

LEGEND

ALL MAY NOT APPLY

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ABBREVIATIONS

ALL MAY NOT APPLY

AHU AIR HANDLING UNIT	EA EXHAUST AIR	MBH 1,000 BTUS PER HOUR
BTU BRITISH THERMAL UNIT	EAT ENTERING AIR TEMPERATURE	MFG. MANUFACTURER
CD CONDENSATE	EF EXHAUST FAN	OA OUTSIDE AIR
CFM CUBIC FEET PER MINUTE	ESP EXTERNAL STATIC PRESSURE (In W.C.)	RA RETURN AIR
CHWS CHILLED WATER SUPPLY	EWTT ENTERING WATER TEMPERATURE	RAG RETURN AIR GRILLE
CHWR CHILLED WATER RETURN	EX EXISTING	RND ROUND
CRAH COMPUTER ROOM AIR HANDLER	FD FIRE DAMPER	RPM REVOLUTIONS PER MINUTE
CRCU COMPUTER ROOM CU	FPI FINS PER INCH	SA SUPPLY AIR
CHS CONDENSING UNIT	GPM GALLONS PER MINUTE	SD SMOKE DAMPER
CWS CHILLED WATER SUPPLY	HHWS HEATING HOT WATER SUPPLY	SM SURFACE MOUNTED
DP DIFFERENCE IN PRESSURE	HHWR HEATING HOT WATER RETURN	SS STAINLESS STEEL
DT DIFFERENCE IN TEMPERATURE	HP HEAT PUMP	TSP TOTAL STATIC PRESSURE
DB DRY BULB TEMPERATURE (DEG. F)	HWS HOT WATER SUPPLY	UNLESS NOTED OTHERWISE
DEG. F DEGREES FAHRENHEIT	In W.C. INCHES OF WATER COLUMN	V/PZ VOLT/PHASE
DDC DISTRIBUTED DIGITAL CONTROLS	LAT LEAVING AIR TEMPERATURE	VFD VARIABLE FREQUENCY DRIVE
DN DOWN	LWT LEAVING WATER TEMPERATURE	WB WET BULB TEMPERATURE (DEG. F)

CODE REFERENCE

ALL MAY NOT APPLY

THE LATEST EDITIONS OF THE ESTABLISHED STANDARDS OF THE FOLLOWING ORGANIZATIONS, AND INDIVIDUAL STANDARDS NAMED SHALL BE FOLLOWED THE SAME AS IF THEY WERE FULLY WRITTEN HEREIN AND CONSTITUTE A PART OF THE SPECIFICATION REQUIREMENTS EXCEPT WHERE OTHERWISE SPECIFIED:

FBC, BUILDING FLORIDA BUILDING CODE 8TH EDITION
 FBC, MECHANICAL FLORIDA BUILDING CODE 8TH EDITION
 FBC, EXISTING BUILDING FLORIDA BUILDING CODE 8TH EDITION
 FBC, FUEL GAS FLORIDA BUILDING CODE 8TH EDITION
 FBC, ENERGY CONSERVATION FLORIDA BUILDING CODE 8TH EDITION
 FFPC FLORIDA FIRE PREVENTION CODE, 2023 8TH EDITION
 NFPA 13 STANDARD FOR THE INSTALLATION OF FIRE SPRINKLER SYSTEMS
 NFPA 51B STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING AND OTHER HOT WORK
 NFPA 54 NATIONAL FUEL GAS CODE
 NFPA 90A STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATION SYSTEMS
 NFPA 90B STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS
 NFPA 101 LIFE SAFETY CODE
 NFPA 101A GUIDE ON ALTERNATIVE APPROACHES TO LIFE SAFETY
 NFPA 101B CODE FOR MEANS OF EGRESS FOR BUILDINGS AND STRUCTURES
 NFPA 900 BUILDING ENERGY CODE
 ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS
 ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
 ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS
 ADA AMERICAN WITH DISABILITIES ACT
 UL UNDERWRITERS LABORATORIES

THESE CODE AND STANDARDS SHALL BE CONSIDERED A MINIMUM REQUIREMENT. THE CONTRACTOR SHALL NOT RELIEVED FROM PROVIDING HIGHER GRADE MATERIALS, PRODUCTS AND WORKMANSHIP WHICH MAY BE SPECIFIED WITHIN THESE DOCUMENTS.

DUCTWORK SPECIFICATIONS

1. SHEET METAL DUCTWORK

1.1. DUCT MATERIAL CLASS "A" GALVANIZED STEEL OR ROLLED STEEL IN COMPLIANCE WITH SMACNA 205-3RD EDITION LOW/MEDIUM PRESSURE DUCT STANDARDS TABLE 1.1. DUCTS SHALL BE TESTED, VERIFIED AND RECORDED IN ACCORDANCE WITH ASHRAE 90.1-2013 REQUIREMENT BASED ON LEAKAGE RATE LESS THAN 4% PER 100SF OF DUCT.

1.2. SEALER: LOW VOC MASTIC PAINT.

2. GENERAL:

2.1. LINES SHALL BE RUN STRAIGHT, LEVEL, PLUMB, AND ROUTED AS INDICATED IN THESE DRAWINGS. ALL LABELED DUCT DIMENSIONS ARE INTERNAL SIZES AND INDICATE FULL INSIDE CLEAR FREE AREA.

2.2. MINOR MODIFICATIONS TO DUCT ROUTING DUE TO OBSTRUCTIONS OR COORDINATION WITH OTHER TRADES WILL BE FURNISHED WITHOUT ADDITIONAL COST TO THE OWNER. ANY CHANGES IN SIZE TO DUCTWORK MUST BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION.

2.3. ALL MITERED RECTANGULAR DUCT 90 DEGREE ELBOWS SHALL BE PROVIDED WITH TURNING VANES.

2.4. ALL SUPPLY, RETURN AND EXHAUST DUCTS SHALL BE EXTERNALLY INSULATED UNLESS OTHERWISE NOTED. INSULATION SHALL BE EQUAL TO JOHNS MANVILLE MICROLIGHT XL 2" THICK 0.75 PCF R6.0 OUT OF THE BOX WITH FSK VAPOR BARRIER. SEAL WITH FIRE RATED MASTIC SEAL PER UL-181A-M AT ALL JOINTS AND SEAMS; OR APPROVED ACRYLIC FOIL PRESSURE SENSITIVE TAPE PER UL-181A-P APPLIED USING SQUEEGEE APPROVED METHOD AT JOINTS AND SEAMS. RUBBER BASE TAPES ARE NOT ALLOWED.

2.5. DUCTBOARD IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD.

2.6. DUCTS SHALL HAVE MINIMUM INSULATION VALUES AS LISTED IN FBC-EC 403.2.9.1.

3. FLEXIBLE DUCTS:

3.1. DUCT TO AIR TERMINALS SHALL BE LIMITED IN LENGTH AS SHOWN IN DETAILS.

3.2. SHALL BE UL LISTED AS CLASS 1 AIR DUCT COMPLYING WITH UL STANDARD 181, NFPA 90A & 90B AND HAVE A FLAME SPREAD RATING OF NOT OVER 25 AND A SMOKE DEVELOPMENT RATING NOT OVER 50.

3.3. SHALL HAVE A POSITIVE OPERATING PRESSURE OF 10" MINIMUM. FLEXIBLE DUCT SHALL HAVE BEEN TESTED FOR A MAXIMUM INTERNAL OPERATING TEMPERATURE OF 200°F UNDER CONTINUOUS OPERATION.

3.4. SHALL BE RATED FOR A MINIMUM AIR VELOCITY OF 5000 FPM.

3.5. INSULATION SHALL BE A MINIMUM OF 2" THICK 3/4 PCF DENSITY FIBERGLASS. SUPPLY DUCTS SHALL HAVE INSULATION WITH A MINIMUM R-VALUE OF 4.2, BUT R-6 FOR SUPPLY DUCT IN ATTIC AND OUTDOOR SPACES. OUTER LINER SHALL BE A BI-DIRECTIONAL FIBERGLASS REINFORCED METALIZED VAPOR BARRIER. FLEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE, AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS.

3.6. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE NECK WHERE REQUIRED. FLEXIBLE DUCT SHALL HAVE A FULL 10-YEAR WARRANTY.

3.7. INNER LINER SHALL CONSIST OF A CPE CORE PERMANENTLY BONDED TO A COATED SPRING STEEL WIRE HELIX (MIN. 041" THICK).

3.8. SHALL BE THERMAFLEX TYPE M-KE, FLEXMASTER TYPE 8M OR EQUAL.

3.9. SHALL BE SUPPORTED SO THAT HORIZONTAL RUNS ARE STRAIGHT AND WITHOUT SAGS OR BENDS. SHEET METAL SADDLES SHALL BE PROVIDED AT ALL HANGERS FOR FLEX DUCTS TO PREVENT KINKING OF THE DUCTS AND EXCESSIVE COMPRESSION OF THE INSULATION.

REFRIGERANT PIPING

1. BELOW FINISHED FLOOR: COPPER TUBING - TYPE "K" SOFT ANNEALED TEMPER, NO JOINTS BELOW GRADE.

2. ABOVE FINISHED FLOOR: COPPER TUBING - TYPE "L" HARD DRAWN TEMPER WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS AT 1100 DEG F, FLUX MATERIAL NOT ALLOWED.

3. SUCTION LINES SHALL BE INSULATED WITH MINIMUM 3/4" ARMAFLEX INSULATION WITH TAPED JOINTS. INSULATION SHALL ALWAYS COMPLY WITH FBC-EC 403.2.10. HANGERS STRAPS OR SADDLES SHALL NOT COMPRESS INSULATION BELOW REQUIRED SIZE.

4. EXTERIOR PIPING INSULATION SHALL BE PROTECTED FROM UV RADIATION. COVER ALL EXTERIOR REFRIGERANT LINES WITH ALUMINUM JACKET, INSTALLED TO SHED WATER AND SECURED WITH STAINLESS STEEL BANDS 12" O.C.

