AUTOMATIC VALVE

| GENERAL NOTES

- 1. PLANS SHALL NOT BE SCALED. PLANS INDICATE THE SCHEMATIC LAYOUT AND LOCATION OF THE MECHANICAL SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THE ELEVATION OF EXPOSED DUCTWORK SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING ANY DUCTWORK.
- 2. NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.
- THE CONTRACTOR SHALL UTILIZE A COMPLETE SET OF THE CONTRACT DOCUMENTS. THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE THE WORK WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. REVIEW AND COORDINATE THE SCOPE OF WORK TO ASSURE A COMPLETE AND FUNCTIONAL SYSTEM IS INSTALLED.
- 3. THE DIMENSIONS AND CONDITIONS SHOWN ON THE CONTRACT DOCUMENTS ARE BASED ON AVAILABLE EXISTING INFORMATION. AFTER WALLS, SLABS, AND/OR CEILINGS ARE REMOVED, VERIFY EXISTING CONDITIONS AND DIMENSIONS TO ESTABLISH DUCT, PIPING AND EQUIPMENT CLEARANCES. NOTIFY THE ARCHITECT OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- 1. NOTIFY THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE OF ANY DAMAGE TO THE EXISTING INSTALLATION BEFORE PROCEEDING WITH WORK.
- SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW AS A COMPLETE PACKAGE AND AT THE SAME TIME. WHERE MANUFACTURERS ARE LISTED IN THE PROJECT MANUAL, ONE OF THOSE MANUFACTURERS SHALL BE PROVIDED UNLESS A REQUEST FOR SUBSTITUTION HAS BEEN SUBMITTED PRIOR TO BID AND THE MANUFACTURER SUBSEQUENTLY IS LISTED AS AN ACCEPTABLE MANUFACTURER IN AN ADDENDUM. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED FOR REVIEW AND APPROVAL. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. FOR ALL EQUIPMENT, WHICH HAS BEEN SCHEDULED DIRECTLY ON THE DRAWINGS, PROVIDE WITHIN THE SUBMITTAL, A PERFORMANCE SCHEDULE FOR THE PROPOSED EQUIPMENT IN THE EXACT SAME FORMAT AS INCLUDED ON THE CONTRACT DOCUMENTS. FAILURE TO PROVIDE REQUIRED PERFORMANCE SCHEDULE WILL RESULT IN REJECTION OF THE ENTIRE SUBMITTAL. SUBMIT DRAWINGS AND CUT SHEETS FOR ALL PRODUCTS ALL AT ONE TIME. INDEX ALL ITEMS TO THE PROJECT MANUAL OR DRAWINGS AS APPLICABLE. SHOP DRAWINGS THAT DEVIATE FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL LIST ALL DIFFERENCES IN A COVER LETTER ATTACHED TO THE FRONT OF THE SUBMITTAL. ANY UNLISTED DEVIATIONS FOUND DURING REVIEW WILL RESULT IN THE REJECTION OF THE ENTIRE SUBMITTAL. FOR ITEMS REVIEWED AND MARKED "REJECTED" OR "REVISE AND RESUBMIT", ONLY ONE ADDITIONAL SUBMITTAL WILL BE REVIEWED TO VERIFY PRODUCT COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- 6. DUCTWORK, AIR DEVICES AND OTHER ITEMS OF THE AIR DISTRIBUTION SYSTEM SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND NOT FROM THE CEILING OR CEILING SUSPENSION SYSTEM. COORDINATE LOCATION OF AIR DEVICES WITH ELECTRICAL, ARCHITECTURAL, AND FIRE PROTECTION WORK. AIR DEVICES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE FROM AT LEAST TWO POINTS.
- 7. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF "SMACNA" DUCT CONSTRUCTION STANDARDS AND COMPLY WITH THE LATEST "NFPA" 90A REQUIREMENTS. ALL DUCTWORK SHALL BE LEAK TESTED BY THE TEST AND BALANCE AGENCY IN ACCORDANCE WITH SMACNA AND ASHRAE STANDARDS. SUBMIT DUCTWORK LEAKAGE TEST REPORTS COMPLETE WITH A CORRESPONDING FLOOR PLAN INDICTATING THE SECTIONS OF DUCTWORK TESTED. DUCTS WITH A LEAKAGE RATE MORE THAN 2% WILL BE REJECTED.

FABRICATE DUCTWORK TO THE FOLLOWING DUCT PRESSURE CLASS:

DUCT PRESSURE CLASS

1/2" W.G.

OPERATING PRESSURE

UP TO 1/2" W.G.

OVER 1/2" UP TO 1" W.G.

DUCTWORK SHALL BE SEALED TO:

THE FLORIDA BUILDING CODE.

APPLICABLE DUCT PRESSURE CLASS SEAL CLASS

2" W.G. AND BELOW A

ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS

- 9. SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL. SEAL ALL DUCT JOINTS WITH UL LISTED HARDCAST. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTS SHALL BE INSULATED WITH SEALED BLANKET TYPE INSULATION WITH VAPOR BARRIER (MINIMUM INSTALLED R = 6.0). DUCT INSULATION SHALL BE LABELED AND MARKED AT REQUIRED INTERVALS AS REQUIRED BY
- 10. ALL DUCT ELBOWS SHALL INCLUDE AIR FLOW DIRECTIONAL VANES AS PER "SMACNA" DUCT CONSTRUCTION STANDARDS. SPLITTER VANES SHALL BE PROVIDED IN ALL ELBOWS AND DUCT OFFSETS WITH ANGLES BETWEEN 15 DEGREE AND 90 DEGREES AS PER FIG. 2-5 OF THE SMACNA MANUAL. ALL 90 DEGREE ELBOWS SHALL HAVE TURNING VANES.
- 11. PROVIDE CONICAL SPIN—IN FITTINGS AT ALL CONNECTIONS OF ROUND SHEET METAL OR FLEXIBLE SUPPLY AIR DUCTS TO RIGID RECTANGULAR DUCT.
- 12. ALL PIPING AND/OR DUCTWORK MUST BE INSTALLED 6" AWAY FROM ANY FIRE RATED WALL.
- 13. PROVIDE ADDITIONAL DUCTWORK AND PIPING SUPPORTS ON BOTH SIDES AND WITHIN 18" OF FIRE RATED WALLS. DUCTWORK OR PIPING SHALL NOT BE SUPPORTED FROM ANY FIRE RATED WALL.
- 14. FLEXIBLE DUCTS SHALL BE FACTORY INSULATED (MINIMUM R-6) AND INCLUDE A VINYL VAPOR JACKET AND HELIX STEEL WIRE. "THERMAFLEX" TYPE M-KE OR APPROVED EQUAL. FLEXIBLE DUCT SHALL BE ATTACHED WITH THERMAFLEX STAINLESS STEEL SNAPLOCK CLAMPS. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 6'-0". SUPPORT ELBOWS USING THERMAFLEX FLEXFLOW ELBOW.
- 15. PROVIDE P-TRAPS AS PER THE DETAIL ON THE CONTRACT DOCUMENTS AT ALL CONDENSATE DRAIN LINE CONNECTIONS. SLOPE DRAIN LINES TOWARD THE POINT OF DISCHARGE (MIN 1/8"/FOOT). INSULATE CONDENSATE DRAIN LINES WITH 3/4" THICK SEAMLESS CLOSED CELL RUBBER PIPE INSULATION. CONDENSATE DRAIN LINES TO BE TYPE "K" COPPER. LINES SHALL BE ONE DIAMETER LARGER THAN THE UNIT DRAIN CONNECTION, BUT NOT LESS THAN 3/4 INCH. PROVIDE CLEANOUTS AT ALL CHANGES OF DIRECTION. THE FOLLOWING MINIMUM PIPE SIZES SHALL BE USED:

EQUIPMENT CAPACITY
UP TO 20 TONS

MINIMUM PIPE DIAMETER

- 16. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL AIR MOVING APPARATUS AND DUCTWORK. RECOMMENDED WIDTH IS 4".
- 17. WHERE INDICATED ON DRAWINGS AND/OR EQUIPMENT SCHEDULES EXTERNAL STATIC PRESSURE IS DEFINED AS NOT INCLUDING LOSSES DUE TO UNIT MOUNTED FILTER(S), RETURN AIR PLENUM OR MIXING BOXES. THOSE LOSSES SHALL BE PART OF THE EQUIPMENT INTERNAL LOSSES SAME AS THOSE CAUSED BY COILS, CABINET, ETC.
- 18. ALL NEW EQUIPMENT (AIR HANDLERS, ETC.) SHALL BE LABELED WITH PLASTIC SIGNS, LAMINATED, ENGRAVED: 1/8" THICK BLANKS FOR SIGNS SHALL BE A MINIMUM OF 1 3/4" HIGH, WITH 1" HIGH LETTERS. LENGTH OF THE SIGN SHALL BE THE SUM OF THE LETTERS/NUMBERS PLUS 3/4" EACH END. SUBMITTAL DATA INDICATING THE ABOVE WILL BE REQUIRED. LABELS SHALL ALSO INCLUDE THE ROOM NUMBER, CORRESPONDING AIR HANDLER LOCATION OR AREA SERVED TO ASSIST IN THE DETERMINATION OF THE SERVICE LOCATION OF SAID EQUIPMENT. PROVIDE ADDITIONAL NAMEPLATE ON CEILING GRID DIRECTLY BELOW EQUIPMENT CONCEALED ABOVE CEILINGS TO AID IN LOCATING THE UNIT. NAMEPLATE DESIGNATION SHALL CONSIST OF UNIT NUMBER.
- 19. ALL WALL MOUNTED TEMPERATURE SENSORS SHALL BE INSTALLED AT A CENTER LINE ELEVATION OF 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED DEVICE SHALL BE COORDINATED WITH THE OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF DEVICE SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD. WHEN SENSORS ARE INSTALLED ON EXTERIOR WALLS, PROVIDE AN INSULATED SUB-BASE.

