EXHAUST FAN SCHEDULE:

EF-1	PANASONIC FV-05-11 VK1	110 CFM @ .25 SP.
EF-2	PANASONIC FV-05-15 VK1	150 CFM @ .25 SP.

1. FAN TO HAVE INTEGRAL BACKDRAFT DAMPER AND CONTROL VIA WALL SWITCH.
2. PROVIDE WALL SWITCH WITH INTEGRAL DELAY TIMER.

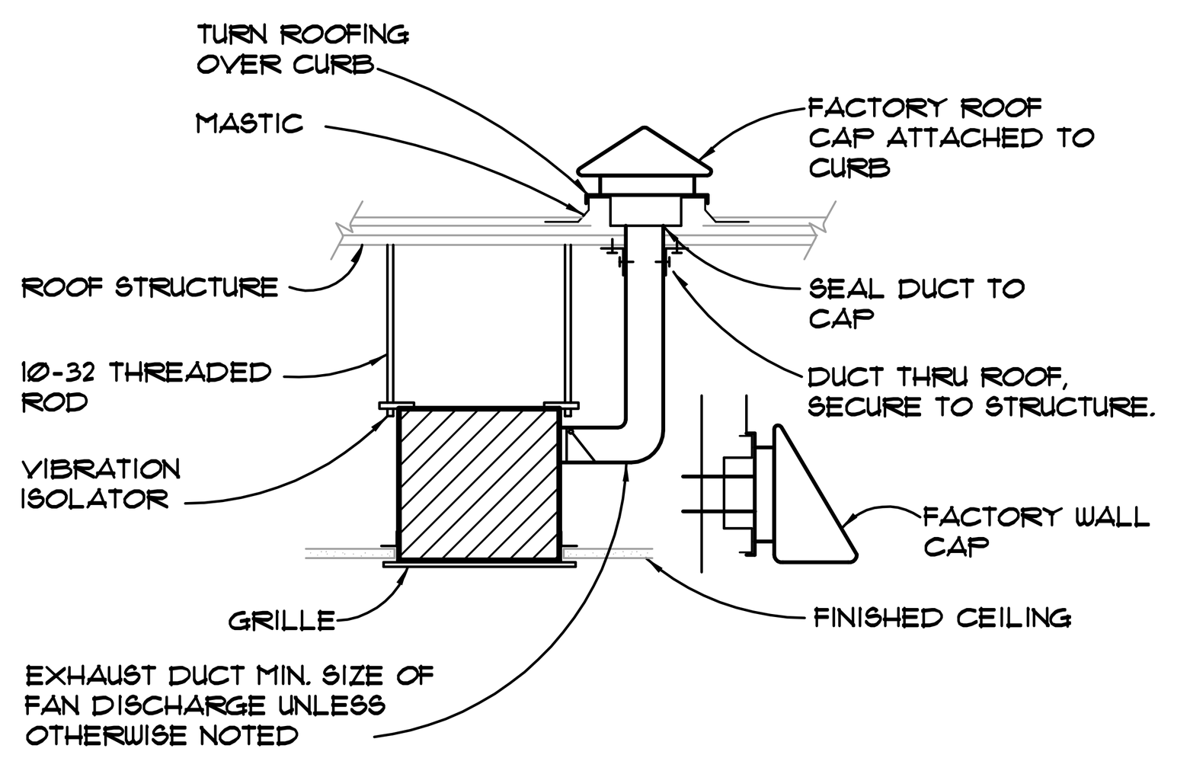
SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

		INDOOR UNIT								OUTDOOR UNIT								COOLING CAPACITIES					
																		ENT AIR		AMBIENT		MBH	
MARK	AREA SERVED	MANUFACTURER	NOM. TON	MODEL	TOTAL CFM	ESP IWG	HP	VOLTS/Ø	WEIGHT LBS	MARK	MANUFACTURER	MODEL	UNIT MCA	MOCP	VOLTS/Ø	SEER	WEIGHT LBS	DB	WB	DB	WB	SENS	REMARKS
AH-1	KITCHEN-LIVING-DINING	LENNOX	4	CBA38MV048	1600	0.5	3/4	230/1	150	CU-1	LENNOX	SL25XPV-48	28	40	230/1	20	250	77	63	115	71	34	(1)(2)(3)
AH-2	OFFICE-EXERCISE	LENNOX	2	CBA38MV024	800	0.5	1/2	230/1	125	CU-2	LENNOX	SL25XPV-24	18	25	230/1	22	250	77	63	115	71	18	(1)(2)(3)
AH-3	SECOND FLOOR	LENNOX	5	CBA38MV060	1800	0.5	3/4	230/1	150	CU-3	LENNOX	SL25XPV-60	35	50	230/1	20	250	77	63	115	71	44	(1)(2)(3)

