FOR MORE INFORMATION.

I. HATCHED PORTION OF DUCTWORK SHALL BE WRAPPED WITH OWENS/CORNING ALL SERVICE FIBERGLASS DUCT WRAP, "FACED DUCT WRAP - TYPE 75", 3" THICK FIBERGLASS DUCT WRAP, WITH A MINIMUM R-VALUE OF 8, FACTORY LAMINATED TO A REINFORCED FOIL KRAFT VAPOR BARRIER. REFER TO INSULATION CHART ON SHEET M1.01 FOR INSTALLATION REQUIREMENTS.

J. ANY ROUND DUCTWORK EXPOSED TO VIEW SHALL HAVE SPIRAL OUTER SHELL, LOCK-SEAM CONSTRUCTION FABRICATED FROM PAINT GRIP GALVANIZED STEEL MEETING ASTM-527 STANDARDS. ANY DUCTWORK EXPOSED TO VIEW SHALL BE CONSTRUCTED OF G90 GALVANIZED STEEL AND SHALL BE SUPPORTED AS REQUIRED WITH AIRCRAFT CABLES WITH SELF-TIGHTENING LOCKS. EXPOSED METAL DUCT SHALL BE PREPPED AND PAINTED BY OWNER.

K. DUCTWORK, PLENUMS AND OTHER APPURTENANCES SHALL BE CONSTRUCTED OF THE MATERIALS OF THE MINIMUM WEIGHTS OR GAUGES AS REQUIRED BY THE LATEST SMACNA 2" W.G. STANDARD OR BELOW TABLE. WHEN GAUGE THICKNESS DIFFERS, THE HEAVIER GAUGE SHALL BE SELECTED. THE BELOW TABLE SHALL SERVE AS A MINIMUM.

ROUND DIAMETER	DUCT GAUGE	RECTANGULAR WIDTH	DUCT GAUGE
3-12 INCHES	26 GA.	3-12 INCHES	26 GA.
13-18 INCHES	24 GA.	13-30 INCHES	24 GA.
19-28 INCHES	22 GA.	31-54 INCHES	22 GA.

MECHANICAL TAG NOTES: X

1. PROVIDE HIGH EFFICIENCY TAKEOFFS AND VOLUME DAMPERS IN ALL BRANCH DUCT WORK. REFER TO DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION. TYPICAL OF ALL.
2. INSTALL RETURN DUCTWORK AS HIGH AS POSSIBLE, HOLDING TIGHT TO STRUCTURE. BOTTOM OF DUCT WILL BE AT A MINIMUM OF 9'-0".
3. PROVIDE FLEX CONNECTION AT UNIT FOR SUPPLY/RETURN DUCTWORK.
4. FIELD MOUNT FACTORY-MANUFACTURED, BAROMETRIC RELIEF HOOD TO RETURN DUCTWORK.
5. CONTRACTOR TO INSTALL A 20 GAUGE RAIN SHIELD OVER ALL EXTERIOR DUCTWORK. PROVIDE WITH 16"Wx32"H ACCESS DOOR FOR DUCT MOUNTED SMOKE DETECTOR. POSITION DOOR AS CLOSE TO UNIT AS POSSIBLE. PROVIDE 34"X10" OPENING AT BOTTOM OF RAIN SHIELD (ON BOTH SIDES) TO ALLOW FOR RELIEF AIR WHEN UNIT IS IN ECONOMIZER MODE. INSTALL EXPANDED METAL GRATE OVER OPENINGS.
6. INSTALL SMOKE DETECTOR UPSTREAM OF BARAMETRIC RELIEF HOOD.
7. PROVIDE UNIT WITH 14" TALL, FULL-LENGTH EQUIPMENT CURB. DO NOT EXTEND CURB PAST UNIT. CONCRETE PAD WILL BE SLOPED 1/4" PER FOOT. CURB AND DUCT SHROUD SHALL BE MODIFIED AS NECESSARY NEAR THE CONCRETE PAD IN ORDER TO FILL ANY VOIDS OR GAPS THAT WOULD ALLOW RODENTS AND PESTS FROM USING SHROUD AS SHELTER.
8. SUPPLY DUCT MAIN SHALL BE INSTALLED TO FOLLOW SLOPE OF ROOF WITHIN JOIST SPACE. ALL BRANCH DUCTWORK SHALL BE COORDINATED WITH JOIST OPENINGS.
9. FASTEN RAIN SHEILD TO CONCRETE SLAB.
10. EXHAUST CAP AT ELEVATION OF 10'-8". REFER TO DETAIL THIS SHEET FOR MORE INFORMATION.
11. MAINTAIN A 10'-0" MINIMUM DISTANCE FROM EXHAUST FAN OUTLET TO MECHANICAL EQUIPMENT'S INTAKE.

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MECHANICAL SECTION VIEWS AND DETAILS

M3.01