- 20. PRIOR TO STARTING WORK, RETAIN THE SERVICES OF AN AABC OR NEBB CERTIFIED TEST AND BALANCE AGENCY WITH MINIMUM 5 YEARS DOCUMENTED EXPERIENCE TO TEST ALL EXISTING AIR DEVICES AND AIR CONDITIONED UNIT(S) PERFORMANCE WITHIN THE AREA OF WORK (AIR DEVICES IN ROOMS F1-117, QUIET ROOM F1-121, AND CAFETERIA F1-103, ASSOCIATED VAV BOXES 7-2, 7-3, 7-7, AND 7-8, AHU-7, AND THE CHILLED WATER PERFORMANCE FOR EXISTING AHU-16). SUBMIT TEST REPORT TO ENGINEER. BALANCE IS NOT REQUIRED AT THIS TIME. SHOULD THE TEST NOT BE COMPLETED PRIOR TO STARTING WORK, CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH MAKING THE EQUIPMENT AND SYSTEMS PERFORM AS THEY WERE ORIGINALLY INTENDED.
- 21. ALL CHILLED WATER PIPING TO BE ASTM A53 SCHEDULE 40 SEAMLESS BLACK STEEL WITH WELDED ASME FITTINGS PER TABLE 1202.5 (2-1/2" AND LARGER); SCREWED FITTINGS (2" AND UNDER). ALL PIPING INSTALLED INDOORS SHALL BE PAINTED WITH ONE COAT OF RUST INHIBITOR PAINT.
- 22. ALL CHILLED WATER PIPING TO BE INSULATED WITH 1.5" THICK FOAMGLAS INSULATION FOR PIPE SIZES 1" AND UNDER, 2" THICK FOR PIPE SIZES GREATER THAN 1 1/4". FOAMGLASS INSULATION INSTALLED AS PER MANUFACTURERS INSTRUCTIONS AND FINISHED WITH A WHITE VAPOR PROOF SELF LAPPING COVER. (FINISH PAINT TO MATCH EXISTING). SMALLER CHILLED WATER LINES (1" AND UNDER) AND RUNOUTS TO EQUIPMENT MAY BE INSULATED WITH 1" THICK SEAMLESS CLOSED CELL RUBBER INSULATION. PROVIDE ZESTON COVERS OVER ALL ELBOWS AND CHANGES IN DIRECTION. INSTALL ALL INSULATION SYSTEMS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 23. ALL PIPING SYSTEMS SHALL BE LABELED WITH MARKERS SIMILAR TO SETON. ALL VALVES SHALL BE PROVIDED WITH ONE INCH BRASS VALVE TAGS ATTACHED WITH COPPER METAL SEAL WIRE, BRASS CHAIN, OR "S" HOOK. INSTALL VALVE TAG CHARTS IN EACH MECHANICAL ROOM.
- 24. EQUIPMENT SERVICE ACCESS
- PROVIDE ADEQUATE SERVICE SPACE AROUND AIR HANDLING UNITS, VARIABLE VOLUME BOXES, AND THE PULL SIDE OF FILTERS, OR AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- SERVICE AREA SHALL BE CLEAR OF DUCTS, PIPES, CONDUITS, WALL STUDS, CEILING HANGERS, AND ANY OTHER CONSTRUCTION APPURTENANCE.
- 25. ALL AIR HANDLING UNITS SHALL BE PROVIDED WITH A MINIMUM 24 GAGE GALVANIZED STEEL LEVEL SECONDARY DRAIN PAN. PAN SHALL BE THREE INCHES DEEP AND EXTEND A MINIMUM OF SIX INCHES PAST THE AIR HANDLER IN ALL DIRECTIONS. THE PAN SHALL BE PROVIDED WITH A FLOAT SWITCH WIRED TO SHUT DOWN THE ENTIRE SYSTEM WHEN WATER IS DETECTED. ALL COMPONENTS OF THE AIR HANDLER AND PIPING SUBJECT TO CONDENSATION SHALL BE PROTECTED BY THE PAN.
- 26. PROVIDE A MANUAL AND A MOTORIZED DAMPER (120 VOLT) IN ALL OUTDOOR AIR INTAKE DUCTS. MOTORIZED DAMPER SHALL BE WIRED TO OPEN AFTER A ONE HOUR DELAY (ADJUSTABLE) WHEN AIR HANDLER IS ENERGIZED AND TO CLOSE WHENEVER AIR HANDLER IS DE—ENERGIZED, OR AS DETAILED IN THE CONTROLS DRAWINGS AND SEQUENCE OF OPERATION. ALL EXHAUST AIR FANS IN THE SAME ZONE AS THE AIR HANDLER SHALL BE INTERLOCKED WITH THE MOTORIZED DAMPER SUCH THAT THE EXHAUST FAN'S OPERATION IS PROHIBITED IF THE OUTSIDE AIR DAMPER IS CLOSED. REFER TO CONTROL SECTIONS FOR FURTHER REQUIREMENTS AND SCHEDULING. THE MANUAL DAMPER IN THE OUTSIDE AIR INTAKE DUCT SHALL BE USED FOR BALANCING THE OUTDOOR AIR FLOW. 120 VOLT POWER FOR MOTORIZED DAMPER TO BE PROVIDED BY DIVISION 26.
- 27. DURING THE DEMOLITION PHASE, REMOVE ALL EXISTING MECHANICAL SYSTEMS NO LONGER REQUIRED, INCLUDING BUT NOT LIMITED TO, EQUIPMENT, DUCTWORK, PIPING, DUCT AND PIPING HANGERS, EXISTING UNUSED OR CAPPED DUCTWORK/PIPING, WIRING, ETC. FOR ALL MISCELLANEOUS EXISTING DUCTWORK AND PIPING THAT MAY BE REQUIRED TO BE REMOVED BUT IS STILL CONNECTED TO A MAIN, REMOVE THE ENTIRE RUNOUT AND CAP AND INSULATE AT MAIN TO MATCH EXISTING CONDITIONS. OWNER HAS FIRST RIGHT TO ALL EQUIPMENT AND DEMOLISHED ITEMS.
- 28. ADEQUATE MEANS OF PROTECTION FOR ALL UTILITIES SHALL BE PROVIDED AND, IF UTILITIES ARE DAMAGED DURING WORKING OPERATIONS, SUCH SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE CONTRACT.
- 29. ACCESS PANELS THAT MAY BE REQUIRED FOR INSPECTION OF DUCTWORK, PIPING, DUCT MOUNTED DEVICES OR PIPE MOUNTED DEVICES SHALL BE PROVIDED AND ADEQUATELY SIZED. REFER TO THE ARCHITECTURAL CONTRACT DOCUMENTS FOR DOOR SPECIFICATIONS.
- 30. ALL DUCTWORK YET TO BE INSTALLED SHALL BE STORED IN CLEAN AREAS. PROTECT ALL DUCTWORK FROM DUST AND DEBRIS WHILE IT IS STORED ON SITE. WHILE UNDER CONSTRUCTION, ALL INSTALLED DUCTWORK SHALL BE TEMPORARILY SEALED WITH VISQUEEN PRIOR TO TEST AND BALANCE IN ORDER TO LIMIT ACCUMULATION OF CONSTRUCTION DUST INSIDE THE DUCTWORK SYSTEM. IF EITHER OF THESE PROCEDURES IS NOT FOLLOWED, THE ENTIRE ASSOCIATED DUCTWORK SYSTEM AND MECHANICAL EQUIPMENT SHALL BE CLEANED TO THE OWNER'S SATISFACTION.
- 31. SYSTEMS SHALL BE MAINTAINED IN ACCORDANCE WITH ASHRAE STANDARD 180-2018 STANDARD PRACTICE FOR INSPECTION AND MAINTENANCE OF COMMERCIAL BUILDING HVAC SYSTEMS.