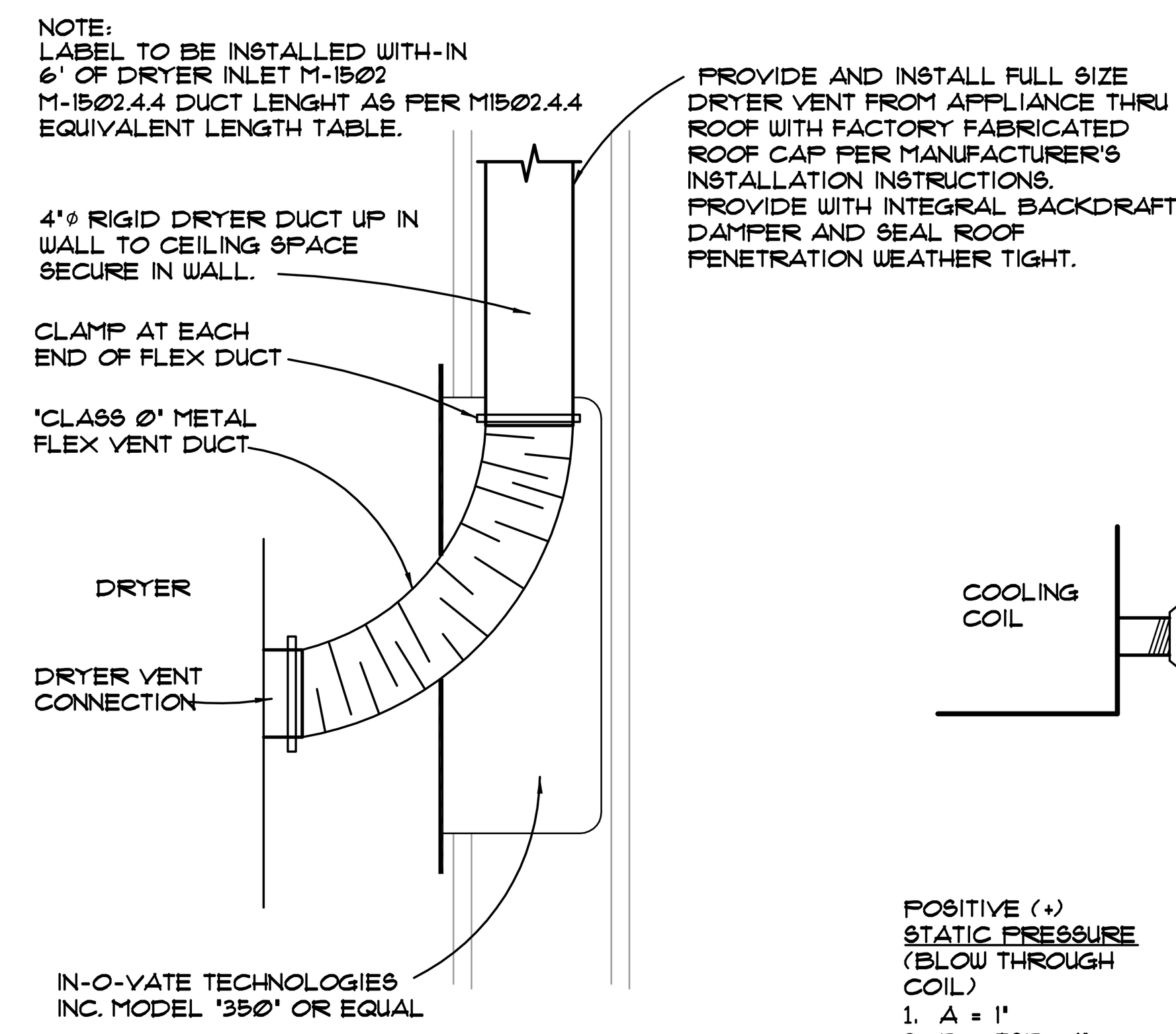
(1) PROVIDE WITH ELECTRONIC PROGRAMMABLE THERMOSTAT WITH AUTO CHANGE-OVER.

(2) THE CALCULATED LOAD IS BASED ON CARRIER HAP CALCULATION USING THE ASHRAE FUNDAMENTALS MANUAL. EQUIPMENT CAPACITIES EXCEED THE CALCULATED CAPACITIES DUE TO THE INCREMENTAL UNIT SIZES AVAILABLE.

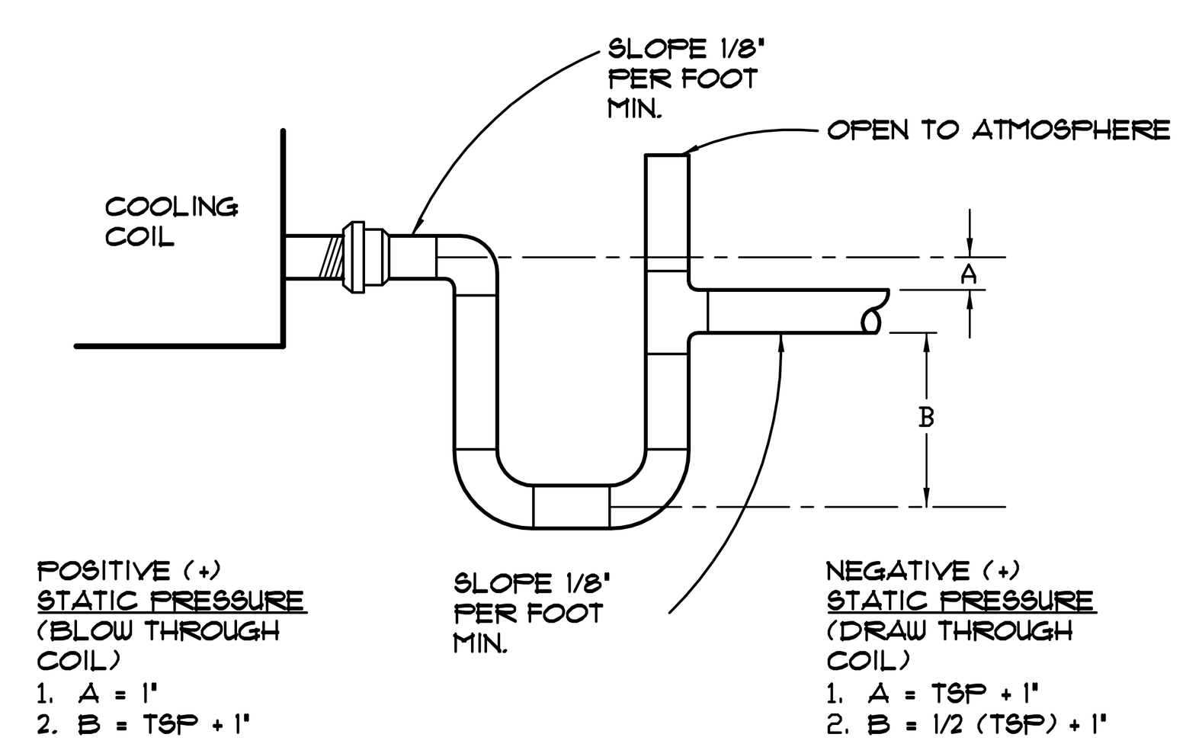
(3) PROVIDE INDOOR UNIT WITH INTEGRAL FLOAT SENSOR IN COND. PAN.



