GENERAL MECHANICAL NOTES

1. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.
2. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.
3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. VERIFY ALL EXISTING CONDITIONS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN CONTRACT DRAWINGS AND ACTUAL CONDITIONS.
5. EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED AND CAPPED AS REQUIRED BY CODE OR LOCAL ORDINANCE.
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.
7. THE CONTRACTOR SHALL PERFORM WORK IN A SKILLED AND PROFESSIONAL MANNER.
8. ALL CONTRACTORS ARE RESPONSIBLE TO FIELD COORDINATE WORK SCHEDULE WITH OWNER REPRESENTATIVE.
9. THE CONTRACTOR SHALL WORK AND COORDINATE WITH THE OTHER TRADES.
10. ALL EQUIPMENT SHALL BE NEW AND IN UNDAMAGED CONDITION. ANY EQUIPMENT FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED FROM THE PROJECT.
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.
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.
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. 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:

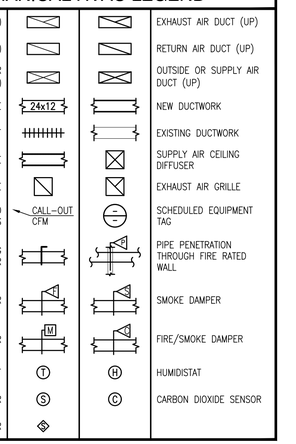
    I (name) of (company) CERTIFY THAT ALL MEASUREMENTS, FIGURES AND STATEMENTS INDICATED IN THIS REPORT WERE TAKEN BY ME OR UNDER MY SUPERVISION AND ARE ACCURATE AS OF (date). DESIGN FLOWS WERE BASED UPON PLANS DATED (xx/xx/xx).

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.
15. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INTERIOR DIMENSIONS.
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.
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.
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 RADIUSED ELBOWS IN ACCORDANCE WITH FIGURES 4-2, TYPE RE-1.
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.
20. DIFFUSER PATTERN 4-WAY UNLESS OTHERWISE INDICATED. PROVIDE FIBERGLASS DUCT INSULATION WITH VAPOR BARRIER AS SCHEDULED UNLESS NOTED OTHERWISE.
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.
22. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
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.
24. MECHANICAL CONTRACTOR TO INCLUDE THE TEST AND BALANCE, AND ANY PERMIT FEES IN THEIR BID.
25. MECHANICAL CONTRACTOR SHALL VERIFY ALL ROOFTOP EQUIPMENT WEIGHTS, SIZES, LOCATIONS AND OPENINGS REQUIRED AND SHALL COORDINATE ANY CHANGES WITH THE ARCHITECT.
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
ADD	ADDENDUM
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLER UNIT
AI	ANALOG INPUT
ALT	ALTERNATE
AO	ANALOG OUTPUT
APPRX	APPROXIMATE
ARCH	ARCHITECT, ARCHITECTURAL
BDD	BACK DRAFT DAMPER
BLDG	BUILDING
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CENTER
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
COND	CONDENSATE
CONT	CONTINUOUS
COP	COEFFICIENT OF PERFORMANCE
DB	DRY BULB
DET	DETAIL
DG	DOOR GRILLE
DI	DIGITAL INPUT
DIA OR ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DO	DIGITAL OUTPUT
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
ERV	ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXIST	EXISTING
FA	FRESH AIR
FPM	FEET PER MINUTE
FT	FOOT (FEET)
GA	GAUGE/GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GYP	GYPSUM
HORIZ	HORIZONTAL
HP	HORSEPOWER
HT	HEIGHT
I/O	INPUT/OUTPUT
IN	INCH
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MIN	MINIMUM
MFR	MANUFACTURER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
P	PUMP
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RA	RETURN AIR
REQD	REQUIRED
REV	REVERSE OR REVISION
RG	RETURN AIR GRILLE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SQFT	SQUARE FEET
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
T&B	TEST AND BALANCE
TEMP	TEMPERATURE OR TEMPORARY
TG	TRANSFER GRILLE
TYP	TYPICAL
V	VOLT
VAR	VARIABLE OR VARIES
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
W/	WITH
W/IN	WITHIN
W/O	WITH OUT
WB	WET BULB
WC	WATER COLUMN (INCHES OF)
WT	WEIGHT

MECHANICAL HVAC LEGEND



MECHANICAL SHEET INDEX

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Expiration Date : 6/30/2025
Salas O'Brien Project Number: 2024-03104-00

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HOUCHIN ELEMENTARY
HVAC UPGRADE