5. SYSTEMS SHALL BE PLACED UNDER A VACUUM FOR REMOVAL OF NON-CONDENSABLES PRIOR TO BEING PUT INTO SERVICE.

6. SYSTEMS SHALL BE PRESSURE TESTED USING NITROGEN PRIOR TO BEING PUT INTO SERVICE.

7. PIPES SHALL BE SIZED BY THE EQUIPMENT MFG.

HVAC GENERAL NOTES

1. ONLY NEW EQUIPMENT SHALL BE PROVIDED UNLESS INDICATED AS EXISTING TO REMAIN.

2. ALL CONNECTIONS TO EQUIPMENT SHALL BE MADE WITH FLEXIBLE REGIONS FOR VIBRATION ISOLATION.

3. ALL EQUIPMENT SHALL BE LABELED SO THAT USERS CAN IDENTIFY EACH PIECE OF EQUIPMENT. LABELS SHALL BE CONSISTENT WITH EQUIPMENT TAGS THAT ARE LISTED IN THE SCHEDULES WITHIN THESE DOCUMENTS. ANY ABOVE CEILING EQUIPMENT SHALL HAVE A LABEL PROVIDED ON THE CEILING BELOW THE UNIT FOR EASE OF LOCATING BY MAINTENANCE PERSONNEL.

4. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.

5. INSTALL DUCTWORK AND PIPING AS HIGH AS POSSIBLE ABOVE CEILING.

6. COORDINATE THE INSTALLATION OF DUCTWORK AND PIPING WITH ELECTRICAL EQUIPMENT SO THAT THE REQUIRED CODE CLEARANCES TO ELECTRICAL EQUIPMENT IS MAINTAINED.

7. DUCTWORK AND PIPING INSTALLATIONS SHALL ALLOW FOR EQUIPMENT RECOMMENDED MAINTENANCE CLEARANCES. CONVENIENT ACCESS FOR REMOVAL OF FILTERS SHALL BE MAINTAINED.

8. MATERIALS INSTALLED WITHIN A RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE.

9. COORDINATE THE PLACEMENT AIR DISTRIBUTION EQUIPMENT WITH THE CEILING AND LIGHTING LAYOUT.

10. THE CEILING DIFFUSERS SHALL BE 4-WAY THROW UNLESS OTHERWISE NOTED.

11. AT THE ONSET OF TEST AND BALANCE ACTIVITIES PROVIDE NEW FILTERS TO ALL UNITS. DO NOT OPERATE UNITS WITHOUT FILTERS DURING CONSTRUCTION. SEAL ALL OPEN ENDED DUCTS DURING CONSTRUCTION.

12. ENSURE ALL EQUIPMENT HAS BEEN CLEANED AT THE END OF THE PROJECT.

13. DO NOT LOCATE AIR INTAKES CLOSER THAN 10 FEET FROM ANY VENT OR EXHAUST OUTLETS. ROUTE TOILET EXHAUST TO LOCATION SHOWN ON PLANS. WALL CAPS SHALL BE ALUMINUM CONSTRUCTION WITH BACKDRAFT DAMPER, BIRD AND INSECT SCREENS.

14. PROVIDE FIRE DAMPER IF SHOWN ON PLANS, WHERE DUCT PENETRATES FIRE-RATED CONSTRUCTION. ATTACH 1/2" OR LARGER TEXT LABELING THE DAMPER ACCESS LOCATION(S).

15. INSTALL DUCT MOUNTED SMOKE DETECTOR (FURNISHED BY DIVISION 26) IN SUPPLY AIR DUCT BEFORE ANY TAKE OFFS FOR AIR HANDLING UNITS WITH SUPPLY AIR CAPACITY OF 2000 CFM OR GREATER.

16. WHERE FIRE, SMOKE, COMBINATION FIRE SMOKE DAMPERS CONTROL DAMPERS, VALVES, COILS OR OTHER DEVICE NEEDING ACCESS ARE INSTALLED, PROVIDE DUCT ACCESS DOORS, WHERE INSTALLED IN INACCESSIBLE LOCATIONS, PROVIDE CEILING/WALL ACCESS PANELS. PANELS LOCATED IN RATED ASSEMBLIES SHALL BEAR A UL RATING. COORDINATE LOCATION OF SUCH ACCESS WITH ARCHITECT PRIOR TO INSTALLATION.

17. PROVIDE MEANS OF TEST AND BALANCE IN ALL TAKE OFF FITTINGS OF SUPPLY EXHAUST, RETURN SYSTEMS AND AT EACH POINT WHERE A BRANCH SERVES TWO OR MORE GRILLES, WHETHER SHOWN ON THE PLANS OR NOT.

18. WHERE CONFLICTS BETWEEN LIGHT SWITCHES AND THERMOSTAT/HUMIDISTAT LOCATIONS, THE LIGHT SWITCH TAKES PRECEDENCE. CONTROLLERS SHALL BE MOUNTED ADJACENT AND WITHIN 48" AFF.

19. PRODUCE MANUFACTURER'S INSTALLATION INSTRUCTION AT INSPECTION PER FBC-M304.1:

19.1. SPLIT A/C EQUIPMENT: LENNOX, TRANE, CARRIER, DAIKIN
 19.2. AIR DISTRIBUTION: PRICE, METALAIR, TITUS
 19.3. FANS: PENNBERRY, GREENHECK, BROAN, PANASONIC, COOK

DESIGN CRITERIA

BUILDING TYPE GROUP B, BUSINESS

CLIMATE ZONE 2A, LEON COUNTY, FLORIDA

OUTDOOR DESIGN CONDITIONS (SUMMER) 95 DEG Fdb, 77 DEG Fwb
 OUTDOOR DESIGN CONDITIONS (WINTER) 20 DEG Fdb

INTERIOR DESIGN CONDITIONS 75 DEG F COOLING, 72 DEG F HEATING

ENERGY COMPLIANCE METHOD ENERGY COST BUDGET

CONDENSATE PIPING

1. CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS.

2. ALL CONDENSATE DRAIN PIPE SYSTEMS SHALL HAVE A BUILT TRAP AT EACH PIECE OF EQUIPMENT PER DETAILS.

3. ALL LINES SHALL BE INSULATED WITH 1/2" ARMAFLEX FROM EQUIPMENT TO APPROVED DISPOSAL POINT OR OUTSIDE AT GRADE IN COMPLIANCE WITH FBC-M 307.2.1. OUTSIDE DISPOSAL AT EARTH SHALL BE MINIMUM 1 FOOT AWAY FROM BUILDING STRUCTURE AND FOUNDATION.

4. TRAP AIR CONDITIONING CONDENSATE AND RUN TO LOCATION SHOWN ON PLANS. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIRST 12" OF CONDENSATE PIPE, INCLUDING TRAP. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDENSATE PIPE AFTER 12" OF PIPE FROM THE UNIT, UP TO AND INCLUDING CONDENSATE TERMINATION.

5. COVER ALL EXTERIOR CONDENSATE LINES WITH ALUMINUM JACKET, INSTALLED TO SHED WATER AND SECURED WITH STAINLESS STEEL BANDS 12" O.C.

6. IF OTHERWISE UNSPECIFIED, TERMINATE CONDENSATE INTO STORM CONNECTION, OR ARCHITECT-APPROVED GRAVEL OR GREEN PATCH AT LEAST 12" AWAY FROM BUILDING.

7. PROVIDE CONDENSATE SAFETY SWITCH AND UNIT SHUTOFF SEQUENCE IN THE EVENT OF CONDENSATE OVERFLOW OR BACKUP.

8. CONDENSATE DRAIN SIZING (PER FBC-M TABLE 307.2.2)

UP TO 20 TONS	3/4" DIAMETER
21 TO 40 TONS	1" DIAMETER
41 TO 90 TONS	1 1/4" DIAMETER
91 TO 125 TONS	1 1/2" DIAMETER
126 TO 250 TONS	2" DIAMETER

251 AND ABOVE SIZED BASED ON ACTUAL FLOW

MECHANICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
MO.1	HVAC NOTES & LEGENDS
MT.1	FLOOR PLAN - DEMO - HVAC
MT.2	FLOOR PLAN - RENO - HVAC
MS.1	HVAC DETAILS
MS.2	HVAC DETAILS
MS.1	HVAC SCHEDULES

GENERAL NOTES

1. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR ANY MISUSE AND/OR MISREPRESENTATION OF THIS SET OF DOCUMENTS.

2. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE USE OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL MAKE THEMSELVES AWARE OF PROJECT CONDITIONS AND OWNER REQUIREMENTS PRIOR TO PROCUREMENT OF EQUIPMENT AND SERVICES. CHANGES IN PROJECT COST WILL NOT BE GRANTED DUE TO FIELD CONFLICTS AND/OR PROJECT CONDITIONS.

3. THIS SET OF DRAWINGS AND SPECIFICATIONS SHALL NOT BE CONSIDERED A SET OF CONSTRUCTION DOCUMENTS UNLESS A SIGNATURE AND DATE ARE AFFIXED TO THE DRAWINGS AND SPECIFICATIONS BY THE ENGINEER OF RESPONSIBLE CHARGE OF THE GIVEN DISCIPLINE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED UNLESS EMBOSSED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ELECTRONIC COPIES.

4. CONFLICTS BETWEEN THIS SET OF DRAWINGS AND THE CONTRACT SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER OF RECORD. THE CONTRACTOR DOES NOT HAVE THE AUTHORITY TO INTERPRET CONFLICTS AND RESOLVE ISSUES WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF RECORD.

5. ANY CONFLICTS IN THE FIELD OR WITHIN THESE DOCUMENTS SHALL BE RECORDED AND PROVIDED TO THE ENGINEER OF RECORD ON THE CONTRACTOR'S STANDARD LETTERHEAD. WRITTEN DIRECTION RESOLVING CONFLICT WILL BE ISSUED BY THE ENGINEER OF RECORD.

6. PRIOR TO INSTALLATION, COORDINATE AND ADJUST THE FINAL LOCATION OF ALL WALL MOUNTED DEVICES AND EQUIPMENT WITH ALL CASEWORK, SHELVING OR OTHER WALL MOUNTED FURNISHINGS.

7. PLANS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO SHOW THE GENERAL SCOPE OF THE WORK TO BE PERFORMED. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DIMENSIONS.

8. DUE TO THE SMALL SCALE OF THE DRAWINGS, AND TO UNFORESEEN JOB CONDITIONS, ALL REQUIRED OFFSETS, TRANSITIONS AND FITTINGS MAY NOT BE SHOWN BUT SHALL BE PROVIDED AT NO ADDITIONAL COST.

9. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND EXISTING EQUIPMENT TO ENSURE THE EQUIPMENT SPECIFIED WILL WORK FOR THE SPACES PROVIDED. FINAL DIMENSIONS OF SYSTEMS SHOWN ON THESE PLANS SHALL BE COORDINATED IN THE FIELD. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROVIDING OFFSETS AND TRANSITIONS TO FIT IN SPACES PROVIDED AND AT NO COST TO THE OWNER.

