SHEET NAMING CONVENTION

DM-001A

- 1 DIGIT AREA DESIGNATOR (AREA DESIGNATOR ONLY USED WHEN PLANS ARE SUBDIVIDED INTO AREAS.)
- 1 DIGIT FLOOR DESIGNATOR
  1 - LEVEL ONE
- 1 DIGIT CONSTRUCTION SEQUENCE DESIGNATOR
  1 - PRE-DEMOLITION
  2 - DEMOLITION
  3 - POST DEMOLITION
- 2 DIGIT DISCIPLINE DESIGNATOR (IF ONLY ONE LETTER IS USED, THE SECOND LETTER IS REPLACED WITH A DASH "-" AS A PLACEHOLDER)*
- 1 DIGIT SHEET TYPE DESIGNATOR
  0 - GENERAL
  1 - PLANS
  2 - ROOF
  3 - SECTIONS
  4 - ENLARGED PLANS
  5 - DETAILS
  6 - SCHEDULES AND DIAGRAMS
  7 - VARIES
  8 - VARIES
  9 - 3D VIEWS (ISO, PERSPECTIVES)

NOTES:

1. EXISTING EQUIPMENT IS SHOWN WITH THIN LINEWORK.
2. DEMOLISHED EQUIPMENT IS SHOWN WITH BOLD LINEWORK, DASHED, AND HATCHED.
3. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH BOLD LINEWORK.
4. EQUIPMENT TO BE RELOCATED IS SHOWN WITH ORTHOGONAL CROSSHATCHING.
5. EQUIPMENT TO BE REMOVED AND RETURNED TO OWNER IS SHOWN WITH DIAGONAL CROSSHATCHING.
6. BELOW IS AN EXAMPLE OF EACH:

- EXISTING EQUIPMENT
- EQUIPMENT TO BE DEMOLISHED
- NEW OR RELOCATED EQUIPMENT
- EQUIPMENT TO BE RELOCATED
- EQUIPMENT TO BE REMOVED & RETURNED TO OWNER

HVAC DESIGN CRITERIA

PROJECT LOCATION:	MOUNTAIN HOME, AR
LATITUDE:	36.29 N
LONGITUDE:	92.59 W
ELEVATION:	719 FT.

STANDARD DESIGN CONDITIONS

WINTER DESIGN DRY BULB (99.0%):	17.8 °F
SUMMER DESIGN DRY BULB (1.0%):	93.4 °F
SUMMER DESIGN WET BULB (1.0%):	76.7 °F

DEHUMIDIFICATION DESIGN CONDITIONS

DEWPOINT (1.0%):	72.7 °F
HUMIDITY RATIO (1.0%):	124.7
MEAN COINCIDENT DRY BULB (1.0%):	82.7 °F

MECHANICAL GENERAL NOTES:

1. AT THE START OF CONSTRUCTION, CONTRACTOR TO PREPARE TYPED LISTS OF EQUIPMENT THAT ARE SUPPLIED REQUIRING ELECTRICAL WORK, AND SEND LISTS TO THE ELECTRICAL CONTRACTOR FOR REVIEW AND COORDINATION.
2. WRITTEN DIMENSIONS ON DRAWINGS HAVE PRECEDENCE OVER SCALED DIMENSIONS.
3. "PROVIDE" IS AN INCLUSIVE TERM USED TO DESCRIBE ASPECTS OF THE WORK THAT MUST BE ACCOMPLISHED AND IS HEREBY DEFINED TO REQUIRE TO STORE, FURNISH, INSTALL, MOUNT, CONNECT, CONTROL AND POWER EQUIPMENT INDICATED, AS WELL AS ALL APPURTENANCES REQUIRED TO MAKE SYSTEMS OPERATE AS INDICATED WITHIN THESE DRAWINGS AND SPECIFICATIONS AND TO FULFILL THE SCOPE OF WORK.
4. COORDINATE MECHANICAL AND ELECTRICAL WORK SUCH THAT MECHANICAL PIPING, DUCTWORK AND EQUIPMENT IS NOT LOCATED OVER OR ABOVE ANY ELECTRICAL, COMMUNICATIONS, OR DATA EQUIPMENT.
5. ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S APPROVED PUBLISHED LITERATURE (INCLUDING SERVICE CLEARANCE), AND INTERNATIONAL BUILDING CODE / INTERNATIONAL MECHANICAL CODE, WHICHEVER IS MORE STRINGENT.
6. INSTALLATION OF EQUIPMENT MUST PERMIT ACCESSIBILITY FOR SERVICE AND/OR REPLACEMENT WITHOUT NECESSITATING REMOVAL OR MODIFICATION TO OTHER PIPING, WIRING, OR EQUIPMENT.
7. CEILING-MOUNTED OR CEILING SUSPENDED EQUIPMENT MUST BE INSTALLED IN SUCH A MANNER THAT LIGHTS, PIPING, DUCTWORK, ETC., DO NOT BLOCK ACCESS TO EQUIPMENT AND RELATED ACCESSORIES.
8. COORDINATE WALL, FLOOR, AND ROOF PENETRATIONS WITH THE GENERAL CONTRACTOR.
9. CAULK WITH SILICONE ALL UNUSED PENETRATION GAPS BETWEEN WALL, CEILING AND FLOOR OPENINGS, AND HVAC EQUIPMENT PENETRATIONS AS SHOWN ON MECHANICAL DETAILS. PATCH LARGE GAPS BEFORE CAULKING IS APPLIED.
10. SUPPLEMENTAL STEEL MEMBERS REQUIRED TO SUPPORT HVAC EQUIPMENT FROM MAIN STRUCTURE MUST BE PROVIDED BY THE HVAC CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. REFER TO STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION TYPES. PROCURE AND INSTALL UPON APPROVAL FROM ARCHITECT/ENGINEER. PROVIDE STRUCTURAL STEEL SUPPORT SUBMITTAL TO ENGINEER OF RECORD FOR REVIEW.
11. DUCTWORK AIR DISTRIBUTION SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND THE PRESSURE CLASSIFICATION OF EACH INDIVIDUAL DUCTWORK SYSTEM.
12. VOLUME DAMPERS MUST BE PROVIDED AT EACH NEW MAIN BRANCH TAKE-OFF AND IN SUCH OTHER LOCATIONS WHERE REQUIRED TO PROPERLY BALANCE THE SYSTEM. ALL REQUIRED VOLUME DAMPERS MAY NOT BE SHOWN ON THE PLANS, BUT MUST BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