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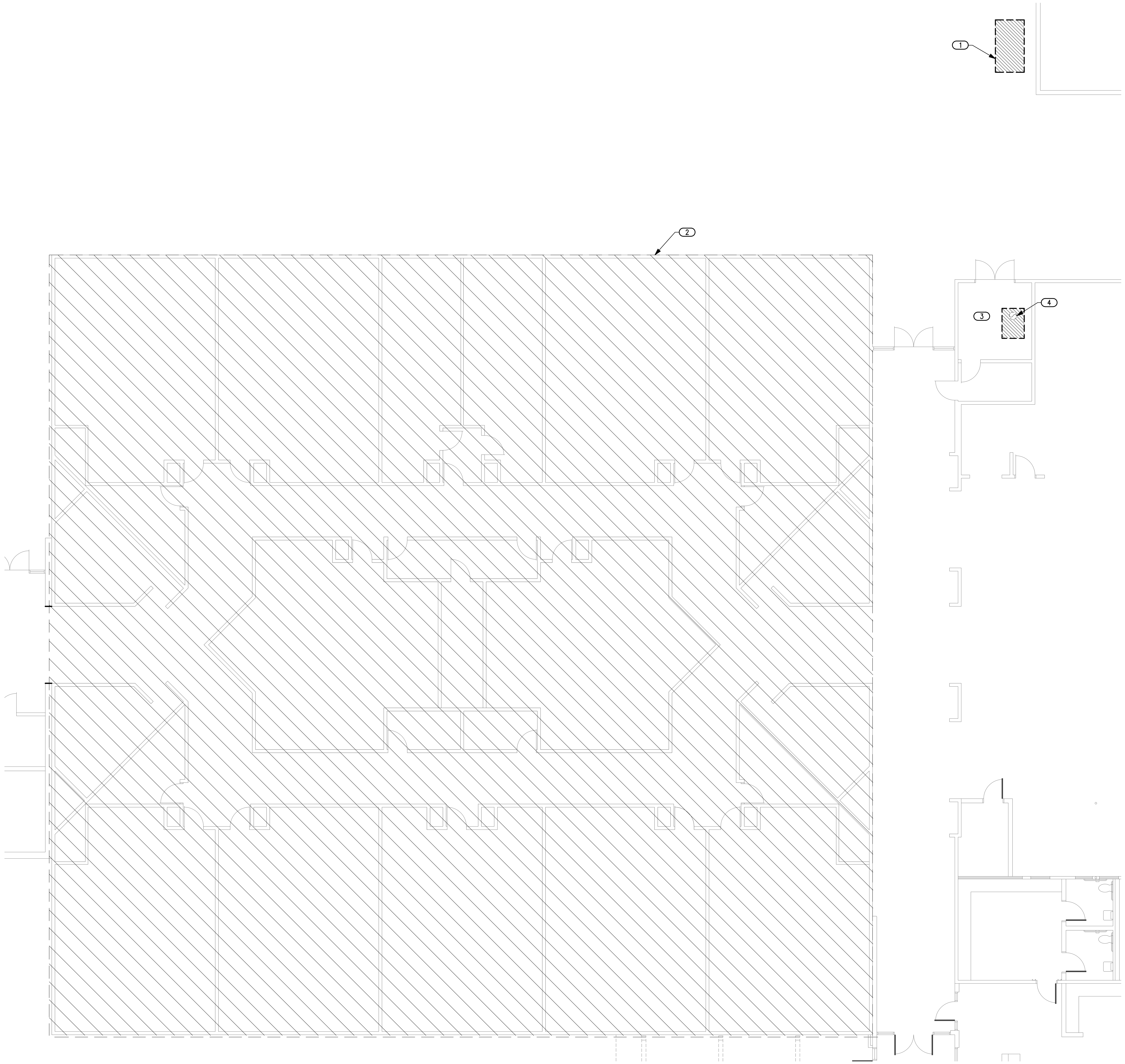

1 MECHANICAL DEMOLITION FLOORPLAN

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES

1. COORDINATE DEMOLITION OF EQUIPMENT WITH ALL TRADES, CONSTRUCTION MANAGER, AND ARCHITECT.
2. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. LOCATIONS OF EXISTING EQUIPMENT ARE DIAGRAMMATICAL IN NATURE.
3. CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY UNINTENDED DAMAGES TO SURROUNDING AREAS DUE TO DEMOLITION.
4. OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF DEMOLISHED EQUIPMENT. DISPOSE OF EQUIPMENT ACCORDING TO CODE. RECYCLE ALL RECYCLABLE MATERIALS.

KEYED NOTES

1. REMOVE CHILLER AND ASSOCIATED HYDRONIC PIPING. COORDINATE REMOVAL OF ELECTRICAL DISCONNECT AND WIRING WITH E.C.
2. REMOVE ALL FAN COIL UNITS, SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK, PIPING, AND AIR DEVICES IN AREA SHOWN. EXHAUST SYSTEMS AND UNIT HEATERS ARE EXISTING TO REMAIN. COORDINATE REMOVAL OF ELECTRICAL DISCONNECT AND WIRING WITH E.C.
3. REMOVE BOILER AND GAS PIPING. COORDINATE WITH PLUMBING CONTRACTOR.
4. DEMOLISH BOILER VENT THRU ROOF HOOD. CAP AND INSULATE ROOF PENETRATION WEATHER TIGHT. COORDINATE WITH GENERAL CONTRACTOR.

