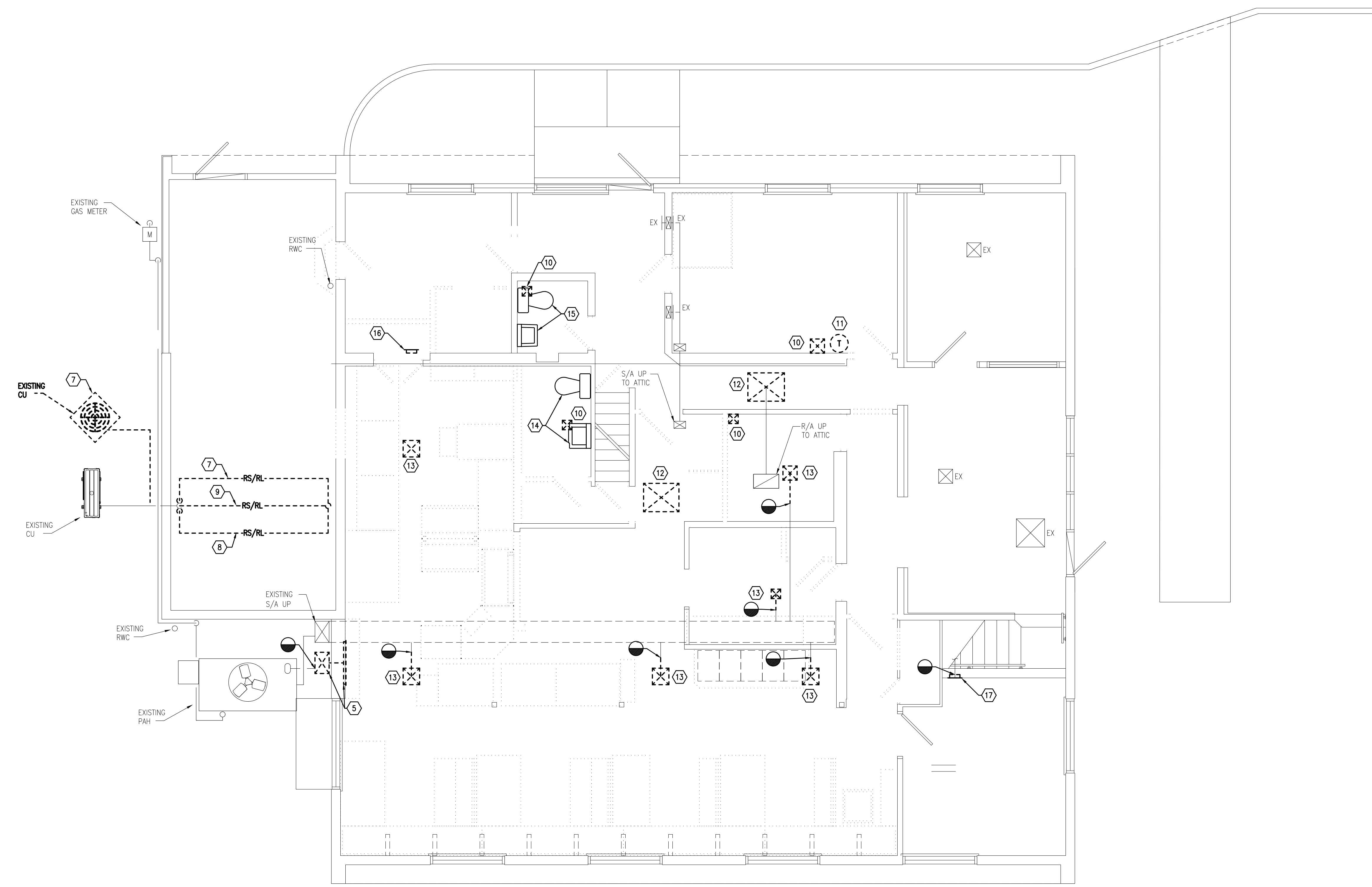


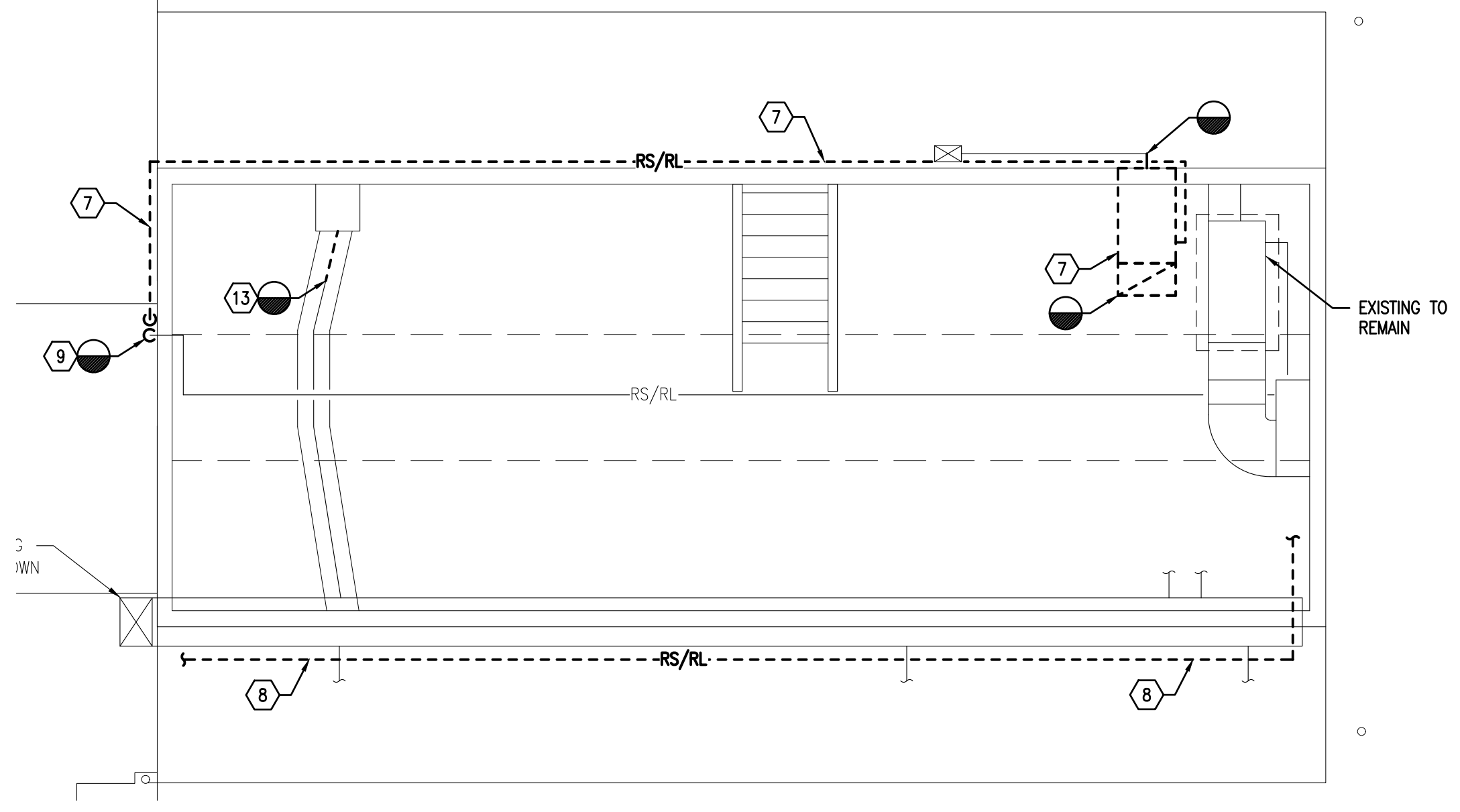
**KEYED DRAWING NOTES:**

- 1 REMOVE EXISTING WALL MOUNTED THERMOSTAT/SENSOR IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS, POWER WIRING, CONTROL WIRING, CONDUIT AND ACCESSORIES. COORDINATE PATCHING OF WALL WITH G.C.
- 2 REMOVE EXISTING AIR HANDLING UNIT IN ITS ENTIRETY INCLUDING ALL ASSOCIATED REFRIGERATION PIPING, DUCTWORK, VALVES, FITTINGS, INSULATION, SUPPORTS, CONTROLS, CONTROL WIRING AND ASSOCIATED ACCESSORIES.
- 3 REMOVE EXISTING AIR HANDLING UNIT IN ITS ENTIRETY INCLUDING ALL ASSOCIATED REFRIGERATION PIPING, DUCTWORK, VALVES, FITTINGS INSULATION, SUPPORTS, CONTROLS, CONTROL WIRING AND ASSOCIATED ACCESSORIES. REMOVE ASSOCIATED DUCTWORK BACK TO POINTS INDICATED. COORDINATE WITH ELECTRICAL CONTRACTOR FOR REMOVAL OF DISCONNECTS. REMAINING DUCTWORK SHALL REMAIN FOR REUSE.
- 4 REMOVE EXISTING WALL MOUNTED GRILLE IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS AND HANGERS.
- 5 REMOVE EXISTING DUCTWORK IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS, HANGERS, DAMPERS, INSULATION, GRILLES/REGISTERS/DIFFUSERS, AND ASSOCIATED ACCESSORIES TO POINT INDICATED. PATCH WALL/FLOOR PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS, AND FINISHES.
- 6 REMOVE EXISTING DOMESTIC WATER PIPING AND ALL ASSOCIATED INSULATION, VALVES, HANGERS, AND SUPPORTS BACK TO POINTS INDICATED. PRESERVE REMAINING DOMESTIC WATER PIPING FOR REUSE AND RECONNECTION.