CODE CRITERIA

ALL CODES AND STANDARDS SHALL COMPLY WITH THE FLORIDA STATUES 69A-3.012
AND THE STATE FIRE MARSHALL'S RULE. THIS LIST IS NOT INCLUSIVE OF ALL
CODES AND STANDARDS THAT MAY OR MAY NOT APPLY TO THIS PROJECT.

SOFTWARE: ENERGY GAUGE SUMMIT VERSION 6.10

*FLORIDA FIRE PREVENTION CODE 2020

*FLORIDA BUILDING CORE (FRO.) SEVENTIL ERITION (2020) A COESCURIU (TV.)

*FLORIDA BUILDING CODE (FBC), SEVENTH EDITION (2020) ACCESSIBILITY - 2012 FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): *NFPA-70 (2017) NATIONAL ELECTRICAL CODE

*NFPA-72 (2016) NATIONAL FIRE ALARM CODE

*NFPA-90A (2018) STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS

*NFPA-90B (2018) STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE):

*ASHRAE GUIDELINE 4-2019 - PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR HVAC&R SYSTEMS

*ASHRAE STANDARD 62.1-2019 AND APPROVED ADDENDA - VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

*ASHRAE STANDARD 90.1-2016 - ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS

*ASHRAE STANDARD 126-2020 - METHOD OF TESTING HVAC AIR DUCTS
*ASHRAE STANDARD 180-2018 - STANDARD PRACTICE FOR INSPECTION AND
MAINTENANCE OF COMMERCIAL BUILDING HVAC SYSTEMS

| FEDERAL: | *2019 USPS BUILDING DESIGN STANDARDS

HVAC DESIGN CRITERIA

	LOCATION	OUTDOOR *F TEMP DB/WB		SUMMER INDOOR TEMP 'F DB/WB	WINTER INDOOR TEMP °F DB	
ı	FT. MYERS, FLORIDA	SUMMER	WINTER	78/65	60	
	FLORIDA	94/78	41	76/00	68	
ı		FLOOR INS	SULATION	R=0		
	LOAD	WALL INSULATION		R=11.7 (EXISTING)		
ı	CRITERIA	ROOF INS	ULATION	R=21 (EXISTING)		
ı		WINDOW 1	TYPE	U-FACTOR=0.58, SHG0	C=0.45 (FXISTING)	

NOTES

- I. THE NOTES SHOWN ON THIS SHEET APPLY TO GENERAL CONDITIONS OF HEATING, VENTILATING AND AIR CONDITIONING WORK REQUIRED FOR THIS PROJECT.
- 2. SPECIFICATIONS, PROJECT MANUALS AND DRAWINGS, REFER TO THIS SHEET FOR APPLICABLE REFERENCES.
- 3. THE DESIGN DRAWINGS OF ALL CATEGORIES AND TRADES (ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, HEATING, VENTILATING AND AIR CONDITIONING AND ELECTRICAL) AND ALL SPECIFICATIONS AND SHOP DRAWINGS MUST BE COORDINATED AND BE VIEWED IN CONNECTION AND CONJUNCTION WITH EACH OTHER TO INSURE THE PROPER LOCATION OF ALL DEVICES AND EQUIPMENT. MAKE PARTICULAR NOTE OF LOCATIONS AND DIMENSIONS SHOWN ON THE ARCHITECTURAL FLOOR PLANS AND ELEVATIONS.
- 4. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE-SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION 110.8.4.4 OF THE FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

DRAWING INDEX

m0.1 HVAC LEGEND, NOTES, AND SYMBOLS

1.1 HVAC DEMOLITION AND RENOVATION PLAN

12 HVAC DEMOLITION AND RENOVATION PLAN
4.1 HVAC DETAILS

HVAC DETAILS HVAC SCHEDULES, CONTROLS, AND DIAGRAMS



NOS

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issue date 202

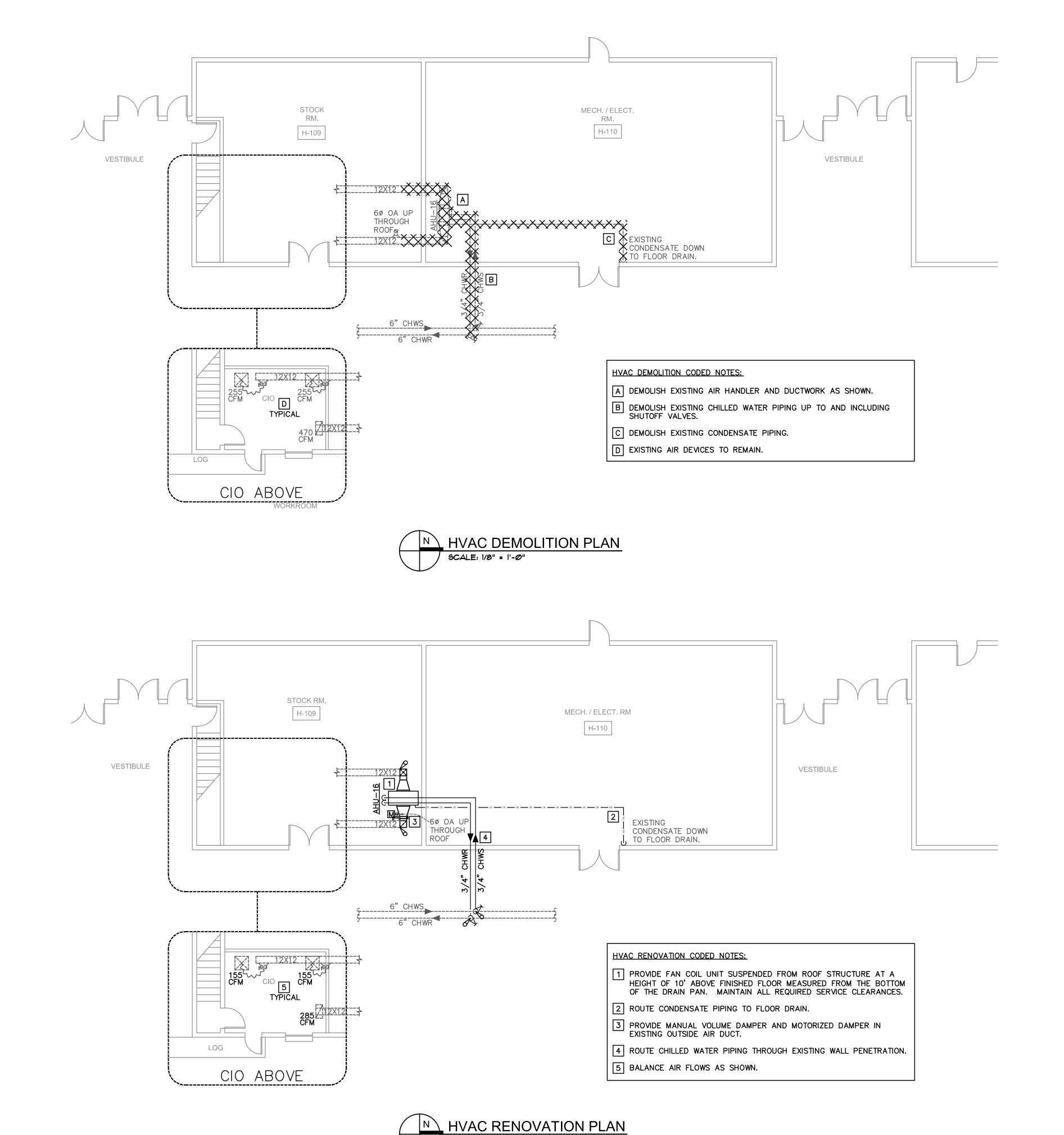
OHN W. WELLS, III, PE

AYERS P&DC JRITY UPGRADES

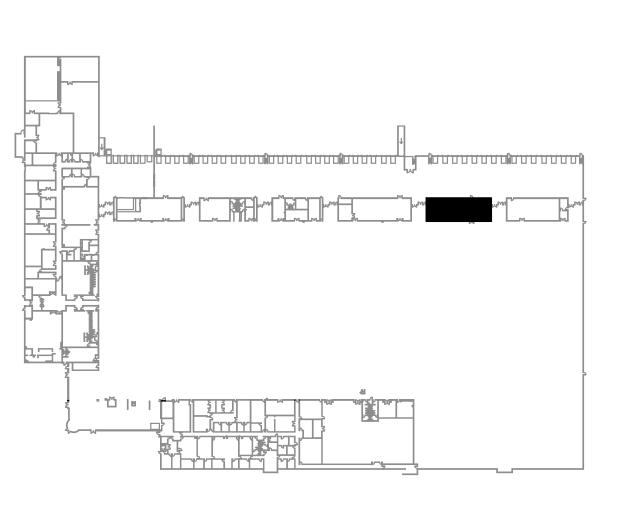
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SCALE: 1/8" = 1'-0"

