MINI SPLIT-SYSTEM HEAT PUMP SCHEDULE

INDOOR UNIT					OUTDOOR UNIT		COOLING					HEATING			ELECTRICAL			REMARKS
MARK	*MANUF'R./ MODEL	TYPE	SERVES	FAN CFM (HI/MED/LO)	MARK	*MANUF'R./ MODEL	TOT. CAP. (BTUH)	EDB (F)	EWB (F)	AMB (F)	SEER2	TOT. CAP. (BTUH)	AMB (F)	HSPF2	VOLTAGE	MCA	BKR	
MSFC-1	LG LVN120HCV	VERTICAL AIR HANDLER	GUARD POST BUILDING	580 / 480 / 380	MSHP-1	LG LVU120HCV	12,000	80.0	67.0	95.0	16.0	15,000	47.0	9.3	208/1/60	13.8	20A	SEE NOTES

* OR APPROVED EQUAL

NOTES:

1. SYSTEM SHALL BE COMPLETE WITH INDOOR AND OUTDOOR UNIT FROM SAME MANUFACTURER
2. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT
3. VARIABLE SPEED INVERTER SCROLL COMPRESSOR
4. ELECTRICALLY COMMUTATED INDOOR FAN MOTOR
5. ELECTRICALLY COMMUTATED OUTDOOR FAN MOTOR
6. HARD-WIRED WALL THERMOSTAT
7. AUTO RESTART
8. 24-HOUR ON/OFF TIMER
9. LOW AMBIENT TO 14-DEGREES F
10. CONDENSATE SENSOR CONNECTION
11. FIVE YEAR COMPRESSOR WARRANTY
12. TWO YEAR FUNCTIONAL PARTS WARRANTY

EXHAUST FAN SCHEDULE

GENERAL			FAN						ELECTRICAL			REMARKS
EF-1	GREENHECK CSP-A110	RESTROOM / STORM SHELTER 101	DIRECT	CENT.	70	1/8"	728	0.3	120/1/60	20W	INTERLOCK W/TLT RM LIGHTS	SEE NOTES

* OR APPROVED EQUAL

NOTES:

1. FACTORY MOUNTED INTEGRAL DISCONNECT AND BACKDRAFT DAMPER.
2. SOLID STATE SPEED CONTROL FACTORY MOUNTED ON FAN HOUSING.
3. WALL CAP EQUAL TO A GREENHECK #WC-10X3 WITH INTEGRAL BIRDSCREEN, BACKDRAFT DAMPER, AND BLACK ENAMEL FINISH.

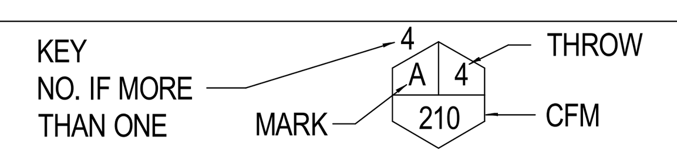
AIR CURTAIN SCHEDULE

MARK	MANUF'R./MODEL	SERVES	CFM	DOOR WIDTH (IN)	HEATING (BTUH)	VOLTAGE	MOTOR	CONTROL	
AC-1	POWEREDAIR MP-1-36	SEE PLANS	984	36.0	N/A	120/1/60	1/5 HP	MOTION DETECTOR	SEE NOTES

NOTES:

1. PROVIDE WITH MOUNTING BRACKETS, INTEGRAL DISCONNECT SWITCH, AND MANUFACTURER'S STANDARD MOTION DETECTOR.

AIR DEVICE



MARK	DESCRIPTION	SIZE	MOUNTING	MATERIAL	FINISH	*MANUF'R	MODEL	REMARKS
A	SQUARE CONE	24x24	LAY-IN CLG.	ALUMINUM	WHITE	PRICE	ASCD	NONE
B	SQUARE CONE	12x12	LAY-IN CLG.	ALUMINUM	WHITE	PRICE	ASCD	NOTE 1
1	CUBE CORE	12x12	LAY-IN CLG.	ALUMINUM	WHITE	PRICE	80	NOTE 1
2	CUBE CORE	24x24	LAY-IN CLG.	ALUMINUM	WHITE	PRICE	80	NONE
3	45-DEG FIXED BLADE	12x12	SOFFIT	ALUMINUM	FIELD PAINT	PRICE	630	NONE

NOTES: * OR APPROVED EQUAL
1. PROVIDE BLANK PANEL BORDER FOR INSTALLATION OF AIR DEVICE IN FULL LAY-IN GRID SPACE.

