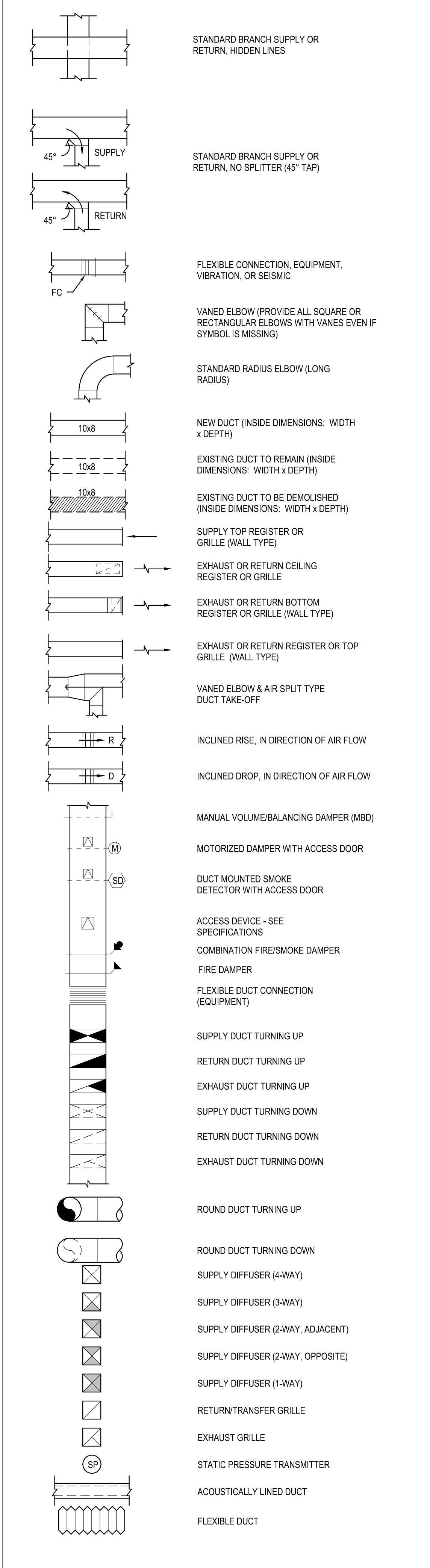


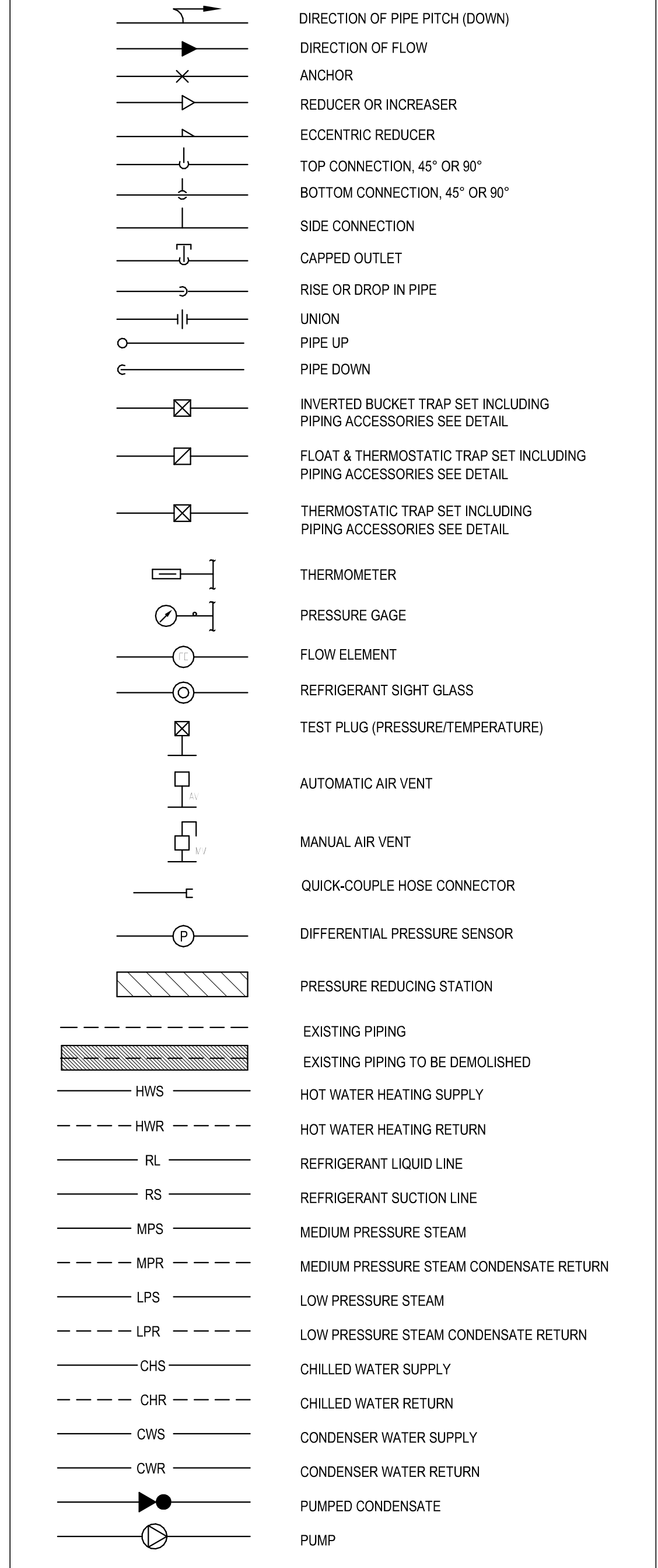
STANDARD ABBREVIATIONS

A	A	AMPS	G	GAL	GALLON	P	PD	PRESSURE DROP
A	AE	ARCHITECT/ENGINEER	G	GALV	GALVANIC OR GALVANIZED	P	PF	PENETRATE
A	ACH	AIR CHANGES PER HOUR	G	GC	GENERAL CONTRACTOR	P	PFHX	FLATE AND FRAME HET EXCHANGER
A	ACS	AIR CONDITIONING SYSTEM	G	GS	GALVANIZED STEEL	P	PG	PENDANT
A	AD	ACCESS DOOR	G	GYP BD	GYPSUM BOARD	P	PLBG	PLUMBING
A	AF	AFTER FILTER	H	HP	HORSEPOWER	P	PNEU	PNEUMATIC
A	AFIF	ABOVE FINISHED FLOOR	H	HAC	HOUSEKEEPING AID CLOSET	P	PRESS	PRESSURE
A	AFG	ABOVE FINISHED GRADE	H	HC	HEATING COIL	P	PRV	PRESSURE REGULATING VALVE
A	AFMD	AIR FLOW MEASURING DEVICE	H	HD	HEAD	P	PSF	POUNDS PER SQUARE FOOT
A	AHU	AIR HANDLING UNIT	H	HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)	P	PSI	POUNDS PER SQUARE INCH
A	AL	ACOUSTIC LINING	H	HOA	HAND OFF/AUTOMATIC	P	PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
A	ALD	AUTOMATIC LOWER DAMPER	H	HORIZ	HORIZONTAL	P	PSIG	POUNDS PER SQUARE INCH - GAUGE
A	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	H	HP	HORSEPOWER	R	RA	RETURN AIR
A	AP	ACCESS PANEL	H	HWP	HOT WATER PUMP	R	RAT	RETURN AIR TEMPERATURE
A	APD	AIR PRESSURE DROP	H	HWR	HOT WATER RETURN	R	RD	REFRIGERANT DISCHARGE
A	ARCH	ARCHITECT	H	HWS	HOT WATER SUPPLY	R	RET	RETURN
A	AR	AIR CONDITIONING AND REFRIGERATIONS	H	HX	HEAT EXCHANGER	R	RG	RETURN GRILLE
A	AS	AIR SEPARATOR	H	HZ	HERTZ	R	RH	RELATIVE HUMIDITY
A	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	I	I/O	INPUT/OUTPUT	R	RLA	RUN LOAD AMPERE
B	B	BOILER	I	IBST	INVERT BUCKET STEAM TRAP	R	RP	RADIANT CEILING PANEL
B	BDD	BACKDRAFT DAMPER	I	ID	INSIDE DIAMETER	R	RPM	REVOLUTIONS PER MINUTE
B	BHP	BRAKE HORSEPOWER	I	IN	INCHES	S	SA	SUPPLY AIR
B	BLDG	BUILDING	I	IN WG	INCHES WATER GAUGE	S	SAD	SUPPLY AIR DIFFUSER
B	BRD	BAROMETRIC RELIEF DAMPER	I	IN-LB	INCH-POUND	S	SAG	SUPPLY AIR GRILLE
B	BTUH	BRITISH THERMAL UNIT PER HOUR	K	kg	KILOGRAM	S	SAR	SUPPLY AIR REGISTER
C	C	CENTIGRADE (CELSIUS)	K	kPa	KILOPASCAL	S	SAT	SUPPLY AIR TEMPERATURE
C	C	CONVERTER	K	KPL	KICKPLATE	S	SD	SMOKE DETECTOR
C	CC	COOLING COIL	K	KW	KILOWATT	S	SOPR	SMOKE DAMPER
C	CCD	COOLING COIL CONDENSATE DRAIN	K	KWh	KILOWATT HOUR	S	SE	SE
C	CD	CEILING DIFFUSER	K	KX	KITCHEN EXHAUST	S	SENS	SENSIBLE HEAT
C	CFM	CUBIC FEET PER MINUTE	L	L	LEAVING AIR TEMPERATURE	S	SF	SQUARE FOOT (FEET)
C	CFS	CUBIC FEET PER SECOND	L	L	LEAVING WATER TEMPERATURE	S	SP	STATIC PRESSURE
C	CH	CHILLER	L	LAT	LEAVING AIR TEMPERATURE	S	SP GR	SPECIFIC GRAVITY
C	CHR	CHILLED WATER RETURN	L	LBS	POUND	S	SPEC	SPECIFICATION
C	CHS	CHILLED WATER SUPPLY	L	LBSHR	POUNDS PER HOUR	S	SPS	STATIC PRESSURE SENSOR
C	COD	CABLE OPERATED DAMPER	L	LF	LINEAR FOOT (FEET)	S	SQ	SQUARE
C	CT	COOLING TOWER	L	LWT	LEAVING WATER TEMPERATURE	S	SQ FT	SQUARE FOOT (FEET)
C	CV	CONSTANT VOLUME	M	M	METER OR MOTOR	S	SQ IN	SQUARE INCH
C	CVR	CONSTANT VOLUME RETURN	M	M	METER OR MOTOR	S	SS	STAINLESS STEEL
C	CVS	CONSTANT VOLUME SUPPLY	M	M	METER OR MOTOR	S	STHX	SHELL AND TUBE HEAT EXCHANGER
D	DA	DENTAL AIR	M	MA	MIXED AIR	S	STL	STEEL
D	DB	DRY BULB	M	MAINT	MAINTAIN, MAINTENANCE	S	STRUCT	STRUCTURAL
D	dB	DECIBELS	M	MAN	MANUAL	S	SW	SOUTH WEST
D	DC	DIRECT CURRENT	M	MAT	MIXED AIR TEMPERATURE	S	SWSI	SINGLE WIDTH SINGLE INLET
D	DDC	DIRECT DIGITAL CONTROLS	M	MAX	MAXIMUM	S	SYS	SYSTEM
D	DES	DEGREE	M	MBH	1000 BTUH	T	TAB	TESTING, ADJUSTING, BALANCE
D	DEMO	DEMOLITION	M	MCA	MINIMUM CIRCUIT AMPACITY	T	TD	TRANSFER DUCT
D	DF	DIFFUSER	M	ME	MECHANICAL ENGINEER	T	TEMP	TEMPERATURE OR TEMPORARY
D	DIA	DIAMETER	M	MEAS	MEASURE	T	TF	TRANSFER FAN
D	DIAG	DIAGONAL DIAGRAM OR DIAGRAM DIAGONAL	M	MER	MECHANICAL ROOM	T	TG	TRANSFER GRILLE
D	DM	DIMENSION	M	MERV	MINIMUM EFFICIENCY REPORTING VALUE	T	THERM	THERM
D	DIST	DISTANCE	M	MEZZ	MEZZANINE	T	THK	THICKNESS
D	DIV	DIVIDE OR DIVISION	M	MFG	MANUFACTURING	T	THRU	THROUGH
D	DN	SET OR TURN DOWN	M	MFR	MANUFACTURER	T	TP	TRAP
D	DP	DEWPOINT	M	MFR REC	MANUFACTURER'S RECOMMENDATION	T	TSP	TOTAL STATIC PRESSURE
D	DPS	DIFFERENTIAL PRESSURE SENSOR	M	MH	MINIMUM	T	TSTAT	THERMOSTAT
D	DWDI	DOUBLE WIDTH DOUBLE INLET	M	MN	MINIMUM	T	TU	TERMINAL UNIT
D	DWG	DRAWING	M	MISC	MISCELLANEOUS	T	TX	TOILET EXHAUST
E	EA	EXHAUST AIR	M	MM	MILLIMETER	T	TYP	TYPICAL
E	EAT	ENTERING AIR TEMPERATURE	M	MTD	MOUNTED	U	UN.O	UNLESS NOTED OTHERWISE
E	EF	EXHAUST FAN	M	MTG	MOUNTING	U	U.O.N	UNLESS OTHERWISE NOTED
E	EG	EXHAUST GRILLE	N	MD	MANUAL VOLUME DAMPER	U	UH	UNIT HEATER
E	ELEV	ELEVATION	N	NA	NOT APPLICABLE	U	UP	SET OR TURN UP
E	ELEC	ELECTRIC, ELECTRICAL	N	NATL	NATIONAL	V	V	VALVE
E	ELEV'S	ELEVATIONS	N	NC	NOISE CRITERIA	V	VAV	VARIABLE AIR VOLUME
E	EMR	ELEVATOR MACHINE ROOM	N	NC	NORMALLY CLOSED	V	VENT	VENTILATION
E	ENGR	ENGINEER	N	NE	NORTH EAST	V	VERT	VERTICAL
E	ENT	ENTERING	N	NEC	NATIONAL ELECTRICAL CODE	V	VFD	VARIABLE FREQUENCY DRIVE
E	EQ	EQUAL	N	NEG	NEGATIVE	V	VI	VIBRATION ISOLATOR
E	EQUIP	EQUIPMENT	N	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	V	VP	VELOCITY PRESSURE
E	EQUIV	EQUIVALENT	N	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	V	VSD	VARIABLE SPEED DRIVE
E	ERD	EXISTING ROOF DRAIN	N	NO	NORMALLY OPEN	W	WB	WET BULB
E	ESMT	EASEMENT	N	NOM	NOMINAL	W	WMS	WIRE MESH SCREEN
E	ESP	EXTERNAL STATIC PRESSURE	N	NPSH	NET POSITIVE SUCTION HEAD			
E	ET	EXPANSION TANK	N	NRCA	NATIONAL ROOFING CONTRACTORS ASSOCIATION			
E	ETC	AND SO FORTH OR ET CETERA	N	NS	NARROW STYLE			
E	EWT	ENTERING WATER TEMPERATURE	N	NTS	NOT TO SCALE			
E	EX	EXISTING	N	NW	NORTH WEST			
E	EXH	EXHAUST	O	OA/OGA	OUTSIDE AIR			
E	EXIST	EXISTING	O	OAI	OUTSIDE AIR INTAKE			
F	F	FAHRENHEIT OR FEMALE	O	OB	OPPOSED BLADE DAMPER			
F	FA	FREE AREA	O	OD	OUTSIDE DIAMETER OR OUTSIDE DIMENSION			
F	FC	FLEXIBLE CONNECTION	O	OV	OXYGEN VACUUM			
F	FD	FLOOR DRAIN OR FIRE DAMPER	P					
F	FM	FLOW METER	P					
F	FP	FIRE PROTECTION OR FIREPROOF	P					
F	FPB	FAN-POWERED BOX	P					
F	FRM	FEET PER MINUTE	P					
F	FPS	FEET PER SECOND	P					
F	FR	FIRE RATING, FIRE RESISTANT, OR FRAME	P					
F	FREQ	FREQUENCY	P					
F	FS	FLOW SWITCH	P					
F	FSD	COMBINATION FIRE SMOKE DAMPER	P					
F	FSTAT	FREZEZSTAT	P					
F	FT	FEET OR FOOT	P					
F	FTT	FLOAT & THERMOSTATIC STEAM TRAP	P					
G	GA	GAUGE						