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HOUCHIN ELEMENTARY
HVAC UPGRADE

sheet no:

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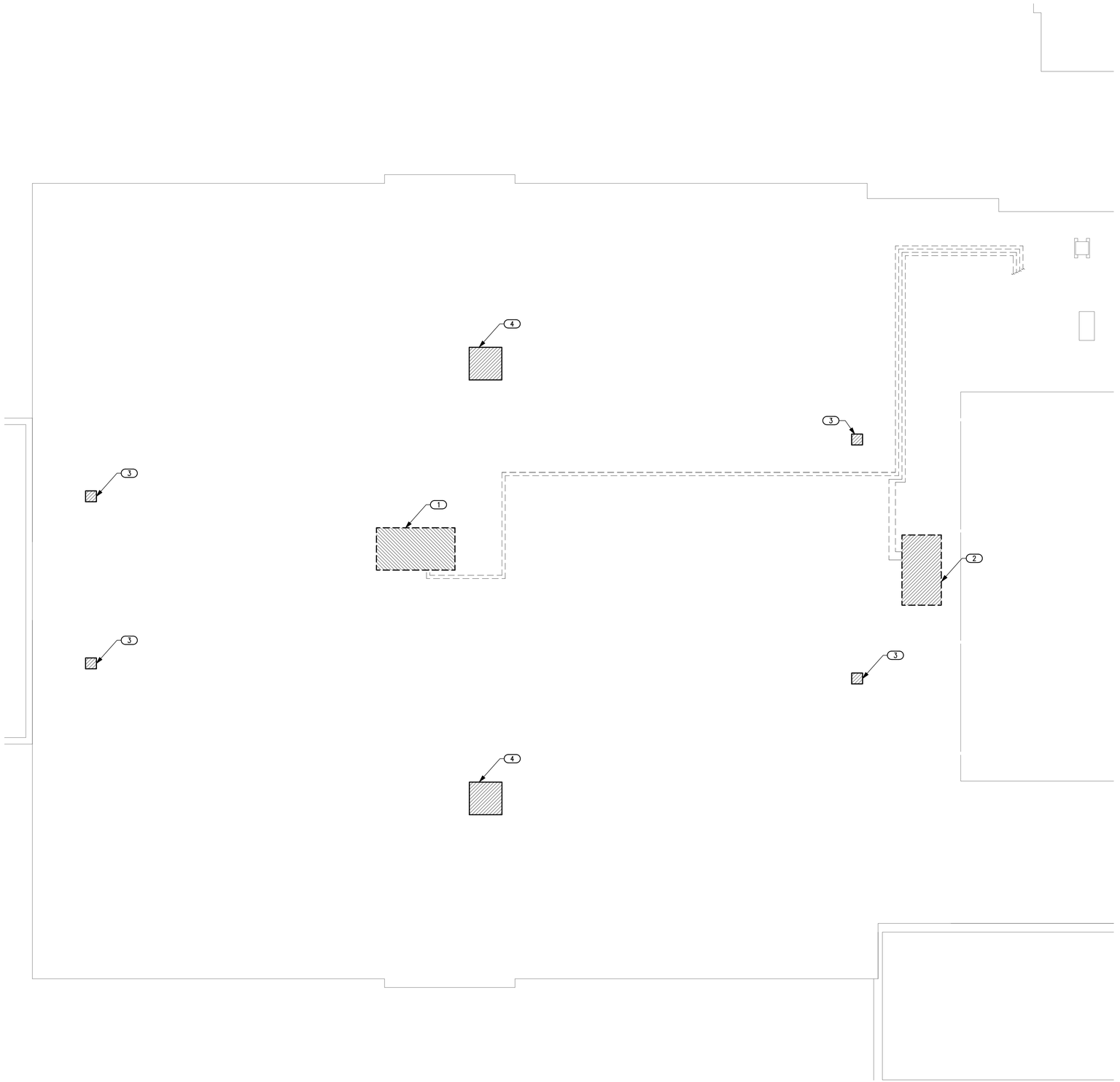

GENERAL NOTES

1. COORDINATE DEMOLITION OF EQUIPMENT WITH ALL TRADES, CONSTRUCTION MANAGER, AND ARCHITECT.
2. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. LOCATIONS OF EXISTING EQUIPMENT ARE DIAGRAMMATICAL IN NATURE.
3. CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY UNINTENDED DAMAGES TO SURROUNDING AREAS DUE TO DEMOLITION.
4. OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF DEMOLISHED EQUIPMENT. DISPOSE OF EQUIPMENT ACCORDING TO CODE. RECYCLE ALL RECYCLABLE MATERIALS.

KEYED NOTES

(1) REMOVE AIR HANDLING UNIT AND ROOF PIPING BACK TO CHILLER. PATCH AND INSULATE ROOF PENETRATIONS TO MATCH EXISTING.

(2) REMOVE AIR HANDLING UNIT AND ROOF PIPING. ROOF PENETRATIONS TO BE REUSED IN NEW WORK. ASSOCIATED DUCTWORK IS EXISTING TO REMAIN.

(3) EXHAUST FANS ARE EXISTING TO REMAIN.

(4) REMOVE ROOF HOOD. PATCH AND INSULATE ROOF PENETRATION.