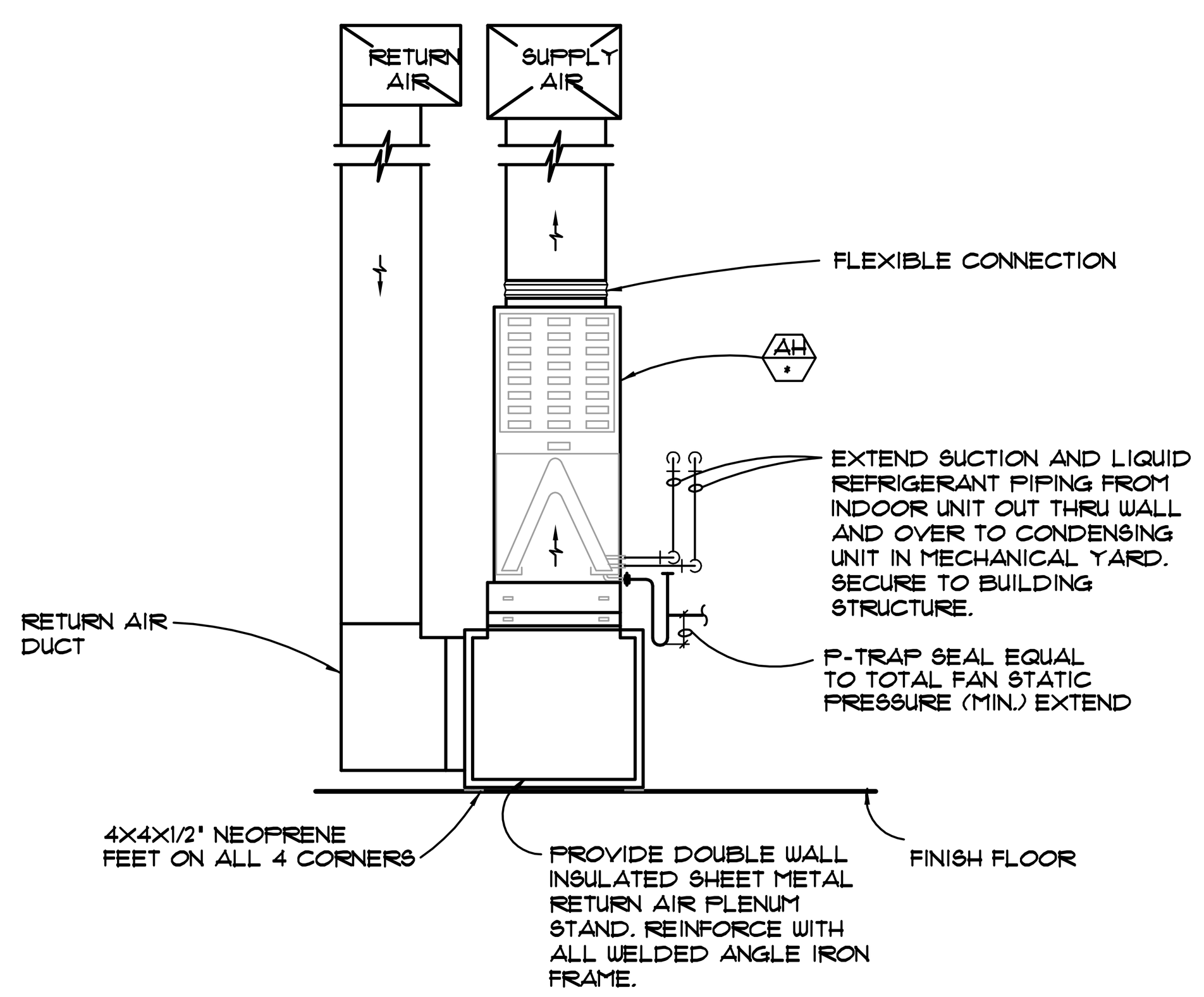
1 CEILING MOUNT EXHAUST FAN DETAIL
NTS



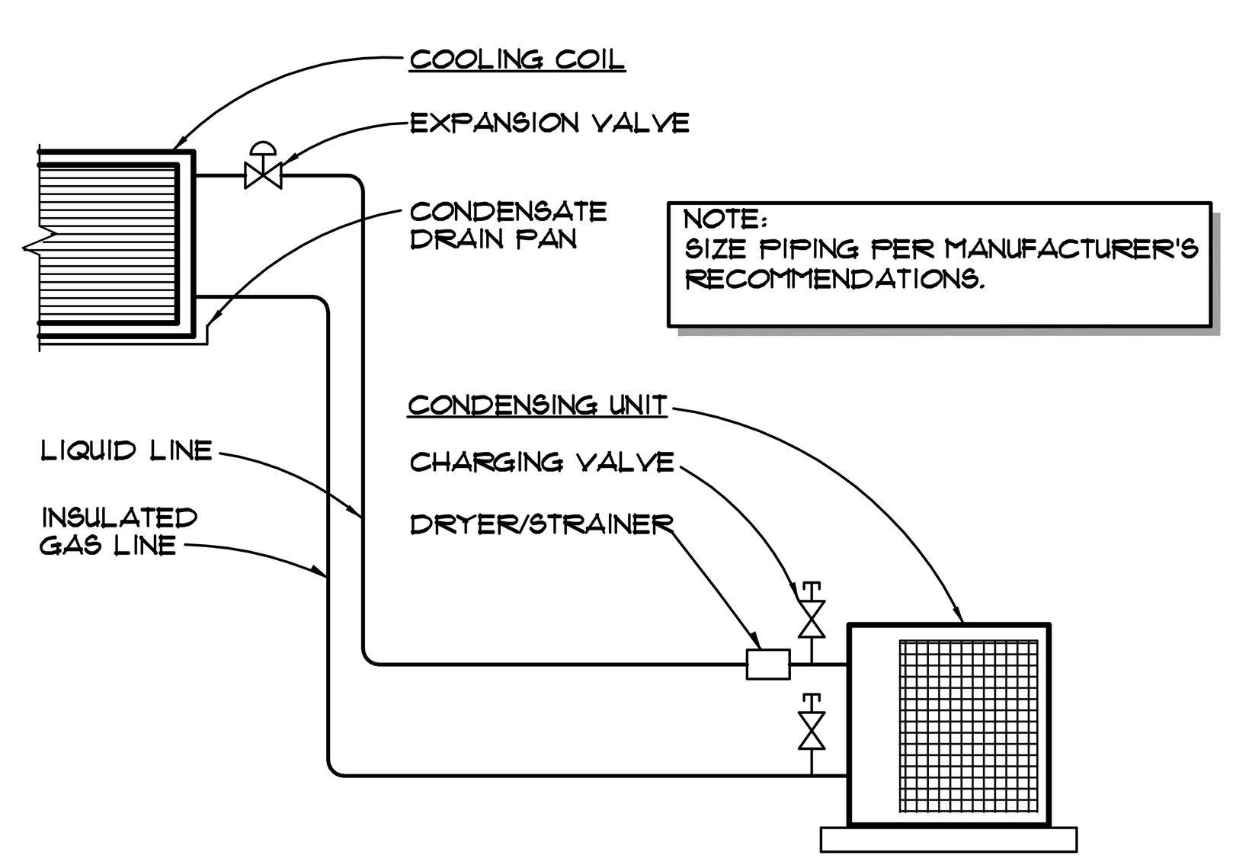
2 DRYER BOX DETAIL
NTS



3 COOLING COIL DRAIN TRAP DETAIL
NTS



4 INDOOR UNIT DETAIL



5 REFRIGERANT PIPING DIAGRAM
NTS

2018 IECC COMPLIANCE NOTES

1. EXTERIOR WALL PENETRATIONS BY PIPES, DUCTS OR CONDUITS SHALL BE CAULKED. (R307.6)
2. SUPPLY AND RETURN DUCTS SHALL BE INSULATED TO A MINIMUM R-8. DUCTS IN FLOOR TRUSSES SHALL BE INSULATED TO MINIMUM R-6. (N1103.2.1).
3. REGISTERS, DIFFUSERS AND GRILLES SHALL BE MECHANICALLY FASTENED TO RIGID SUPPORTS OR STRUCTURAL MEMBERS ON AT LEAST TWO OPPOSITE SIDES IN ADDITION TO BEING CONNECTED TO DUCTWORK THEY SERVE.
4. DRYER EXHAUST DUCTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS (M1502.4.5 AMENDED), M1502.4.1 THRU M1502.4.6.
5. EXHAUST AIR FROM KITCHENS, BATHROOMS AND TOILET ROOMS SHALL NOT BE RE-CIRCULATED WITHIN A RESIDENCE OR TO ANOTHER DWELLING UNIT, SHALL NOT DISCHARGE INTO AN ATTIC AND/OR CRAWL SPACE AND SHALL BE EXHAUSTED DIRECTLY TO THE OUTDOORS. (M1507.2).
6. AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM. (N1103.1).
7. THE BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF SECTION M1507 OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING. (N1103.5).
8. THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES w.g. (50 PASCALS). TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE. (N1102.4.1.2).
9. DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1, (N1103.2.2). DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:

   1. POST-CONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS T HAN OR EQUAL TO 4 cfm PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES w.g. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. (1103.22)

   2. ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAT OR EQUAL TO 4 cfm PER 100 ft2 OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES w.g. (25 Pa) ACROSS THE SYSTEM, INCLUDING THE MANFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 cfm PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA. (1103.22)

10. PROVIDE AUTOMATIC CHANGEOVER 7-DAY PROGRAMMABLE THERMOSTATS BY EQUIPMENT MANUFACTURER WITH 2-HOUR OCCUPANT OVERRIDE AND 10-HOUR MINIMUM BATTERY BACKUP. PROGRAM SETBACK TEMPERATURES TO 85 DEGREES F (COOL) AND 55 DEGREES F)HEAT. ALL TEMPERATURE CONTROLS ARE TO BE TESTED, ADJUSTED AND CALIBRATED FOR PROPER OPERATION. MOUNT ALL THERMOSTATS AND TEMPERATURE SENSORS AS INDICATED ON THE PLANS. COORDINATE EXACT LOCATION WITH THE DESIGNER. PROVIDE LOCKING COVER AS REQUIRED BY THE DESIGNER OR OWNER. MOUNT BETWEEN 48" - 54" A.F.F.
11. PROVIDE OWNER WITH COMPLETE OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND CONTROLS INSTALLED. DOCUMENTATION MUST INCLUDE EQUIPMENT CAPACITY (INPUT AND OUTPUT). REQUIRED MAINTENANCE ACTIONS, CONTROLS AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, CONTROL SEQUENCE DESCRIPTIONS, DESIRED OR FILED-DETERMINED SETPOINTS, AND A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.

