ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MBH	THOUSAND BTUs PER HOUR
AHU	AIR HANDLING UNIT	MCA	MINIMUM CIRCUIT AMPS
BHP	BRAKE HORSE POWER	MOCP	MAXIMUM OVER CURRENT PROTECTION
BTU	BRITISH THERMAL UNIT	NC	NORMALLY CLOSED
CFM	CUBIC FEET PER MINUTE	NO	NORMALLY OPENED
CV	CONSTANT VOLUME	NTS	NOT TO SCALE
CU	CONDENSING UNIT	OA	OUTSIDE AIR
DB	DRY BULB TEMPERATURE (°F)	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
DDC	DIRECT DIGITAL CONTROLS	PSI	POUNDS PER SQUARE INCH
DOAS	DEDICATED OUTSIDE AIR SYSTEM	PSIG	PSI GAUGE
DN	DOWN	PVC	POLYVINYL CHLORIDE PIPE
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EF	EXHAUST FAN	RH	RELATIVE HUMIDITY
ESP	EXTERNAL STATIC PRESSURE	RHC	REHEAT COIL
EWT	ENTERING WATER TEMPERATURE	RLA	RUNNING LOAD AMPS
FCU	FAN COIL UNIT	RPM	REVOLUTIONS PER MINUTE
FD	FIRE DAMPER	RS/RL	REFRIGERANT SUCTION & LIQUID LINES
FLA	FULL LOAD AMPS	RTU	ROOFTOP AIR HANDLING UNIT
FPI	FINS PER INCH	SA	SUPPLY AIR
FPM	FEET PER MINUTE	SF	SUPPLY FAN
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
IV	INTAKE VENTILATOR	TSP	TOTAL STATIC PRESSURE
KW	KILOWATT	VAV	VARIABLE AIR VOLUME
LAT	LEAVING AIR TEMPERATURE	VRF	VARIABLE REFRIGERANT FLOW
LRA	LOCKED ROTOR AMPS	VFD	VARIABLE FREQUENCY DRIVE
LWT	LEAVING WATER TEMPERATURE	WB	WET BULB TEMPERATURE (°F)

GENERAL MECHANICAL SYMBOLS

1 — REVISION NUMBER SHOWN ON PLANS

1 / M-001 — NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS

1 — KEYNOTE

CONTINUATION SYMBOLS:

PIPE

ROUND DUCT

RECTANGULAR DUCT

SPACE TAG:

OFFICE — SPACE NAME

101 — SPACE NUMBER

100 SF — SPACE AREA

MECHANICAL EQUIPMENT TAGS

RTU-XX — EQUIPMENT MARK ID

EVAV-XX — EQUIPMENT MARK ID

200 CFM — EQUIPMENT AIRFLOW

EVAV-XX — EQUIPMENT MARK ID

HVAC DUCTWORK LEGEND

22/14	SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
22/14Ø	OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
22Ø	ROUND DUCT SIZE TAG (DIAMETER)
S/A	SUPPLY AIR
O/A	OUTSIDE AIR
R/A	RETURN AIR
E/A	EXHAUST AIR

DUCT ACCESSORIES

FIRE DAMPER

MANUAL BALANCING DAMPER

SMOKE DAMPER

MOTORIZED DAMPER

COMBINATION FIRE/SMOKE DAMPER

HVAC GRILLES/DIFFUSERS

SUPPLY DIFFUSER (SEE PLANS OR SCHEDULE FOR SIZES)

RETURN GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)

EXHAUST GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)

SEISMIC DESIGN CONDITIONS

1. SEISMIC DESIGN DATA:
   A. SEISMIC DESIGN CATEGORY: C
   B. MECHANICAL COMPONENTS IMPORTANCE FACTOR: 1.5 (STEAM AND STEAM CONDENSATE PIPING ONLY)
2. SEISMIC RESTRAINTS ARE REQUIRED FOR THE MECHANICAL COMPONENTS AND SYSTEMS PER THE REQUIREMENTS FOR THE INTERNATIONAL BUILDING CODE (IBC) AS DEFINED PER ASCE 7 - SECTION 13.6.
3. REFER TO THE SPECIFICATIONS.

MECHANICAL SHEET SET NOTE

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

HYDRONIC PIPING LEGEND

STM-15	STEAM - 15 PSIG
STC	STEAM CONDENSATE RETURN
BFW	BOILER FEEDWATER
	PITCH PIPE - ARROW INDICATES DOWN DIRECTION

PIPE ACCESSORIES

2-WAY MOTORIZED VALVE

3-WAY MOTORIZED VALVE

3-WAY VALVE

BALL VALVE

BUTTERFLY VALVE

CHECK VALVE

GATE VALVE

GLOBE VALVE

NEEDLE VALVE

PLUG VALVE

PRESSURE REDUCING VALVE

SOLENOID VALVE

SWING CHECK VALVE

UNION

MECHANICAL DATA DEVICES

SENSOR

MANUAL SWITCH

THERMOSTAT

AHU-1

SENSOR INTERLOCK

LOCKING COVER (OPTIONAL)