10. THE CONTRACTOR IS RESPONSIBLE FOR ANY SPECIAL REQUIREMENTS IN INSTALLING EQUIPMENT IN THE BUILDING. DISMANTLING AND REASSEMBLING OF ANY EQUIPMENT SHALL BE DONE AS REQUIRED TO BRING INTO THE BUILDING AND EQUIPMENT ROOMS.

11. ALL WORK PERFORMED AS PART OF THIS PROJECT SHALL BE PERFORMED BY EXPERIENCED TRADESMEN WHO ARE TRAINED, EXPERIENCED, AND SKILLED IN THE TASKS INCIDENTAL TO THE PROJECT.

12. ALL WORK SHALL COMPLY WITH APPLICABLE OSHA AND EPS REGULATIONS AND GUIDELINES.

13. THE CONTRACTOR PERFORMING WORK ON THIS PROJECT WILL BE RESPONSIBLE FOR REGULARLY CLEANING THE WORK AREA OF ANY DEBRIS ASSOCIATED WITH THE WORK BEING PERFORMED. THE SITE SHALL BE CLEAR OF ALL CONSTRUCTION DEBRIS AT THE COMPLETION OF THE JOB, BEFORE FINAL PAYMENT IS MADE.

14. REASONABLE PRECAUTIONS SHALL BE MADE FOR SAFETY AND HEALTH INCLUDING BUT NOT LIMITED TO WARNING SIGNS, SAFETY PRECAUTIONS, AND BARRICADES FOR PEDESTRIANS.

15. COORDINATE ALL DEMOLITION, CLEANING, AND CONSTRUCTION WORK. CONTRACTOR SHALL PROVIDE OWNER A FULL CONSTRUCTION SCHEDULE.

16. CONTRACTOR SHALL BE HELD TO PROVIDED SCHEDULE. THEY SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT MANPOWER AND EQUIPMENT TO COMPLETE THE WORK IN THE TIME INDICATED.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SECURITY OF ALL EQUIPMENT AND MATERIALS. THE LOCATION OF STORAGE SHALL BE RESTRICTED SPECIFICALLY TO THE AREA ALLOTTED BY THE OWNER.

18. ALL ITEMS INSTALLED UNDER THE SCOPE OF THIS PROJECT SHALL BE NEW, CLEAN, AND FREE OF DEFECTS.

19. IF DRAWING CHANGES ARE NEEDED FOR INSPECTION DUE TO FIELD CHANGES MADE BY THE CONTRACTOR WITHOUT PRIOR APPROVAL OF THE ENGINEER AND AGREED UPON TERMS, THEN THE CONTRACTOR SHALL PAY HOURLY RATES TO THE ENGINEER OF RECORD FOR MAKING NECESSARY CHANGES.

20. SUPPORTS, HANGERS, WIRING, AND PIPING SHALL BE INSTALLED IN A NEAT FASHION AND IN AN ORDERLY APPEARANCE.

21. ALL ROOF EQUIPMENT SHALL BE SECURED TO STRUCTURE TO RESIST A 120 MPH WIND LOAD.

22. PROTECT THE ROOF FROM DAMAGE WHENEVER ANY WORK ON THE ROOF IS REQUIRED.

23. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL PARTITIONS LABELED WITH A SPECIAL LISTING ON THE ARCHITECTURAL PLANS. THIS INCLUDES FIRE, SMOKE ACOUSTICAL AND OTHER UL WALL OR CEILING ASSEMBLIES.

24. STRUCTURAL PENETRATIONS INCLUDING BUT NOT LIMITED TO WALL, FLOOR, OR BEAM SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. ALL BEAM SLEEVES AND REINFORCING APPROVED BY STRUCTURAL ENGINEER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

25. CONTRACTOR SHALL GUARANTEE THE WORK AND MATERIALS FOR PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL BE IN ADDITION TO THE WARRANTIES PROVIDED BY THE MATERIAL SUPPLIES AND MANUFACTURERS.

26. VALUE ENGINEERING OR CHANGES TO PLANS MUST BE APPROVED BY THE ENGINEER OF RECORD AND RESUBMITTED THROUGH THE BUILDING DEPARTMENT PRIOR TO BEING INSTALLED.

NOT FOR CONSTRUCTION

REVISIONS

NO.	DESCRIPTION	DRAWN	CHECKED	DATE
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PHASE	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN	REGII	REGII	05/02/24
DESIGN DEVELOPMENT	REGII	REGII	05/14/24
90% CONSTRUCTION DOCUMENTS	KRW	BK	06/28/24
CONSTRUCTION DOCUMENTS			
BID SET			
PERMIT DOCUMENTS			

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 FL CA 28968

PROJECT:
 FLORIDA A&M UNIVERSITY
 RATTLER POINT
 WASH HOUSE BUILD OUT DESIGN

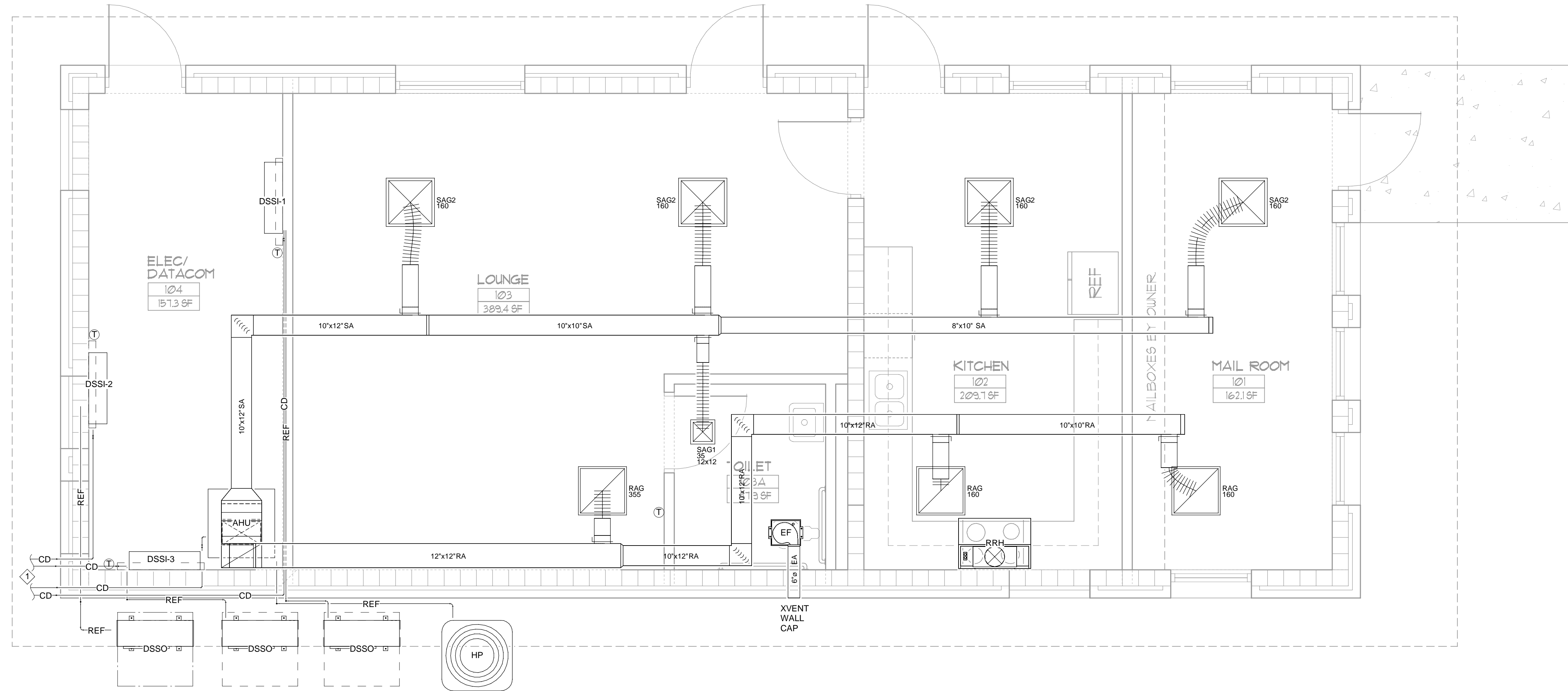
TALLAHASSEE, FLORIDA
 SHEET TITLE:
 HVAC NOTES & LEGENDS

SHEET NUMBER:
 MO.1

HVAC GENERAL NOTES

1. CONTRACTOR SHALL ROUTE NEW DUCTS WITHIN CEILING SPACE UNDER AND AROUND SECOND FLOOR.
2. NEW DUCT WORK SHALL USE SHEET METAL DUCTS. NO DUCTBOARDS SHALL REMAIN.
3. CONTRACTOR SHALL PROVIDE ALL NEW GRILLES WHERE SHOWN ON FLOOR PLAN.
4. CONTRACTOR SHALL VENT DRYER EXHAUST UP TO ROOF WITH ROOF CAP AND INSECT SCREEN.

MECHANICAL RENOVATION KEYED NOTES	
1	SEND CONDENSATE TO DRYWELL.



1 HVAC RENOVATION FLOOR PLAN
Scale: 3/8" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DRAWN	CHECKED
1			

PHASE			
NO.	DESCRIPTION	DRAWN	CHECKED
1	SCHEMATIC DESIGN	REGII	REGII
2	DESIGN DEVELOPMENT	REGII	REGII
3	90% CONSTRUCTION DOCUMENTS	KRW	BK
4	CONSTRUCTION DOCUMENTS		
5	BID SET		
6	PERMIT DOCUMENTS		