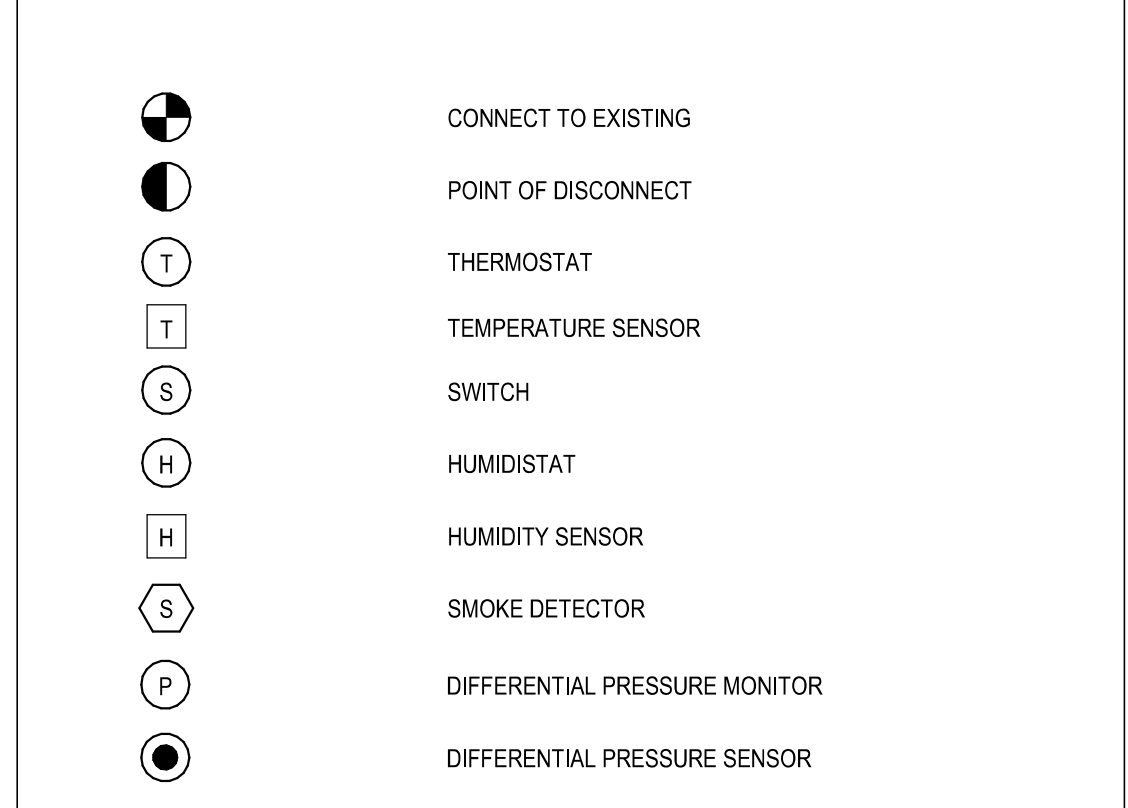
DUCTWORK SYMBOLS



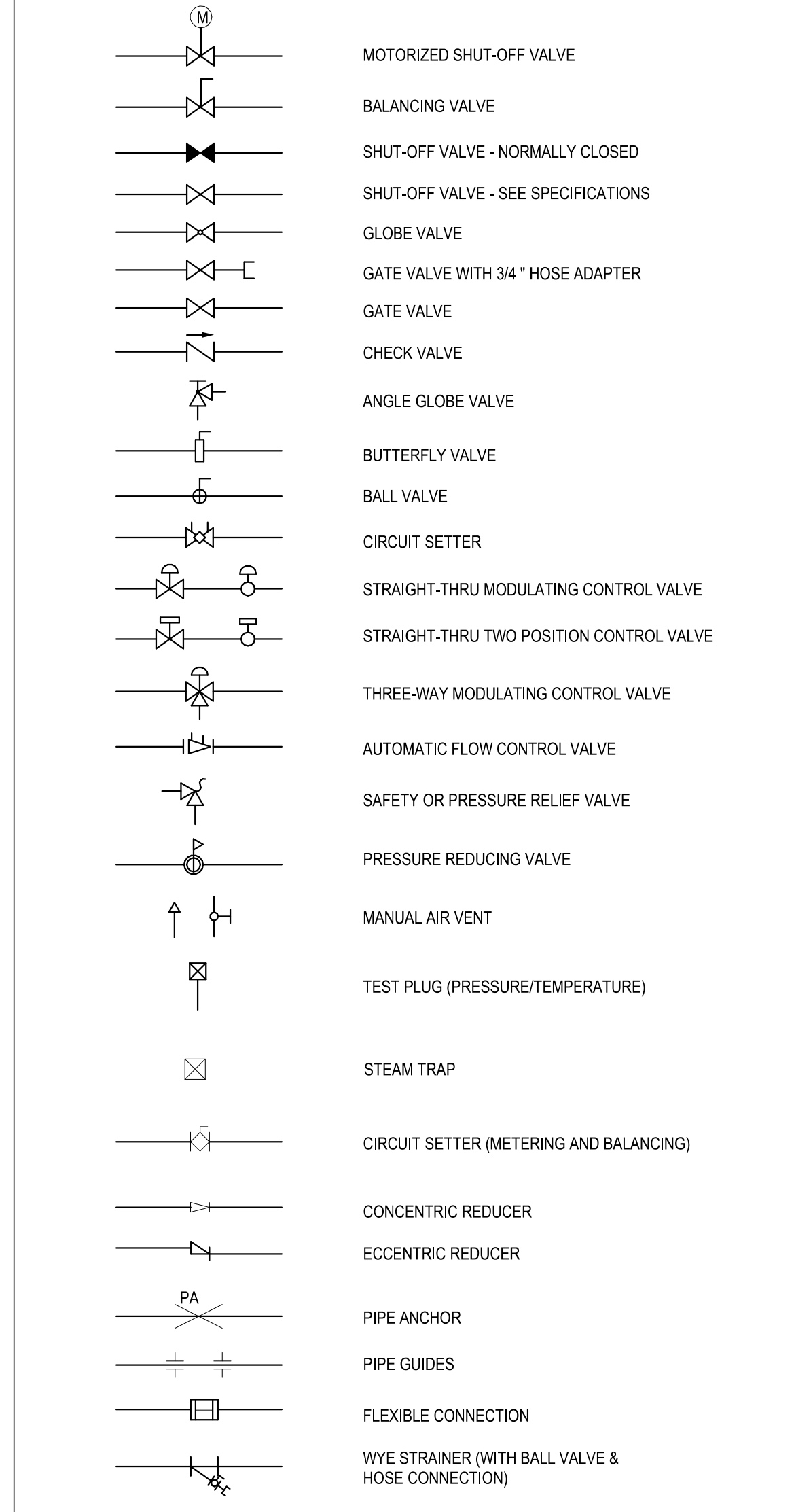
GENERAL PIPING SYMBOLS



MECHANICAL SYMBOLS



VALVE SYMBOLS



GENERAL NOTES

- COORDINATE ALL WORK WITH OTHER TRADES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES, PERMITS AND LICENSES FOR THE COMPLETE INSTALLATION OF THEIR WORK.
- ALL DUCTWORK RUNS SHOWN ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONDITIONS IN THE FIELD (EXISTING OR PREDICATED BY LOCATION OF NEW EQUIPMENT) THAT MAKE NECESSARY ALTERNATE ROUTING OF DUCTWORK.
- ALL PIPING RUNS SHOWN ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONDITIONS IN THE FIELD THAT MAKE NECESSARY ALTERNATE ROUTING OF PIPING.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL AND CONTROLS CONTRACTORS TO PROVIDING POWER CONNECTIONS AND DDC CONTROLS FOR ALL EQUIPMENT.
- ALL DIFFUSERS NOT SHOWN AS A FULL CEILING MODULE (24"X24") SHALL BE A MINIMUM OF 12"X12"
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY ARCHITECTURAL WORK (INCLUDING, BUT NOT LIMITED TO: FLOORING, CEILING TILE AND GRID, SMOKE PARTITIONS ABOVE CEILING, GYPSUM WALL BOARD AND PAINTING PLASTER, ETC.) THAT IS DAMAGED, DISTURBED, OR REMOVED INCIDENTAL TO THIS WORK.
- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
- THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
- ACCESS PANELS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. THAT ARE LOCATED ABOVE HARD CEILINGS OR BEHIND WALLS. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
- TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
- FOR TYPICAL WATER PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
- DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
- PROVIDE INSULATED SUPPLY DIFFUSERS AND GRILLES.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- PROVIDE NEW DDC SYSTEM TO ACCOUNT FOR NEW ROOMS, THERMOSTATS AND VAV TERMINAL UNITS. PRIOR TO CONTROLS PROGRAMMING, MECHANICAL CONTRACTOR SHALL PROVIDE TO CONTROLS VENDOR THE ACTUAL ROOM NUMBERS, AS DETERMINED BY THE ARCHITECT AND OWNER.
- MECHANICAL CONTRACTOR SHALL ENSURE THAT THE FLEXIBLE DUCTWORK IS FREE OF BENDS THAT WOULD RESTRICT AIRFLOW. PROVIDE HANGERS AND SUPPORTS TO ENSURE BENDS ARE SMOOTH RADII.
- WHERE CONFLICTS WITH OTHER UTILITIES OR CONSTRUCTION OCCUR, CONTRACTOR SHALL PROVIDE DUCT TRANSITIONS (AND CHANGES IN DIMENSIONS) PER SMACNA GUIDELINES AS REQUIRED TO AVOID CONFLICT. DUCT OF DIFFERING SIZE TO THAT SHOWN ON PLANS SHALL HAVE A HYDRAULIC AREA EQUAL TO THE DUCT SIZE LISTED ON PLANS.
- ALL AIR DISTRIBUTION DEVICES SHALL BE PROVIDED WITH MANUAL VOLUME DAMPERS FOR BALANCING PURPOSES. SEE DETAILS AND SPECIFICATIONS FOR MORE REQUIREMENTS, WHETHER SHOWN ON THE DRAWINGS OR NOT.

Revision Number	Revisions:	Date:

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DRAWING TITLE

GENERAL NOTES & LEGENDS

APPROVED

PHASE

CONSTRUCTION DOCUMENTS SUBMISSION

FULLY SPRINKLERED

PROJECT TITLE

RENOVATE SPACE FOR LOGISTICS (B-1)

LOCATION

FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE

11 APRIL 2024

CHECKED

WGG

DRAWN

ANB

PROJECT NUMBER

564-24-104

BUILDING NUMBER

1

DRAWING NUMBER

MH001-A

Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

U.S. Department of Veterans Affairs

GENERAL NOTES

1. REFER TO SHEET MH001-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

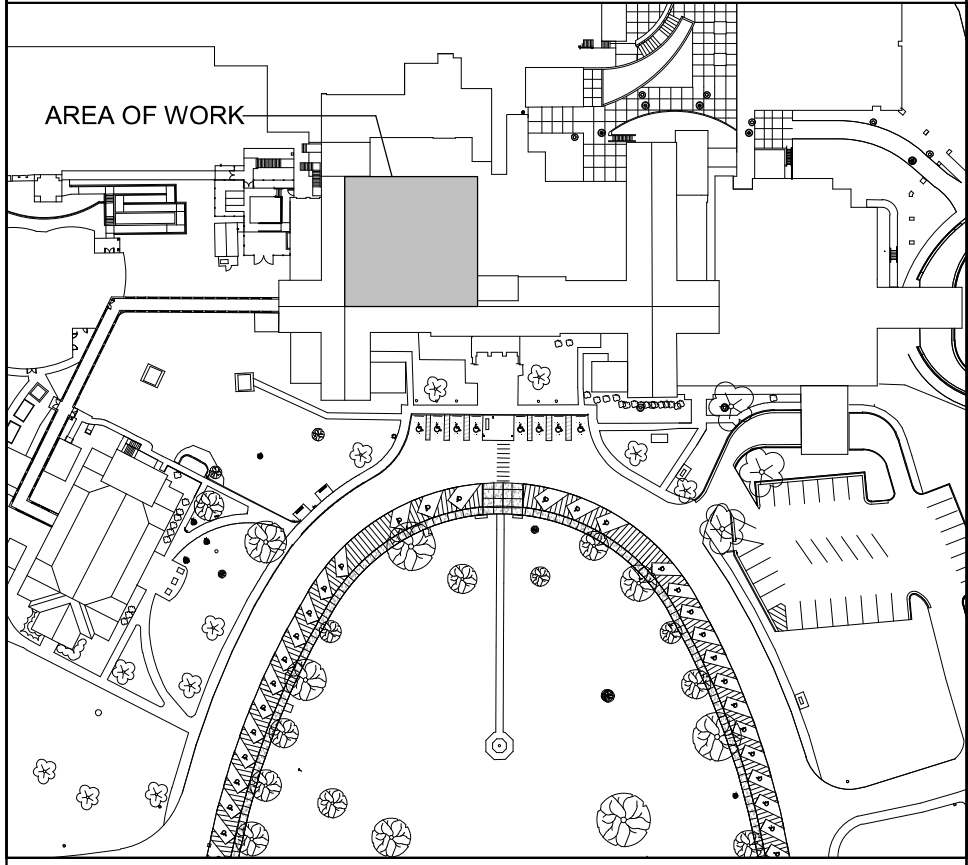
SHEET KEYNOTES

1. DEMOLISH DUCTWORK AND ASSOCIATED TERMINAL UNITS, DIFFUSERS, GRILLES, AND ACCESSORIES BACK TO MAIN AND CAP DUCTS.
2. REMOVE 3" CHWS/R PIPING IN THIS LOCATION AND OFFSET BELOW FLOOR TO NEW LOCATION SHOWN.
3. EXISTING 14"x8" EXHAUST DUCT UP TO EF-3.
4. REMOVE CEILING CASSETTE AND ASSOCIATED CONDENSING UNIT AND TURN OVER TO THE VA.
5. CUT EXISTING DUCT SO THAT THE INTAKE SCREEN/GRILLE CAN BE REATTACHED.
6. EXISTING 24"x12" SUPPLY DUCT DOWN FROM 1-AHU-10.
7. EXISTING 24"x12" RETURN DUCT UP TO 1-AHU-10.
8. EXISTING 30"x26" SUPPLY DUCT DOWN FROM 1-AHU-2.
9. EXISTING 28"x26" EXHAUST DUCT UP TO 1-EF-5.
10. ALL WORK IN CORRIDOR L108 MUST BE PERFORMED AFTER HOURS. CORRIDOR MUST BE PATIENT ACCESSIBLE DURING FACILITY OPERATION HOURS. SEE SHEET #E114 FOR MORE INFORMATION.
11. PERFORM THIS WORK AFTER HOURS, FOR NO MORE THAN FOUR CONSECUTIVE DAYS.

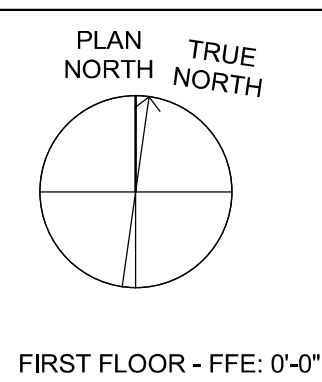
PARTITION GRAPHICS

- NO RATING
- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

KEY PLAN

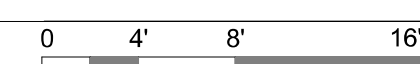


NORTH LEGEND



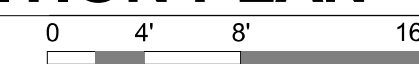
C2 BASEMENT ELEVATOR LOBBY MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



F4 FIRST FLOOR MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



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Charlottesville, VA
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No. 024948
13-22-08-04100

DRAWING TITLE
BASEMENT AND FIRST FLOOR MECHANICAL DEMOLITION PLAN

APPROVED

PHASE
CONSTRUCTION DOCUMENTS SUBMISSION

FULLY SPRINKLERED

PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

CHECKED
WGG

DRAWN
ANB

PROJECT NUMBER
564-24-104

BUILDING NUMBER
1

DRAWING NUMBER
MD101-A

Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

VA U.S. Department of Veterans Affairs

Autodesk Docs:191022 - Fayetteville IDIQ Project No. 564-B-03 Renovation of SPS 19022 - MECH - F2024.rvt 7/11/2024 12:25:05 PM

GENERAL NOTES

1. REFER TO SHEET MH01-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

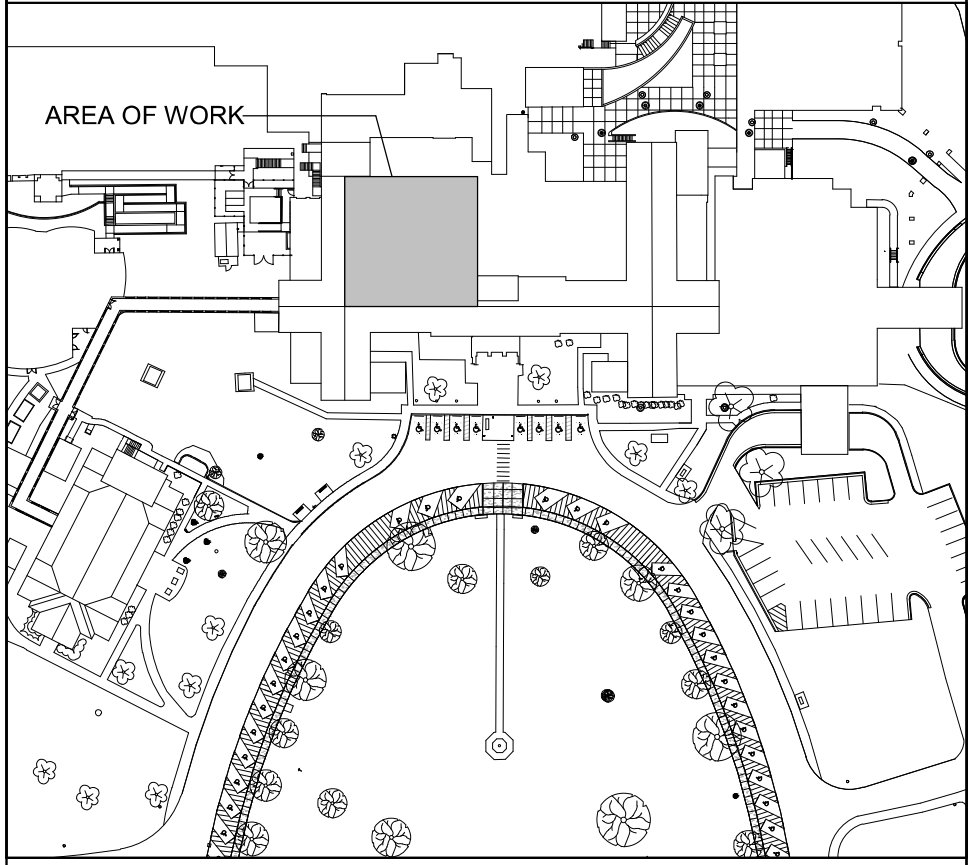
SHEET KEYNOTES

1. DEMOLISH DUCTWORK AND ASSOCIATED TERMINAL UNITS, DIFFUSERS, GRILLES, AND ACCESSORIES BACK TO MAIN AND CAP DUCTS.
2. REMOVE 3" CHWIR RIPPING IN THIS LOCATION AND OFFSET BELOW FLOOR TO NEW LOCATION SHOWN.
3. EXISTING 14"x8" EXHAUST DUCT UP TO EF-3.
4. REMOVE CEILING CASSETTE AND ASSOCIATED CONDENSING UNIT AND TURN OVER TO THE VA.
5. CUT EXISTING DUCT SO THAT THE INTAKE SCREEN/GRILLE CAN BE REATTACHED.
6. EXISTING 24"x12" SUPPLY DUCT DOWN FROM 1-AHU-10.
7. EXISTING 24"x12" RETURN DUCT UP TO 1-AHU-10.
8. EXISTING 30"x26" SUPPLY DUCT DOWN FROM 1-AHU-2.
9. EXISTING 26"x26" EXHAUST DUCT UP TO 1-EF-5.
10. ALL WORK IN CORRIDOR L108 MUST BE PERFORMED AFTER HOURS. CORRIDOR MUST BE PATIENT ACCESSIBLE DURING FACILITY OPERATION HOURS. SEE SHEET #E114A FOR MORE INFORMATION.
11. PERFORM THIS WORK AFTER HOURS, FOR NO MORE THAN FOUR CONSECUTIVE DAYS.