**1** BASEMENT FLOOR PLAN - MECH DEMO  
 MD1.1 SCALE: 1/4" = 1'-0"



1 FIRST FLOOR PLAN - MECH DEMO  
MD1.2 SCALE: 1/4" = 1'-0"



2 ATTIC PLAN - MECH DEMO  
MD1.1 SCALE: 1/4" = 1'-0"

**KEYED DRAWING NOTES:**

- 1 REMOVE EXISTING WALL MOUNTED THERMOSTAT/SENSOR IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS, POWER WIRING, CONTROL WIRING, CONDUIT AND ACCESSORIES. COORDINATE PATCHING OF WALL WITH G.C.
- 2 REMOVE EXISTING AIR HANDLING UNIT IN ITS ENTIRETY INCLUDING ALL ASSOCIATED ABANDONED REFRIGERATION PIPING, DUCTWORK, PLENUM, VALVES, FITTINGS, INSULATION, SUPPORTS, CONTROLS AND CONTROL WIRING AND ASSOCIATED ACCESSORIES.
- 3 REMOVE EXISTING AIR HANDLING UNIT IN ITS ENTIRETY INCLUDING ALL ASSOCIATED REFRIGERATION PIPING, PLENUM, VALVES, FITTINGS, INSULATION, SUPPORTS, CONTROLS AND CONTROL WIRING AND ASSOCIATED ACCESSORIES. REMOVE ASSOCIATED DUCTWORK BACK TO POINTS INDICATED. REMAINING DUCTWORK SHALL REMAIN FOR REUSE.
- 4 REMOVE EXISTING WALL MOUNTED GRILLE IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS AND HANGERS.
- 5 REMOVE EXISTING DUCTWORK IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS, HANGERS, DAMPERS, INSULATION, GRILLES/REGISTERS/DIFFUSERS, AND ASSOCIATED ACCESSORIES TO POINT INDICATED. PATCH WALL/FLOOR PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS, AND FINISHES.
- 6 REMOVE EXISTING DOMESTIC WATER PIPING AND ALL ASSOCIATED INSULATION, VALVES, HANGERS, AND SUPPORTS BACK TO POINTS INDICATED. PRESERVE REMAINING DOMESTIC WATER PIPING FOR REUSE AND RECONNECTION.
- 7 REMOVE EXISTING AIR HANDLING UNIT AND ASSOCIATED CONDENSING UNIT, EQUIPMENT RAILS, AND ALL ASSOCIATED REFRIGERATION PIPING, VALVES, INSULATION, HANGERS, SUPPORTS, AND CONTROL WIRING IN ITS ENTIRETY. REMOVE DUCTWORK TO POINTS INDICATED. PRESERVE REMAINING DUCTWORK FOR REUSE. PATCH WALL/FLOOR PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS AND FINISHES.
- 8 REMOVE EXISTING ABANDONED REFRIGERATION PIPING IN ITS ENTIRETY INCLUDING ALL ASSOCIATED INSULATION, HANGERS, VALVES, AND SUPPORTS. PATCH WALL/FLOOR PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS, AND FINISHES.
- 9 REMOVE EXISTING AND ABANDONED REFRIGERATION PIPING IN ITS ENTIRETY INCLUDING ALL ASSOCIATED INSULATION, VALVES, HANGERS, AND SUPPORTS BACK TO POINTS INDICATED. REMAINING REFRIGERATION PIPING SHALL REMAIN FOR REUSE.
- 10 REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY INCLUDING ALL ASSOCIATED DUCTWORK, HANGERS, SUPPORTS, GRILLES/REGISTERS/DIFFUSERS, CONTROLS AND CONTROL WIRING AND ASSOCIATED ACCESSORIES. PATCH WALL/ROOF PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS, AND FINISHES.
- 11 REMOVE EXISTING WALL MOUNTED THERMOSTAT/SENSOR IN ITS ENTIRETY INCLUDING ASSOCIATED SUPPORTS, POWER WIRING, CONTROL WIRING, CONDUIT AND ACCESSORIES. PATCH WALL OPENING TO MATCH EXISTING MATERIALS AND FINISHES. COORDINATE REMOVAL WITH LOCATION OF NEW ROOM WALL SENSOR.
- 12 REMOVE EXISTING CEILING MOUNTED GRILLE IN ITS ENTIRETY INCLUDING ALL ASSOCIATED SUPPORTS, HANGERS, DAMPERS, AND INSULATION. PRESERVE DUCTWORK FOR REUSE.
- 13 REMOVE EXISTING CEILING MOUNTED DIFFUSER IN ITS ENTIRETY INCLUDING ALL ASSOCIATED DUCTWORK, SUPPORTS, HANGERS, DAMPERS, INSULATION, AND ASSOCIATED ACCESSORIES BACK TO POINT INDICATED. PRESERVE REMAINING DUCTWORK FOR REUSE.
- 14 REMOVE EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED EXPOSED AND CONCEALED SANITARY, VENT AND DOMESTIC WATER PIPING, INSULATION, VALVES, HANGERS AND SUPPORTS IN THEIR ENTIRETY BACK TO MAINS AND CAP.
- 15 REMOVE EXISTING PLUMBING FIXTURE. PRESERVE CONCEALED SANITARY, VENT AND DOMESTIC WATER PIPING WITHIN WALL AND FLOOR FOR REUSE AND RECONNECTION.
- 16 REMOVE EXISTING WALL MOUNTED GRILLE/REGISTER/DIFFUSER AND ALL ASSOCIATED DUCTWORK, INSULATION, HANGERS, AND SUPPORT IN ITS ENTIRETY. PATCH WALL/FLOOR PENETRATIONS TO MATCH EXISTING MATERIALS, RATINGS, AND FINISHES.
- 17 REMOVE EXISTING WALL MOUNTED GRILLE/REGISTER/DIFFUSER AND ALL ASSOCIATED HANGERS AND SUPPORTS IN ITS ENTIRETY. PRESERVE ASSOCIATED DUCTWORK FOR REUSE.