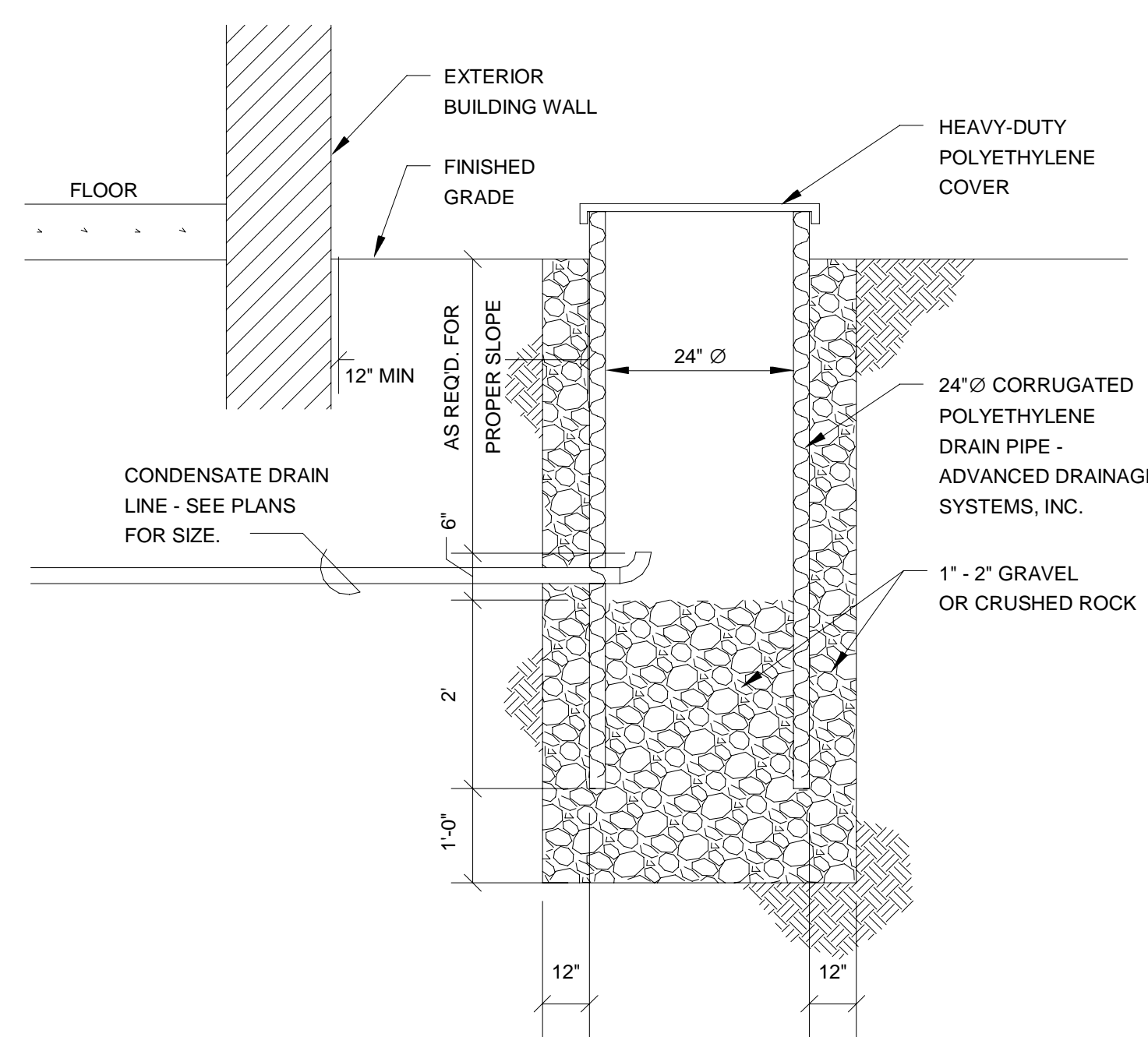
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Commission Number: 24852

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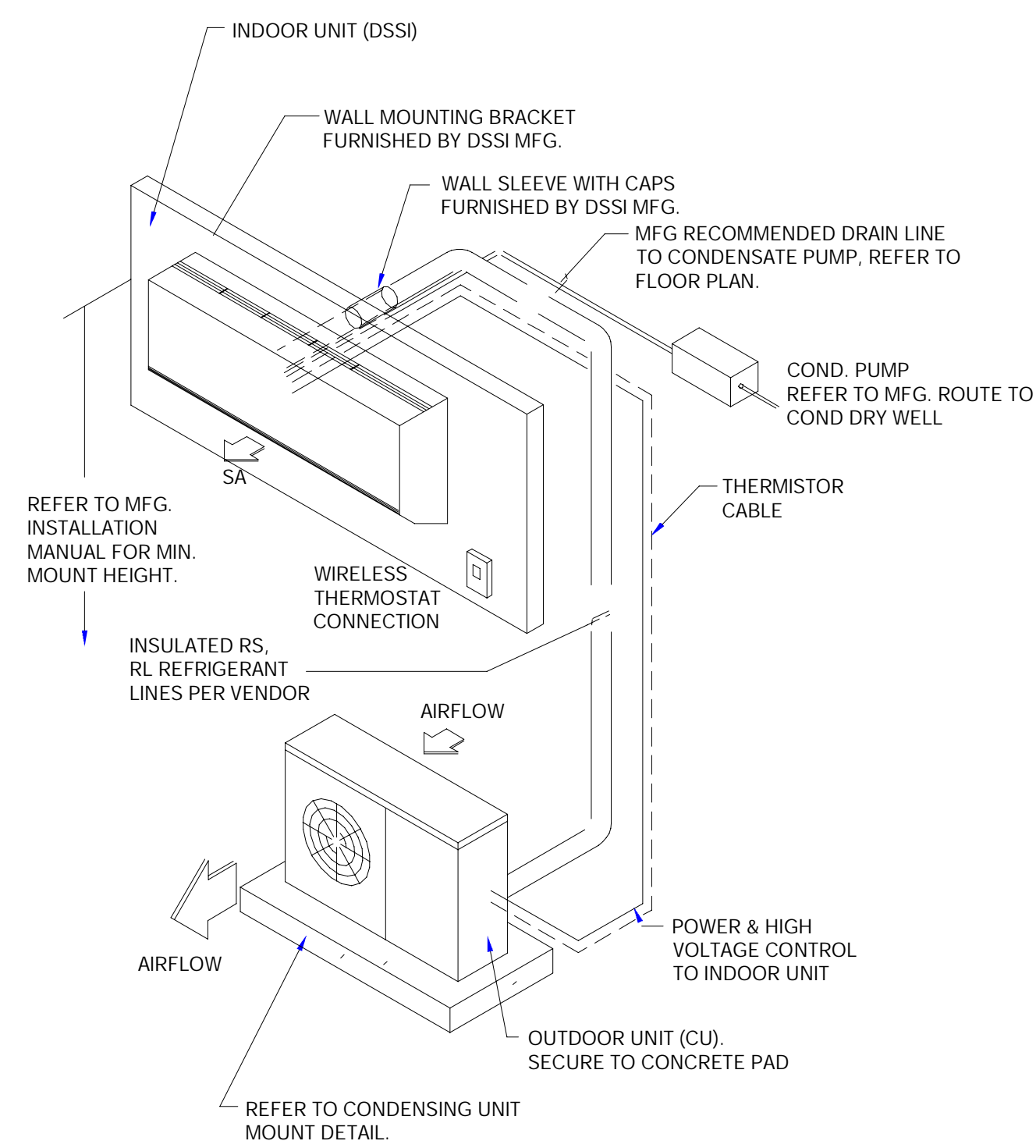
PROJECT:
FLORIDA A&M UNIVERSITY
RATTLER POINT
WASH HOUSE BUILD OUT DESIGN
TALLAHASSEE, FLORIDA