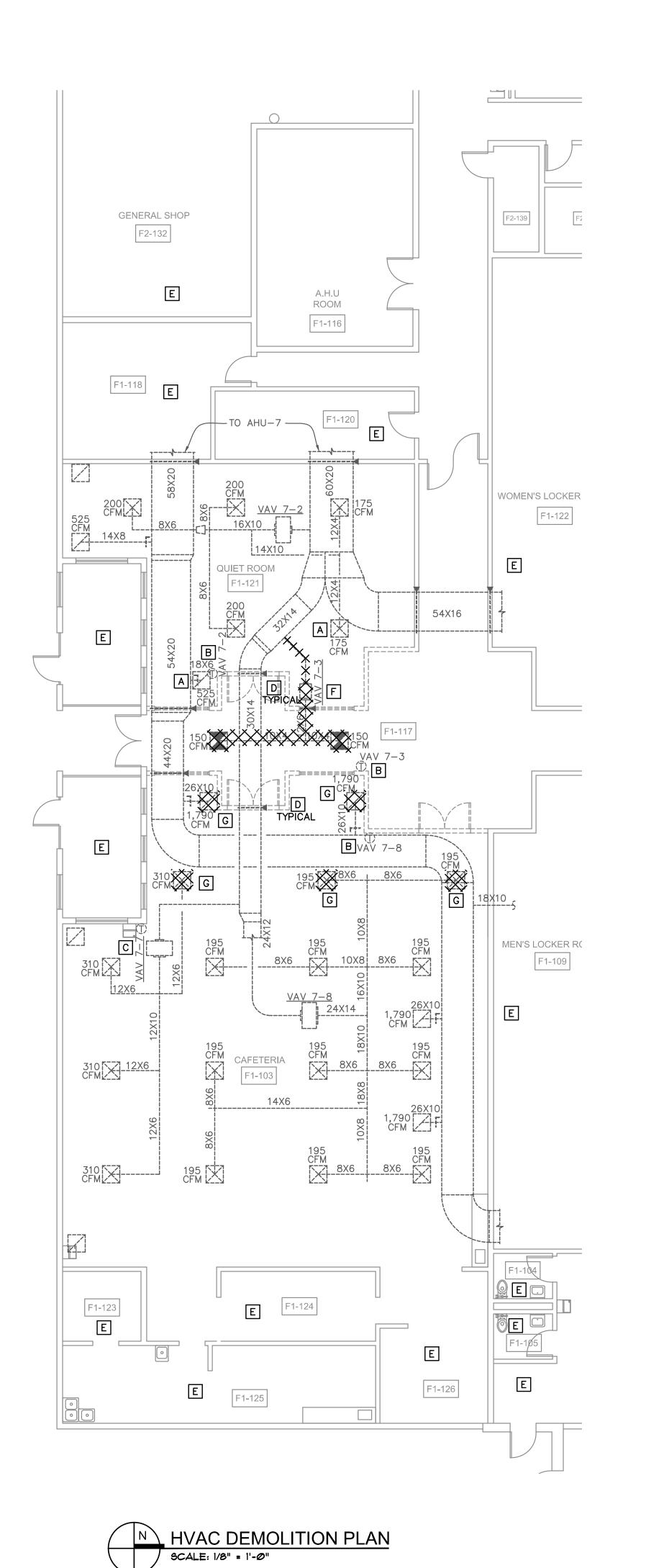


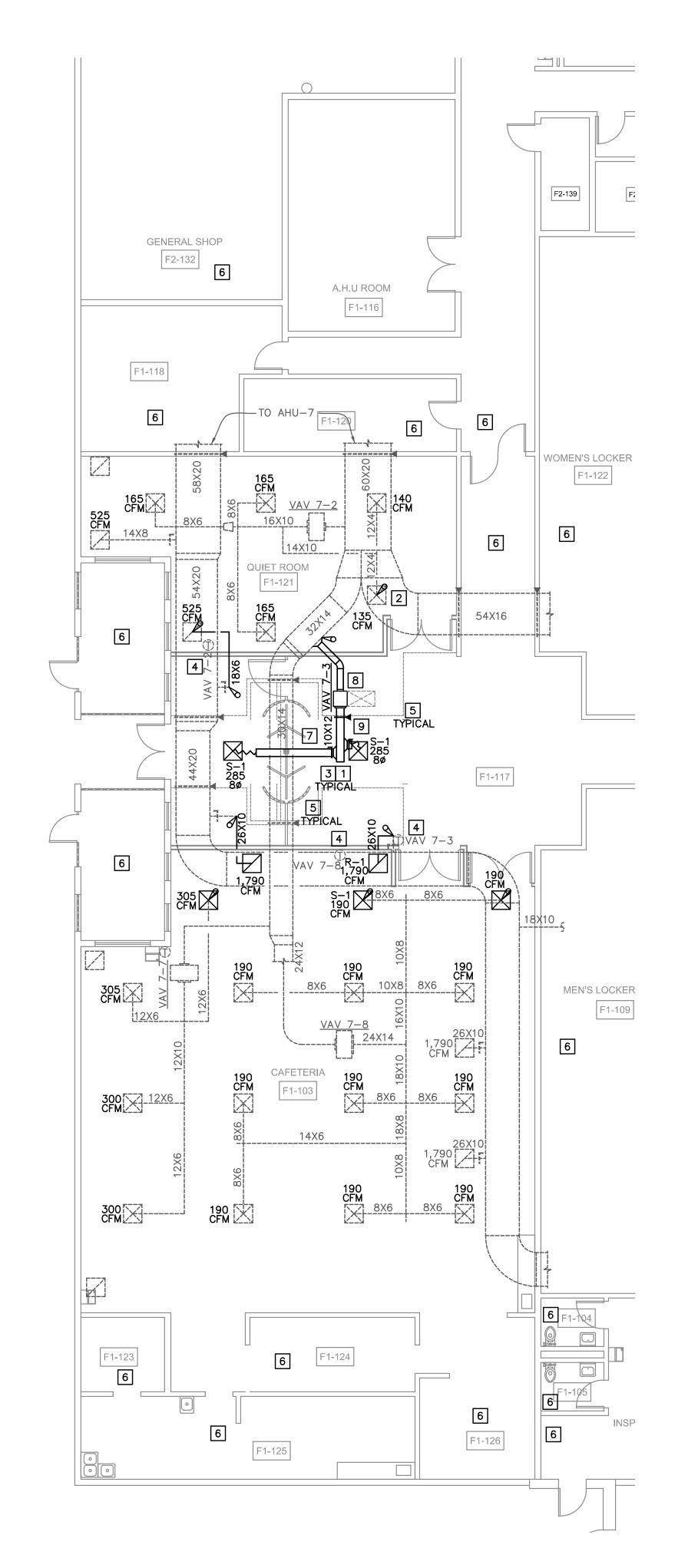


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P&DC GRADES

m1.12 of 5





HVAC DEMOLITION CODED NOTES:

A DISCONNECT EXISTING AIR DEVICE FROM DUCTWORK. PREPARE FOR RELOCATION.

B EXISTING TEMPERATURE SENSOR TO REMAIN AND BE RELOCATED. REFER TO HVAC RENOVATION PLAN.

C EXISTING TEMPERATURE SENSOR TO REMAIN.

D EXISTING FIRE RATED PARTITION TO REMAIN ABOVE CEILING SPACE.

MAINTAIN FIRE RATING OF DUCT PENETRATIONS. REFER TO

ARCHITECTURAL DRAWINGS.

E NO NEW WORK IN THIS AREA.

F DEMOLISH EXISTING VAV BOX, DUCTWORK, AIR DEVICES, AND ASSOCIATED SUPPORTS AND HANGERS. CAP MAIN DUCTWORK AND INSULATE TO MATCH EXISTING.

G DEMOLISH EXISTING AIR DEVICE. PREPARE DUCTWORK FOR NEW AIR DEVICE.

HVAC RENOVATION CODED NOTES:

1 CLEAN ALL EXISTING AIR DEVICES IN CAFETERIA F1-103 AND QUIET ROOM F1-121.

2 RELOCATE EXISTING AIR DEVICE AS SHOWN. EXTEND OR TRIM DUCTWORK AS NEEDED.

3 REBALANCE ALL SUPPLY AND RETURN AIR DEVICES TO THE AIRFLOWS

RELOCATE EXISTING TEMPERATURE SENSOR TO NEW LOCATION SHOWN. RECALIBRATE AND VERIFY PROPER OPERATION.