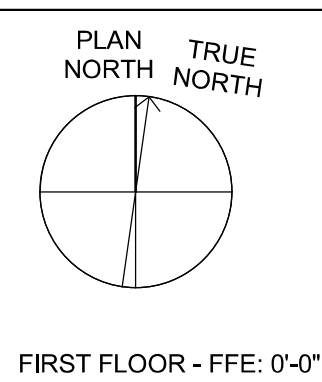
PARTITION GRAPHICS

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- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

KEY PLAN

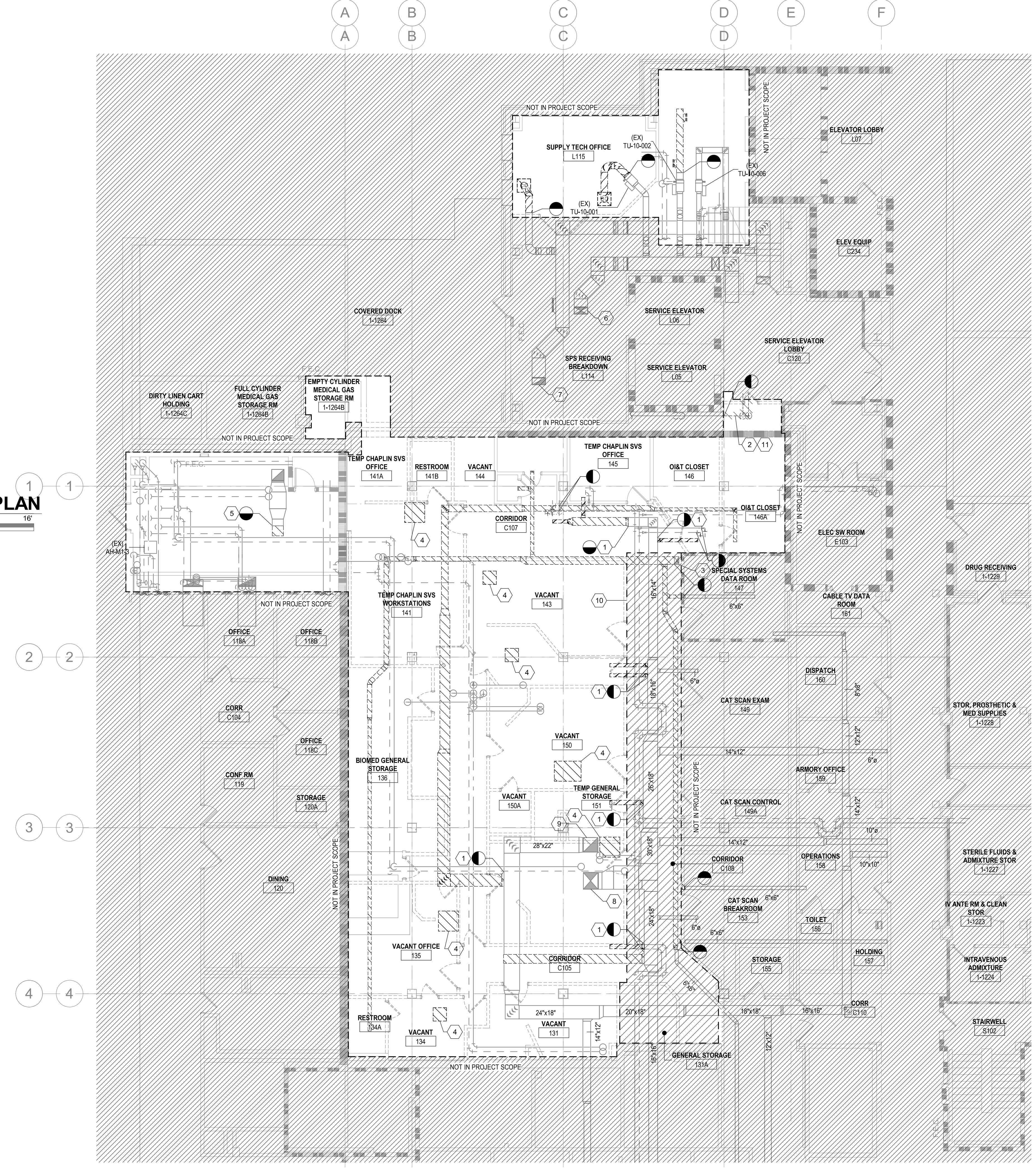


NORTH LEGEND



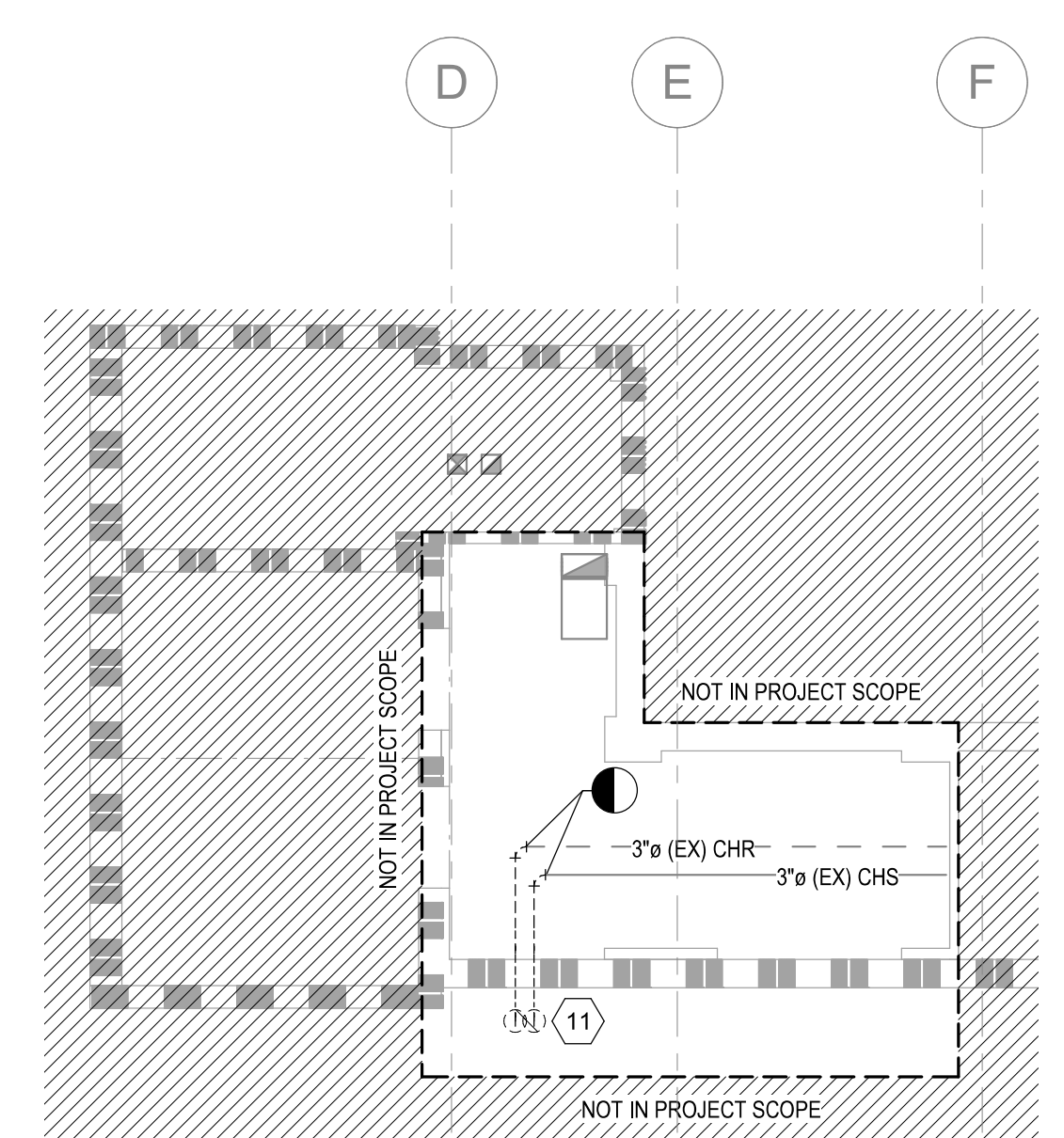
F4 FIRST FLOOR MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



C2 BASEMENT ELEVATOR LOBBY MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



GENERAL NOTES

1. REFER TO SHEET MH101-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

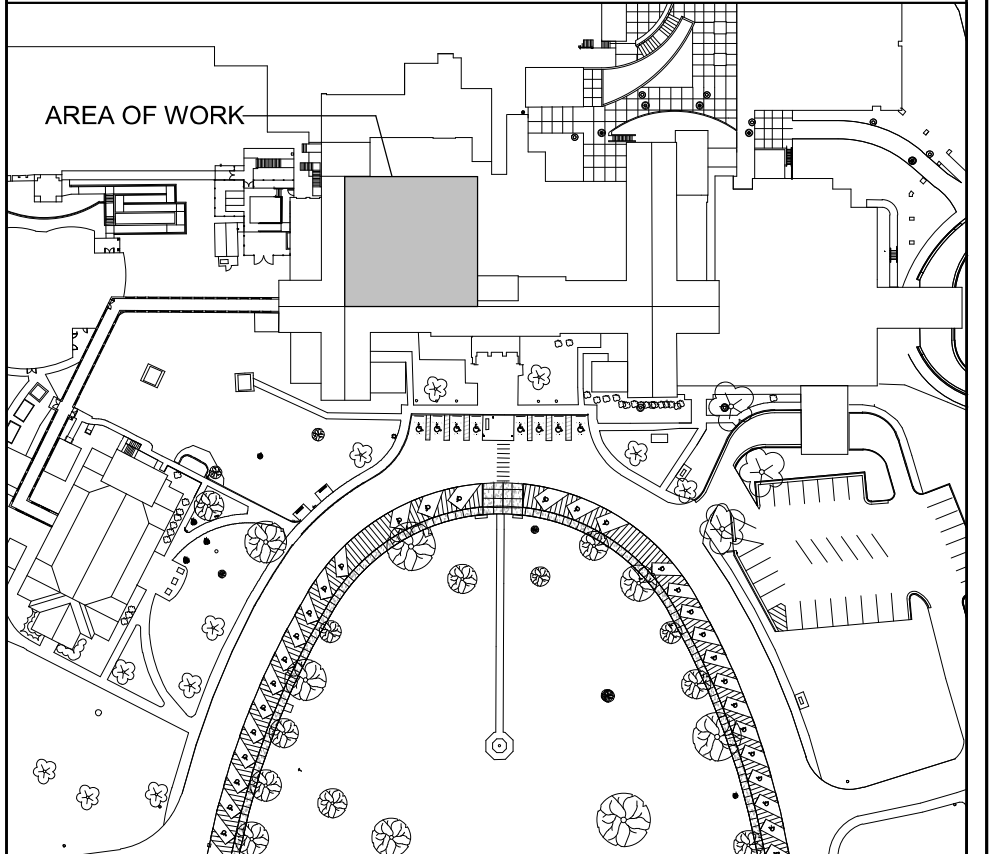
SHEET KEYNOTES

1. PROVIDE NEW SUPPLY AND RETURN GRILLES IN THIS AREA, CONNECT TO EXISTING DUCTWORK.
2. TRANSITION 18"x18" EXHAUST DUCT TO FAN INLET SIZE BELOW LOADING DOCK ROOF PENETRATION.
3. EXISTING 14"x18" EXHAUST DUCT UP TO EF-3.
4. ROUTE REFRIGERANT PIPING TO AIR HANDLER ON FIRST FLOOR.
5. REATTACH EXISTING INTAKE SCREEN/GRILLE.
6. 3 HP VFD W/ INTERNAL BYPASS FOR 1-AHU-10.
7. EXISTING 24"x12" SUPPLY DUCT DOWN FROM 1-AHU-10.
8. EXISTING 24"x12" RETURN DUCT DOWN FROM 1-AHU-2.
9. EXISTING 30"x20" SUPPLY DUCT DOWN FROM 1-AHU-2.
10. EXISTING 20"x20" EXHAUST DUCT UP TO 1-EF-5.
11. BAS CONTROL PANEL.
12. ROUTE NEW REFRIGERANT LINES DOWN THROUGH ROOF TO AIR HANDLER USING PATE MODEL PCC-1 OR APPROVED EQUAL WITH 3 PENETRATIONS.
13. ALL WORK IN CORRIDOR L109 MUST BE PERFORMED AFTER HOURS. CORRIDOR MUST BE PATIENT ACCESSIBLE DURING FACILITY OPERATION HOURS. SEE SHEET AE11-A FOR MORE INFORMATION.