1 MECHANICAL DEMOLITION ROOF PLAN

SCALE: 1/8" = 1'-0"

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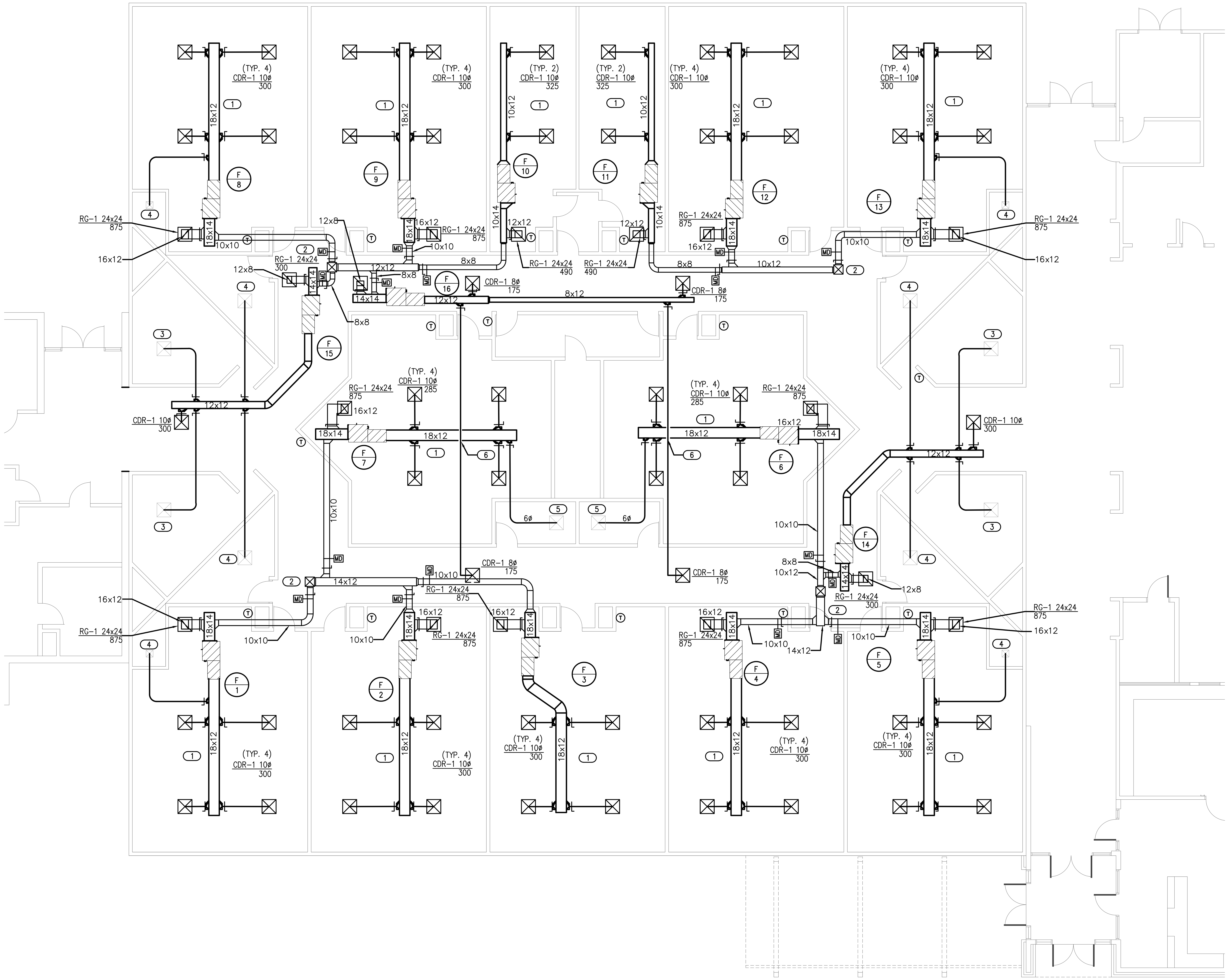

1 MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES

1. COORDINATE INSTALLATION OF EQUIPMENT AND DUCTWORK WITH ALL TRADES.
2. COORDINATE LOCATION OF THERMOSTATS WITH E.C. ROUGH-IN BY E.C.
3. COORDINATE CARBON DIOXIDE SENSOR LOCATION WITH EARTHSMART PRIOR TO INSTALLATION.
4. M.C. SHALL PROVIDE CARBON MONOXIDE SENSORS WHERE NEEDED PER CODE FOR EXISTING EQUIPMENT THROUGHOUT THE ENTIRE BUILDING. M.C. IS RESPONSIBLE FOR SURVEYING ENTIRE BUILDING AND LOCATING FUEL BURNING HVAC EQUIPMENT FOR SENSOR LOCATIONS. COORDINATE WITH E.C FOR POWER CONNECTIONS.
5. CONNECT NEW EVAPORATOR COILS CONDENSATE TO EXISTING NEARBY CONDENSATE PIPES. REFER TO PLUMBING PLANS FOR CONNECTIONS.
6. COORDINATE WITH THE FIRE CONTRACTOR THAT THE LOCATION OF FURNACES DOES NOT CONFLICT WITH SPRINKLER HEADS IN CEILING.

KEYED NOTES

(1) CARBON MONOXIDE DETECTOR TO BE INSTALLED ACCORDING TO ALL APPLICABLE CODES. DETECTOR SHALL BE INSTALLED CENTRALLY ON CEILING. ALSO INCLUDE BATTERY BACKUP IN EVENT PRIMARY POWER IS INTERRUPTED. ALARM SIGNAL SHALL BE ROUTED TO ADMINISTRATION OFFICE. COORDINATE WITH E.C. WITH PRIMARY POWER CONNECTION AND SYSTEM CONNECTION.