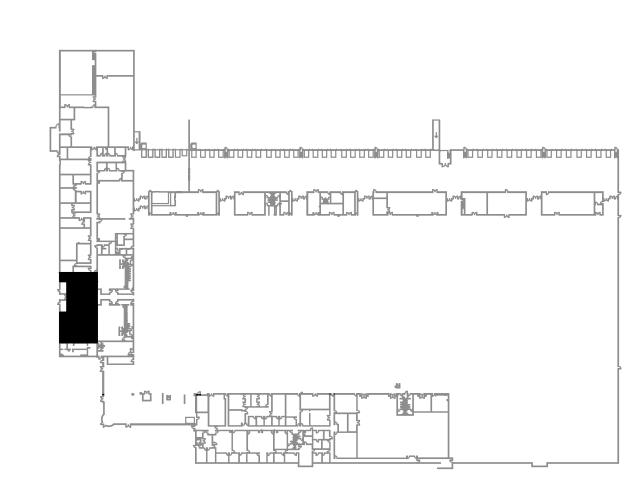
5 EXISTING FIRE RATED PARTITION TO REMAIN ABOVE CEILING SPACE. MAINTAIN FIRE RATING OF DUCT PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS.

6 NO NEW WORK IN THIS AREA.

PROVIDE DUCTWORK, AIR DEVICES, VOLUME DAMPERS, ETC.
COORDINATE EXACT ROUTING WITH EXISTING CONDITIONS AND PROVIDE
ALL DUCTWORK OFFSETS NECESSARY AND RELOCATE OBSTRUCTIONS
AS MAY BE REQUIRED.

8 PROVIDE VAV BOX AND ASSOCIATED CONTROLS. COORDINATE EXACT LOCATION WITH EXISTING CONDITIONS AND PROVIDE ALL DUCTWORK OFFSETS NECESSARY.

9 ROUTE DUCT THROUGH EXISTING WALL OPENING AND PROVIDE FIRE DAMPER.





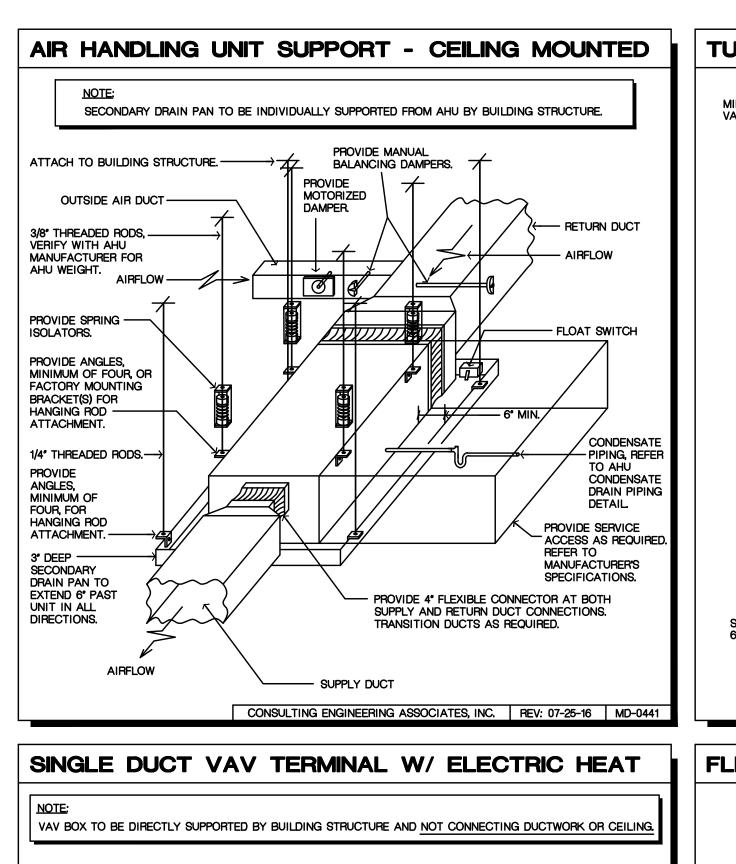


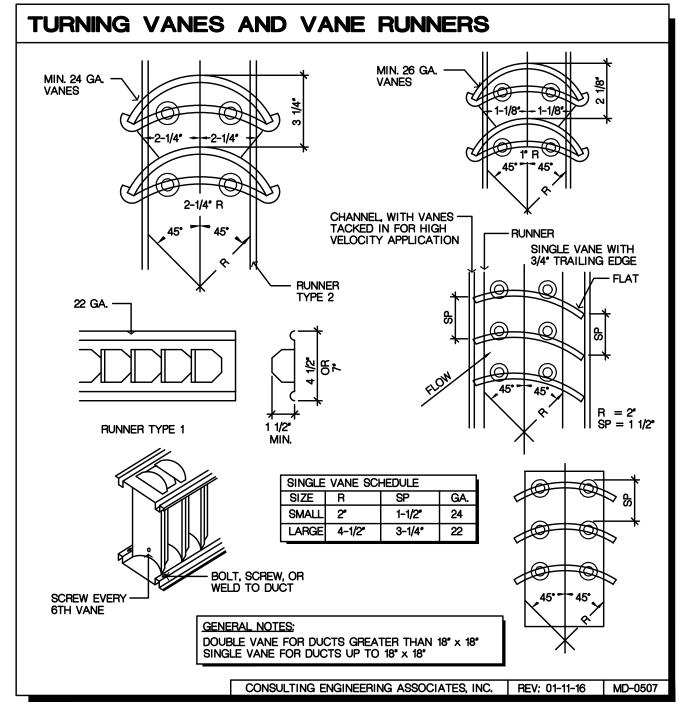


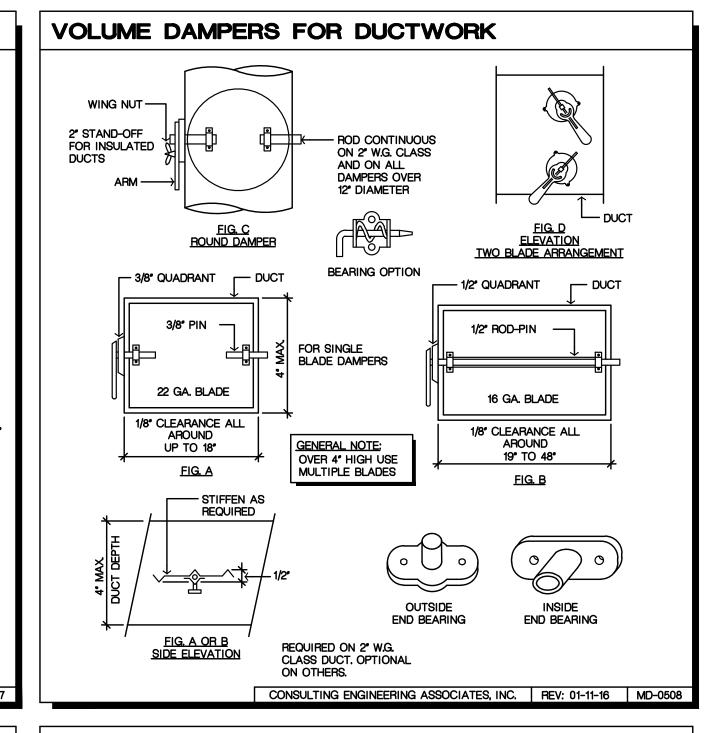
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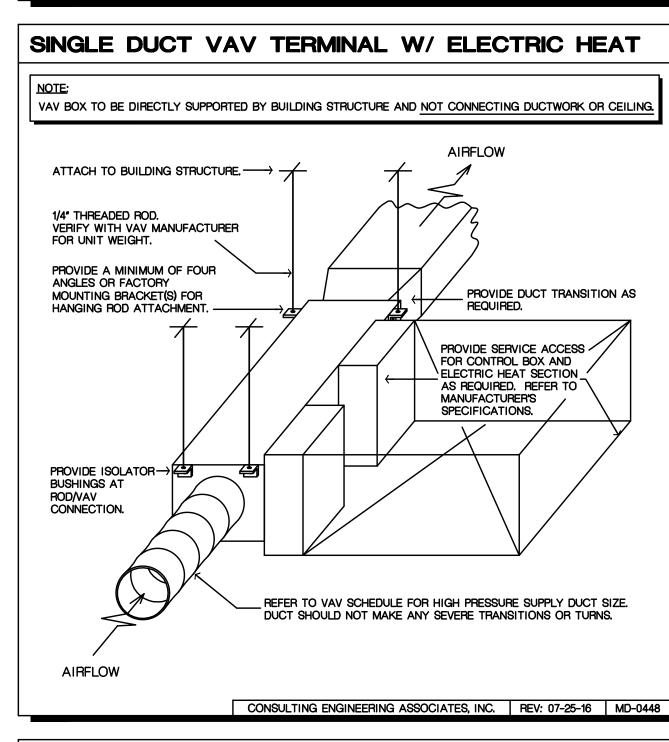
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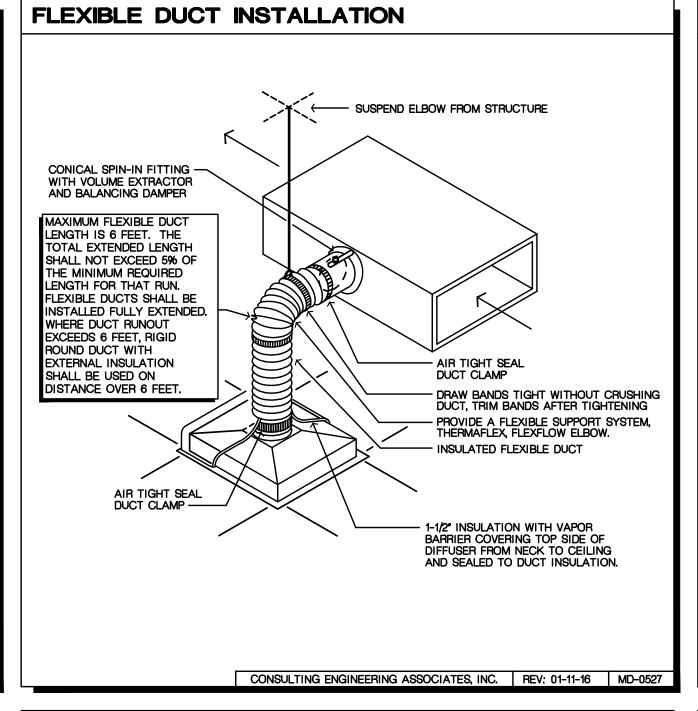