1/4" FIRST FLOOR AND ATTIC PLAN - MECH DEMO

RENOVATIONS TO  
AEM ARCHITECTS OFFICE  
**AEM ARCHITECTS, INC.**  
3700 PERKOWEN AVENUE READING, PA 19607

**AEM ARCHITECTS, INC.**  
3700 PERKOWEN AVENUE, READING, PA 19606-2785  
Phone: 610.778.3320  
www.aem-arch.com

**CONSOLIDATED ENGINEERS**  
1022 James Drive  
Leesport, PA 19333  
Tel: 610.916.1000 Fax: 610.916.1010  
Internet: www.consolidatedengineers.com

ALL DIMENSIONS AND EXISTING CONDITIONS  
SHALL BE CHECKED AND VERIFIED  
BY THE CONTRACTOR AT THE SITE

JOB NO.: 23005.01  
DRAWN BY: TF  
DATE: 1.10.25

MD1.1

**GENERAL PROJECT NOTES:**

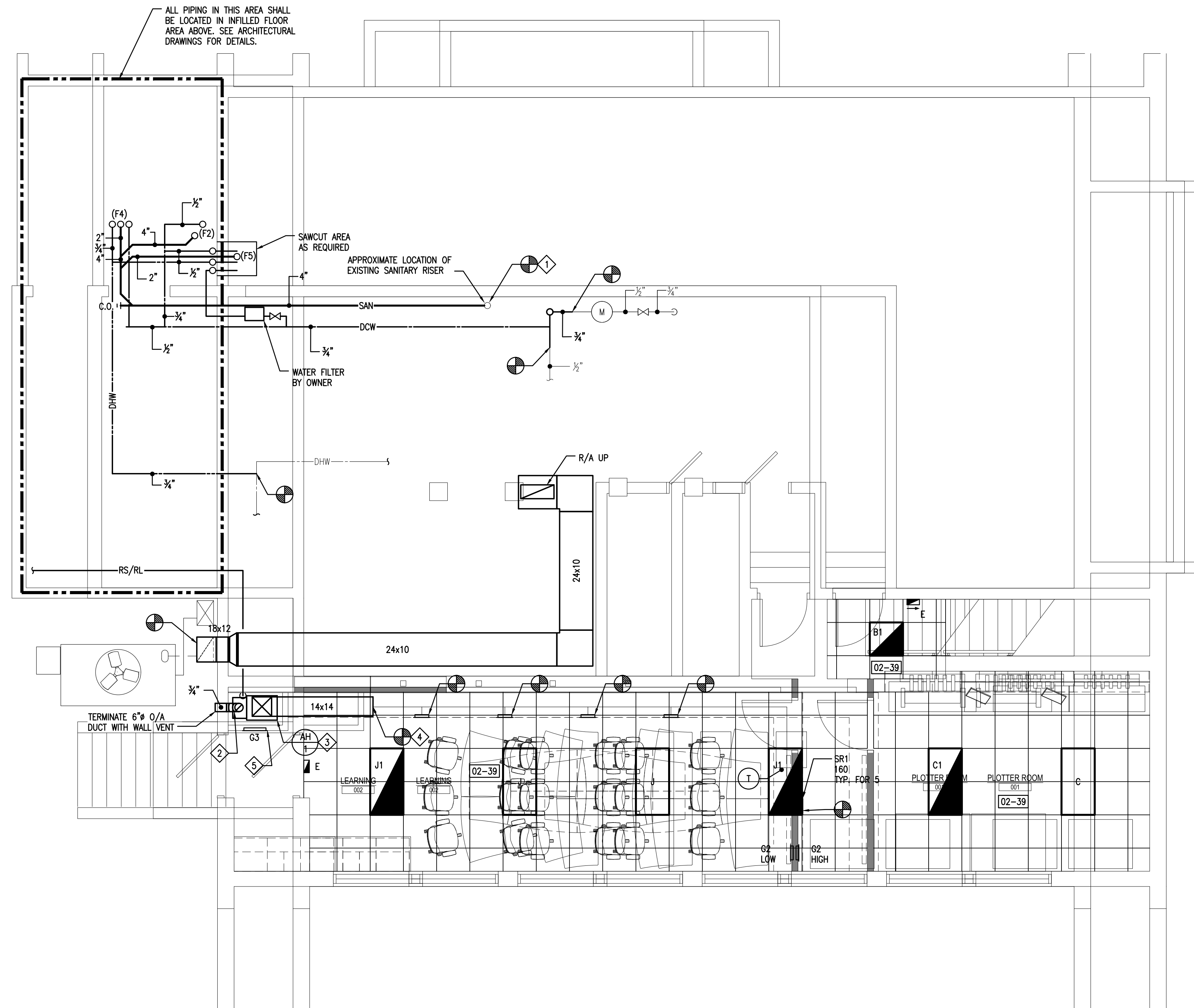
- REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING SECTIONS. USE INFORMATION RELATING TO CEILING HEIGHTS, FLOOR TO FLOOR ELEVATIONS, ETC. TO DETERMINE PIPE AND DUCT RISER QUANTITIES AND TO VERIFY ROUTING OF SAME.
- REFRIGERANT PIPING RUNS BETWEEN DX EVAPORATOR COILS AND THEIR ASSOCIATED AIR-COOLED CONDENSING UNITS SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. RUN LENGTHS SHALL BE CALCULATED FROM PLANS, BUILDING SECTIONS AND FIELD CONDITIONS. ALL REFRIGERANT PIPING SHALL BE CONCEALED. PROVIDE ALL REQUIRED TRAPS IN VERTICAL REFRIGERANT RISERS AND ALL MISCELLANEOUS REFRIGERANT COMPONENTS THAT ARE INDICATED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- MECHANICAL CONTRACTOR IS REQUIRED TO COORDINATE ALL MECHANICAL WORK WITH THE WORK OF ALL OTHER TRADES TO ENSURE CORRECT AND QUALITY INSTALLATIONS.
- DUCT FITTINGS THAT ARE BETWEEN STRAIGHT SECTIONS OF DUCT THAT IS SHOWN LINED SHALL ALSO BE LINED.
- DUCT DIMENSIONS GIVEN ARE METAL (OUTSIDE) DIMENSIONS UNLESS OTHERWISE NOTED.
- THE MECH CONTRACTOR SHALL COORDINATE ALL WORK ABOVE THE CEILING WITH THE ELECTRICAL AND GENERAL CONTRACTORS TO INSURE THE SCHEDULED CEILING HEIGHTS CAN BE MAINTAINED.
- ALL LOW VOLTAGE WIRING (UNDER 120V) REQUIRED FOR HVAC EQUIPMENT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE NOTED.