13. INSTRUMENT TEST HOLES MUST BE PROVIDED IN AIR DISTRIBUTION SYSTEMS WHEREVER VOLUME DAMPERS ARE INSTALLED. HOLES MUST BE SEAL WITH RUBBER OR PLASTIC TEST HOLE PLUGS.
14. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
15. SQUARE ELBOWS SHALL ONLY BE USED WHERE SPACE LIMITATIONS PREVENT USE OF 1.5 RADIUS ELBOW AND ONLY UPON APPROVAL OF ARCHITECT/ENGINEER. PROVIDE TURNING VANES IN ALL SQUARE ELBOWS 45 DEGREES OR GREATER. TURNING VANES MUST BE SINGLE THICKNESS TYPE WITHOUT TRAILING EDGE. TURNING VANES LONGER THAN 36 INCHES MUST BE DOUBLE THICKNESS TYPE.
16. ROUND DUCTWORK CONNECTIONS BETWEEN MAIN DUCT AND TERMINAL UNITS MUST BE RIGID DUCT OF THE SAME DIAMETER AS TERMINAL UNIT INLET CONNECTION UNLESS OTHERWISE NOTED ON THE DRAWINGS.
17. PROVIDE SHEETMETAL TRANSITIONS AT AIR HANDLING UNITS, HEAT PUMP UNITS, FANS, AND OTHER SIMILAR HVAC EQUIPMENT. TRANSITION TO FULL SIZE OF CONNECTION ON UNIT. FLEXIBLE DUCT CONNECTORS MUST BE USED ON FINAL CONNECTION TO AIR HANDLING EQUIPMENT, UNLESS NOTED OTHERWISE.
18. LOUVERED SUPPLY AIR DIFFUSERS MUST BE 4-WAY FLOW UNLESS OTHERWISE SHOWN BY FLOW ARROWS ON THE DRAWINGS. LINEAR DIFFUSERS MUST BE ADJUSTABLE 2-WAY FLOW. PROVIDE BATT INSULATION ON DIFFUSER AND GRILLES THAT ARE EXPOSED TO CEILING PLENUM.
19. BLANK OFF AND INSULATE INACTIVE PORTIONS OF LOUVERS. ENTIRE LOUVERS NOT UTILIZED MUST BE BLANKED OFF AND INSULATED BY THE LOUVER MANUFACTURER. REFER TO ARCHITECTURAL DRAWINGS FOR LOUVER LOCATIONS AND HVAC DRAWINGS FOR HVAC EQUIPMENT CONNECTIONS.
20. THERMOSTATS, SENSORS, AND HVAC CONTROL APPURTENANCES MUST BE COORDINATED WITH LOCATIONS OF WALL-MOUNTED ARCHITECTURAL, FIRE PROTECTION, AND ELECTRICAL EQUIPMENT. MOUNT THERMOSTATS AND SENSORS MINIMUM 4'-0" ABOVE FINISHED FLOOR. REFER TO INC DRAWINGS FOR THE EXACT LOCATIONS OF THESE DEVICES.
21. PROVIDE ACCESS PANELS TO ACCESS DAMPERS, EQUIPMENT, AND VALVES LOCATED ABOVE HARD CEILINGS OR IN WALLS. ACTUAL ACCESS PANEL LOCATIONS MUST BE FIELD DETERMINED.
22. UNLESS NOTED OTHERWISE, ACCESS MUST BE PROVIDED AT EACH INSTANCE OF THE FOLLOWING: MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, AND COMBINATION FIRE/SMOKE DAMPERS. DUCT ACCESS DOORS MUST BE LOCATED CLOSE TO EACH COMPONENT LISTED ABOVE TO ALLOW FOR INSPECTION. IF FEASIBLE, LOCATE DUCT ACCESS DOOR ON THE UNDERSIDE OF THE DUCT RATHER THAN THE SIDE. MINIMUM DUCT ACCESS DOOR SIZE MUST BE BASED ON DUCT SIZE AS FOLLOWS:

DUCT SIZE	ACCESS DOOR SIZE
12" AND SMALLER	12" LONG FLANGED & GASKETED REMOVABLE DUCT SECTION
13" TO 17"	12" X 12"
18" TO 24"	16" X 18"
25" AND LARGER	24" X 16"

26. SUPPLY, RETURN, AND OUTDOOR AIR DUCTWORK MUST BE INSULATED TO MEET OR EXCEED VALUES SHOWN ON THE P&ID'S. EXTERIOR SUPPLY AND RETURN AIR DUCTWORK MUST BE PROVIDED WITH WEATHER-PROOF COVER.
27. PIPING INSULATION MUST BE PROVIDED ON ALL PIPING SYSTEMS INCLUDING (BUT NOT LIMITED TO) CHILLED WATER, HEATING HOT WATER, CONDENSER WATER, REFRIGERANT, AND CONDENSATE DRAIN IN ACCORDANCE WITH THE P&ID'S.
28. SIZE REFRIGERANT LINES PER MANUFACTURER'S INSTRUCTIONS BASED ON ACTUAL LINE LENGTHS AND EQUIPMENT ELEVATIONS INSTALLED. USE OF HCFC AND CFC REFRIGERANTS IS PROHIBITED. INSULATION ON REFRIGERANT LINES EXPOSED TO WEATHER MUST HAVE ALUMINUM JACKETING.
29. PIPING CONTAINING WATER THAT IS EXPOSED TO FREEZING TEMPERATURES MUST BE INSULATED AND HEAT-TRACED.
30. COORDINATE LOCATIONS OF CONDENSATE DRAIN PIPING. PROVIDE CONDENSATE PUMPS WHERE SUFFICIENT SLOPE IS NOT AVAILABLE FOR STANDARD GRAVITY DRAIN. PROVIDE WITH OVERFLOW SWITCH TO POWER DOWN THE ASSOCIATED AIR HANDLING EQUIPMENT IN CASE OF CONDENSATE PUMP FAILURE. CONDENSATE DRAIN LINE MUST SLOPE DOWN TOWARDS DISCHARGE LOCATION AT A MINIMUM OF 1/8" PER LINEAR FOOT. INSULATE INDOOR CONDENSATE PIPING WITH 3/4" CLOSED CELL FOAM INSULATION. REFER TO PLUMBING DRAWINGS FOR DISCHARGE LOCATIONS.
31. PROVIDE SHUT-OFF VALVES AND FLEXIBLE CONNECTIONS AT PIPE CONNECTIONS TO HVAC EQUIPMENT PER P&ID'S.
32. PROVIDE SUPPORTS FOR PIPING AND DUCTWORK IN ACCORDANCE WITH SPECIFICATIONS.
33. PROVIDE AUTOMATIC AIR VENTS AT HIGH POINTS OF HYDRONIC PIPING SYSTEMS AS SHOWN ON THE P&ID'S. PROVIDE DRAIN VALVES AT THE LOW POINTS IN HYDRONIC PIPING SYSTEMS FOR DRAINAGE. BRANCH VALVES AND DRAINS MUST BE PROVIDED TO ENABLE ISOLATING A PIPE SECTION FOR MAINTENANCE WITHOUT SHUTTING DOWN ENTIRE SYSTEM.
34. PROVIDE HOUSEKEEPING PADS FOR MECHANICAL EQUIPMENT. COORDINATE WITH STRUCTURAL.
35. CONTROL WIRING (I.E. 120 VOLT AND BELOW) INCLUDING 120 VOLT CONTROL POWER TO MOTOR OPERATED DAMPERS, VALVES, AND VARIABLE VOLUME BOXES ARE SHOWIN ON THE INSTRUMENTATION AND CONTROLS DRAWINGS. POWER WIRING (120V) TO CONTROL PANELS MUST BE PROVIDED BY ELECTRICAL. POWER (120V) AND CONTROL (24V) WIRING TO APPLICATION-SPECIFIC CONTROLLERS AND OTHER CONTROL SYSTEM COMPONENTS MUST ORIGINATE AT CONTROL PANELS AND BE PROVIDED ON THE INSTRUMENTATION AND CONTROLS DRAWINGS OR ELECTRICAL DRAWINGS.
36. INSTALL EXPOSED CONTROL WIRING IN CONDUIT. AS SHOWN ON ELECTRICAL DRAWINGS.