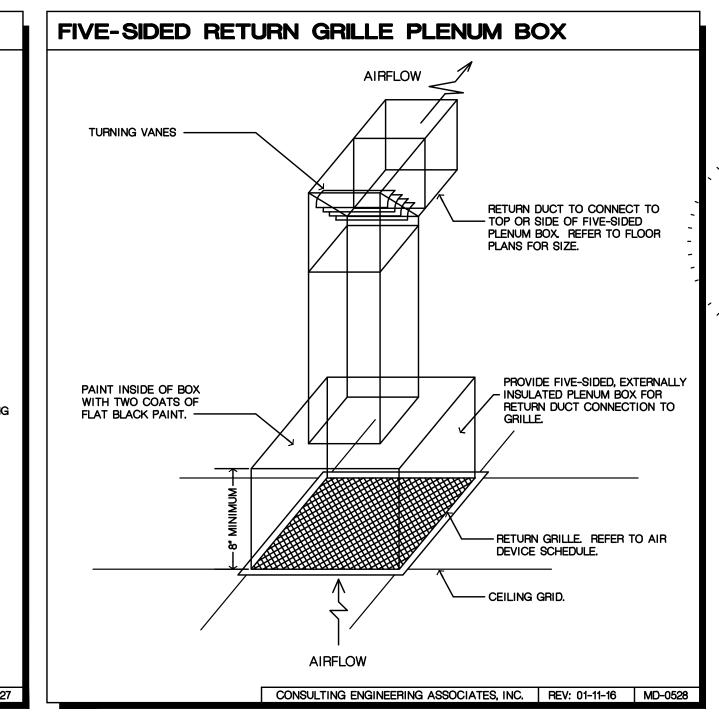


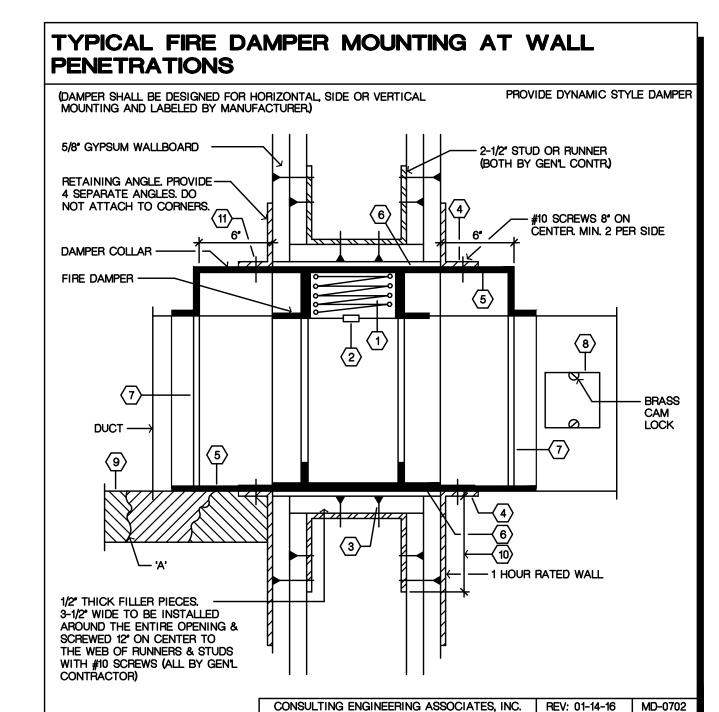


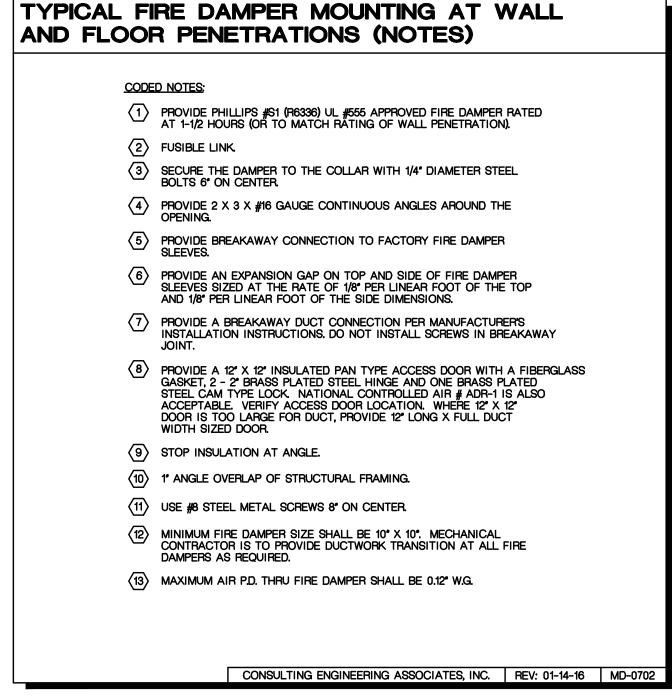


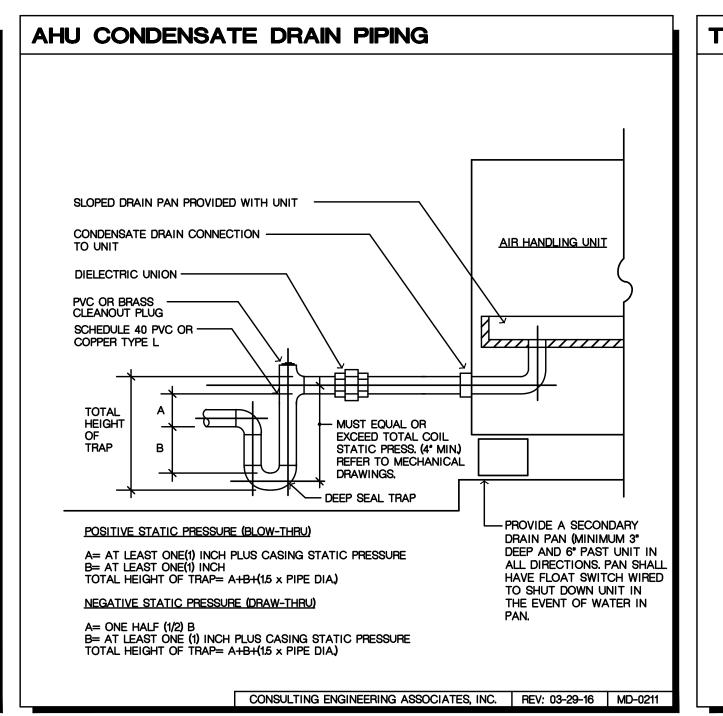


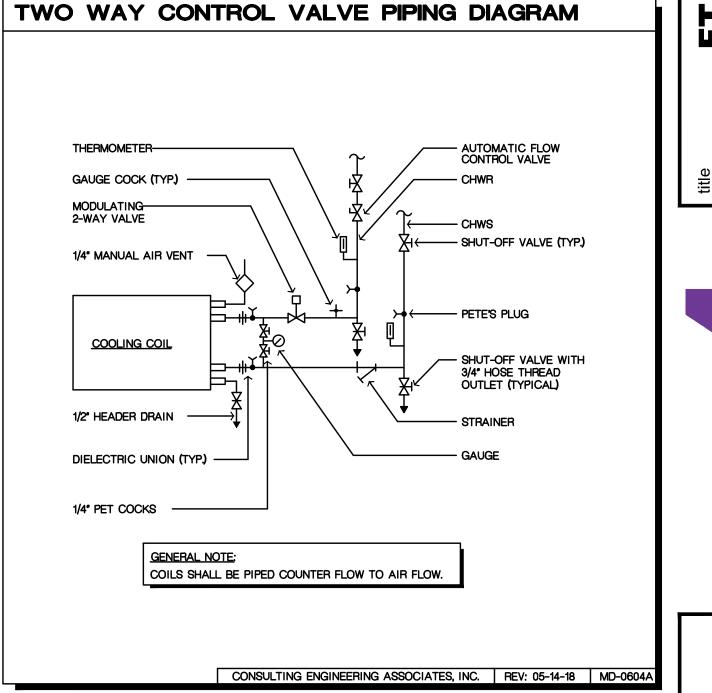












m4.1

UNIT		
DRIVE		DIRECT DRIVE ECM
FAN TYPE		FORWARD CURVED
FAN MOTOR	HP/BHP	0.125 /
FAN FLA	AMPS	2.4
TOTAL UNIT MCA	AMPS	12.4
TOTAL UNIT MOCP	AMPS	15
ELECTRICAL	V/PH/HZ	277/1/60
FILTER	TYPE/EFFICIENCY	2" MERV 8
WEIGHT	LBS	108
MANUFACTURER		DAIKIN
MODEL		FCHC204
NOTEC		A L L

PROVIDE SINGLE POINT POWER CONNECTION.

- PROVIDE CLOSED CELL FOAM INSULATION. PROVIDE INSULATED STAINLESS STEEL DRAIN PAN, POSITIVELY SLOPED IN TWO DIRECTIONS.
- PROVIDE STAINLESS STEEL COIL CASINGS AND SUPPORTS.
- PROVIDE EXPOSED HORIZONTAL UNIT WITH PAINTED STEEL ENCLOSURE, FRONT DUCTED SUPPLY AIR DISCHARGE, AND REAR DUCTED RETURN AIR INLET. PROVIDE FACTORY MOUNTED PIPING PACKAGE INCLUDING UNIONS, FULL PORT BALL VALVES, MODULATING 2-WAY CONTROL VALVE, P/T PORTS, AUTOMATIC FIXED FLOW CONTROL, MANUAL AIR VENT, AND Y STRAINER WITH BLOWDOWN.
- PROVIDE FOUR POINT HANGER MOUNTING BRACKETS. PROVIDE A SECONDARY DRAIN CONNECTION ON THE PRIMARY DRAIN PAN WITH A FLOAT SWITCH WIRED TO DE-ENERGIZE THE UNIT IF THE PRIMARY DRAIN

VAV 7-3

3/1 277/1/60 PRICE

BECOMES OBSTRUCTED. DISCONNECT PROVIDED BY DIVISION 26.

MANUFACTURER

10. PROVIDE FACTORY 24V FAN RELAY CONTROL INTERFACE.

					VARIABLE AIR VOULME BOX WITH	ELECTRIC HEAT	SCHEDULE
XISTING VARIABLE AIR VOULME	BOX SCHEDULE				MARK		VAV
ARK		VAV 7-2	VAV 7-7	VAV 7-8	MAX COOLING	CFM	56
AXIMUM AIRFLOW	CFM	770	1,210	2,090	MIN COOLING	CFM	20
INIMUM AIRFLOW	CFM	310	485	835	HEATING	CFM	28
AX BOX SP.	IN W.G.	0.30	0.30	0.30	ADP AT MAX COOLING	IN WG	0.
ILET SIZE	IN DIA.	10	12	14	MAX DIS NC	NC	2
ANUFACTURER		TRANE	TRANE	TRANE	MAX RAD NC	NC	_