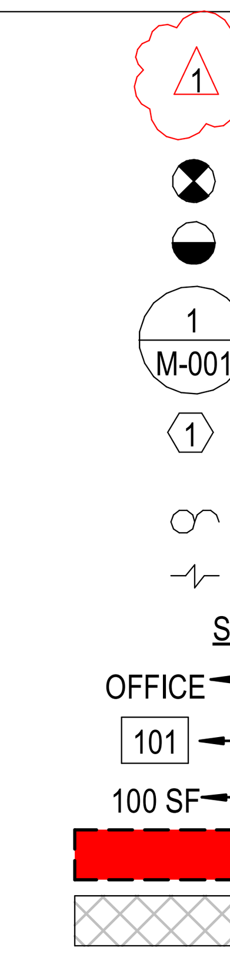
GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE 2021EDITION OF THE "INTERNATIONAL 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. 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. U.L. LISTED FLEXIBLE DUCT RUN-OUTS MAY BE USED, BUT SHALL NOT EXCEED 5'-0" IN LENGTH. ALL FLEXIBLE DUCT TO BE PROPERLY SUPPORTED WITH NO KINKS OR HARD BENDS.
6. DUCT FITTINGS:
   A. SUPPLY TAKE-OFFS TO CEILING SUPPLY DIFFUSERS TO BE CONICAL TAP OR 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).
   E. PROVIDE HARD ELBOW WHEN TRANSITIONING FROM RIGID TO FLEXIBLE DUCT WHEN CONNECTING TO AIR DEVICES. REFER TO DETAIL.
7. 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.
8. COMPLETELY INSULATE THE TOPS OF ALL CEILING DIFFUSERS.
9. CLOSELY COORDINATE LOCATIONS OF INSTALLED EQUIPMENT TO ACHIEVE THE GREATEST ACCESSIBILITY.
10. MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND ALL EXHAUST FANS, FLUES, PLUMBING VENTS, ETC.
11. PROVIDE FLEXIBLE CONNECTIONS AT INLETS AND OUTLETS OF ALL AIR HANDLING UNITS, MAKE-UP AIR UNITS, FURNACES, AND/OR EXHAUST FANS.
12. CONDENSATE PIPING SHALL BE COMPRISED OF TYPE "M", DWV COPPER, OR SCHEDULE 40 PVC. PVC EXPOSED TO SUNLIGHT SHALL HAVE UV RESISTANT COATING.
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.

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)	PSI	POUNDS PER SQUARE INCH
DDC	DIRECT DIGITAL CONTROLS	PSIG	PSI GAUGE
DOAS	DEDICATED OUTSIDE AIR SYSTEM	PVC	POLYVINYL CHLORIDE PIPE
DN	DOWN	RA	RETURN AIR
EAT	ENTERING AIR TEMPERATURE	RH	RELATIVE HUMIDITY
EF	EXHAUST FAN	RHC	REHEAT COIL
ESP	EXTERNAL STATIC PRESSURE	RLA	RUNNING LOAD AMPS
EWT	ENTERING WATER TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
FCU	FAN COIL UNIT	RS/RL	REFRIGERANT SUCTION & LIQUID LINES
FD	FIRE DAMPER	RTU	ROOFTOP AIR HANDLING UNIT
FLA	FULL LOAD AMPS	SA	SUPPLY AIR
FPI	FINS PER INCH	SF	SUPPLY FAN
FPM	FEET PER MINUTE	SP	STATIC PRESSURE
GPM	GALLONS PER MINUTE	TSP	TOTAL STATIC PRESSURE
IV	INTAKE VENTILATOR	VAV	VARIABLE AIR VOLUME
KW	KILOWATT	VRF	VARIABLE REFRIGERANT FLOW
LAT	LEAVING AIR TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
LRA	LOCKED ROTOR AMPS	WB	WET BULB TEMPERATURE (°F)
LWT	LEAVING WATER TEMPERATURE		

GENERAL MECHANICAL SYMBOLS



- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- KEYNOTE
- CONTINUATION SYMBOLS:
- ROUND DUCT
- RECTANGULAR DUCT
- SPACE TAG:
- SPACE NAME
- SPACE NUMBER
- SPACE AREA
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

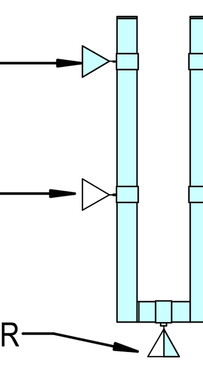
SEISMIC DESIGN CONDITIONS

1. SEISMIC DESIGN DATA:
   A. SEISMIC DESIGN CATEGORY: C
   B. MECHANICAL COMPONENTS IMPORTANCE FACTOR:1.0
2. SEISEMIC RESTRAINTS ARE NOT 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.