37. FACTORY PAINTED EQUIPMENT THAT HAS BEEN SCRATCHED OR MARRED MUST BE REPAINTED TO MATCH ORIGINAL COLOR. STEEL EQUIPMENT HANGERS, THREADED RODS, BOLTS, NUTS, SUPPORTS, AND UNINSULATED BLACK STEEL PIPE EXPOSED TO SIGHT INSIDE OR OUTSIDE THE BUILDING WHICH ARE NOT PROVIDED WITH A FACTORY APPLIED PRIME COAT MUST BE CLEANED OF RUST, GREASE, AND SCALE. AFTER CLEANING THE HANGERS, SUPPORTS AND PIPE, A FIELD APPLIED PRIME COAT MUST BE PROVIDED. IN ADDITION, SUCH ITEMS IN FINISHED SPACES MUST ALSO BE PROVIDED WITH TWO COATS OF FINISH PAINT IN A COLOR TO MATCH ADJACENT SURFACES OR AS NOTED; SUCH ITEMS OUTSIDE THE BUILDING MUST ALSO BE PROVIDED WITH TWO COATS OF BITUMINOUS ALUMINUM PAINT. INSULATED PIPES OUTSIDE THE BUILDING MUST BE CLEANED OF RUST, GREASE AND SCALE, AND PROVIDED WITH A FIELD APPLIED PRIME COAT BEFORE INSTALLING INSULATION.
38. NOT ALL MECHANICAL ABBREVIATIONS SHOWN WILL BE USED FOR THIS PROJECT.
39. ALL EXHAUST DUCTWORK MUST BE SEAL CLASS A.
40. DUCTWORK ON THE POSITIVE PRESSURE SIDE OF A FAN MUST BE LEAKAGE CLASS 3; DUCTWORK ON THE NEGATIVE PRESSURE SIDE OF THE FAN MUST BE LEAKAGE CLASS 6.
41. OTHER DUCTWORK MUST BE MADE AIRTIGHT PRIOR TO COVERING OR CONCEALING TO THE POINT THAT NO LEAKAGE CAN BE DETECTED BY THE SENSES OF HEARING OR FEELING AT ALL DUCT JOINTS AND SEAMS.
42. CONTRACTOR TO REFERENCE PIPE SERVICE INDEX FOR DETAILS REGARDING PIPING SPECIFICATIONS, INSULATION, OPERATING CONDITIONS, AND INSPECTION CRITERIA.
43. ALL PIPING SHOULD BE TESTED ACCORDING TO ASME B31.3 PROCESS PIPING.
44. MATERIALS OF CONSTRUCTION TO AGREE WITH PIPING AND VALVE SERVICE INDEX.
45. EACH VALVE, INSTALLED AS A TIE-IN FOR CONTINUATION, SHOULD BE CLOSED AND LOCKED TO AVOID THE OPENING OF THE VALVE UNTIL SUCH TIME THE ASSOCIATED PIPE HAS BEEN COMPLETED.
46. CONTRACTOR TO ROUTE PIPING AND PLACE SUPPORTS TO ENSURE FLEXIBILITY IN PIPING AND ENSURE MINIMAL LOADS ARE TRANSFERRED ONTO ANY PIECE OF EQUIPMENT.
49. PENETRATIONS INTO OR THROUGH FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS AND FIRE PARTITIONS SHALL COMPLY WITH ARKANSAS BUILDING CODE SECTIONS 714.4.1 THROUGH 714.4.3. PENETRATIONS IN SMOKE BARRIER WALLS SHALL ALSO COMPLY WITH SECTION 714.5.4.d
50. ALL AZO EQUIPMENT IS BASED OFF 3/16/2026 SUBMITTAL PROVIDED TO VANTIVE. ANY INFORMATION MISSING OR CLASHING WILL BE COORDINATED BY CONTRACTOR BEFORE INSTALLATION

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EOR/AOR SEAL

COA SEAL

CLIENT INFORMATION

Vantive

PROJECT NAME

VANTIVE
TUBING
CLEAN ROOM

1900 AR-201
MOUNTAIN HOME,
ARKANSAS 72653

DRAWING ISSUE

MARK	DESCRIPTION	DATE
D	ISSUED FOR BID, EQ BID CLARIFICATIONS	04/24/2026
C	ISSUED FOR APPROVAL	01/23/2026
B	ISSUED FOR APPROVAL	12/19/2025
A	ISSUED FOR REVIEW	11/14/2025

DESIGNED BY:	JC
DRAWN BY:	JS
CHECKED BY:	JC
SUBMITTED BY:	CL
DATE:	04/24/2026
PROJECT #:	1241011

SHEET TITLE

PROCESS
GENERAL NOTES
AND DESIGN
CRITERIA

SHEET NUMBER

DM001

ORIGINAL SHEET SIZE:
30" X 42"

ISSUED FOR BID

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