**KEYED DRAWING NOTES:**

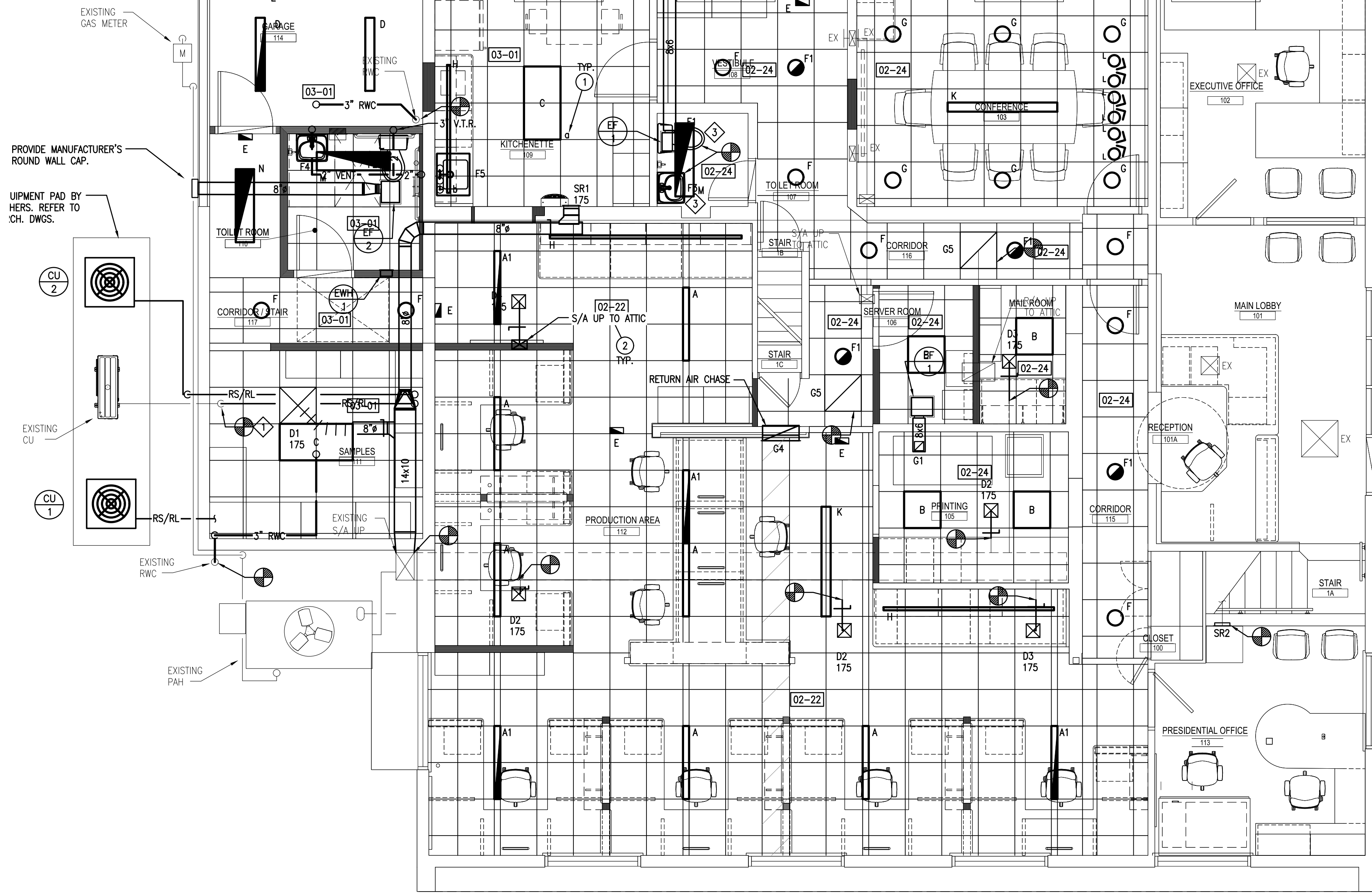
- CONNECT NEW SANITARY PIPING TO EXISTING SANITARY RISER. REPLACE RISER PIPING AS NEEDED TO ACCOMMODATE CONNECTION.
- PROVIDE FANTECH MODEL FR INLINE DUCT FAN TO PROVIDE 80 CFM OF O/A TO AH-1, 120V-1R, 69W
- PROVIDE 24" HIGH DUCT PLENUM AND STAND FOR AH-1. RUN DUCT FROM THE PLENUM TO THE SIDE OFF THE UNIT AND PROVIDE 1" MERV 8 FILTER W/ FILTER RACK.
- CONNECT NEW DUCTWORK TO EXISTING DUCTWORK AND CLEAN EXISTING DUCTWORK IN ITS ENTIRETY.
- PROVIDE LOW RETURN GRILLE IN MECHANICAL CLOSET DOOR.

**MATERIAL SPECIFICATIONS:**

- DOMESTIC WATER (HOT & COLD) WATER PIPING TO BE DRAWING-TEMPER COPPER TUBING (ASTM B 88, TYPE L) WITH COPPER SOLDER OR PRESS-FIT FITTINGS. PROVIDE COLD WATER PIPING WITH 1" THICK MINERAL FIBER, PREFORMED PIPE INSULATION. PROVIDE HOT WATER PIPING WITH 1-1/2" THICK MINERAL FIBER, PREFORMED PIPE INSULATION
- SANITARY DRAINAGE AND VENT PIPING SIZES 4" AND SMALLER TO BE HURLESS CAST-IRON SOIL PIPE (ASTM A 888) AND FITTINGS AND STAINLESS-STEEL COUPLINGS OR COPPER DWV TUBE (ASTM B 306) WITH COPPER DRAINAGE FITTINGS AND SOLDERED JOINTS.
- DUCTWORK SHALL BE ASTM GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, HAVING G60 ZINC COATING IN CONFORMANCE WITH ASTM A90.
- FLEXIBLE DUCT SHALL BE TWO PLY VINYL FILM SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE WITH FIBERGLASS INSULATION, POLYETHYLENE VAPOR BARRIER, THE MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 6 FEET.
- FABRICATE, INSTALL, AND SUPPORT DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. PROVIDE DUCT MATERIALS, GAGES REINFORCING AND SEALING FOR OPERATING PRESSURES OF PLUS OR MINUS 2 INCHES W.G.
- INSULATE GALVANIZED DUCTWORK WITH 1-1/2 INCH THICK FIBERGLASS DUCTWRAP (ASTM C 553, CLASS B-2). INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE TURNING VANES OF THE SAME MATERIAL ASS THE DUCTWORK IN ALL 90 DEGREE ELBOWS. US 45 DEGREE TAKEOFFS AT ALL BRANCHES. DON NOT USE SPLITTER DAMPERS OR EXTRACTORS.
- PROVIDE ALL SINGLE BLADE, 18 GAUGE MINIMUM GALVANIZED STEEL VOLUME DAMPERS WITH LOCKING, INDICATING QUADRANT REGULATORS.