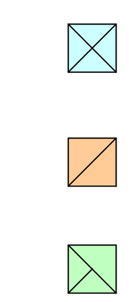
HVAC DUCTWORK LEGEND

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

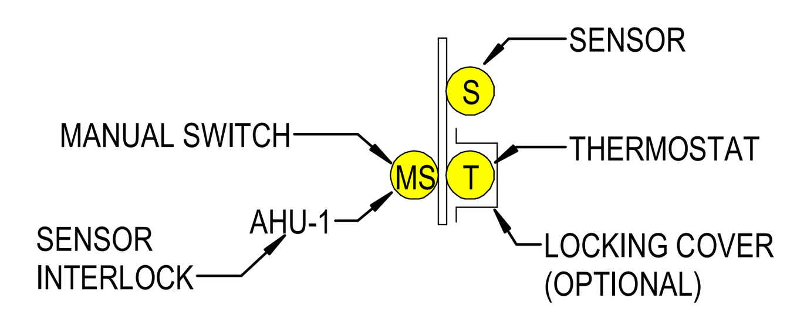


HVAC GRILLES/DIFFUSERS

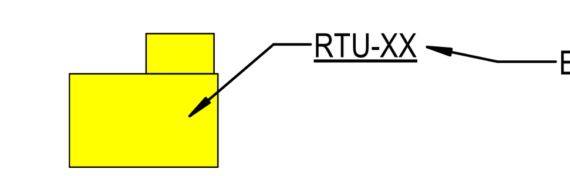


- SUPPLY DIFFUSER (SEE PLANS OR SCHEDULE FOR SIZES)
- RETURN GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)
- EXHAUST GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)

MECHANICAL DATA DEVICES



MECHANICAL EQUIPMENT TAGS



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.

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Project

AEROJET New Guard Post - 2

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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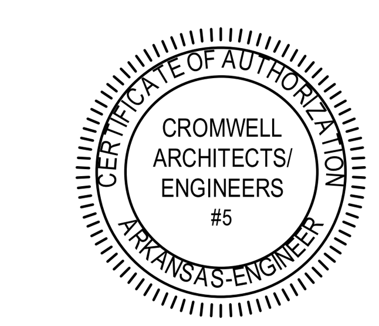