(2) DUCT UP 16x16 TO CONNECT TO THROAT OPENING OF ROOF HOOD.

(3) CLEAN AND CONNECT EXISTING DIFFUSER TO NEW 6" DIA. SUPPLY DUCT. BALANCE TO 150 CFM.

(4) CLEAN AND CONNECT EXISTING DIFFUSER TO NEW 6" DIA. SUPPLY DUCT. BALANCE TO 50 CFM.

(5) CLEAN AND CONNECT EXISTING DIFFUSER TO NEW 6" DIA. SUPPLY DUCT. BALANCE TO 60 CFM.

(6) PROVIDE TRANSITIONS AS NEEDED TO ROUTE 8" DIA. DUCT ABOVE 18x12 DUCT.

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GENERAL NOTES

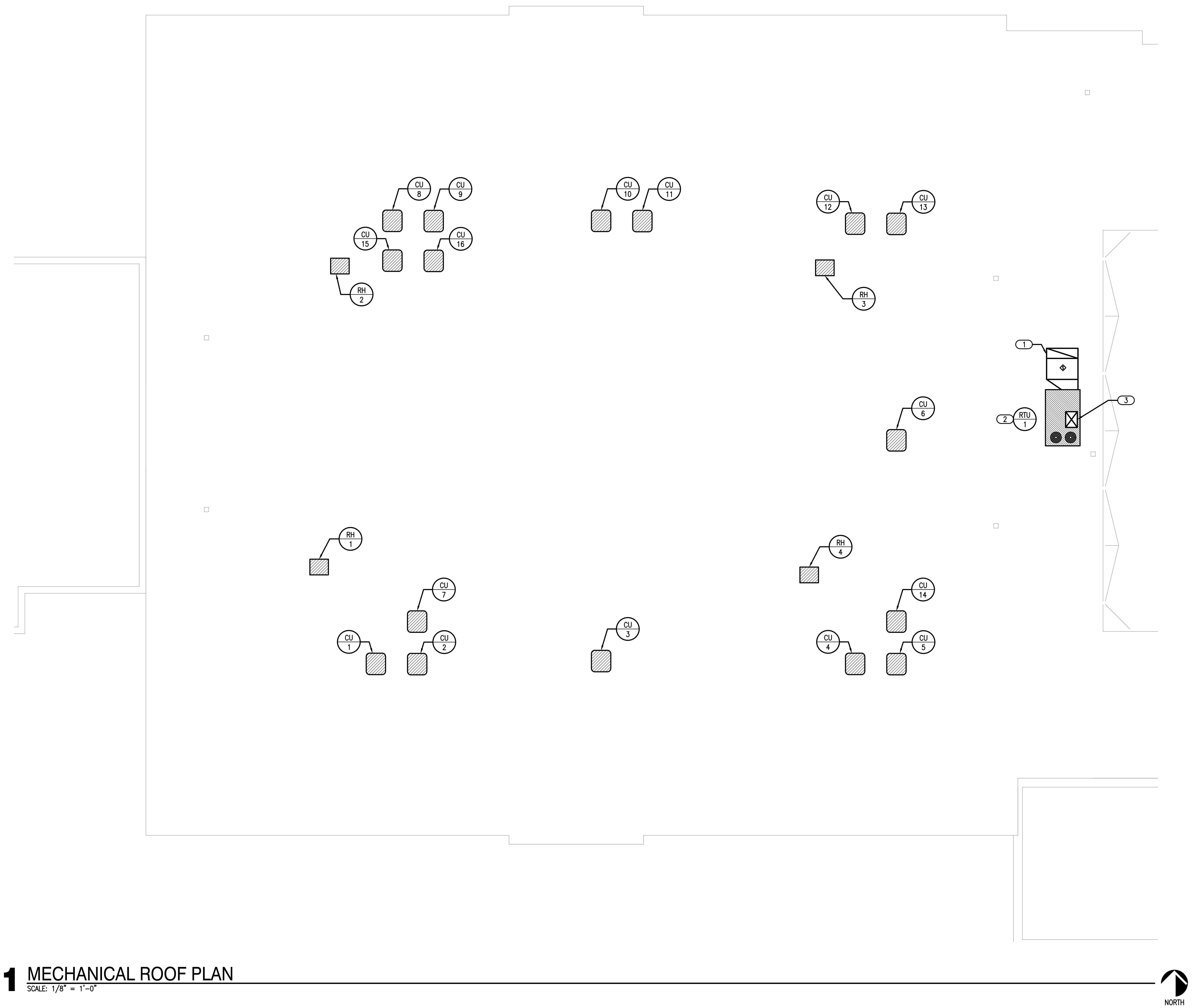
1. ALL ROOF TOP EQUIPMENT TO BE LOCATED A MINIMUM 10'-0" AWAY FROM ROOF EDGE.
2. MAINTAIN A MINIMUM OF 10'-0" HORIZONTAL CLEARANCE BETWEEN ALL EXHAUST OUTLETS AND ANY FRESH AIR INTAKES.
3. ALL ROOF SUPPORT SYSTEMS ARE TO BE MANUFACTURED FOR THE ROOF MATERIAL/SYSTEM TO BE INSTALLED. REFER TO ARCHITECTURAL PLANS FOR THE ROOF SYSTEM, CURB INSTALLATION TO BE WARRANTED BY ROOFING CONTRACTOR.