SHEET TITLE:
FLOOR PLAN - RENO
- HVAC

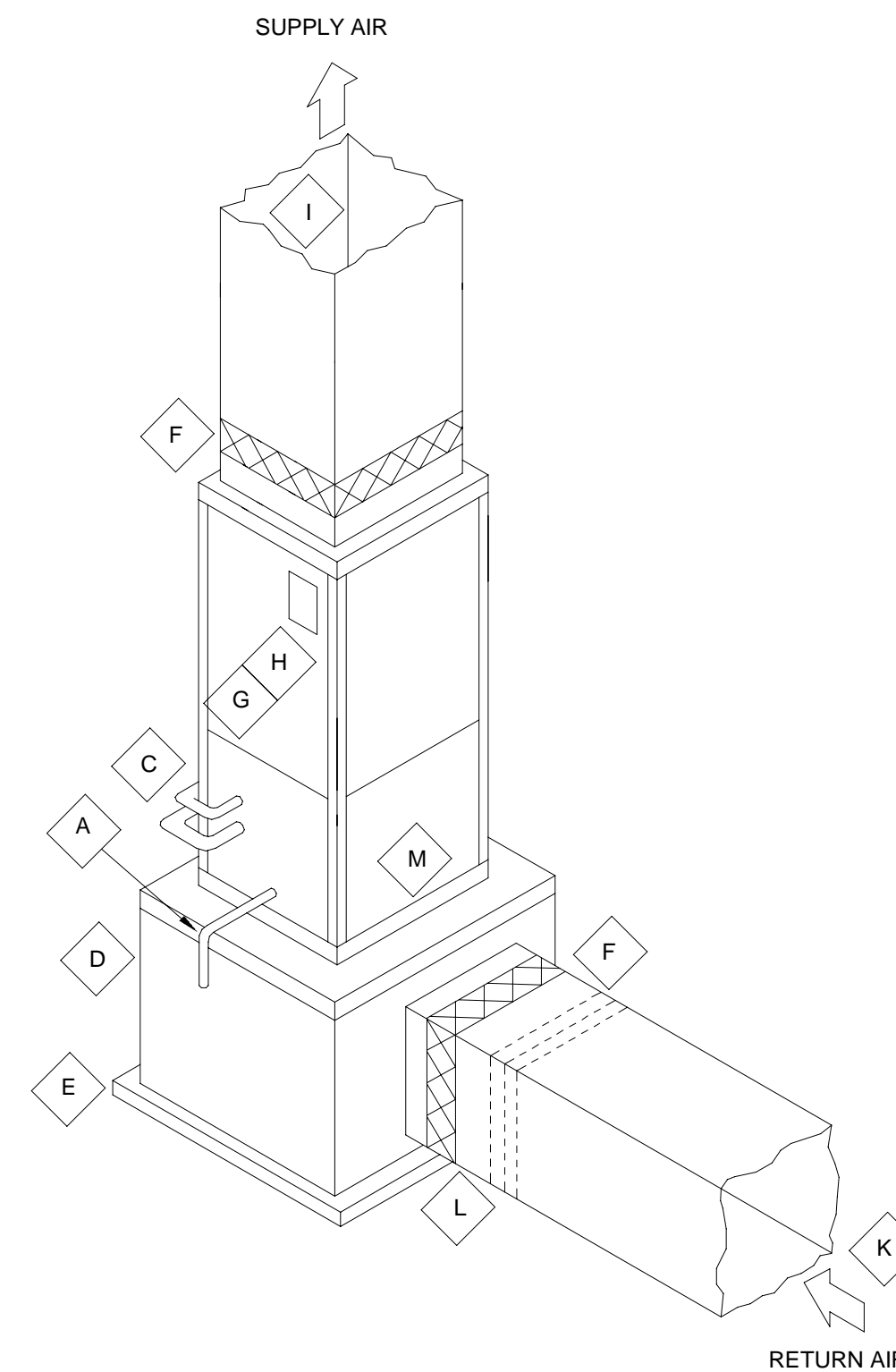
SHEET NUMBER:
MI.2



1 CONDENSATE DRY WELL DETAIL
M5.1 SCALE: NTS

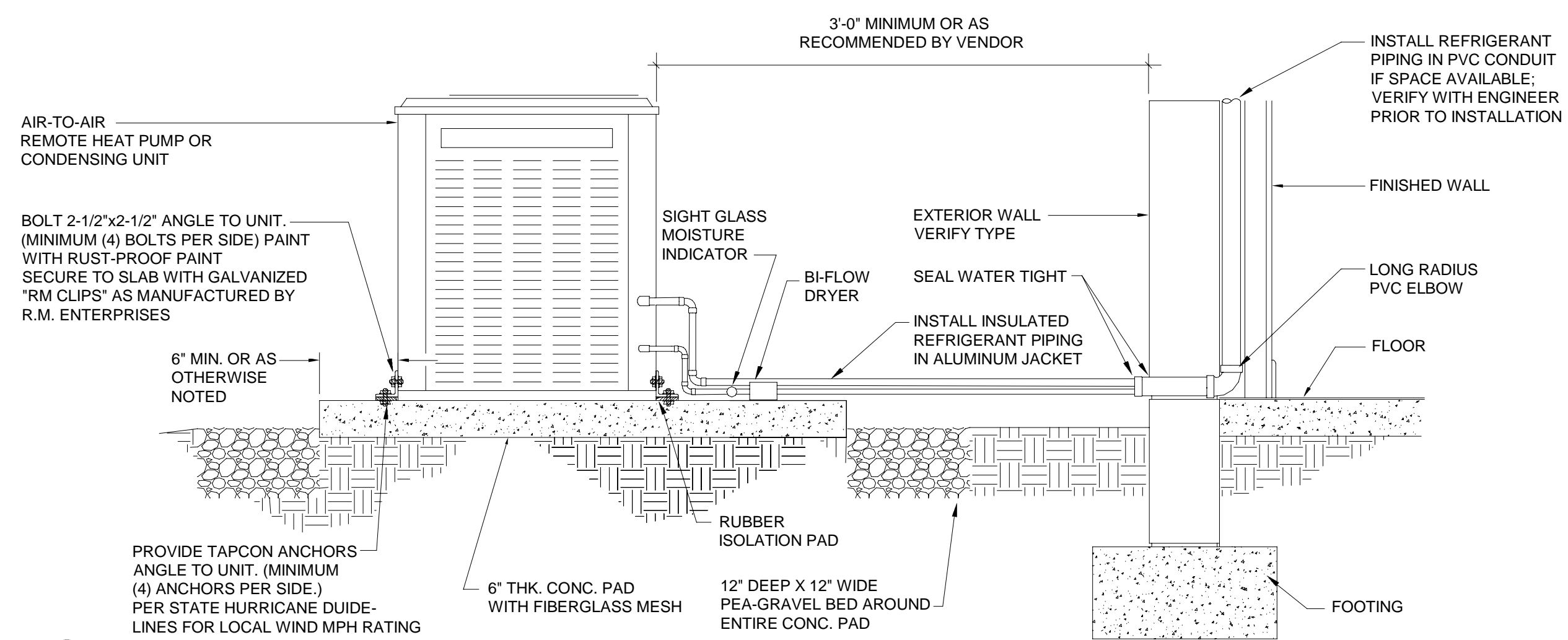


2 MINI SPLIT WALL HUNG DETAIL
M5.1 SCALE: NTS

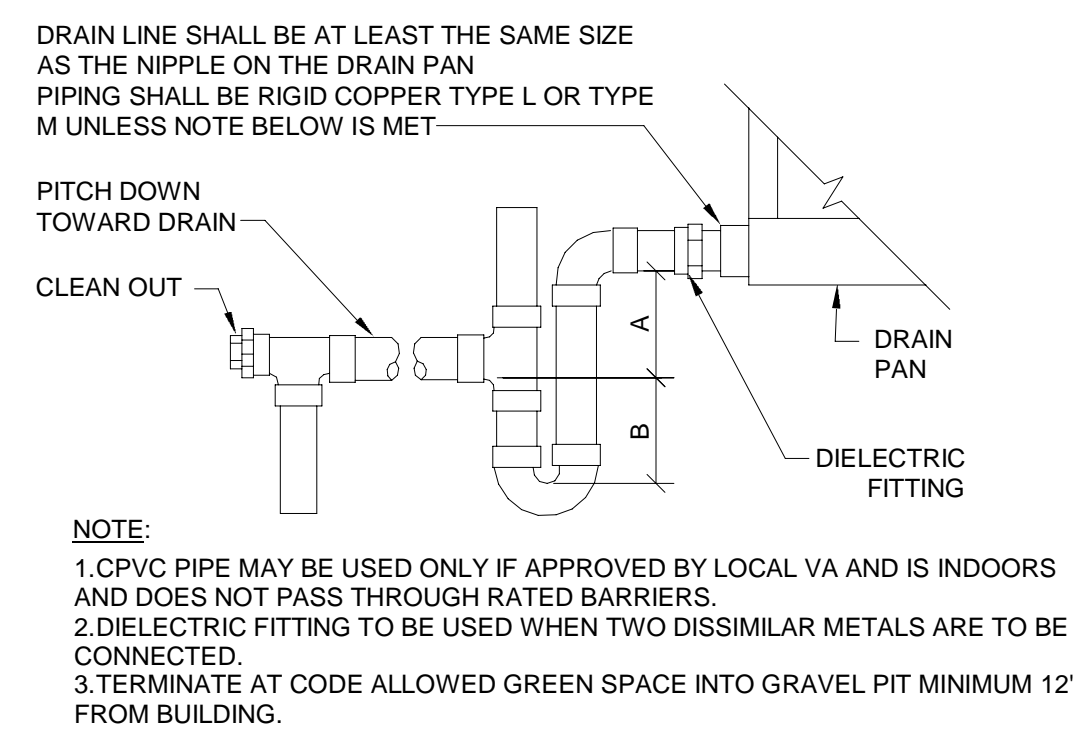


3 UP FLOW VERTICAL AIR HANDLING UNIT WITH ATTACHED DUCT SYSTEM DETAIL
M5.1 SCALE: NTS

- A. INSTALL CONDENSATE AS INDICATED IN DETAIL WITH INSULATED DRAIN & CLEANOUT; ROUTE TO EARTH AREA, STORM DRAIN, DRY-WELL, OR FLOOR DRAIN AS SO NOTED IN DRAWINGS.
- B. RESERVED.
- C. ROUTE REFRIGERANT LINES TO MATCHING HP UNIT; SEE SPEC'S, DRAWINGS & PIPING SCHEMATIC FOR REQUIREMENTS.
- D. AHU TO BE MOUNTED ON STEEL ANGLE STAND WITH SEALED METAL PLENUM BOX; BOX TO BE LINED WITH 1" ARMACELL AP-COILFLEX ELASTOMERIC CLOSED CELL FOAM WITH MICROBAN COATING.
- E. MOUNT UNIT & PLENUM BOX ON NEOPRENE/CORK PAD COVERING ENTIRE BASE AS SHOWN; AHU'S SHALL HAVE AUX. DRAIN PANS UNDER SYSTEM WITH WATER DETECTION DEVICE & SECONDARY DRAIN PER CODE.
- F. FLEXIBLE DUCT CONNECTOR.
- G. UL APPROVED BREAKER OR DISCONNECT FOR FAN & HEATER IN COMPLIANCE WITH NEC CODE & LOCAL REQUIREMENTS.
- H. 2" MERV 13 AIR FILTER & RACK; SEE SPEC'S FOR ADDITIONAL INFORMATION & REQUIREMENTS.
- I. SUPPLY AIR DUCT WITH 1" ARMACELL AP-COILFLEX ELASTOMERIC CLOSED FOAM FIRST FIVE FEET & EXTERNAL INSULATION.
- J. RESERVED.
- K. BUILDING RETURN AIR DUCT; DUCT TO BE INSULATED WITH EXTERIOR INSULATION.
- L. BALANCING DAMPER IF REQUIRED.
- M. AIR HANDLING UNIT; SEE SCHEDULES, SPEC'S & DRAWINGS FOR ADDITIONAL REQUIREMENTS.



4 CONDENSING/HEAT PUMP UNIT OUTDOOR INSTALLATION DETAIL
M5.1 SCALE: NTS



DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE DRAIN PAN
PIPING SHALL BE RIGID COPPER TYPE L OR TYPE M UNLESS NOTE BELOW IS MET

PITCH DOWN TOWARD DRAIN
CLEAN OUT
DRAIN PAN
DIELECTRIC FITTING

NOTE:
1. CPVC PIPE MAY BE USED ONLY IF APPROVED BY LOCAL VA AND IS INDOORS AND DOES NOT PASS THROUGH RATED BARRIERS.
2. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.
3. TERMINATE AT CODE ALLOWED GREEN SPACE INTO GRAVEL PIT MINIMUM 12' FROM BUILDING.

UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

5 AHU DRAIN TRAP
M5.1 SCALE: NTS

NOT FOR CONSTRUCTION

REVISIONS				
NO.	DESCRIPTION	DRAWN	CHECKED	DATE
1				--/--

PHASE			
	DRAWN	CHECKED	DATE
SCHEMATIC DESIGN	REGII	REGII	05/02/24
DESIGN DEVELOPMENT	REGII	REGII	05/14/24
90% CONSTRUCTION DOCUMENTS	KRW	BK	06/28/24
CONSTRUCTION DOCUMENTS			
BID SET			
PERMIT DOCUMENTS			

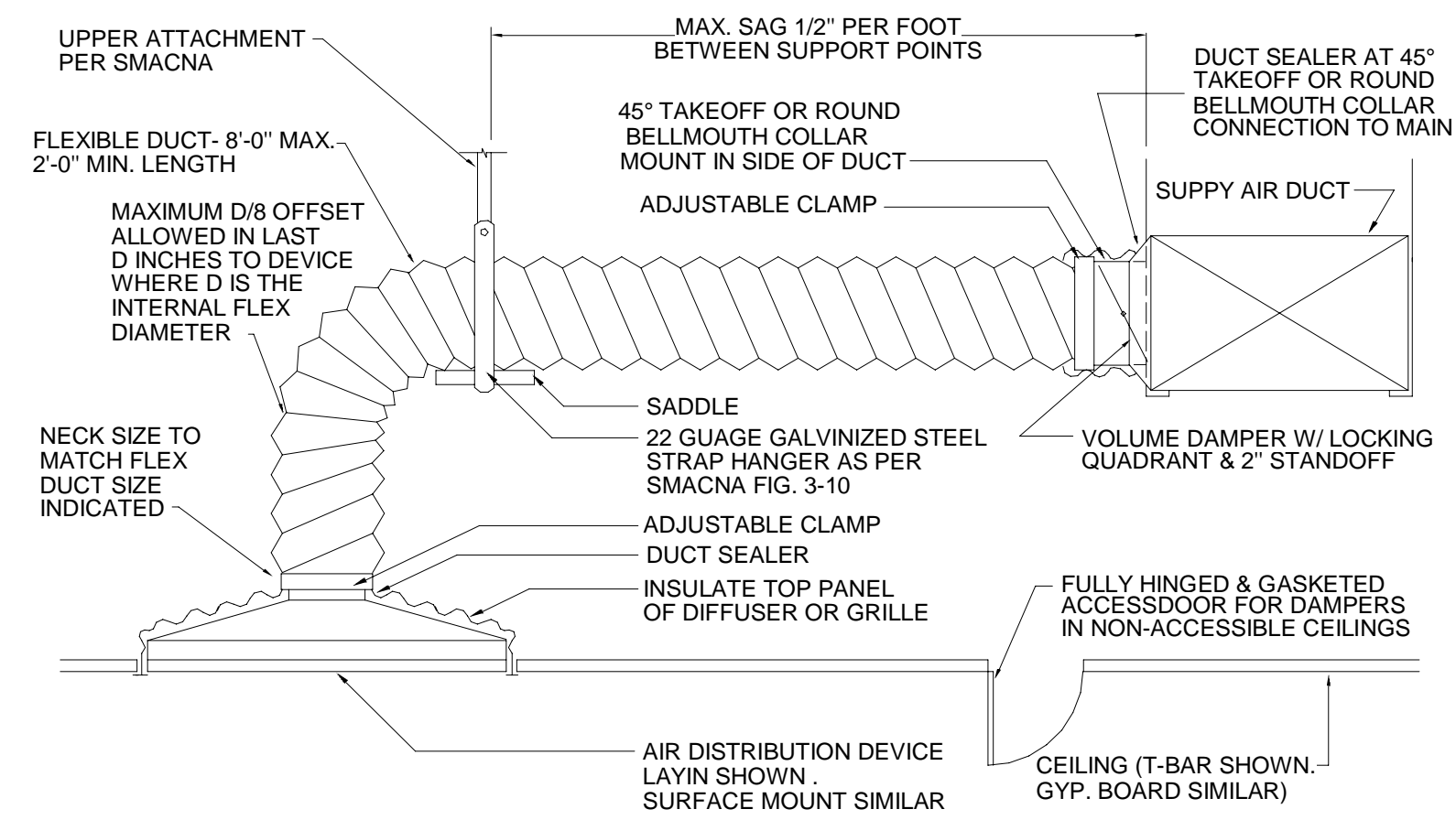
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2551 BLAKESTONE PINES DR.
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FL CA 28968

PROJECT:
FLORIDA A&M UNIVERSITY
RATTLER POINT
WASH HOUSE BUILD OUT DESIGN
TALLAHASSEE, FLORIDA

SHEET TITLE:
HVAC DETAILS

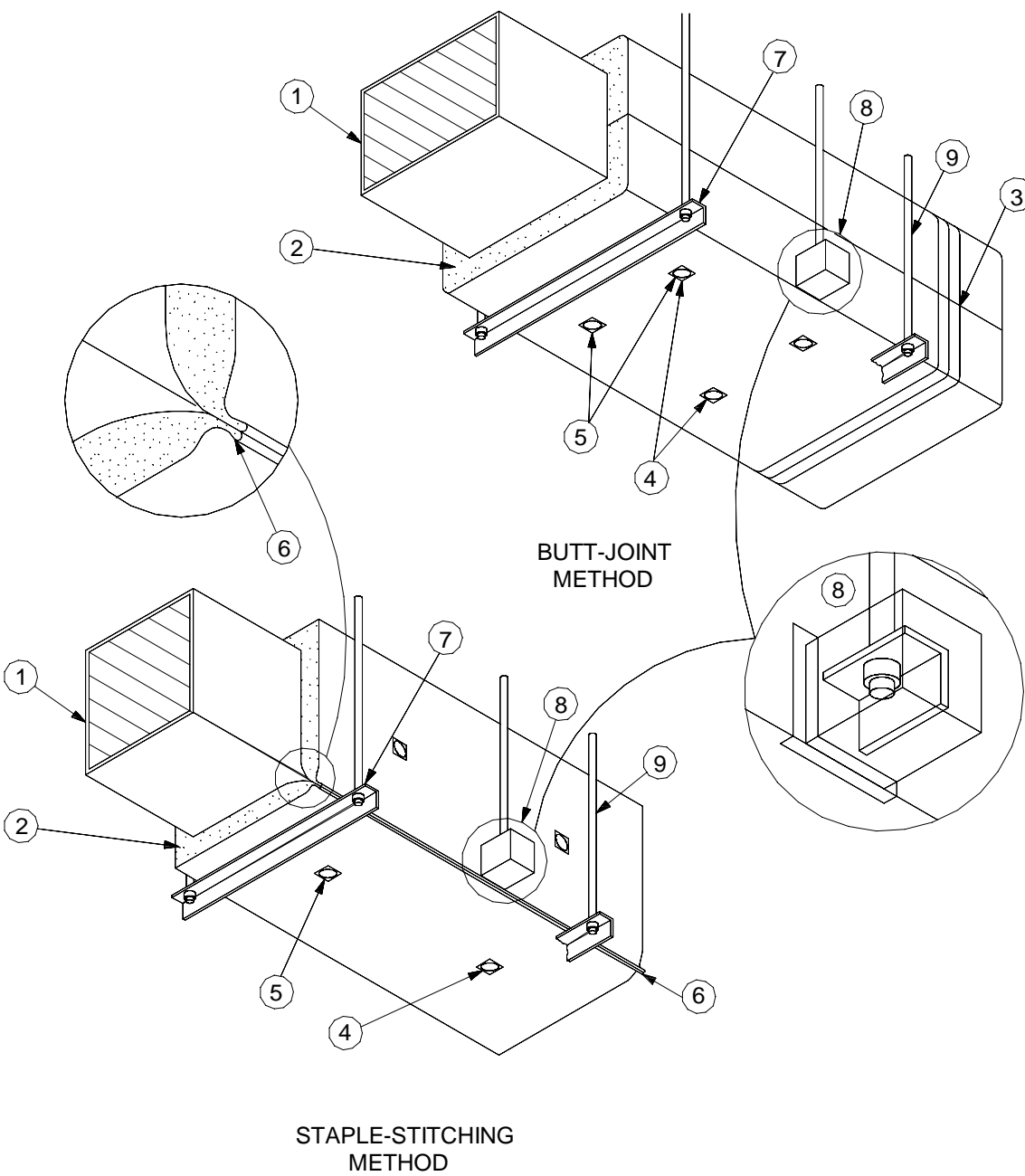
SHEET NUMBER:
M5.1



NOTES:

1. FLEXIBLE DUCTS SHALL BE ONE PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. FLEXIBLE AIR DUCT SHALL NOT EXCEED 8 FT. WHEN EXTENDED. ELBOW RADIUS SIZED FOR NO LESS THAN $R/D = 1.0$.
4. FLEXIBLE AIR DUCT SHALL NOT BE LESS THAN 5 FEET FOR ACOUSTICAL PURPOSES.