GENERAL SPECIFICATIONS

1. MECHANICAL CONTRACTOR SHALL VISIT THE PROJECT SITE BEFORE BIDDING AND COMMENCEMENT OF WORK TO DETERMINE THE EXTENT OF THE HVAC WORK.
2. MECHANICAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE COMMENCEMENT OF WORK.
3. PROVIDE AS NECESSARY ALL MECHANICAL SYSTEM INSPECTION REPORTS AS REQUIRED BY REGULATORY AGENCIES AT PROJECT LOCATION.T
4. SUBMIT EQUIPMENT WARRANTIES AND OPERATING AND MAINTENANCE MANUALS TO OWNER UPON PROJECT CLOSE-OUT.
5. MOUNT ALL WALL THERMOSTATS AT 4'-6" AFF OR AS NOTED ON DRAWINGS.
6. DUCTWORK SHALL BE CONSTRUCTED FROM NEW HOT-DIPPED GALVANIZED SHEET IRON OR STEEL, ASTM A-120, IN ACCORDANCE WITH IMC STANDARDS FOR GAGE AND REINFORCEMENT. CONSTRUCT AND ERECT DUCTWORK IN ACCORDANCE WITH LATEST ISSUES OF IMC AND SMACNA STANDARDS AND ASHRAE HANDBOOKS. CONSTRUCT LONGITUDIAL SEAMS USING BUTTON PUNCH SNAP LOCK OR PITTSBURG LOCK TYPE SEAMS. UNLESS OTHERWISE INDICATED, CONSTRUCT SUPPLY DUCTWORK FOR 1" (POSITIVE) WG, RETURN DUCT FOR 1" (NEGATIVE) WG, OUTSIDE AIR AND EXHAUST DUCTWORK FOR 1" (POSITIVE OR NEGATIVE) WG TO SUIT LOCATION.
7. SEALING DUCTWORK: ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS; MECHANICAL FASTENERS WITH SEALS. GASKETS OR MASTICS; MESH AND MASTIC SEALING SYSTEMS; OR TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR 181B.
8. EXTERNALLY INSULATE ALL SHEET METAL SUPPLY AND RETURN DUCTWORK WITH 0.75 PCF FIBERGLASS DUCTWRAP WITH AN FSK VAPOR BARRIER. SECURE INSULATION WITH STAPLES AND/OR WIRE AND TAPE. MAINTAIN VAPOR BARRIER. MINIMUM R-5 INSULATION ON DUCTWORK WITHIN THE INSULATED BUILDING ENVELOPE, MINIMUM R-8.0 INSULATION ON DUCTWORK OUTSIDE THE INSULATED BUILDING ENVELOPE.
9. FLEXIBLE DUCTS SHALL BE FACTORY MADE, UL LISTED AS A CLASS I DUCT AND COMPLY WITH NFPA-90A AND 90B. FLEXIBLE DUCTS SHALL INCLUDE A CPE LINER PERMANENTLY BONDED TO A COATED SPRING WIRE HELIX WITH A R-5 FIBERGLASS BLANKET INSULATION, AND A LOW PERMEABILITY OUTER BARRIER OF FIBER GLASS REINFORCED FILM LAMINATED. FLEXIBLE DUCTS SHALL BE THERMAFLEX II TYPE M-KE, OR EQUIVALENT GENFLEX
10. INSTALL FLEXIBLE DUCTS WITH A MINIMUM OF BENDS, AND EXTENDED STRAIGHT WHERE POSSIBLE. MINIMUM BEND RADIUS OF 1-1/2 TIMES THE DIAMETER OF THE DUCT MEASURED FROM THE CENTERLINE. ALL JOINTS AND CONNECTIONS SEALED AND CONNECTED TO SHEET METAL COLLARS WITH WORM DRIVE STEEL CLAMPS.
11. CONDENSATE DRAIN PIPING SHALL BE ASTM B-88, TYPE M COPPER WITH WROT COPPER FITTINGS AND SOLDERED JOINTS, 50/50 SOLDER. SLOPE HORIZONTAL PIPING MINIMUM 1/8" PER FOOT TOWARD DRAIN LINE CONNECTION. PROVIDE THREADED CLEAN-OUT PLUGS AT EACH 90 DEGREE CHANGE OF DIRECTION.
12. INSULATE CONDENSATE DRAIN PIPING WITH 3/8" THICK FLEXIBLE CLOSED CELL FOAMED PLASTIC PIPE INSULATION, 5.4 POUNDS DENSITY AND THERMAL CONDUCTIVITY OF 0.253 BTU/HR SQ FT AT 75 DEGREES F. ARMSTRONG ARMAFLEX OR EQUAL. FITTINGS FIELD FABRICATED OF NESTING SIZES, SECURED WITH ADHESIVE.
13. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.
14. GRILLES, REGISTERS, AND DIFFUSERS SHALL BE AS LISTED ON THE DRAWINGS OR EQUAL BY KRUEGER, METALAIRE, PRICE OR TITUS.
15. HEAT PUMP UNITS: TRANE, CARRIER, DAY&NIGHT.

DESIGN CONDITIONS

WINTER	SUMMER
OUTSIDE TEMPERATURE 34 DB	OUTSIDE TEMPERATURE 108 DB-71 WB
INSIDE TEMPERATURE 74 DB	INSIDE TEMPERATURE 76 DB-63 WB

NOTES:
1. LOAD CALCULATED USING CARRIER BLOCK LOAD PROGRAM.
2. RUN REFRIGERANT LINES FULL SIZE PER MANF'S INSTRUCTIONS. NO EQUIPMENT LESS THAN 95% OF LISTED CAPACITY WILL BE APPROVED.

ARCHITECTURE LIFESTYLE
Candelaria Design Associates
6900 East Camelback Rd. Suite 400 Scottsdale, AZ 85251
602.604.2001 CANDELARIADESIGN.COM FAX 480.874.7098