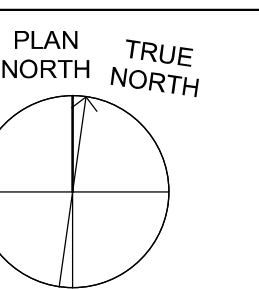
PARTITION GRAPHICS

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- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

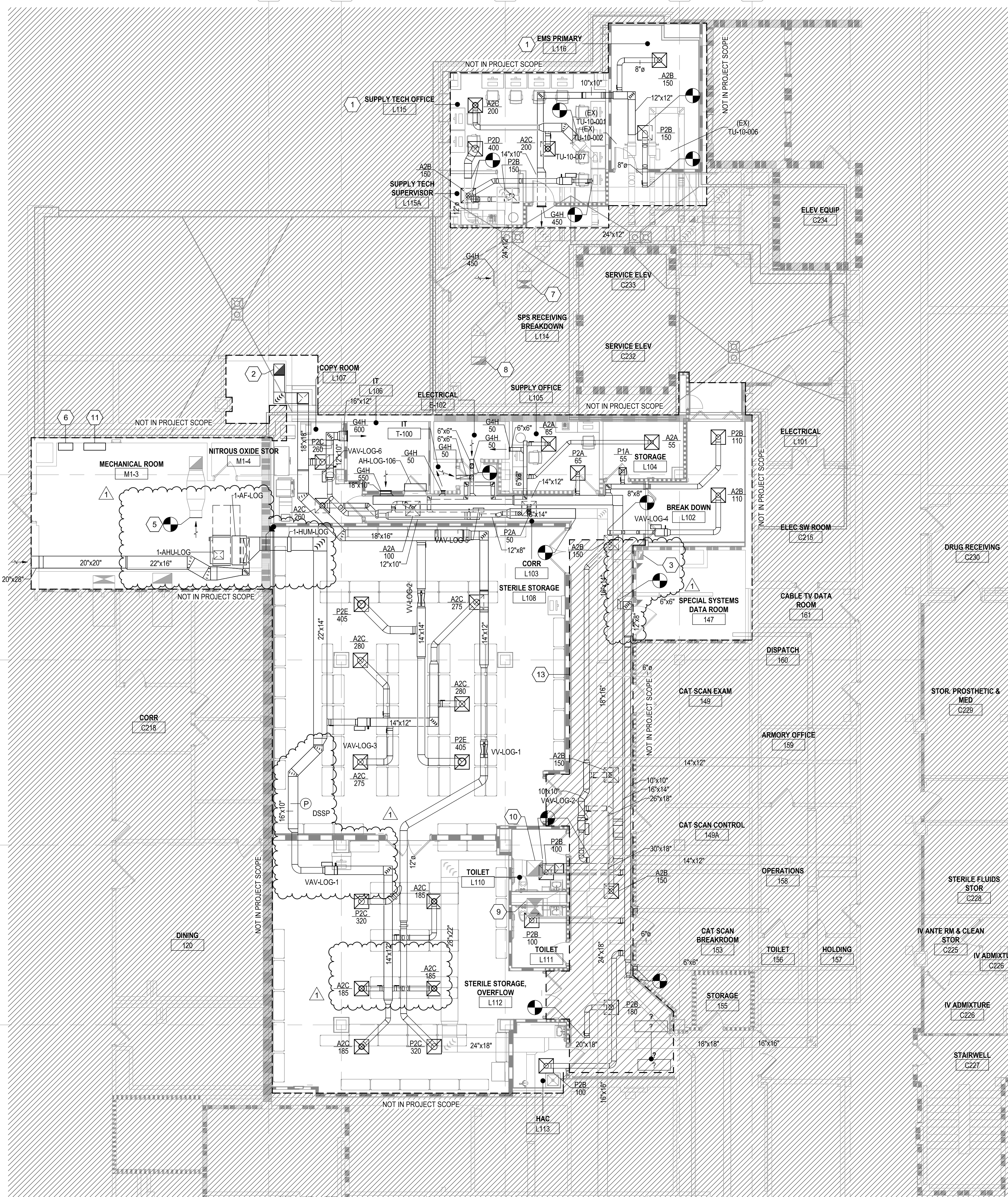
KEY PLAN



NORTH LEGEND

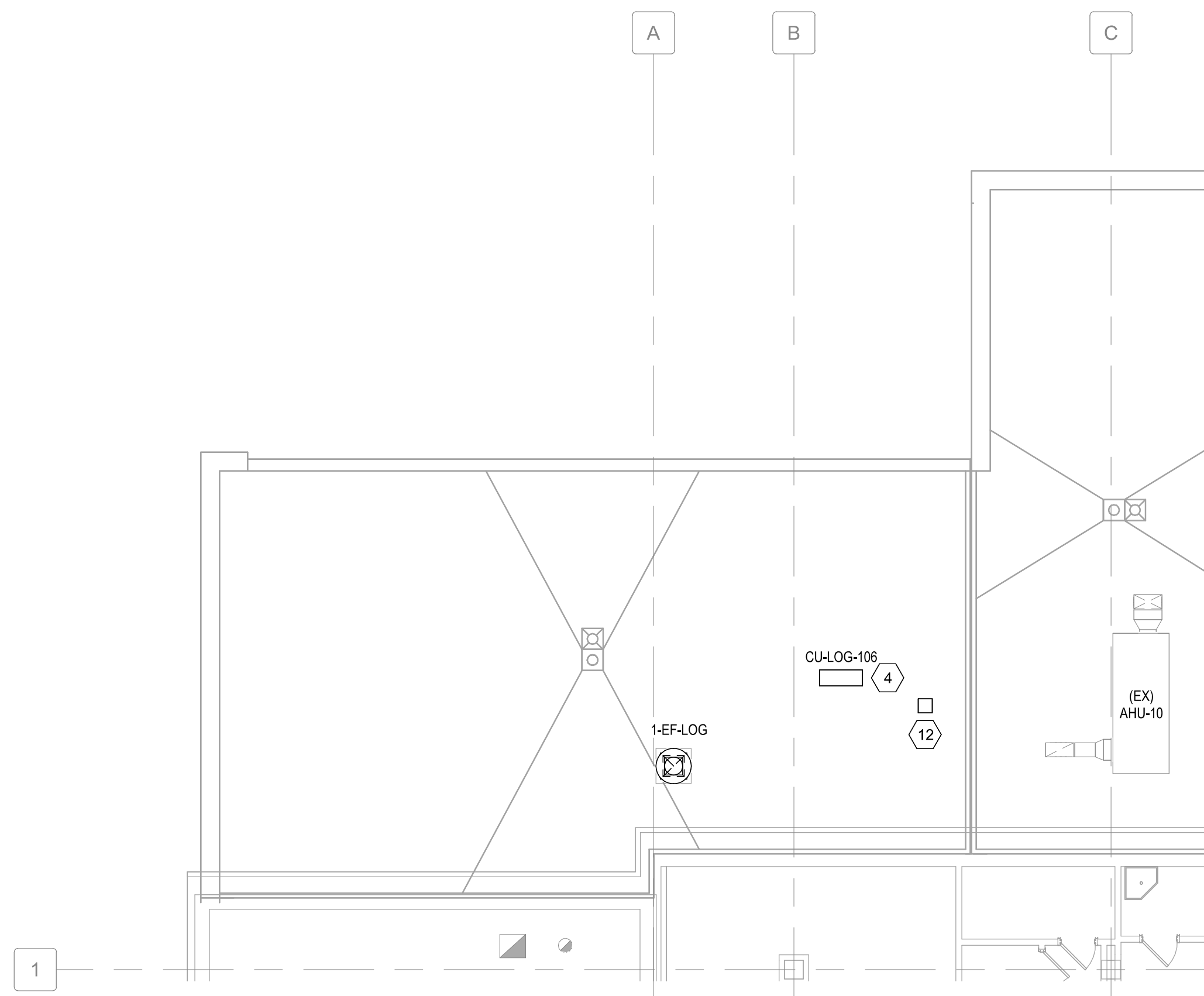


FIRST FLOOR - FFE: 0'-0"



F4 FIRST FLOOR DUCTWORK PLAN

1/8" = 1'-0"



C1 LOADING DOCK ROOF DUCTWORK PLAN

1/8" = 1'-0"

1 2 3 4 5 6 7 8 9 10

A B C D E F

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Revision Number	Revisions:	Date:
1	AMENDMENT 02	07/11/2024

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13:22:42-04/00

DRAWING TITLE
FIRST FLOOR AND LOADING DOCK ROOF DUCTWORK PLANS

PHASE
CONSTRUCTION DOCUMENTS SUBMISSION

APPROVED

FULLY SPRINKLERED

PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

CHECKED
WGG

DRAWN
ANB

PROJECT NUMBER
564-24-104

BUILDING NUMBER
1

DRAWING NUMBER
MH101-A

Engineering Service
VETERANS HEALTH CARE SYSTEM OF THE OZARKS
U.S. Department of Veterans Affairs