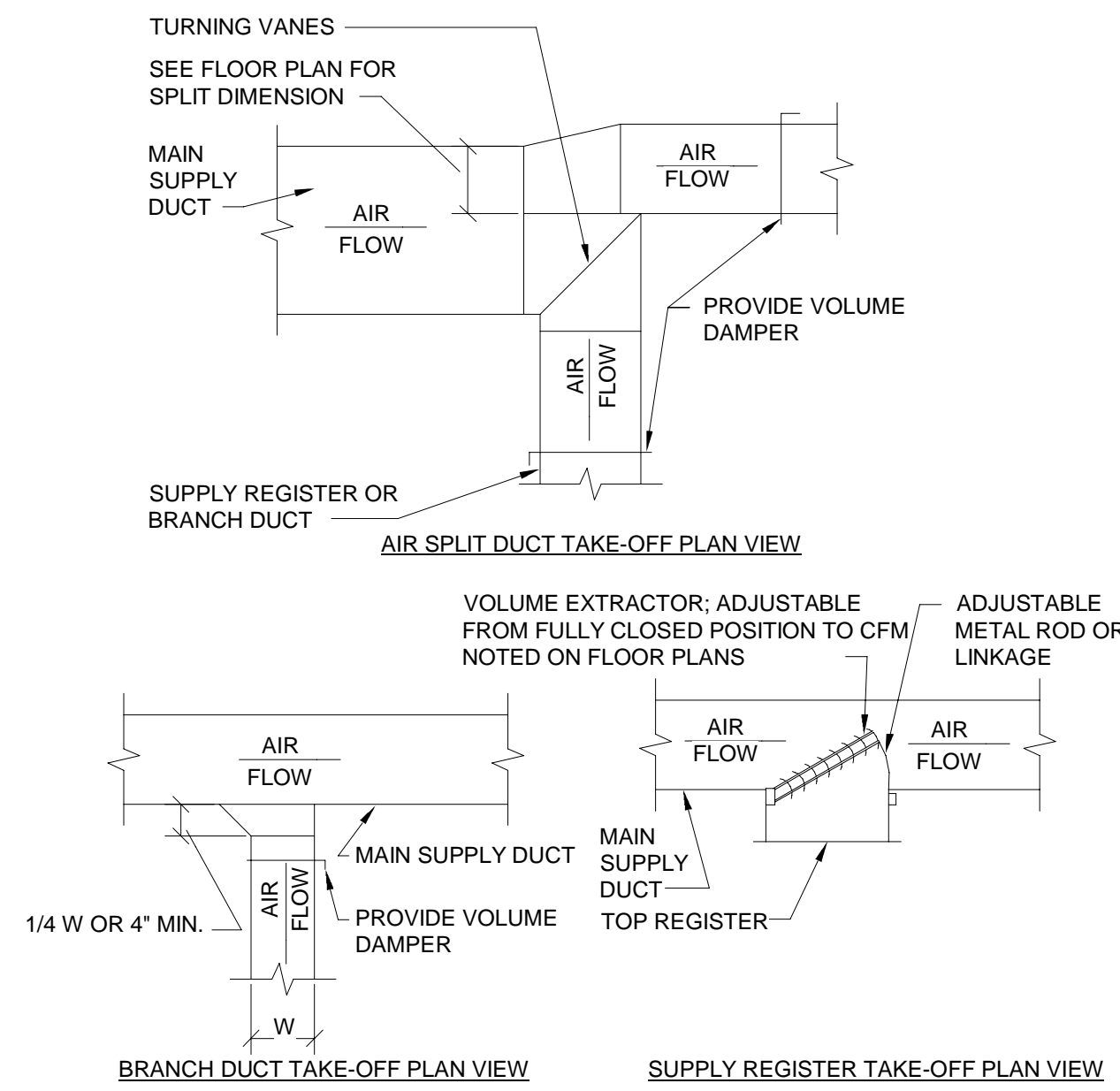
1 FLEXIBLE DUCT TAKEOFF DETAIL
SCALE: NTS



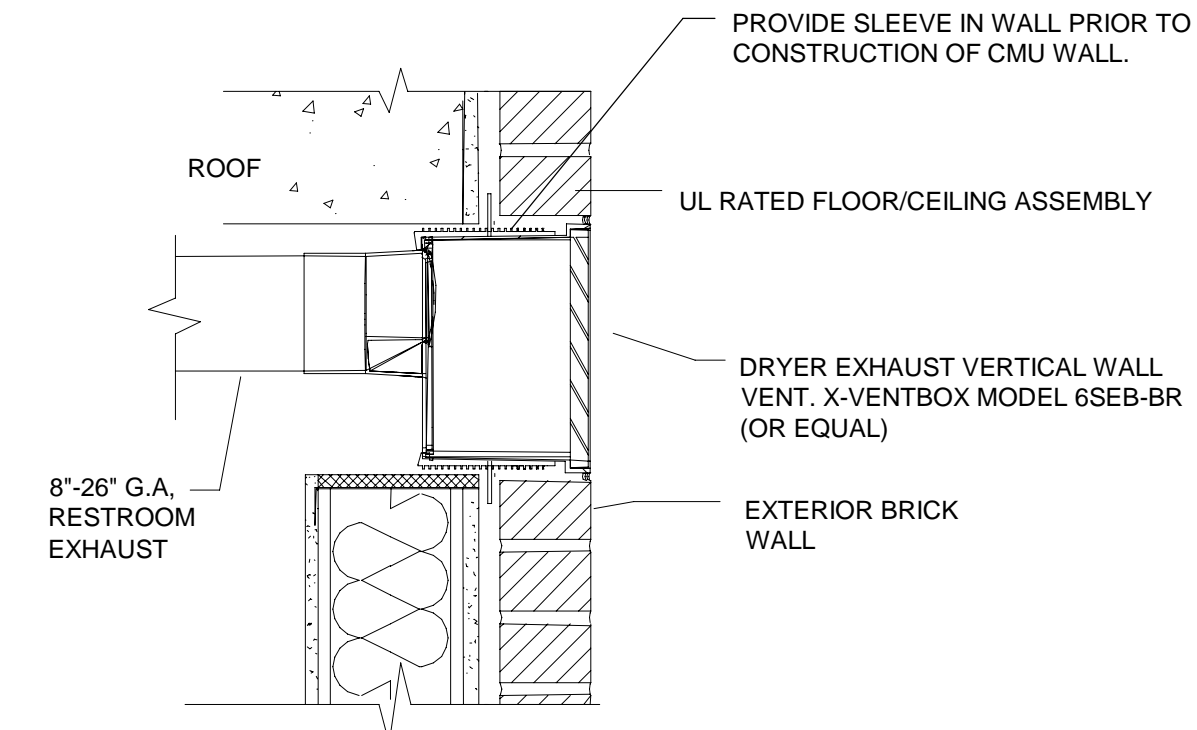
NOTES:

- 1 GALVANIZED METAL DUCT WITH SEALED SEAMS AND JOINTS USING PS-S POLY TYPE NO.P-301 PRODUCT.
- 2 BLANKET INSULATION WITH FACTORY-APPLIED VAPOR-RETARDER JACKET, 2" THICK R-6, 3/4 LB. CU. FT. DENSITY.
- 3 FACTORY LAP ALL SEALS (SEALED WITH ADHESIVE AND/OR STAPLES AND VAPOR-RETARDER TAPE). TAPE ALL JOINTS WITH FASON (SMANCA) ALUMINUM REINFORCED PRESSURE SENSITIVE TAPE; COAT EDGES, SEAMS, AND JOINTS WITH INSUL-ACOUSTIC PRODUCT BY "SURE-COAT" M1-110" PRODUCT FIRE RESISTANT MASTIC.
- 4 MECHANICAL FASTENERS SUPPORTING INSULATION ON UNDERSIDE OF DUCTS OVER 24" WIDE (SPACED 3" MAXIMUM FROM THE BUTT JOINT).
- 5 VAPOR-RETARDER TAPE OVER TEARS AND PENETRATIONS OF THE VAPOR-RETARDER JACKET TO KEEP AIR TIGHT CONDITION.
- 6 ALTERNATE METHOD OF LAP SEAL - LONGITUDINAL JOINT LAPPED AND FOLDED, THEN STAPLED SECURELY IN PLACE.
- 7 HANGER ON EXTERIOR OF INSULATION. ENCAPSULATE EXPOSED END OF ANGLE. SEAL WITH ADHESIVE OR VAPOR-RETARDER TAPE.
- 8 HANGER EMBEDDED IN INSULATION. ENCAPSULATE EXPOSED END OF ANGLE. SEAL WITH ADHESIVE OR VAPOR-RETARDER TAPE.
- 9 COMPLETELY ENCAPSULATE HANGER ROD AND ANGLE. SEAL TOP PENETRATION. ENCAPSULATE AND SEAL STRAP HANGERS IN A SIMILAR MANNER.