KEYED NOTES

(1) ROUTE RETURN DUCT TO EXISTING ROOF PENETRATION AND CONNECT TO EXISTING RETURN DUCT. M.C. SHALL FIELD VERIFY BEST ROUTING FOR CONNECTION. PROVIDE 1" INTERNALLY LINED, CROSS CUT DUCT.

(2) M.C. TO FIELD INSTALL POWERED EXHAUST ON RETURN DUCT. RETURN DUCT SIZE SHALL TRANSITION FROM THE UNIT OPENING SIZE, STAYING AS BIG AS POSSIBLE FOR THE POWERED EXHAUST CONNECTION, TO CONNECT TO A PLENUM OPENING OF THE EXISTING PENETRATION. M.C. SHALL ALTER DUCT IN FIELD AS NEEDED FOR TRANSITIONS AND SIZES FOR CONSTRUCTIBILITY.

(3) PROVIDE DUCT TRANSITION AS NEEDED TO CONNECT EXISTING SUPPLY DUCT TO NEW RTU.



1 MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

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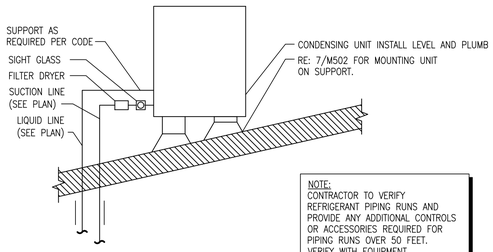
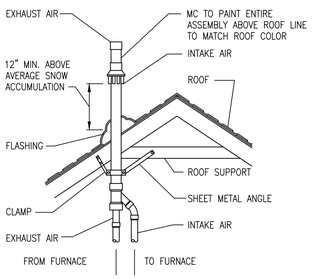


4 CONDENSING UNIT PIPING DETAIL
NOT TO SCALE



5 VENT TERMINATION DETAIL
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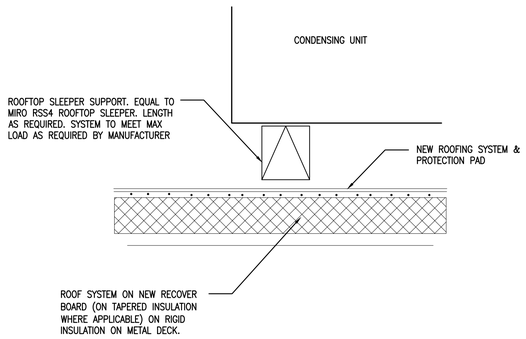

9 CONDENSING UNIT ROOF SUPPORT
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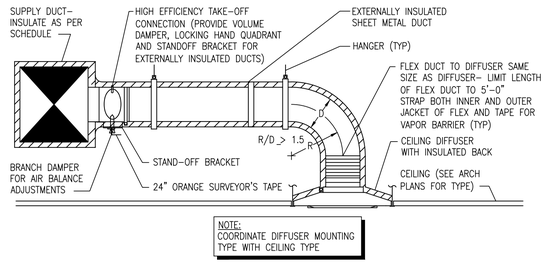
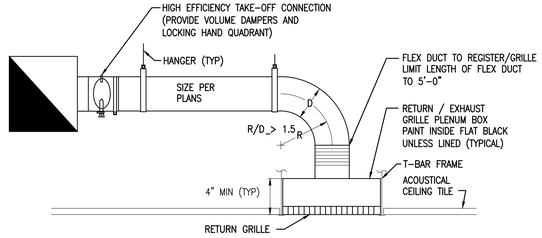


3 CEILING DIFFUSER DETAIL
NOT TO SCALE



2 RETURN / EXHAUST AIR GRILLE PLENUM BOX
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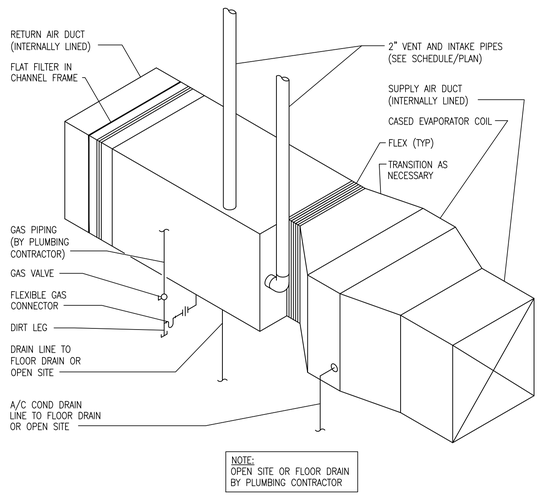