**1 BASEMENT FLOOR PLAN - MECH**  
M2.1 SCALE: 1/4" = 1'-0"

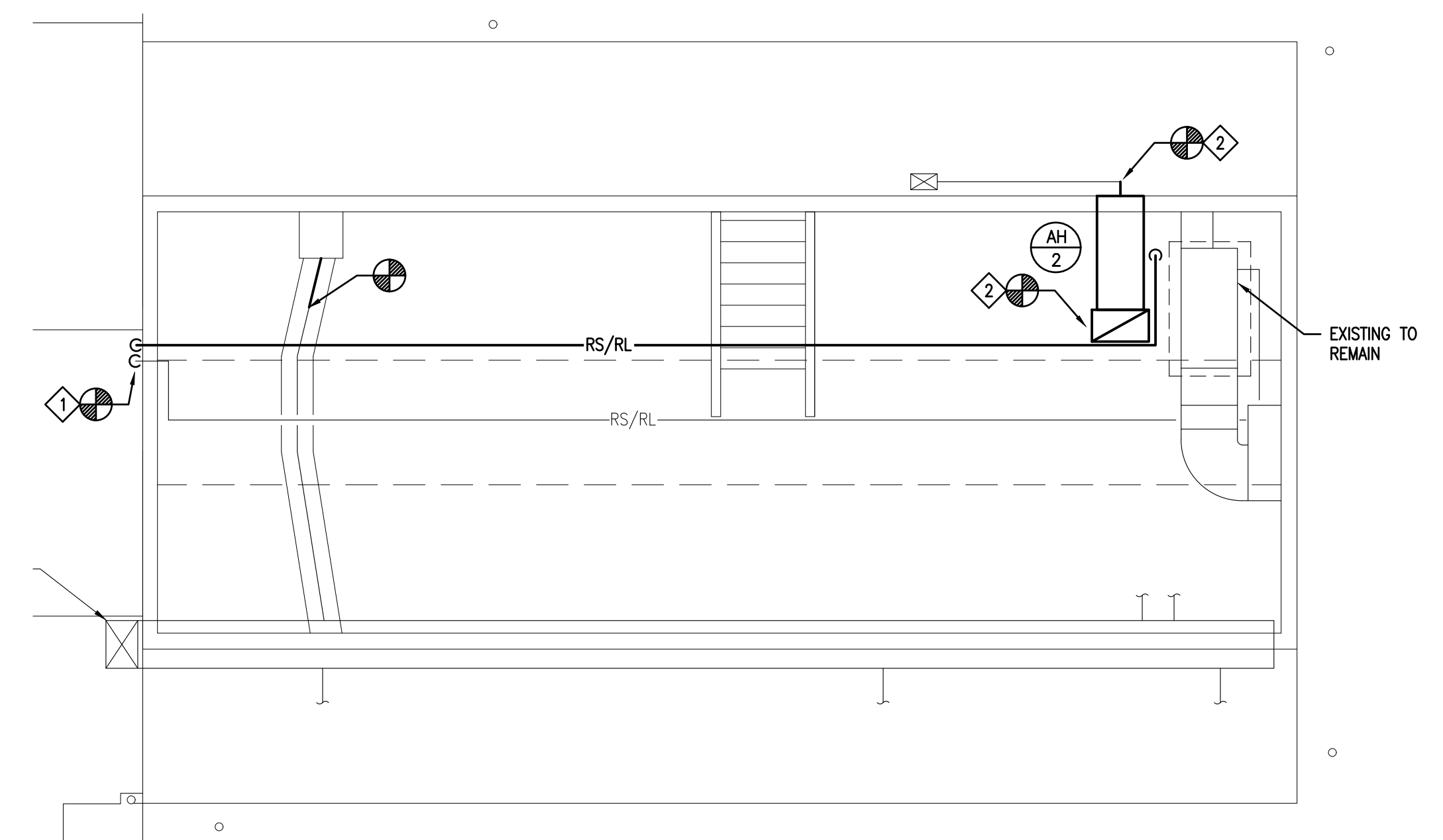


- ◇ CONNECT TO EXISTING REFRIGERANT PIPING. RUN NEW REFRIGERANT PIPING IN CEILING CAVITY. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATION.
- ◇ CONNECT NEW AIR HANDLING UNIT TO EXISTING DUCTWORK IN ATTIC. MODIFY DUCTWORK AS REQUIRED TO ACCOMMODATE NEW UNIT.
- ◇ CONNECT NEW PLUMBING FIXTURES TO EXISTING DOMESTIC WATER, SANITARY, AND VENT PIPING.