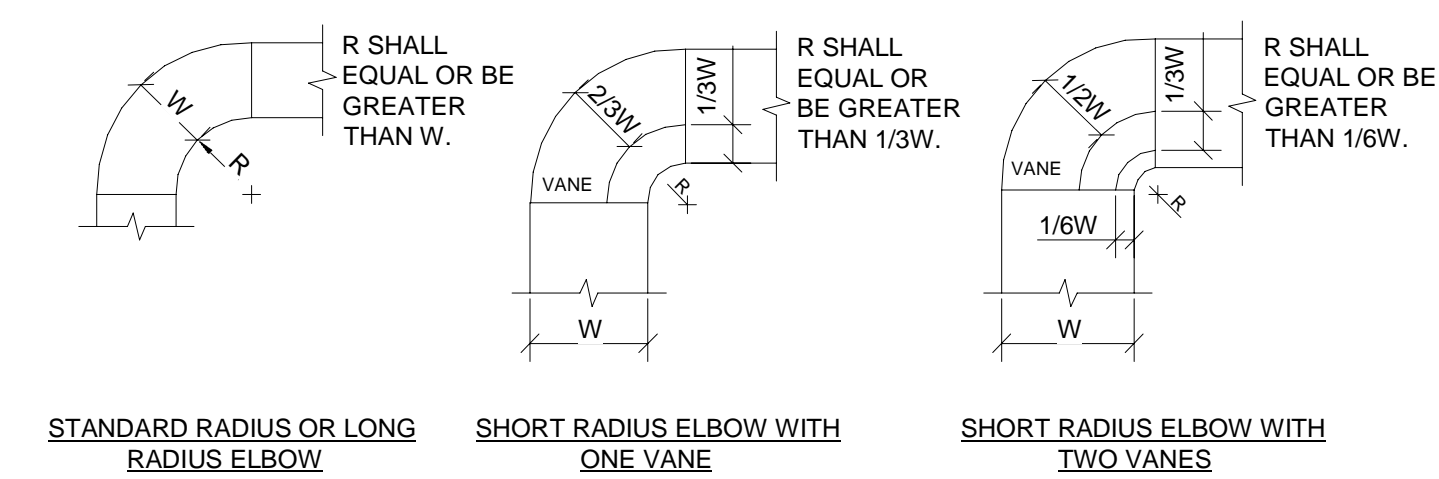
5 BLANKET FIBERGLASS INSULATION DETAIL
SCALE: NTS



2 SUPPLY DUCTWORK TAKE-OFF DETAIL
SCALE: NTS



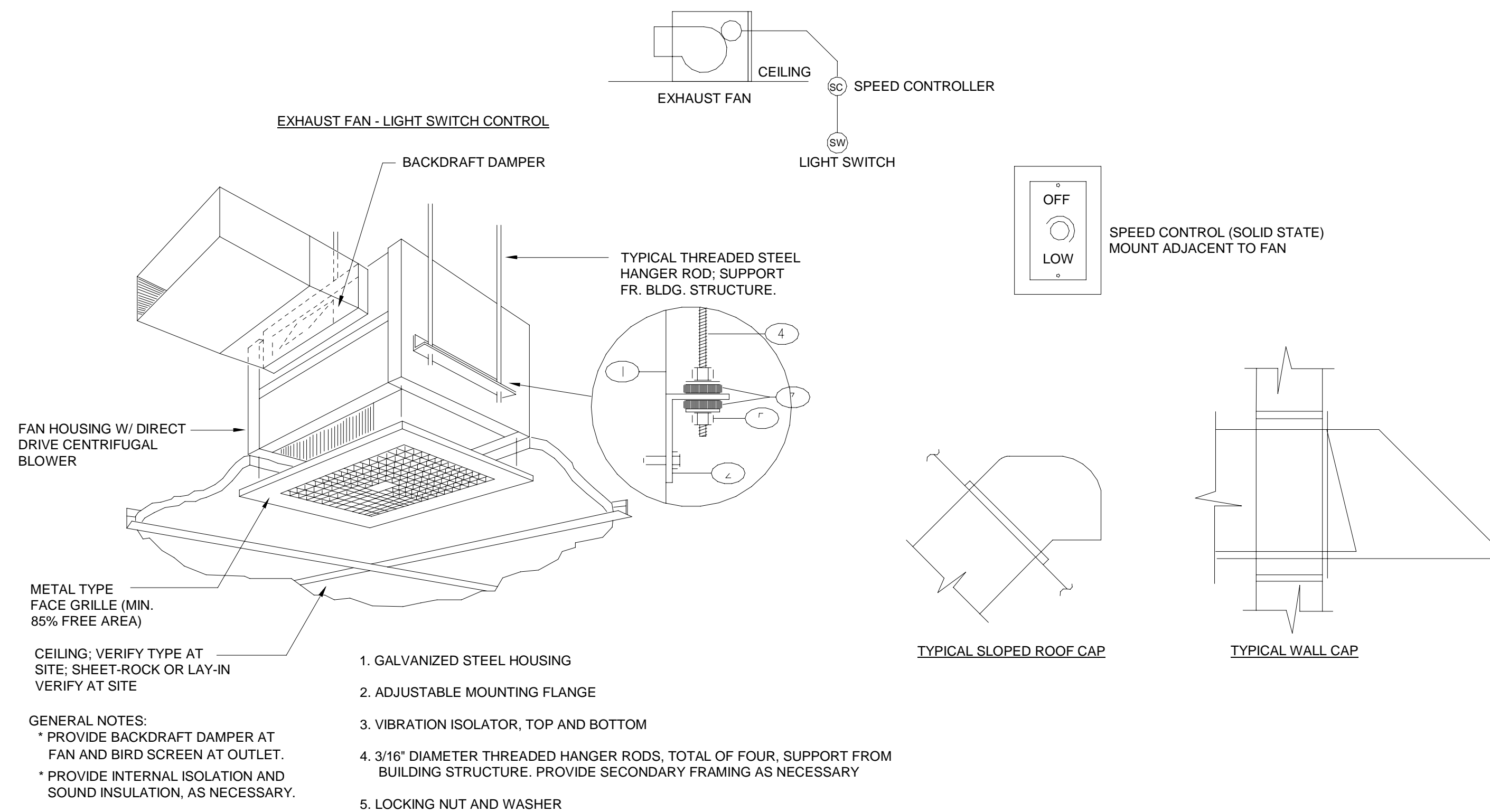
3 XVENT EXHAUST DETAIL
SCALE: NTS



NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

4 DUCTWORK RADIUS ELBOW DETAIL
SCALE: NTS



6 EXHAUST FAN DETAIL
SCALE: NTS

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DESIGN DEVELOPMENT		REGII	REGII	05/14/24
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CONSTRUCTION DOCUMENTS				
BID SET				
PERMIT DOCUMENTS				

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PROJECT: FLORIDA A&M UNIVERSITY RATTLER POINT WASH HOUSE BUILD OUT DESIGN
TALLAHASSEE, FLORIDA
SHEET TITLE: HVAC DETAILS

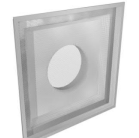


SHEET NUMBER: M5.2


AIR HANDLER SCHEDULE														
MARK	MFG	MODEL	MATCHING UNIT	TOTAL CFM	OA CFM	EXT. SP (IN WG)	MOTOR HP	EAT (DB/WB)	LAT (DB/WB)	AUX HEATER	VOLTAGE/ PHASE	MIN. CIRCUIT AMPACITY	MAX FUSE AMPS	REMARKS
AHU	LENNOX	25A48	HP	675	0	0.50 in-wg	0.5	80 °F/67 °F	55 °F/54 °F	5000 W	208 V/1	27	30	1-3
DSSI-1	LG	LSN090HSV5	DSSO	200	0	0.00 in-wg	0	80 °F/70 °F	55 °F/54 °F	0 W				4
DSSI-2	LG	LSN090HSV5	DSSO	200	0	0.00 in-wg	0	80 °F/70 °F	55 °F/54 °F	0 W				4
DSSI-3	LG	LSN090HSV5	DSSO	200	0	0.00 in-wg	0	80 °F/70 °F	55 °F/54 °F	0 W				4, 5

REMARKS:
 1. INSTALL WITH MERV13 FILTER, MANUFACTURER'S THERMOSTAT, & DRAIN PAN OVERFLOW SWITCH.
 2. PROVIDE SINGLE POINT POWER CONNECTION WITH INTEGRAL DISCONNECT.
 3. INCLUDE 5 KW ELECTRIC HEAT KIT, PTRAP AND ROUTE CONDENSATE TO DRYWELL.
 4. INDOOR UNIT POWERED BY OUTDOOR, COOLING ONLY UNIT. CONDENSATE TO X87-721 BLUE DIAMOND PUMP. DISCHARGE AT DRYWELL. HARDWIRED PROGRAMMABLE THERMOSTAT BY MANUFACTURER.
 5. DSSI-3 IS BACKUP IN THE EVENT 1 OR 2 MALFUNCTIONS, N+1 REDUNDANCY. SET THERMOSTAT 3 AT LEAST 3 DEGREES ABOVE THE OTHERS.

OUTDOOR UNIT SCHEDULE												
MARK	MODEL NUMBER	MATCHING UNIT	NOMINAL TON	TOTAL COOLING	SENSIBLE COOLING	TOTAL HEATING	SEER(EER)	HSPF(COP)	VOLTAGE/ PHASE	MCA	MOCP	REMARKS
DSSO	LSU090HSV5	DSSI	0.5	9000.0 Btu/h	7500.0 Btu/h	0.0 Btu/h	23.2(14.5)	10.2(3.7)	208 V/1	10 A	15 A	1-4
HP	Z3A12	AHU	2	23500.0 Btu/h	18200.0 Btu/h	13000.0 Btu/h	15.6(13.1)	7.8(3.86)	208 V/1	15 A	25 A	1-3

REMARKS:
 1. SINGLE-POINT POWER, INTEGRAL DISCONNECT.
 2. FOLLOW EQUIPMENT MANUFACTURER'S GUIDELINES FOR UNIT CLEARANCE AND REFRIGERANT LINE SIZING.
 3. COMPRESSOR SOUND BLANKET, 500-HR SALT SPRAY ON CONDENSER COILS, CRANKCASE HEATER, LOW AMBIENT KIT. SECURED FOR LOCAL WIND RATING.
 4. UNITS SHALL BE ENERGIZED BY BOTH PRIMARY AND BACKUP POWER SYSTEMS.

AIR DISTRIBUTION DEVICE SCHEDULE								
MARK	SERVICE	MFG	MODEL	CFM RANGE	NECK SIZE	FACE SIZE	DETAILS	IMAGE
RAG	RETURN	PRICE	APDDR	105-210	8"ø	2' - 0"x2' - 0"	LAYIN OR SURFACE MOUNTED; ALUMINUM MATERIAL; PERFORATED FACE; DUCTED RETURN;	
SAG1	SUPPLY	PRICE	SCD	0-100	6"ø	1' - 0"x1' - 0"	4 WAY DIRECTIONAL; LAYIN OR SURFACE MOUNTED DIFFUSER; ALUMINUM MATERIAL	
SAG2	SUPPLY	PRICE	SCD	100-250	8"ø	2' - 0"x2' - 0"	4 WAY DIRECTIONAL; LAYIN OR SURFACE MOUNTED DIFFUSER; ALUMINUM MATERIAL	

EXHAUST FAN SCHEDULE													
MARK	MANUFACTURER	MODEL NUMBER	CFM	AREAS SERVED	DRIVE TYPE	MOTOR HP	STATIC PRESSURE	LwA	SONES	UNIT WEIGHT	VOLTS/PHASE	NOTES	IMAGE
EF	LOREN COOK	GC-128	75	TOILET	DIRECT	0.1	0.20 in-wg	47	1	15	115/1	1	

REMARKS:
 1. TIE EXHAUST FAN CONTROL TO LIGHT SWITCH. PROVIDE FAN SPEED CONTROLLER AND BACKDRAFT DAMPER.

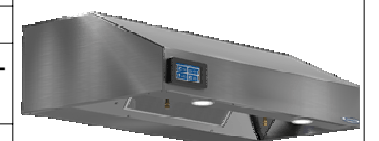
BUILDING PRESSURIZATION TABLE					
MARK	TOTAL CFM	RA CFM	EA CFM	OA CFM	AIR BALANCE
AHU	675	675	0	0	0
DSSI-1	200	200	0	0	0
DSSI-2	200	200	0	0	0
DSSI-3	200	200	0	0	0
EF	0	0	75	0	-75
RRH	0	0	0	0	0
TOTAL	1275	1275	75	0	-75

NATURAL VENTILATION REQUIREMENT SCHEDULE	
Occupied Space Name	Floor Area (ft²)
101 MAIL	163
102 KITCHEN	211
103 LOUNGE	391
103A TOILET	48
104 ELEC/MECH	158
Total	971
4% Minimum Openable Area (FBC Mech 402.2)	39

NATURAL VENTILATION FULFILLMENT SCHEDULE	
Direct Outdoor Openings	Open Area (ft²)
DOORS (3.5x6.5) x4	91
Total Openable Area	91

CONTRACTOR SELECTED ALTERNATIVE RESIDENTIAL RANGE UNDER 400CFM IS ALSO ACCEPTABLE.

RESIDENTIAL RANGE HOOD						
MARK	MAN.	MODEL	FIRE SUPPRESSION	CFM	LBS	HOOD DIMS (WxLxH)
RRH	GREENHECK	GRRS-W30TGDX	YES	250	90	23.5x30x12.5"
MANUFACTURER'S REQUIREMENTS			GAS DISCONNECT	HOOD ELEC		
TOP CONNECT	MIN DUCT SIZE	FAN CONNECT	OUTLET TYPE	VAC	BREAKER	FAN POWER
8"Ø	10"Ø	12"Ø	115VAC 5-15	115	15A	FROM HOOD
NOTES						
1. THE SYSTEM SHALL BE CONFIGURED ACCORDING TO FBC-M505.1, WITH INDEPENDENT AIR-TIGHT SMOOTH SHEET METAL DUCTS AND A BACKDRAFT DAMPER.						
2. THE SYSTEM SHALL HAVE AN EXHAUST OF 400CFM OR LESS, OR ELSE COMPLY WITH FBC-M505.2 MAKE-UP AIR REQUIREMENTS.						
3. MANUAL PULL STATION, SOURCE CUT-OFF, INTEGRAL FIRE SUPPRESSION, ALARM, GREASE FILTER, AND INLINE FAN INCLUDED.						
4. INSTALL WITH ROOF CAP, SECURE FOR WIND RATING DENOTED ON THE PROJECT NOTES PAGE.						
5. THIS SYSTEM SHALL NOT BE USED IN HEALTH OR INSTITUTIONAL FACILITIES WITHOUT RESELECTION.						
6. THE RANGE HOOD SHALL BE INSTALLED 24-36" ABOVE THE COOKING SURFACE.						



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 WASH HOUSE BUILD OUT DESIGN
 TALLAHASSEE, FLORIDA

SHEET TITLE:
 HVAC SCHEDULES

SHEET NUMBER:
 M6.1