8 HORIZONTAL GAS FURNACE DETAIL
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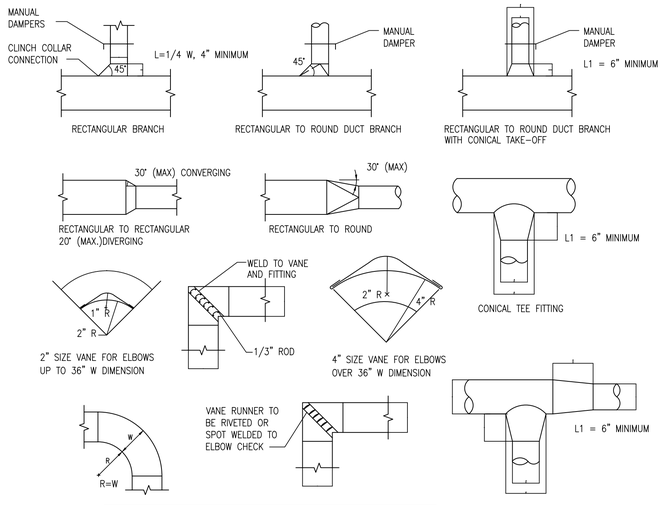
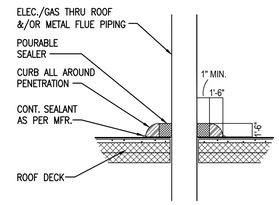
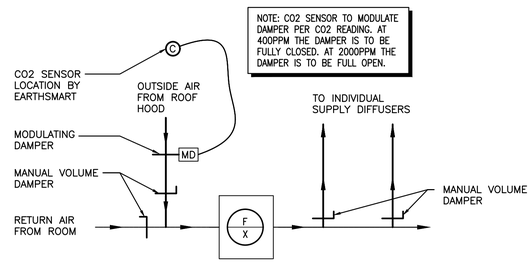


1 TYPICAL DUCTWORK DETAILS
NO SCALE



PENETRATION DAM/ 6 SEALER POCKET DETAIL
NOT TO SCALE



7 TYPICAL FURNACE AIR BALANCING SCHEMATIC
NOT TO SCALE

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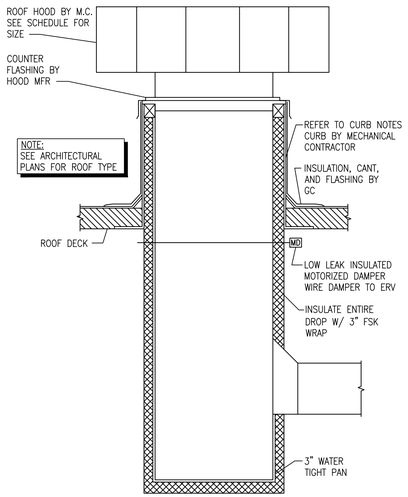

2 ROOF HOOD DETAIL
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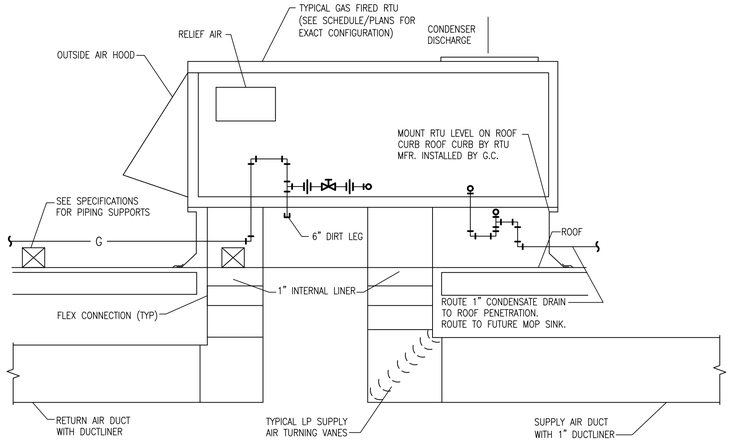

1 TYPICAL ROOF TOP UNIT DETAIL
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MECHANICAL / ELECTRICAL

KF
drawn by

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checked by

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MOORE PUBLIC SCHOOLS

HOUCHIN ELEMENTARY
HVAC UPGRADE

sheet no:

M502

Salas O'Brien
2900 S. Telephone Road, Suite 120
Moore, OK 73160
Salas O'Brien Registration: CA# 7058
Expiration Date : 6/30/2025
Salas O'Brien Project Number: 2024-03104-00

GAS FURNACE SCHEDULE

F	TYPE	INPUT MBH	OUTPUT MBH	CFM	MIN F.A.	EXT. S.P.	HEAT EXCH. MTL	BLOWER				PILOT	VENT	FILTER MERV 8 MIN.	MANUFACTURER & MODEL NO.	NOTES
								SIZE	DRIVE	H.P.	ELEC. CHAR					
1	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
2	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
3	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
4	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
5	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
6	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
7	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
8	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
9	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
10	HORZ	44	42	650	160	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH045XV36B	1–4
11	HORZ	44	42	650	160	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH045XV36B	1–4
12	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
13	HORZ	66	62	1200	325	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH070XV36B	1–4
14	HORZ	44	42	700	100	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH045XV36B	1–4
15	HORZ	44	42	700	100	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH045XV36B	1–4
16	HORZ	44	42	700	100	0.5	ALUMINIZED STL	11X11	DIRECT	0.5	120/1	HOT S	3"	2" TA	LENNOX ML296UH045XV36B	1–4

NOTES: M.C. IS RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY DIMENSIONAL, 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 CO_2 SENSOR, INSTALLATION BY CONTROLS CONTRACTOR. INTERLOCK CO_2 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.
5. PROVIDE CONDENSATE PUMP.