VA FORM 08 - 6231 1 2 3 4 5 6 7 8 9 10

GENERAL NOTES

1. REFER TO SHEET MH101-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

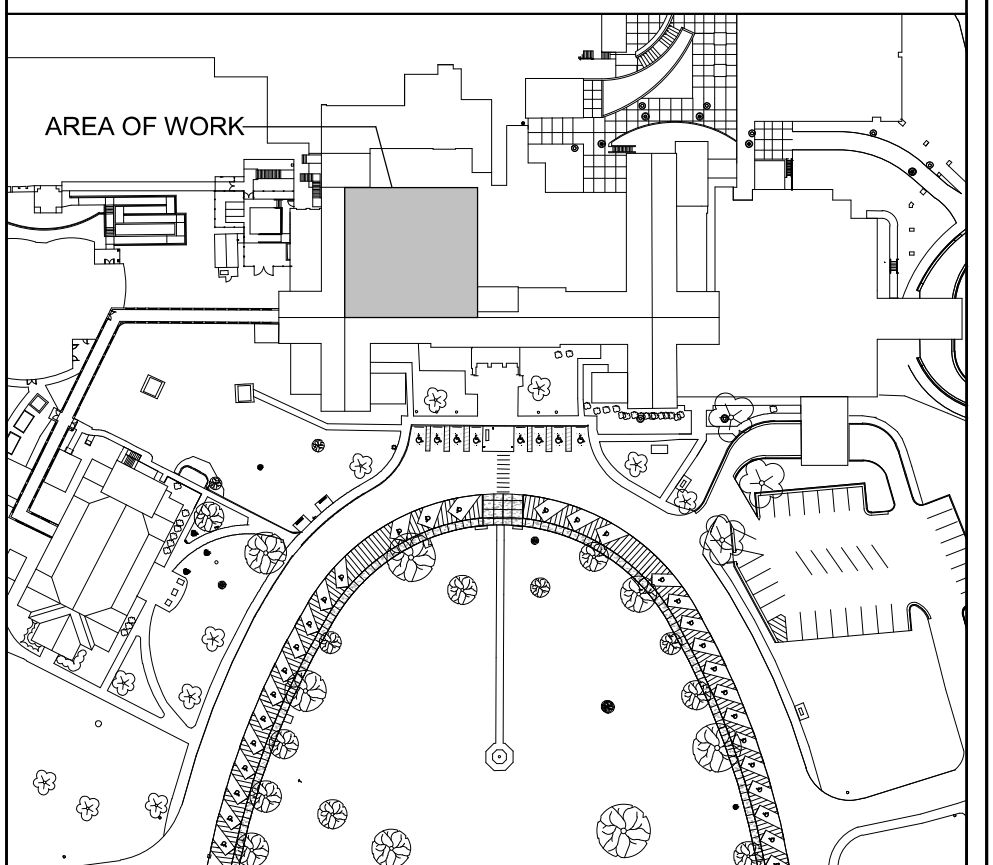
SHEET KEYNOTES

1. PROVIDE NEW SUPPLY AND RETURN GRILLES IN THIS AREA, CONNECT TO EXISTING DUCTWORK.
2. TRANSITION 18"x18" EXHAUST DUCT TO FAN INLET SIZE BELOW LOADING DOCK ROOF PENETRATION.
3. EXISTING 14"x18" EXHAUST DUCT UP TO EF-3.
4. ROUTE REFRIGERANT PIPING TO AIR HANDLER ON FIRST FLOOR.
5. REATTACH EXISTING INTAKE SCREEN/GRILLE.
6. 3 HP VFD W/ INTERNAL BYPASS FOR 1-AHU-10.
7. EXISTING 24"x12" SUPPLY DUCT DOWN FROM 1-AHU-10.
8. EXISTING 24"x12" RETURN DUCT DOWN FROM 1-AHU-2.
9. EXISTING 30"x20" SUPPLY DUCT DOWN FROM 1-AHU-2.
10. EXISTING 20"x20" EXHAUST DUCT UP TO 1-EF-5.
11. BAS CONTROL PANEL.
12. ROUTE NEW REFRIGERANT LINES DOWN THROUGH ROOF TO AIR HANDLER USING PATE MODEL PCC-1 OR APPROVED EQUAL WITH 3 PENETRATIONS.
13. ALL WORK IN CORRIDOR L109 MUST BE PERFORMED AFTER HOURS. CORRIDOR MUST BE PATIENT ACCESSIBLE DURING FACILITY OPERATION HOURS. SEE SHEET AE11-A FOR MORE INFORMATION.

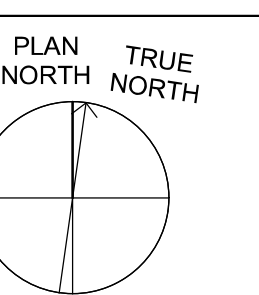
PARTITION GRAPHICS

- NO RATING
- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

KEY PLAN



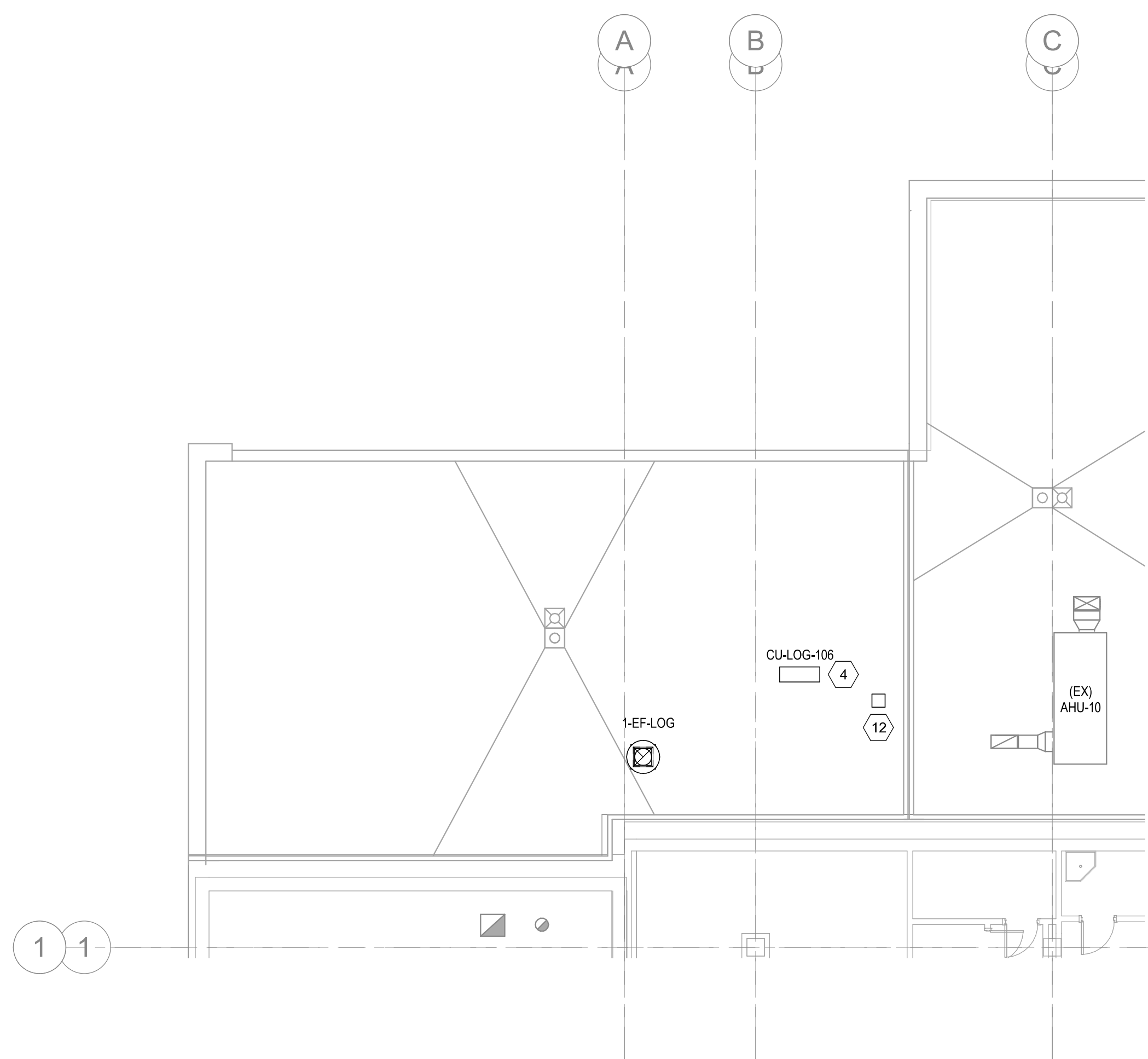
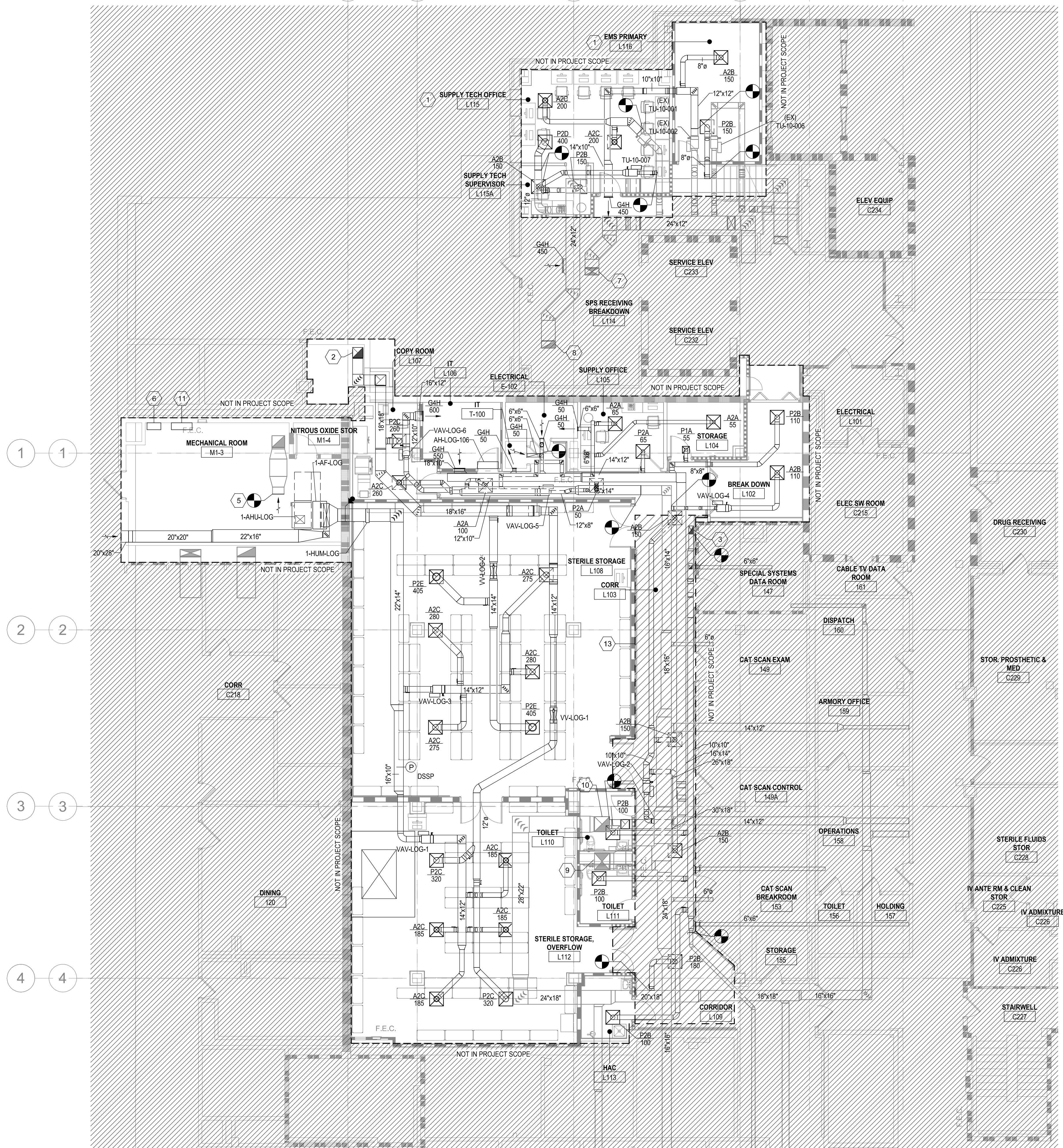
NORTH LEGEND



FIRST FLOOR - FFE: 0'-0"

F4 FIRST FLOOR DUCTWORK PLAN

1/8" = 1'-0"



C1 LOADING DOCK ROOF DUCTWORK PLAN

1/8" = 1'-0"

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BIM 360://19022 - Fayetteville DDG Project No. 94-19-003 Renovation of SPS/19022 - MECH - R2020.rvt

Revision Number	Revisions:	Date:

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DRAWING TITLE
FIRST FLOOR AND LOADING DOCK ROOF DUCTWORK PLANS

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PHASE
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FULLY SPRINKLERED

PROJECT TITLE
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Engineering Service
VETERANS HEALTH CARE SYSTEM OF THE OZARKS
U.S. Department of Veterans Affairs