A Remodel for:
The McBride Residence
2243 North Alvarado Road
Phoenix, AZ, 85004

20--
23 CELEBRATING YEARS 1999-2022

Feb. 03, 2022

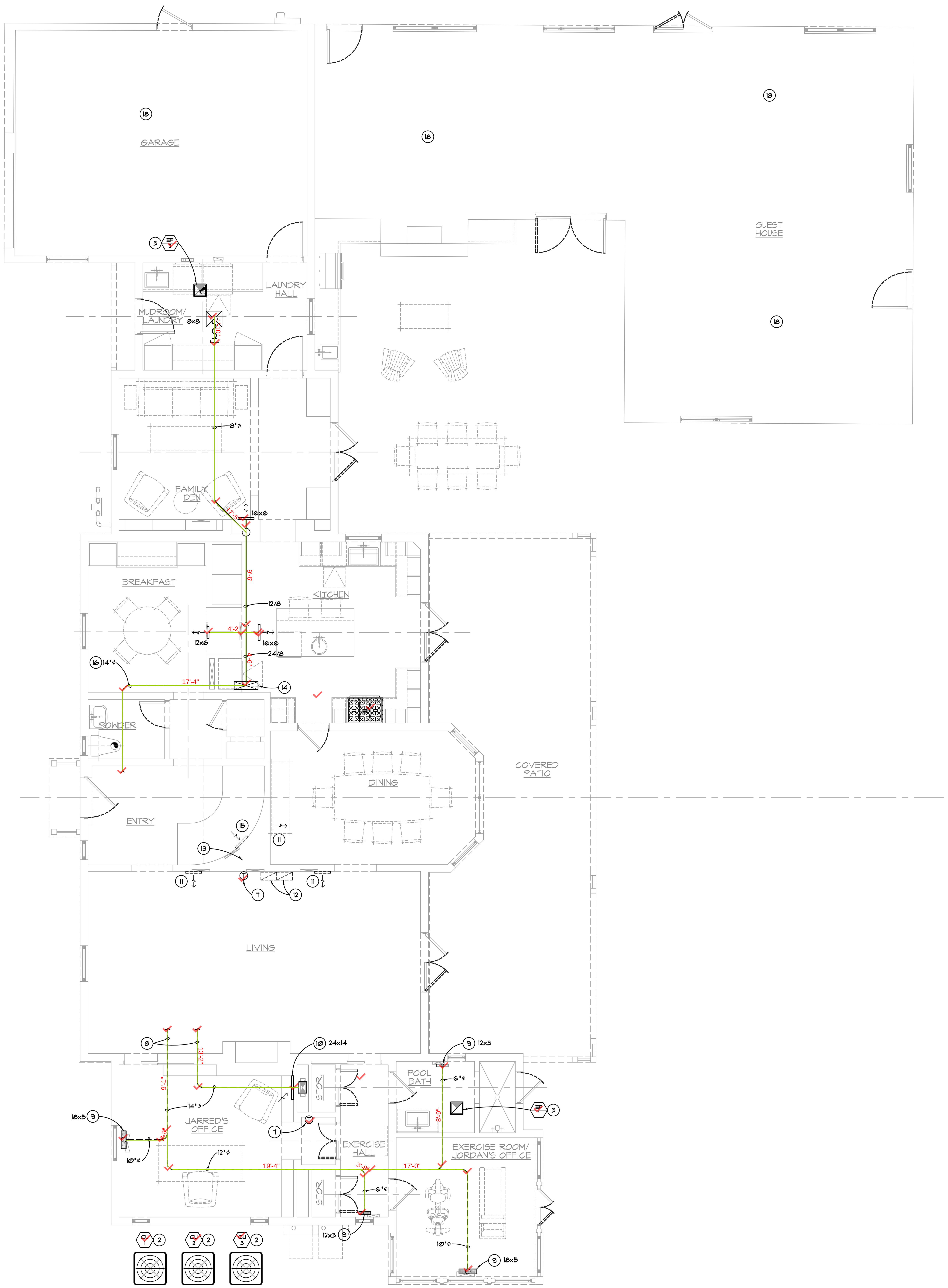
Checked By: L.A.E.
Drawn By: R.M.
Scale: None
Drawing: Mech. Symbols, Schedules & Details
Sheet: M-1

LE Designs
PHOENIX, ARIZONA
602-363-9751

PROJECT # 22035

Legend

	Description	Quantity	Unit
✓	23: 12" X 10" DIA REDUCER	1	Count
✓	23: 14" X 12" DIA REDUCER	1	Count
✓	23: 24/8" X 12/8" REDUCER	1	Count
✓	23: DAM: 8" DIA VD	1	Count
✓	23: DEVIC: THERMOSTAT	2	Count
/	23: DUCT-RA: 14" DIA RA, 10'	13.18	ft
/	23: DUCT-SA: 6" DIA SA	12.47	ft
/	23: DUCT-SA: 8" DIA SA	17.41	ft
/	23: DUCT-SA: 10" DIA SA	20.69	ft
/	23: DUCT-SA: 12" DIA SA	19.37	ft
/	23: DUCT-SA: 12/8" DIA SA	13.64	ft
/	23: DUCT-SA: 14" DIA SA, 10'	26.45	ft
/	23: DUCT-SA: 24/8" DIA SA	4.52	ft
✓	23: EQ: KITCHEN RANGE HOOD	1	Count
✓	23: FAN: EF-1	1	Count
✓	23: FAN: EF-2	1	Count
/	23: FD DUCT-SA: 8" DIA SA	1.83	ft
✓	23: GRIL: 8" X 8" SA GRILL	1	Count
✓	23: GRIL: 12" X 3" SA GRILL	2	Count
✓	23: GRIL: 12" X 6" SA GRILL	1	Count
✓	23: GRIL: 16" X 6" SA GRILL	2	Count
✓	23: GRIL: 18" X 5" SA GRILL	2	Count
✓	23: GRIL: 24" X 14" RA GRILL	1	Count
✓	23: JOINT: 8" L 45-JNT SA	1	Count
✓	23: JOINT: 10" L-JNT SA	1	Count
✓	23: JOINT: 12" L-JNT SA	1	Count
✓	23: JOINT: 14" L-JNT RA	2	Count
✓	23: JOINT: 14" L-JNT SA	3	Count
✓	23: JOINT: 24/8" L-JNT SA	1	Count
✓	23: TRAN: SA: 6" DIA SA SIDE TRANSITION	2	Count
✓	23: TRAN: SA: 10" DIA SA SIDE TRANSITION	1	Count
✓	23: TRAN: SA: 12" X 6" SA SIDE TRANSITION	1	Count
✓	23: TRAN: SA: 16" X 6" SA SIDE TRANSITION	2	Count
✓	23: UNIT: AHU-1	1	Count
✓	23: UNIT: AHU-2	1	Count
✓	23: UNIT: CU-1	1	Count
✓	23: UNIT: CU-2	1	Count
✓	23: UNIT: CU-3	1	Count



Mechanical First Floor Plan

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

NORTH

Key Notes:

1. PROVIDE AND INSTALL INDOOR UNIT. INSTALL FLEXIBLE DUCT CONNECTIONS AT SUPPLY AND RETURN DUCT. PROVIDE CLEARANCES PER MANUFACTURER'S DIRECTIONS. SEE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE AND INSTALL CONDENSING UNIT ON 4" CONCRETE PADS. ROUTE REFRIGERANT LINES TO FAN COIL SUSPEND ABOVE CEILING. INSTALL STRICTLY PER MANUFACTIURER'S WRITTEN INSTRUCTIONS.
3. PROVIDE CEILING CABINET EXHAUST FAN. .
4. TRAP AND VENT 3/4" CONDENSATE PIPING AT UNIT. DRAIN TO EXTERIOR WALL AND OUT OF WALL AND TERMINATE AT LANDSCAPE PROVIDE AIR GAP.
5. 4"ø DRYER VENT UP IN WALL TO DISCHARGE CAP.
6. EXTEND REFRIGERANT LINES FROM INDOOR UNIT THRU EXTERIOR WALL AND CONNECT TO OUTDOOR UNIT.
7. WALL MOUNT PROGRAMMABLE THERMOSTAT.
8. UNDERGROUND DUCTWORK. SEE BASEMENT EQUIPMENT ROOM FOR CONTINUATION.
9. FLOOR SUPPLY GRILLE.
10. RETURN GRILLE MOUNTED NEAR FLOOR..
11. EXISTING SUPPLY REGISTER.
12. EXISTING FLOOR RETURN GRILLE.
13. EXISTING SUPPLY AND RETURN AIR DUCTWORK IN FURRING TO BE REUSED FOR DINING AND LIVING ROOM REGISTERS.
14. SUPPLY AIR DUCTWORK UP FROM BASEMENT EQUIPMENT ROOM.
15. EXISTING RETURN GRILLE.
16. NEW UNDERGROUND SUPPLY DUCTWORK, SEE BASEMENT PLAN FOR CONTINUATION.
17. CONNECT NEW SUPPLY AND RETURN DUCTWORK TO EXISTING DUCTWORK SERVING THE DINING AND LIVING ROOM. FIELD VERIFY CONNECTION POINT AND SIZES.
18. NO WORK IN THIS AREA.

General Notes:

1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF GRILLES, REGISTERS AND DIFFUSERS.
2. MOUNT NEW THERMOSTATS @ 48" A.F.F. COORDINATE LOCATION WITH ARCHITECT.
3. HVAC DUCTING SHALL NOT BE PLACED DOWN THE CENTER OF ANY HALLWAYS OR ROOMS. THE LIGHTING PLANS SHALL HAVE LOCATION PRIORITY OVER ALL HVAC ELEMENTS.

Duct Sealing:

IT IS MANDATORY THAT A DUCT LEAKAGE TEST OR A ROUGH-IN DUCT LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH (N1103.2.2).

Notes:

2018 IRC
IECC AIR LEAKAGE TESTING PER R402.4.1.2
DUCT TIGHTNES TEST PER R403.2.2
DUCT BLASTER @ 25 PACLS

Duct Tightness Test:

1. POST CONSTRUCTION LEAKAGE TO OUTDOORS TEST: LESS THAN OR EQUAL TO 4 CFM PER 100 FT2 OF CONDITIONED FLOOR AREA.
2. POST CONSTRUCTION TOTAL LEAKAGE TEST (INCLUDING AIR HANDLER ENCLOSURE): LESS THAN OR EQUAL TO 12 CFM PER 100FT2 OF CONDITIONED FLOOR AREA PRESSURE DIFFERENTIAL OF 0.1 INCHES w.g.
3. ROUGH-IN TOTAL LEAKAGE TEST WITH AIR HANDLER INSTALLED: LESS THAN OR EQUAL TO 6 CFM PER 100 FT2 OF CONDITIONED FLOOR AREA. WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES w.g.
4. ROUGH-IN TOTAL LEAKAGE TEST WITHOUT AIR HANDLER INSTALLED: LESS THAN OR EQUAL TO 3 CFM PER 100 FT2 OF CONDITIONED FLOOR AREA.

Energy Conservation:

1. AT LEAST ONE PROGRAMMABLE THERMOSTAT SHALL BE INSTALLED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.
2. SUPPLY AND RETURN DUCTS SHALL BE INSULATED TO A MINIMUM OF R-8. DUCTS IN FLOOR TRUSSES SHALL BE INSULATED TO A MINIMUM OF R-6.
3. DUCTS, AIR HANDLERS, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.3.1.
4. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.
5. HEATING AND COOLING EQUIPMENT SHALL BE SIZED BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES.

ARCHITECTURE
Candelaria Design Associates
LIFESTYLE
6900 East Camelback Rd. Suite 400 Scottsdale, AZ 85251
602.604.2001 CANDELARIADESIGN.COM FAX 480.874.7098