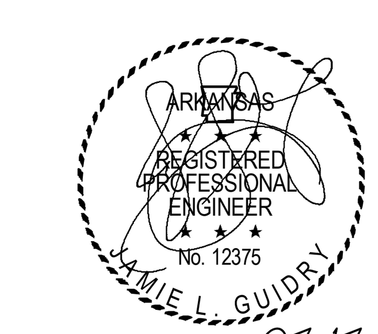

Notes

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Project Number **2024-052**

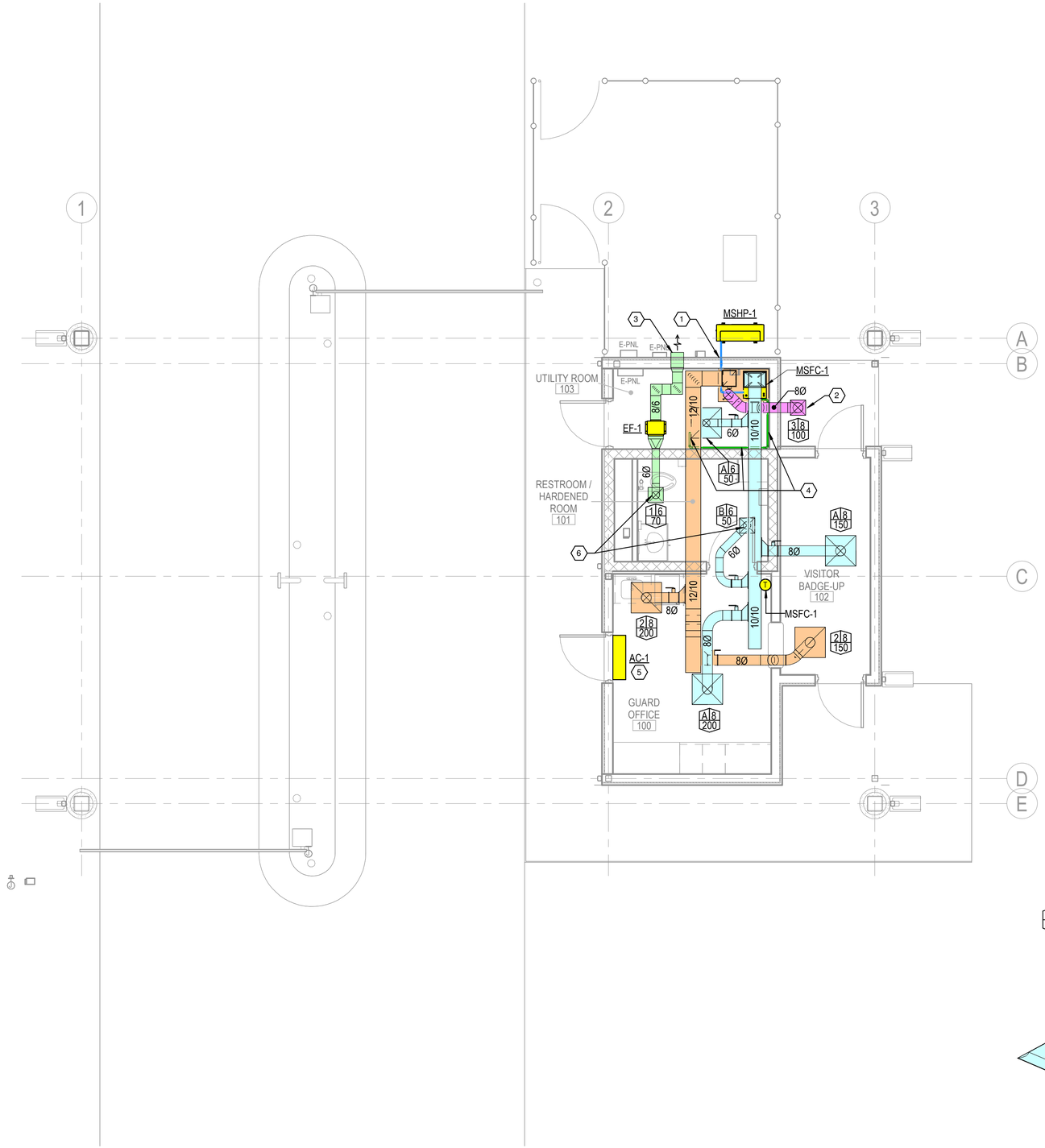
Issue Date **07-17-2024**

Sheet Title

MECHANICAL LEGEND, SYMBOLS, GENERAL NOTES, AND SCHEDULES

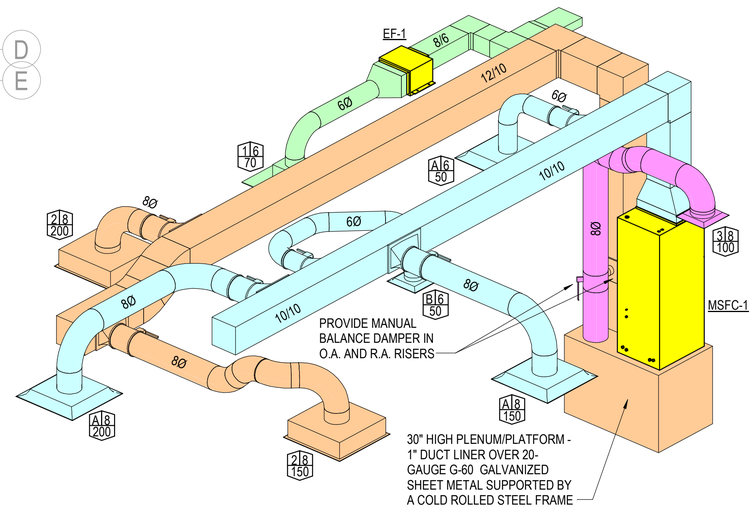
Sheet Number

M-001



1 MECHANICAL PLAN
1/4" = 1'-0"
0 2 4 8

NORTH



2 DUCT RISER
NOT TO SCALE

GENERAL NOTES

1 REFER TO SHEET M-001 FOR MECHANICAL NOTES, ABBREVIATIONS, AND LEGEND SYMBOLS.

KEYED NOTES

1 ROUTE THE INSULATED REFRIGERANT LINE SET UP CONCEALED IN THE EXTERIOR WALL AND CONTINUE AS REQUIRED TO CONNECT TO THE INDOOR FAN COIL UNIT COMPLETE AND OPERATIVE.