GENERAL NOTES

1. REFER TO SHEET MH001-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

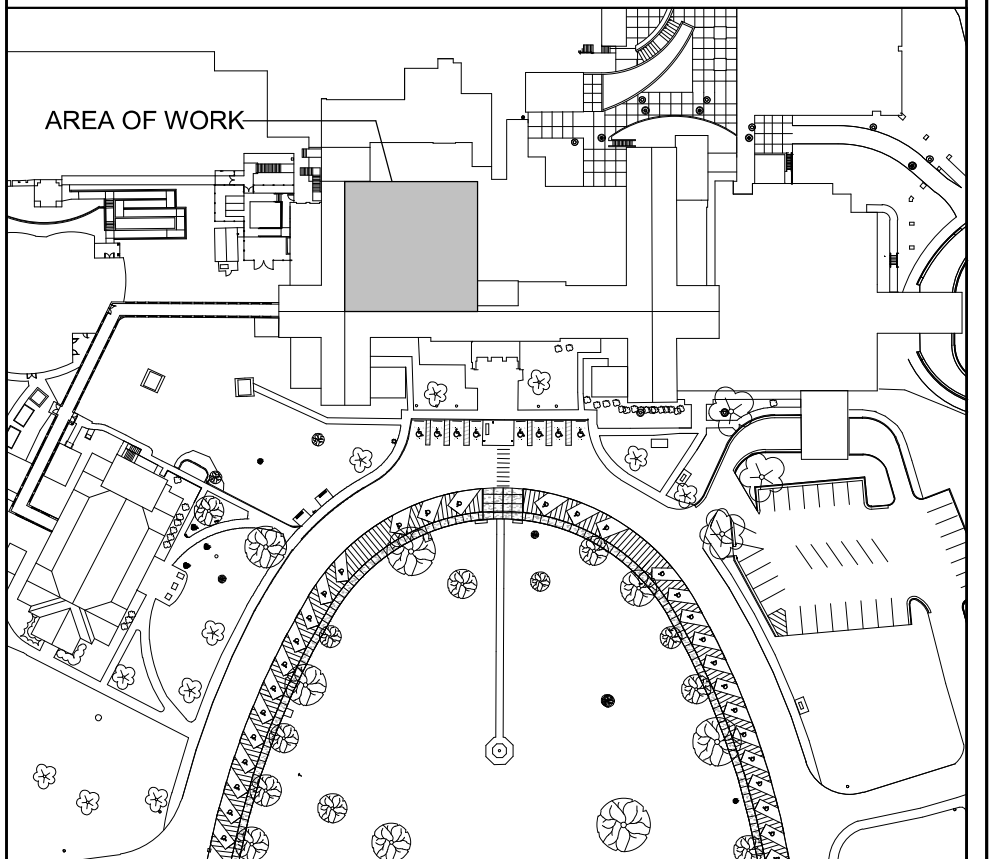
SHEET KEYNOTES

- ADJUST EXISTING 1-EF-5 EXHAUST AIR CFM TO QUANTITY LISTED ON SHEET MH001.
- ADJUST EXISTING 1-AHU-2 SUPPLY AIR CFM TO QUANTITY LISTED ON SHEET MH001.
- ADJUST EXISTING 1-AHU-2 CHILLED WATER COIL GPM TO FLOW RATE LISTED ON SHEET MH001.
- ADJUST EXISTING 1-AHU-2 STEAM PREHEAT COIL LBSHR TO FLOW RATE LISTED ON SHEET MH001.
- PROVIDE PRELIMINARY TEST AND BALANCE ON 1-AHU-2 & 1-EF-5. INCLUDE DATA ON VALUES TO BE ADJUSTED ABOVE.
- PROVIDE FINAL TEST AND BALANCE OF 1-AHU-2 & 1-EF-5.

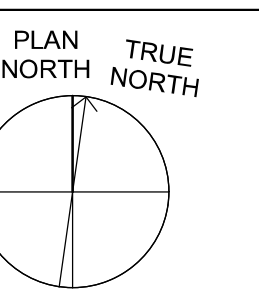
PARTITION GRAPHICS

- NO RATING
- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

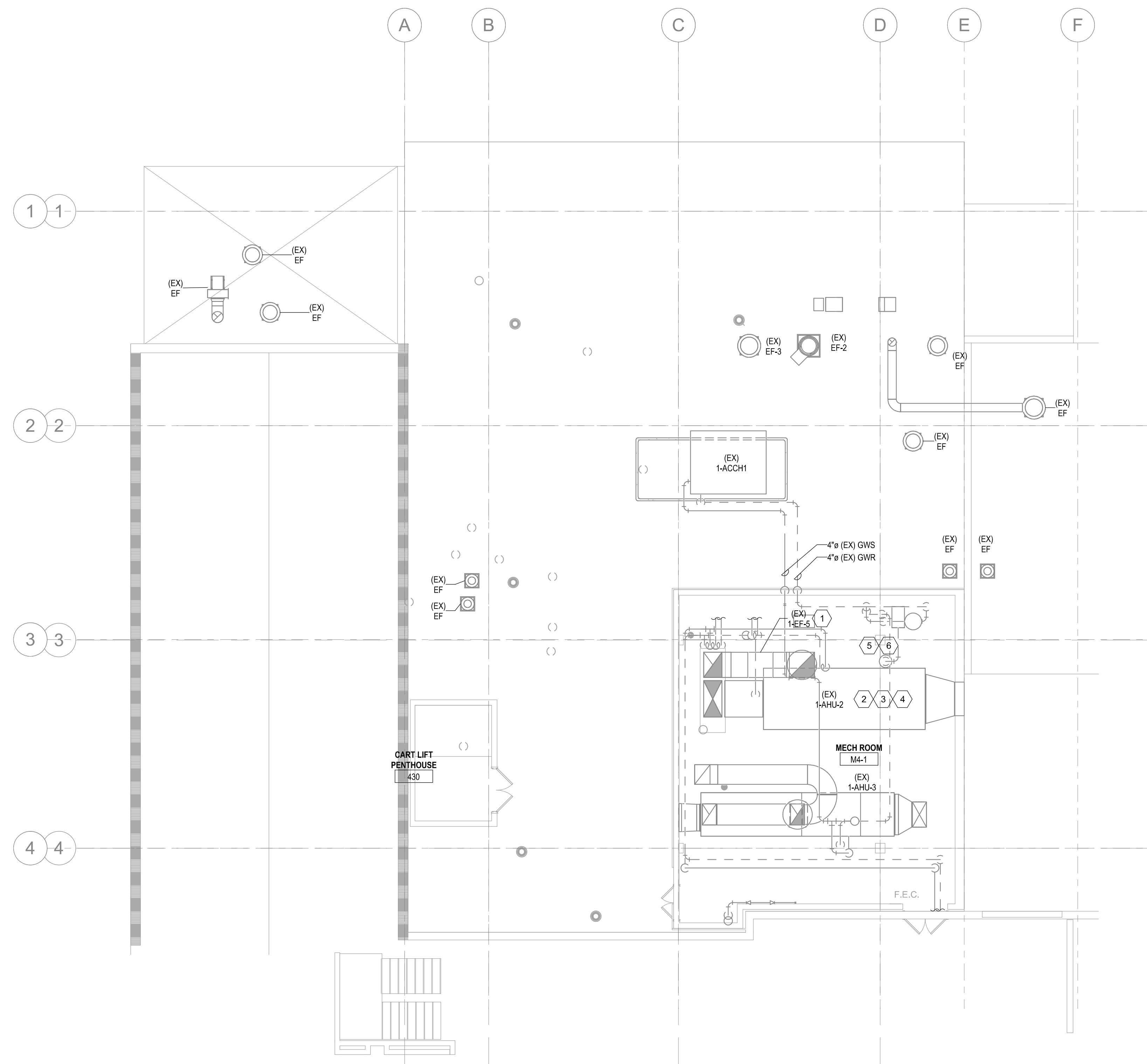
KEY PLAN



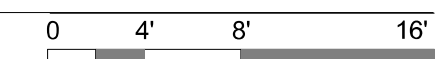
NORTH LEGEND



FIRST FLOOR - FFE: 0'-0"



F4 ROOF MECHANICAL PLAN
1/8" = 1'-0"



4/12/2024 11:10:50 AM
B:\1561791922 - Fayetteville HDG Project No. 66-19-403 Renovation of SPS19022 - MECH - R2020.rvt

Revision Number	Revisions:	Date:

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ROOF MECHANICAL PLAN

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FULLY SPRINKLERED

PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

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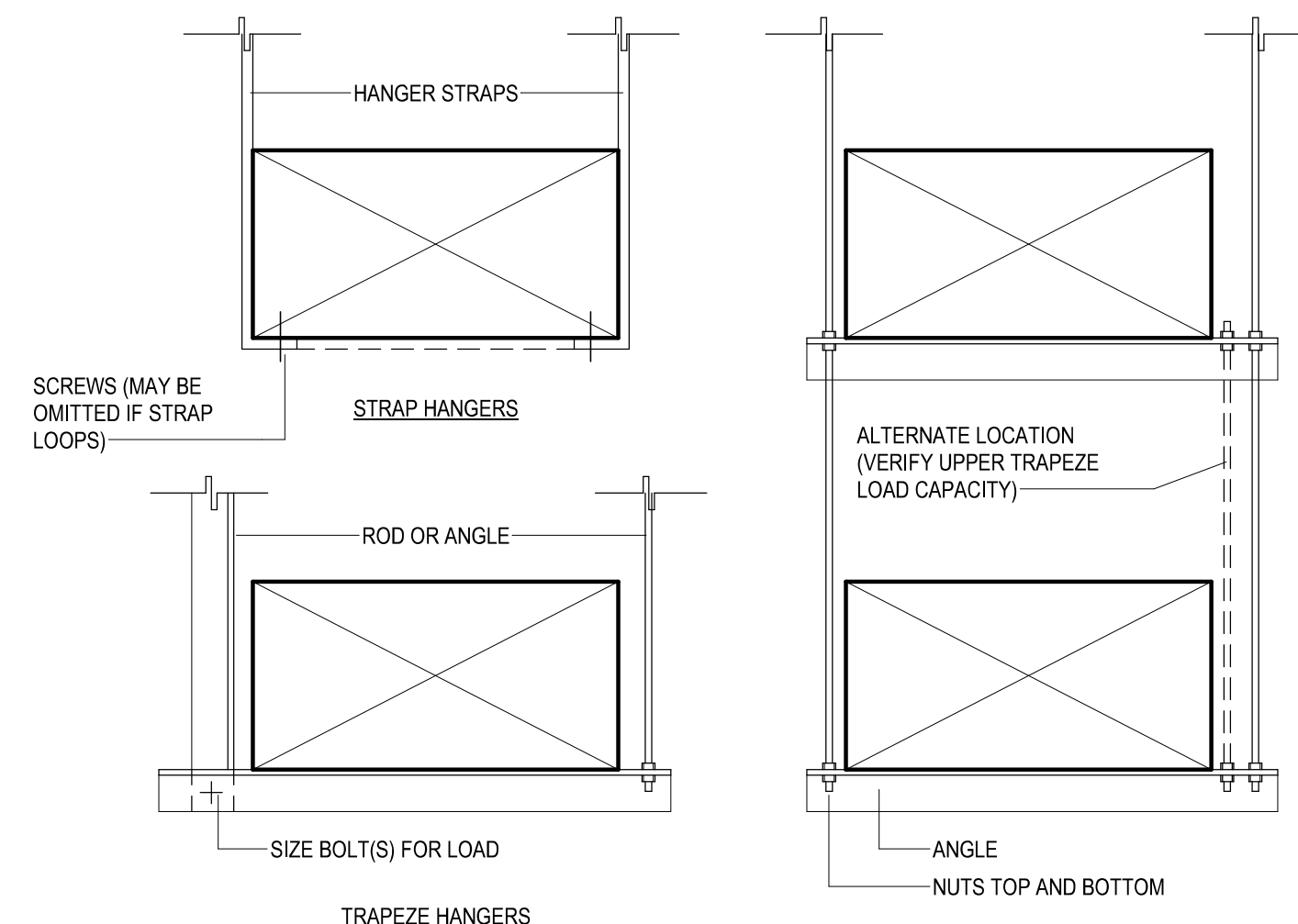
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564-24-104

BUILDING NUMBER
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DRAWING NUMBER
MH104-A