ODEL		VCEF10	VCEF12	VCEF14	INLET DUCT CONNECTION SIZE	IN DIAMETER	8
OTES		ALL	ALL	ALL	OUTLET DUCT CONNECTION SIZE	IN X IN	12"
	'				ELECTRIC STRIP HEAT	KW/STEPS	3
OTES:					ELECTRICAL	V/PH/HZ	277/
· · ·					LAANUIEA OTUDED		-

BALANCE AIRFLOWS AS SHOWN.

SCHEDULE PRODUCED IN REFERENCE TO CONSTRUCTION DOCUMENTS BY CHARLOTTE ENGINEERING & SURVEYING, INC., DATED 1/19/1990.

AIR DEVICE	SCHEDULE
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NO.	DESCRIPTION	PRICE INDUSTRIES CODE	TITUS	METALAIRE	NOTES	_
S-1	SQUARE 3 CONE CEILING DIFFUSER	SCD	TMS	5700	M-1, F-1, A-1, NOTE 1	
R-1	1/2"X1/2" EGG CRATE GRILLE	80	50F	CC5	M-1, F-1, NOTE 1	

CODE MARK: S-SUPPLY

R-RETURN MATERIAL:

M-1 ALUMINUM

F-1 POWDER COATED WHITE ACRYLIC ENAMEL

ACCESSORIES: A-1 RADIAL DAMPER

PROVIDE FRAMES AS REQUIRED BY CEILING CONSTRUCTION SHOWN ON ROOM FINISH SCHEDULE. SEE ARCHITECTURAL

1. 24" X 24" CEILING MODULE

NOISE CRITERIA (NC) ESTIMATE CALCULATED USING THE FOLLOWING TRANSFER FUNCTIONS: DISCHARGE: ARI 885-2008; RADIATED: ARI 885-2008 MINERAL FIBER. CONTROLS CONTRACTOR TO PROVIDE CONTROLLER TO VAV BOX MANUFACTURER FOR FACTORY MOUNTING.

PRESSURE OF 0.30 IN WG.

VAV BOX MANUFACTURER TO PROVIDE FACTORY 24 VOLT STEPDOWN TRANSFORMER INSIDE VAV BOX FOR CONTROLS POWER CONNECTION. PROVIDE FACTORY MOUNTED NON-FUSED DOOR INTERLOCKING

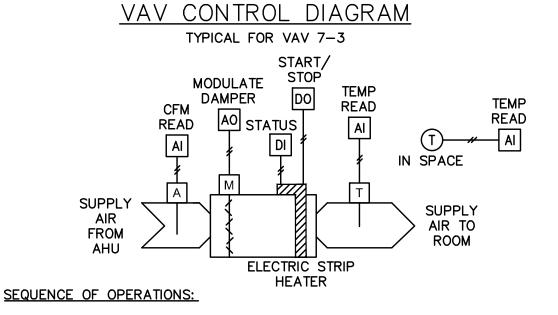
ALL VAV BOXES TO BE SELECTED AT A MAXIMUM INLET STATIC

ELECTRICAL FEED TO BE PROVIDED BY DIVISION 26. PROVIDE CERTIFIED LOW LEAKAGE CONSTRUCTION WITH LEAKAGE

LESS THAN 1% AT 4 IN. W.G. PROVIDE 1 INCH FIBER FREE FOAM INSULATION.

ALL VAV BOXES TO BE PRESSURE INDEPENDENT.

CHILLED WATER FLOW DIAGRAM <u>AHU-16</u> 1.6 GPM



VAV SHALL BE INTERLOCKED TO START/STOP AND CHANGE OVER TO COOLING OR HEATING MODE WITH ASSOCIATED AHU-7 SUPPLY FAN.