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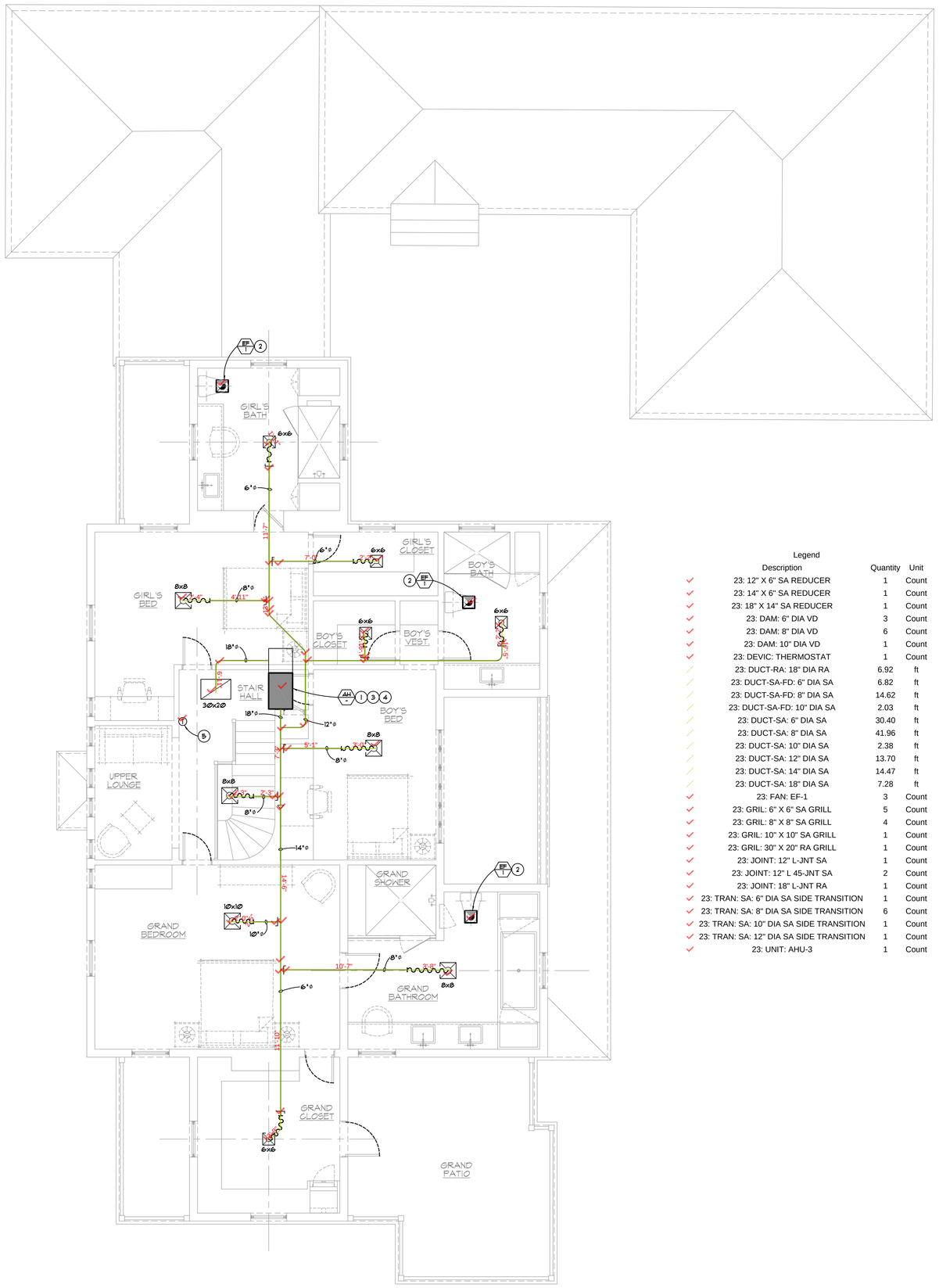
Feb. 03, 2022

Checked By: L.A.E.
Drawn By: R.M.
Scale: 1/4" = 1' - 0"
Drawing: Mechanical First Floor Plan
Sheet:

LE Designs
PHOENIX, ARIZONA
602-363-9751

PROJECT # 22035

M-2



NORTH

Mechanical Second Floor Plan

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

Key Notes:

1. PROVIDE AND INSTALL INDOOR UNIT. INSTALL FLEXIBLE DUCT CONNECTIONS AT SUPPLY AND RETURN DUCT. PROVIDE CLEARANCES PER MANUFACTURER'S DIRECTIONS. SEE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE CEILING CABINET EXHAUST FAN. .
3. TRAP AND VENT 3/4" CONDENSATE PIPING AT UNIT. DRAIN TO EXTERIOR WALL AND OUT OF WALL AND TERMINATE AT LANDSCAPE PROVIDE AIR GAP.
4. EXTEND REFRIGERANT LINES FROM INDOOR UNIT THRU EXTERIOR WALL AND CONNECT TO OUTDOOR UNIT.
5. WALL MOUNT PROGRAMMABLE THERMOSTAT.

Legend

	Description	Quantity	Unit
✓	23: 12" X 6" SA REDUCER	1	Count
✓	23: 14" X 6" SA REDUCER	1	Count
✓	23: 18" X 14" SA REDUCER	1	Count
✓	23: DAM: 6" DIA VD	3	Count
✓	23: DAM: 8" DIA VD	6	Count
✓	23: DAM: 10" DIA VD	1	Count
✓	23: DEVIC: THERMOSTAT	1	Count
	23: DUCT-RA: 18" DIA RA	6.92	ft
	23: DUCT-SA-FD: 6" DIA SA	6.82	ft
	23: DUCT-SA-FD: 8" DIA SA	14.62	ft
	23: DUCT-SA-FD: 10" DIA SA	2.03	ft
	23: DUCT-SA: 6" DIA SA	30.40	ft
	23: DUCT-SA: 8" DIA SA	41.96	ft
	23: DUCT-SA: 10" DIA SA	2.38	ft
	23: DUCT-SA: 12" DIA SA	13.70	ft
	23: DUCT-SA: 14" DIA SA	14.47	ft
	23: DUCT-SA: 18" DIA SA	7.28	ft
✓	23: FAN: EF-1	3	Count
✓	23: GRIL: 6" X 6" SA GRILL	5	Count
✓	23: GRIL: 8" X 8" SA GRILL	4	Count
✓	23: GRIL: 10" X 10" SA GRILL	1	Count
✓	23: GRIL: 30" X 20" RA GRILL	1	Count
✓	23: JOINT: 12" L-JNT SA	1	Count
✓	23: JOINT: 12" L 45-JNT SA	2	Count
✓	23: JOINT: 18" L-JNT RA	1	Count
✓	23: TRAN: SA: 6" DIA SA SIDE TRANSITION	1	Count
✓	23: TRAN: SA: 8" DIA SA SIDE TRANSITION	6	Count
✓	23: TRAN: SA: 10" DIA SA SIDE TRANSITION	1	Count
✓	23: TRAN: SA: 12" DIA SA SIDE TRANSITION	1	Count
✓	23: UNIT: AHU-3	1	Count

LIFESTYLE ARCHITECTURE
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20-- CELEBRATING 23 YEARS 1999-2022

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LE Designs
PHOENIX, ARIZONA
602-363-9751
PROJECT # 22035