CONDENSING UNIT SCHEDULE

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	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
2	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
3	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
4	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
5	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
6	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
7	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
8	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
9	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
10	1.5	208/1	12	15	17	155	LENNOX ML17XC1–018–230	1200	0.5	– SEE FURNACE SCHEDULE –			LENNOX CHX35–24B–6F	1–7
11	1.5	208/1	12	15	17	155	LENNOX ML17XC1–018–230	1200	0.5	– SEE FURNACE SCHEDULE –			LENNOX CHX35–24B–6F	1–7
12	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
13	3	208/1	17	30	16	200	LENNOX ML17XC1–036–230	1805	0.3	– SEE FURNACE SCHEDULE –			LENNOX CHX35–30B–6F	1–7
14	1.5	208/1	12	15	17	155	LENNOX ML17XC1–018–230	1200	0.5	– SEE FURNACE SCHEDULE –			LENNOX CHX35–24B–6F	1–7
15	1.5	208/1	12	15	17	155	LENNOX ML17XC1–018–230	1200	0.5	– SEE FURNACE SCHEDULE –			LENNOX CHX35–24B–6F	1–7
16	1.5	208/1	12	15	17	155	LENNOX ML17XC1–018–230	1200	0.5	– SEE FURNACE SCHEDULE –			LENNOX CHX35–24B–6F	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/M501 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.

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	–
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.

DUCTWORK/INSULATION SCHEDULE

SYSTEM	LOW PRESSURE				MED. PRESS		HIGH PRESS.		INSULATION				NOTES
	MAX. PRES.	SEAL A	SEAL B	SEAL C	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	–
EXHAUST AIR	2"	–	X	–	–	–	–	–	NO	–	YES	2" FSK	–

NOTES:

ROOF HOOD SCHEDULE

RH	THROAT SIZE DIMENSION (IN)	THROAT AREA (FT^2)	DAMPER BOD OR MOD	CONSTRUCTION	MANUFACTURER & MODEL NO.	COMMENTS	NOTES
1	16X16	1.78	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1–3
2	16X16	1.78	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1–3
3	16X16	1.78	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1–3
4	16X16	1.78	MOD	ALUMINUM	GREENHECK FGI	COLOR BY ARCHITECT	1–3

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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.

PACKAGED ROOFTOP GAS/ELECTRIC UNIT SCHEDULE

RTU	LOCATION	INPUT MBH	OUTPUT MBH	COOLING NOMINAL TONS	MIN EER	CAPACITY STAGES	TOTAL CFM	MIN F.A. CFM	ELEC CHAR	MCA	MOP	ESP (IN)	WEIGHT	MANUFACTURER & MODEL NUMBER	NOTES
1	ROOF–SEE PLANS	260	211	15	12.2	2(H)/4(C)	6000	2200	208 / 3	79	90	1.5	3050	LENNOX LGM180U5M	1–13

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1. PROVIDE CONDENSER COIL HAIL GUARD.
2. PROVIDE FACTORY–INSTALLED UNIT DISCONNECT SWITCH.
3. PROVIDE FACTORY–INSTALLED RETURN DUCT SMOKE DETECTOR WITH REMOTE TEST STATION TO BE LOCATED IN OCCUPIED SPACE. INSTALLATION OF REMOTE TEST STATION AND CONNECTION TO FIRE ALARM SYSTEM BY E.C.
4. PROVIDE FACTORY–INSTALLED 120V GFCI CONVENIENCE OUTLET. GFCI POWERED FROM UNIT. RECEPTACLE SHALL BE COMPLIANT WITH NEC 210.63.
5. PROVIDE ANTI–SHORT CYCLE TIMER AND LOW AMBIENT CONTROLS.
6. PROVIDE FACTORY ROOF CURB SO THAT THE BOTTOM OF THE ROOFTOP UNIT IS A MINIMUM OF 14" ABOVE FINISHED ROOF. MOUNT LEVEL ON SLOPED ROOF.
7. PROVIDE ROOF CURB WITH HORIZONTAL RETURN DUCT CONNECTION.
8. PROVIDE HINGED AND TOOL–LESS ACCESS DOORS.
9. PROVIDE PHASE MONITOR.
10. PROVIDE FULL ENTHALPY ECONOMIZER WITH POWERED EXHAUST.
11. PROVIDE DIGITAL, WI–FI ACCESSIBLE 7–DAY PROGRAMMABLE THERMOSTAT WITH OCCUPIED/UNOCCUPIED SETTINGS CAPABLE OF CONTROLLING THE H/C STAGES OF SPECIFIED UNIT.
12. PROVIDE UNIT WITH HGRH.
13. MODULATE OUTSIDE AIR BASED ON DEMAND REPORTED BY CO2 CENSOR.

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