2 INSTALL THE ALUMINUM OUTSIDE AIR INTAKE GRILLE IN THE SOFFIT. GRILLE SHALL BE FIELD PAINTED TO MATCH THE SOFFIT.

3 TERMINATE THE EXHAUST DUCT AT A WALL CAP. REFER TO THE "EXHAUST FAN SCHEDULE".

4 ROUTE THE INSULATED CONDENSATE DRAIN LINE ALONG THE WALL AS SHOWN PITCHED TO DRAIN TO THE FLOOR SINK. PIPE SHAL BE FASTENED TO THE WALL AT ALL ELBOWS AND AT 5' O.C. ON STRAIGTH LENGTHS. PIPE SHALL BE CLAMPED TO FLOOR SLAB AT SHORT RUN TO FLOOR SINK. COORDINATE PIPE ROUTING ALONG WALL WITH OTHER TRADES PRIOR TO ROUGH-IN.

5 MOUNT THE AIR CURTAIN AS HIGH AS POSSIBLE ABOVE THE DOOR, TIGHT TO THE CELING.

6 COORDINATE AS REQUIRED TO PROVIDE A SCHEDULE 40 STEEL CAST-IN-PLACE PIPE SLEEVE IN THE CONCRETE LID OF THE SAFE ROOM. SLEEVE SHALL BE SIZED JUST LARGE ENOUGH TO ALLOW FOR DUCT+INSULATION AND SHALL NOT BE OVERSIZED.

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CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

ARKANSAS REGISTERED PROFESSIONAL ENGINEER
No. 12375
JAMIE L. GUIDRY
07-17-2024

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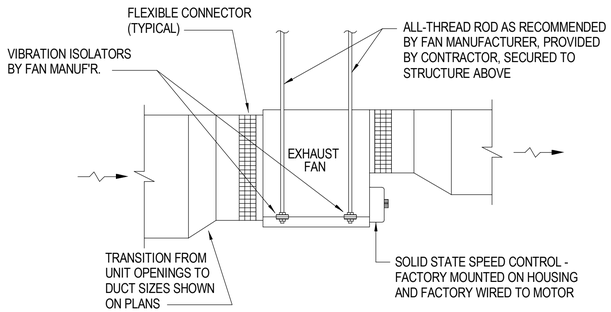
Sheet Title