**EQUIPMENT SCHEDULES:**

- EF 1 PROVIDE LOREN COOK MODEL GN-148 CEILING MOUNTED EXHAUST FAN. 115V-1A, 100 CFM, 0.2 E.S.P. OR EQUAL. PROVIDE MANUFACTURER'S SPEED CONTROL, BACKDRAFT DAMPER, AND DISCONNECT.
- EW1 1 PROVIDE Q-MARK MODEL CZ1012T ELECTRIC WALL HEATER. 120V, 8.4A, 1000W. COLOR SPECIFIED BY OWNER OR EQUAL. PROVIDE MANUFACTURER'S BUILT-IN THERMOSTAT.
- CU 1 AH 1 PROVIDE 2 TON CARRIER PERFORMANCE AIR HANDLER MODEL FT5A WITH OPTIONAL 6kW ELECTRIC HEAT. PROVIDE CORRESPONDING OUTDOOR HEAT PUMP MODEL 27SPA OR EQUAL. 208V-1A. PROVIDE MANUFACTURER'S DISCONNECT.
- CU 2 AH 2 PROVIDE 1.5 TON CARRIER PERFORMANCE AIR HANDLER MODEL FT5A WITH OPTIONAL 6kW ELECTRIC HEAT. PROVIDE CORRESPONDING OUTDOOR HEAT PUMP MODEL 27SPA OR EQUAL. 208V-1A. PROVIDE MANUFACTURER'S DISCONNECT.

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



**2 ATTIC PLAN - MECHANICAL**  
SCALE: 1/4" = 1'-0"

SYMBOL	NECK SIZE	FACE SIZE	BORDER TYPE	BLOW	MODEL	N. C.	MANUFACTURER	REMARKS
D1	8"φ	18x18	LAY-IN	4 WAY	TDC	< 20	TITUS	ROUND NECK/LOUVERED FACE, PROVIDE WITH 24"x24" PANEL
D2	-	9x9	LAY-IN	4 WAY	TDC	< 20	TITUS	SQUARE NECK/LOUVERED FACE, PROVIDE WITH 24"x24" PANEL
D3	-	9x9	LAY-IN	2 WAY CORNER	TDC	< 20	TITUS	SQUARE NECK/LOUVERED FACE, PROVIDE WITH 24"x24" PANEL
D4	-	9x9	LAY-IN	3 WAY	TDC	< 20	TITUS	SQUARE NECK/LOUVERED FACE, PROVIDE WITH 24"x24" PANEL

NOTES: 1. COORDINATE FINAL LOCATIONS WITH AND ADJUST TO CEILING GRID.

SYMBOL	SIZE	MODEL	N.C.	BORDER TYPE	MANUFACTURER	REMARKS
G1	6x6	350FL	<20	SURFACE	TITUS	FIELD PAINT TO MATCH EXISTING SOFFIT
G2	12x8	350FL	<20	SURFACE	TITUS	
G3	16x16	350FL	<20	SURFACE	TITUS	
G4	22x22	350FL	<20	SURFACE	TITUS	PROVIDE 1" MERV 8 FILTER
G5	22x22	350FL	<20	LAY-IN	TITUS	PROVIDE 1" MERV 8 FILTER
SR1	10x6	272FL	<20	SURFACE	TITUS	W/ OPPOSED BLADE DAMPER
SR2	-	272FL	<20	SURFACE	TITUS	W/ OPPOSED BLADE DAMPER, SIZE TO MATCH EXISTING SUPPLY GRILLE

SYMBOL	FIXTURE	C.W.	H.W.	SAN.	VENT	TRAP	MOUNTING	RIM HEIGHT	REMARKS
F1	WATER CLOSET	1/2"	-	4"	2"	-	FLOOR	REFER TO ARCH. DWGS.	FLOOR MOUNT, TANK TYPE, 1.6 GPF
F2	WATER CLOSET - (ADA)	1/2"	-	4"	2"	-	FLOOR	REFER TO ARCH. DWGS.	FLOOR MOUNT, TANK TYPE, 1.6 GPF
F3	LAVATORY	1/2"	1/2"	1-1/2"	1-1/4"	1-1/4" X 1-1/2"	COUNTER	REFER TO ARCH. DWGS.	COUNTER MOUNT, MANUAL FAUCET
F4	LAVATORY - (ADA)	1/2"	1/2"	1-1/2"	1-1/4"	1-1/4" X 1-1/2"	WALL	REFER TO ARCH. DWGS.	WALL MOUNT MANUAL FAUCET
F5	COUTERTOP SINK	1/2"	1/2"	1-1/2"	1-1/4"	1-1/2" X 1-1/2"	COUNTER	REFER TO ARCH. DWGS.	STAINLESS STEEL, DROP IN TYPE MANUAL FAUCET
	FILTERED WATER	1/2"	-	-	-	-	-	-	BY OWNER