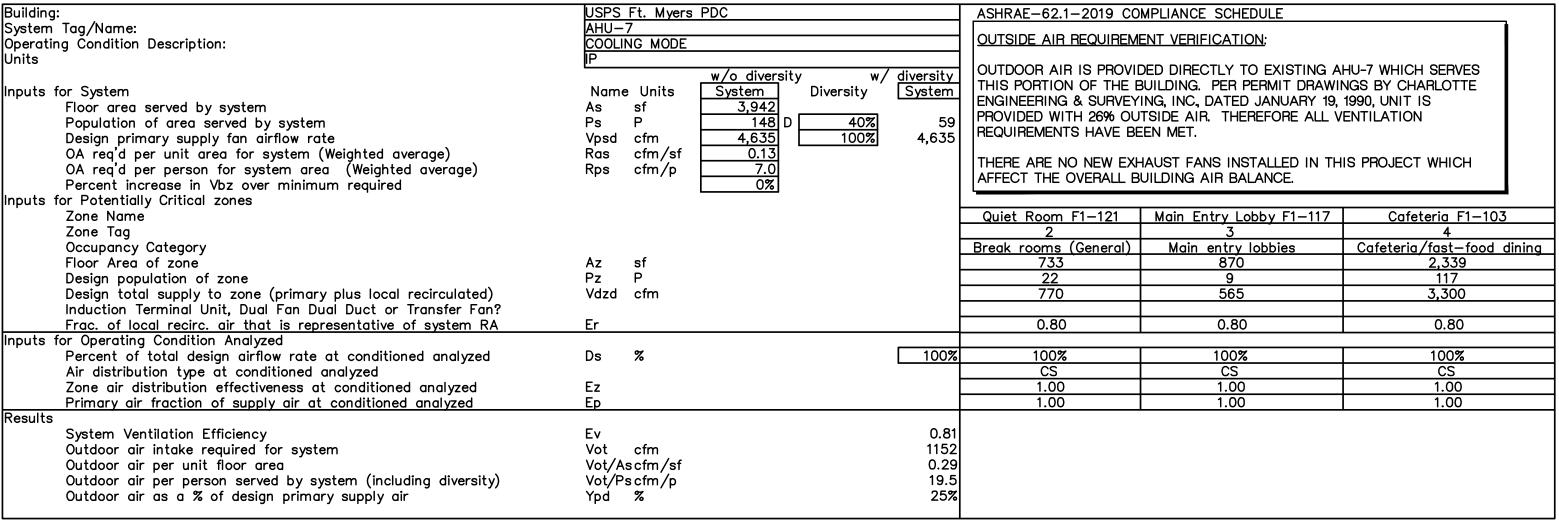
COORDINATE WITH OWNER FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS: 1. ELECTRIC STRIP HEATER FAILURE

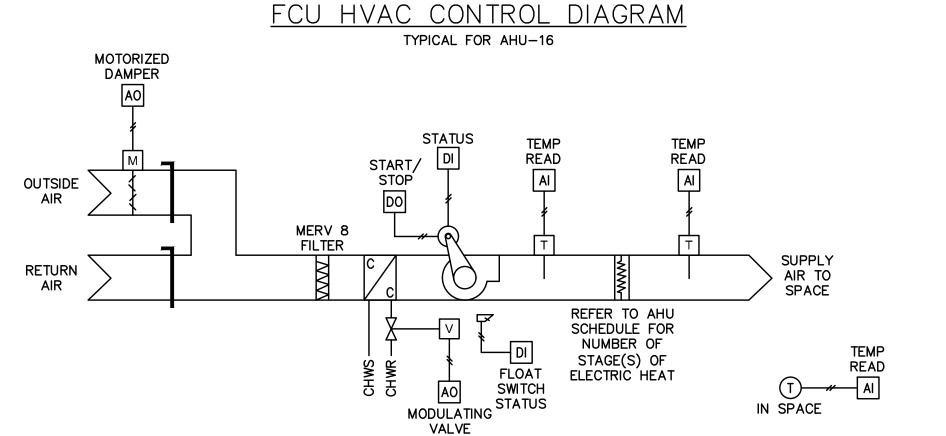
COOLING MODE:

THE DAMPER ACTUATOR SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SET POINT OF 78 DEGREES F (ADJUSTABLE) AS SENSED BY THE SPACE TEMPERATURE SENSOR. IF SPÀCE TEMPERÁTURE FALLS BELOW 68 DEGREES F (ADJUSTABLE) AS SENSED BY THE SPACE TEMPERATURE SENSOR WHILE THE VAV IS IN THE MINIMUM AIRFLOW POSITION, ELECTRIC STRIP HEATER SHALL ENERGIZE AND STAGE AS REQUIRED TO MAINTAIN SET POINT TEMPERATURE.

HEATING MODE: THE DAMPER ACTUATOR SHALL MODULATE AND ELECTRIC STRIP HEATER SHALL ENERGIZE TO MAINTAIN THE SPACE TEMPERATURE SET POINT OF 68 DEGREES F (ADJUSTABLE).



Building:	USPS Ft. Myers PDC	ASHRAE-62.1-2019 COMPLIANCE SCHEDULE
System Tag/Name:	AHU-16	
Operating Condition Description:	COOLING MODE	
Jnits	IP .	
	w/o diversity w/ diversity	
nputs for System	Name Units System Diversity System	
Floor area served by system	As sf 180	
Population of area served by system	Ps P 1 D 100% 1	
Design primary supply fan airflow rate	Vpsd cfm 310 100% 310	
OA req'd per unit aréa for system (Weighted average)	Ras cfm/sf 0.06	
OA req'd per person for system area (Weighted average)	Rps cfm/p 5.0	
Percent increase in Vbz over minimum required	0%	
nputs for Potentially Critical zones		
Zone Name		CIO
Zone Tag		1
Occupancy Category		Computer (not printing)
Floor Area of zone	Az sf	180
Design population of zone	Pz P	1
Design total supply to zone (primary plus local recirculated)	Vdzd cfm	310
Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?		
Frac. of local recirc. air that is representative of system RA	Er T	0.80
nputs for Operating Condition Analyzed		
Percent of total design airflow rate at conditioned analyzed	Ds % 100%	100%
Air distribution type at conditioned analyzed		CS
Zone air distribution effectiveness at conditioned analyzed	Ez	1.00
Primary air fraction of supply air at conditioned analyzed	Ep	1.00
Results		
System Ventilation Efficiency	Ev 1.00	
Outdoor air intake required for system	Vot cfm 16	25 CFM OUTSIDE AIR PROVIDED.
Outdoor air per unit floor area	Vot/Ascfm/sf 0.09	
Outdoor air per person served by system (including diversity)	Vot/Pscfm/p 15.8	
Outdoor air as a % of design primary supply air	Ypd % 5%	



SEQUENCE OF OPERATIONS:

THE FAN COIL UNIT IS TO CONNECT TO AND THE CONTROLS SHALL BE FULLY COMPATIBLE WITH THE EXISTING BUILDING MANAGEMENT SYSTEM. COORDINATE WITH OWNER FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS: 1. SUPPLY FAN FAILURE 2. FLOAT SWITCH TRIP

OCCUPIED MODE:

STARTUP:

IN THE COOLING MODE, THE CHILLED WATER COIL VALVE ACTUATOR SHALL OPEN AND MODULATE TO MAINTAIN THE SPACE TEMPERATURE SET POINT AS SENSED AND ADJUSTED BY THE WALL MOUNTED TEMPERATURE SENSOR. AFTER A 30 MINUTE DELAY, THE MOTORIZED OUTSIDE AIR DAMPER SHALL OPEN.

THE SUPPLY FAN SHALL PROVIDE A CONSTANT VOLUME OF AIR AND RUN CONTINUOUSLY WHENEVER OCCUPIED. SAFETY MODE: THE SUPPLY FAN SHALL DE-ENERGIZE IF WATER IS DETECTED BY THE FLOAT SWITCH.

IN THE COOLING MODE. THE CHILLED WATER COIL VALVE ACTUATOR SHALL MODULATE TO MAINTAIN A SPACE TEMPERATURE SET POINT OF 78 DEGREES F (ADJUSTABLE) AS SENSED BY THE WALL MOUNTED TEMPERATURE SENSOR. SAFETY MODE: THE ACTUATOR SHALL CLOSE IF THE SUPPLY AIR FAN IS DE-ENERGIZED FOR ANY REASON. IN THE HEATING MODE, THE CHILLED WATER COIL VALVE ACTUATOR SHALL CLOSE. THE ELECTRIC STRIP HEAT SHALL BE CYCLED AS REQUIRED TO MAINTAIN A SPACE TEMPERATURE SET POINT OF 68 DEGREES F (ADJUSTABLE) AS SENSED AND ADJUSTED BY THE WALL MOUNTED TEMPERATURE SENSOR.

THE SUPPLY FAN SHALL DE-ENERGIZE AND THE MOTORIZED OUTSIDE AIR DAMPER SHALL CLOSE. THE CHILLED WATER COIL VALVE ACTUATOR SHALL THEN CLOSE.

UNOCCUPIED MODE:

FAN COIL UNIT SUPPLY FAN SHALL BE DE-ENERGIZED. THE CHILLED WATER COIL VALVE ACTUATOR SHALL BE CLOSED.

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