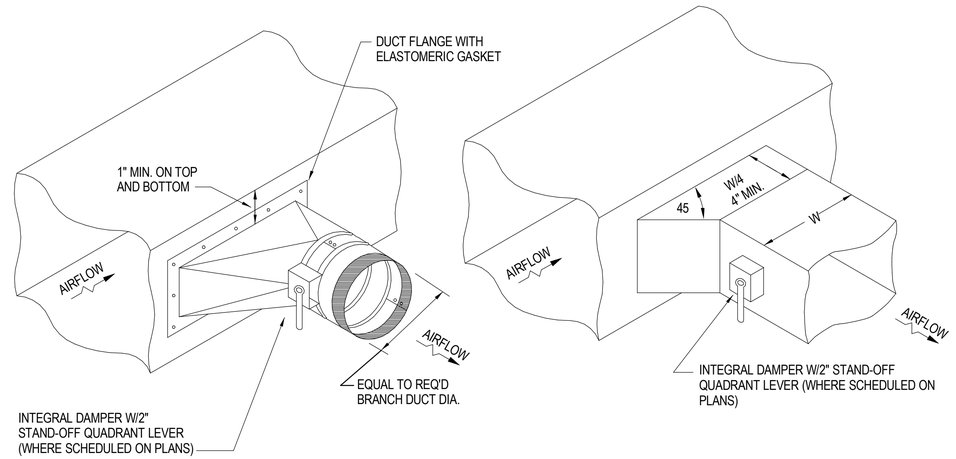
FIRST FLOOR MECHANICAL PLAN

Sheet Number

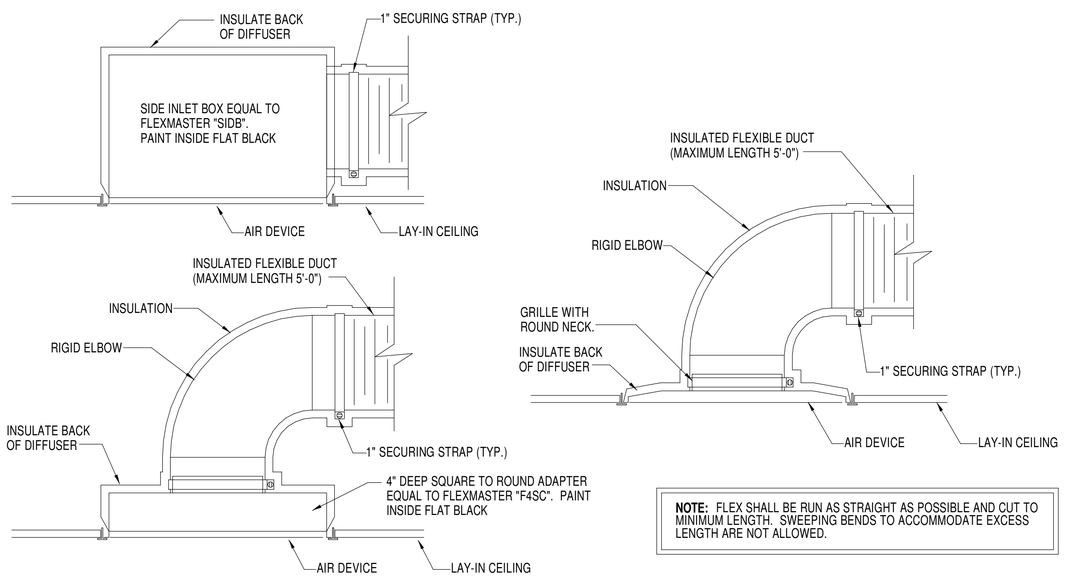
M-101



1 IN-LINE EXHAUST FAN
NONE

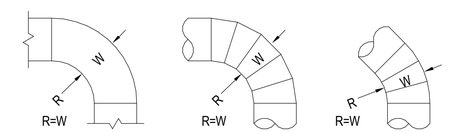


2 LOW PRESSURE BRANCH DUCT TAKE-OFF
NONE

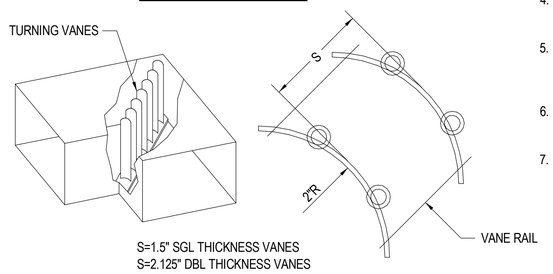


NOTE: FLEX SHALL BE RUN AS STRAIGHT AS POSSIBLE AND CUT TO MINIMUM LENGTH. SWEEPING BENDS TO ACCOMMODATE EXCESS LENGTH ARE NOT ALLOWED.

3 CEILING AIR DEVICE INSTALLATION
NONE



STANDARD RADIUS ELL



MITERED ELL

NOTES:
1. WHERE FULL RADIUS TURNS ARE NOT POSSIBLE, MITERED ELL'S WITH TURNING VANES SHALL BE PROVIDED FOR ALL CHANGES IN HORIZONTAL AND VERTICAL DUCT DIRECTION 45-DEGREE OR GREATER.
2. CONSTRUCT ELBOWS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
3. TURNING VANE ELBOW SHALL BE ASHRAE FITTING CR3-9 WITH SINGLE WIDTH VANES FOR VANE LENGTHS UP TO 24".
4. TURNING VANE ELBOW SHALL BE ASHRAE FITTING CR3-15 WITH DOUBLE WIDTH VANES FOR VANE LENGTHS OVER 24".
5. ROUND ELBOWS SHALL BE SMOOTH OR GORED. 90-DEGREE GORED ELL'S SHALL BE MINIMUM 5-PIECE AND 45-DEGREE GORED ELL'S SHALL BE MINIMUM 3-PIECE.
6. VANES SHALL BE WELDED TO THE VANE RAIL IN DUCT SYSTEMS WITH AIR VELOCITIES 3000 FPM AND HIGHER.
7. SHORT RADIUS ELBOWS, ELBOWS WITH MITERED THROATS/RADIUS HEELS, AND ELBOWS WITH MITERED THROATS/CHAMFERED HEELS ARE NOT ACCEPTABLE.

4 DUCT ELL
NONE

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Sheet Title

MECHANICAL DETAILS

Sheet Number

M-501