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE 2021 EDITION OF THE "ARKANSAS MECHANICAL CODE", THE 2014 EDITION OF THE "ARKANSAS ENERGY CODE", NFPA 90A, AND ALL CITY, STATE, AND LOCAL REQUIREMENTS.
2. REFER TO THE PROJECT MANUAL FOR ALL REQUIREMENTS.
3. REFER TO ARCHITECTURAL PLANS FOR:
   A. REFLECTED CEILING PLAN FOR EXACT LOCATION OF AIR DEVICES AND CEILING TYPES.
   B. EXACT LOCATIONS AND MOUNTING HEIGHTS OF EXTERIOR LOUVERS.
   C. FIRE RATED WALLS AND PARTITIONS. PROVIDE FIRE DAMPERS IN DUCT PENETRATIONS OF ALL FIRE RATED WALLS AND PARTITIONS AS NECESSARY TO MEET CITY AND STATE REQUIREMENTS.
   D. ALL WALL AND ROOF PENETRATIONS AND EQUIPMENT MOUNTING DETAILS.
4. ALL DUCTWORK SHALL BE CONSTRUCTED FROM GALVANIZED STEEL IN CONFORMANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION.
5. DUCT FITTINGS:
   A. SUPPLY TAKE-OFFS TO CEILING SUPPLY DIFFUSERS TO BE 45° SIDE TAP.
   B. ALL DUCT RUN-OUTS TO HAVE LOCKING QUADRANT VOLUME DAMPERS. PROVIDE STAND-OFF BRACKET TO ACCOMMODATE INSULATION THICKNESS.
   C. ALL 90° ROUND ELBOWS TO HAVE R/D=1.5 (UNLESS OTHERWISE NOTED).
   D. ALL 90° RECTANGULAR ELBOWS TO HAVE TURNING VANES (UNLESS OTHERWISE NOTED).
6. DUCTWORK TO BE COORDINATED WITH STRUCTURAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION, COMPONENTS AND SYSTEMS. ALL DUCTWORK THAT HAS TO BE OFFSET DUE TO AN OBSTRUCTION SHALL BE SLOPED WITH 2-30° ELBOWS UNLESS OTHERWISE NOTED.
7. REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS OF ALL CONCRETE MECHANICAL PADS. PADS SHALL EXTEND BEYOND THE FOOTPRINT OF THE MECHANICAL EQUIPMENT MINIMUM 6" ON ALL SIDES.
8. CLOSELY COORDINATE LOCATIONS OF INSTALLED EQUIPMENT TO ACHIEVE THE GREATEST ACCESSIBILITY.
9. MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND ALL EXHAUST FANS, FLUES, PLUMBING VENTS, ETC.
10. PROVIDE FLEXIBLE CONNECTIONS AT INLETS AND OUTLETS OF ALL AIR HANDLING UNITS, MAKE-UP AIR UNITS, FURNACES, AND/OR EXHAUST FANS.
11. CONDENSATE PIPING SHALL BE COMPRISED OF TYPE "M", DWV COPPER, OR SCHEDULE 40 PVC. PVC EXPOSED TO SUNLIGHT SHALL HAVE UV RESISTANT COATING.
12. ALL EXTERIOR EXPOSED PIPING SUSCEPTIBLE TO FREEZING, SUCH AS CONDENSATE PIPING, SHALL BE INSULATED WITH 1" FIBERGLASS PIPING INSULATION WITH 0.020" ALUMINUM JACKET AND HEAT TRACED AT 5 WATTS/FOOT. SEAL JACKET WATER-TIGHT.
13. ALL WALL-MOUNTED, OCCUPANT-CONTROLLED HVAC DEVICES, I.E., THERMOSTATS, HUMIDISTAT, CO2 CONTROLLERS, CONTROL PANELS, ETC., SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR. CONTROLS LOCATED IN PUBLIC AREAS SHALL HAVE CLEAR PLASTIC LOCKING COVERS.
14. COORDINATE WORK CLOSELY WITH CONTROL CONTRACTOR. PROVIDE ALL NECESSARY DUCT, PIPE TAPS, TEES, WELLS, CONTROL DAMPERS, AIR MEASURING STATIONS, AND OTHER ACCESSORIES REQUIRED BY CONTROL SYSTEM
15. SLEEVE AND SEAL ALL PIPE AND DUCT PENETRATIONS THROUGH FIRE RATED AND NON-RATED SLABS AND PARTITIONS.
16. STEAM AND STEAM CONDENSATE PIPING SHALL BE PITCHED TO DRAIN AS SPECIFIED.

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Project

AEROJET BUILDING 66B
CURE OVEN BUILDING
EAST CAMDEN, ARKANSAS

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12375
JAMIE L. GUIDRY
07-31-2024

Notes

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Sheet Title

MECHANICAL LEGEND AND SYMBOLS

Sheet Number

M-001