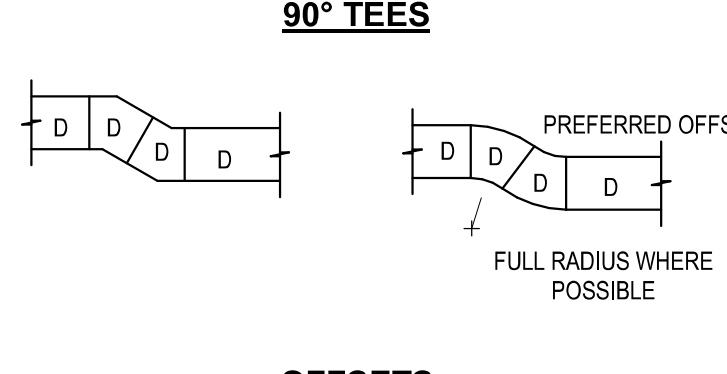
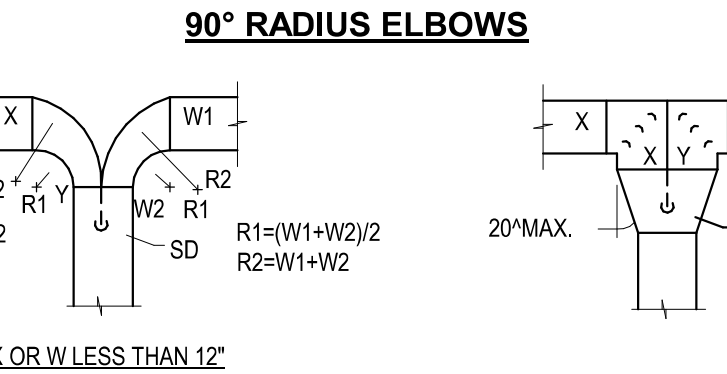
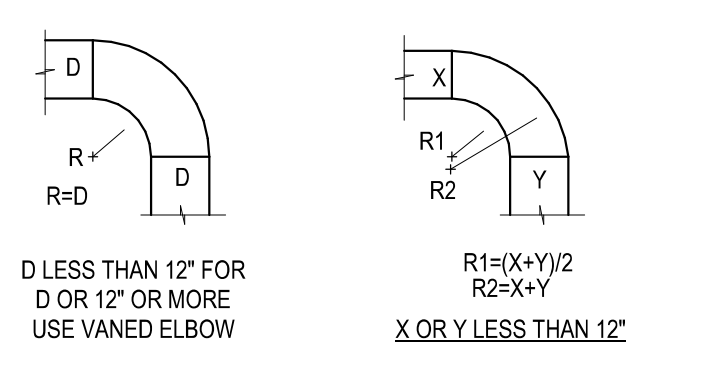
Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS
U.S. Department of Veterans Affairs

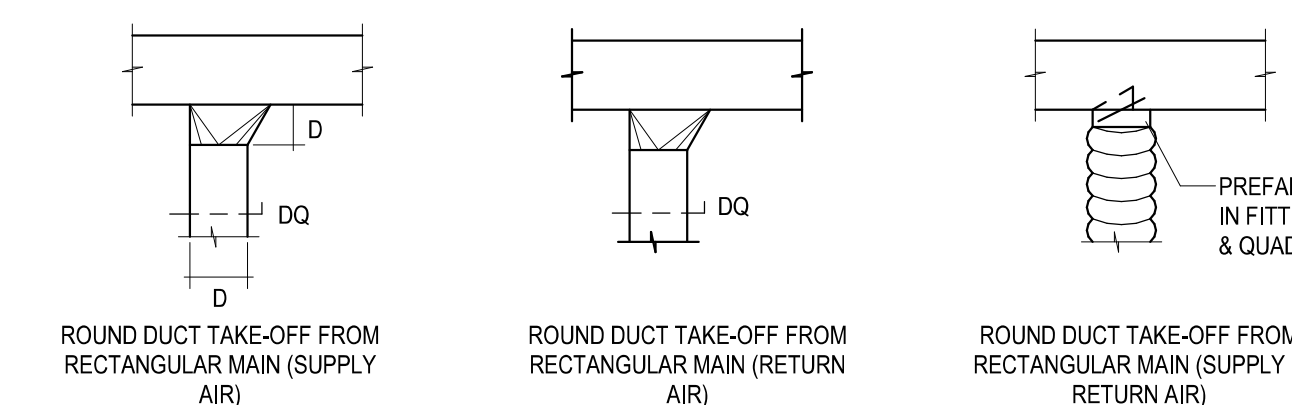
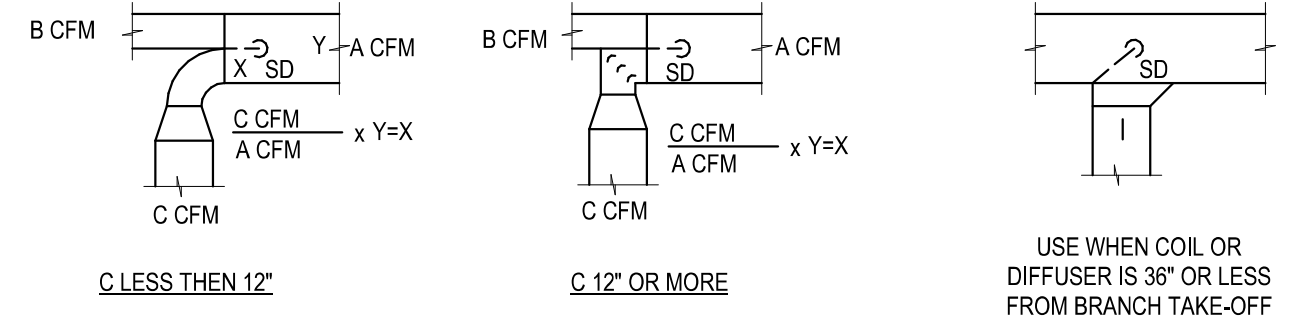


HANGER STRAPS OR RODS FOR ROUND DUCT			
MAX. DUCT Ø IN.	QUANTITY/SIZE IN.	MAX. LOAD LBS.	MAX. SPACING IN.
26	ONE 1 x 22 GA. STRAP	260	144
36	ONE 1 x 18 GA. STRAP	420	144
50	ONE 1 x 16 GA. STRAP	700	144
60	TWO 3/8 Ø RODS	1320	144
84	TWO 1/2 Ø RODS	2500	144

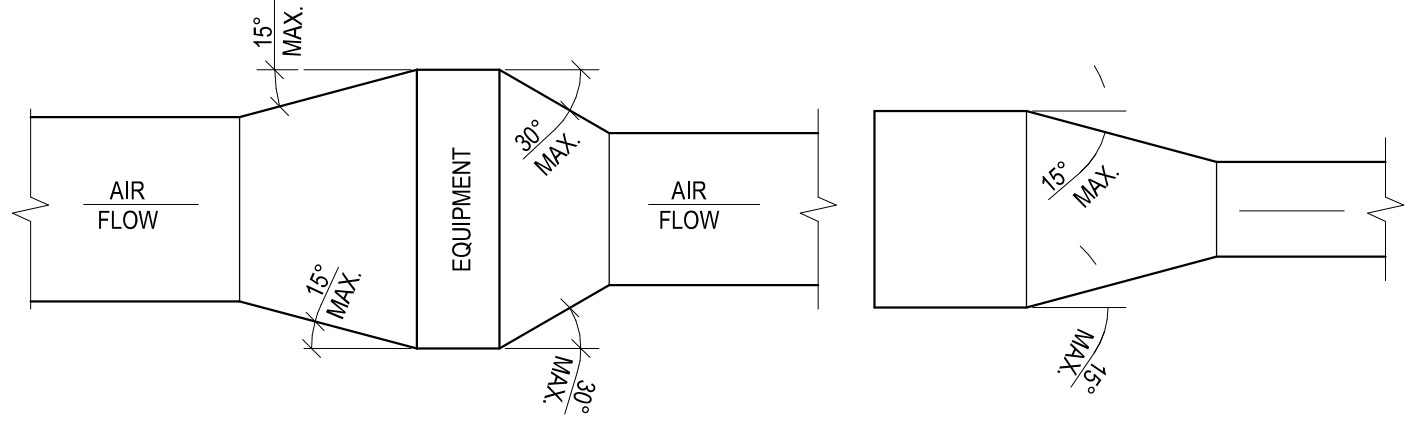
C1 DUCT HANGERS
NOT TO SCALE



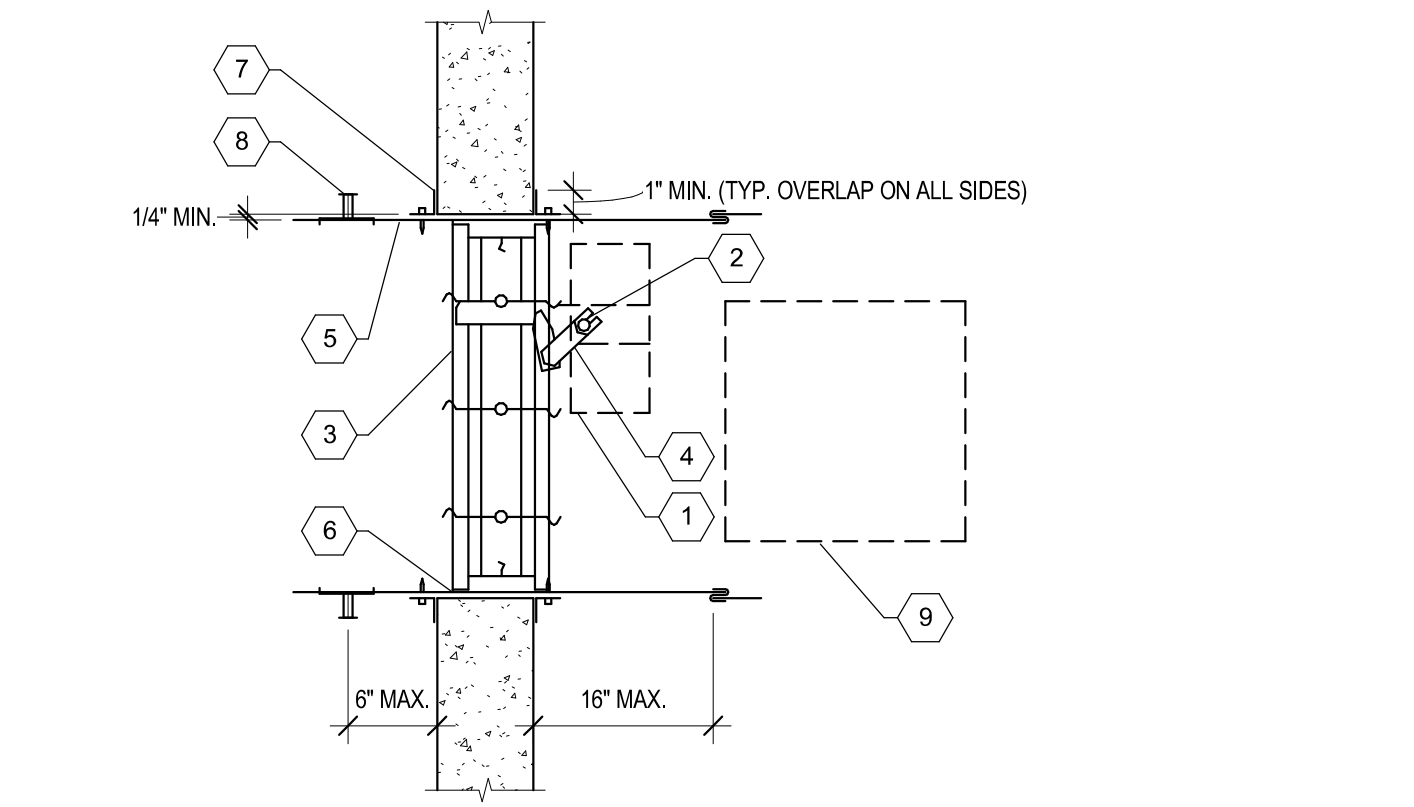
OFFSETS



F1 LOW PRESSURE DUCT FITTINGS
NOT TO SCALE

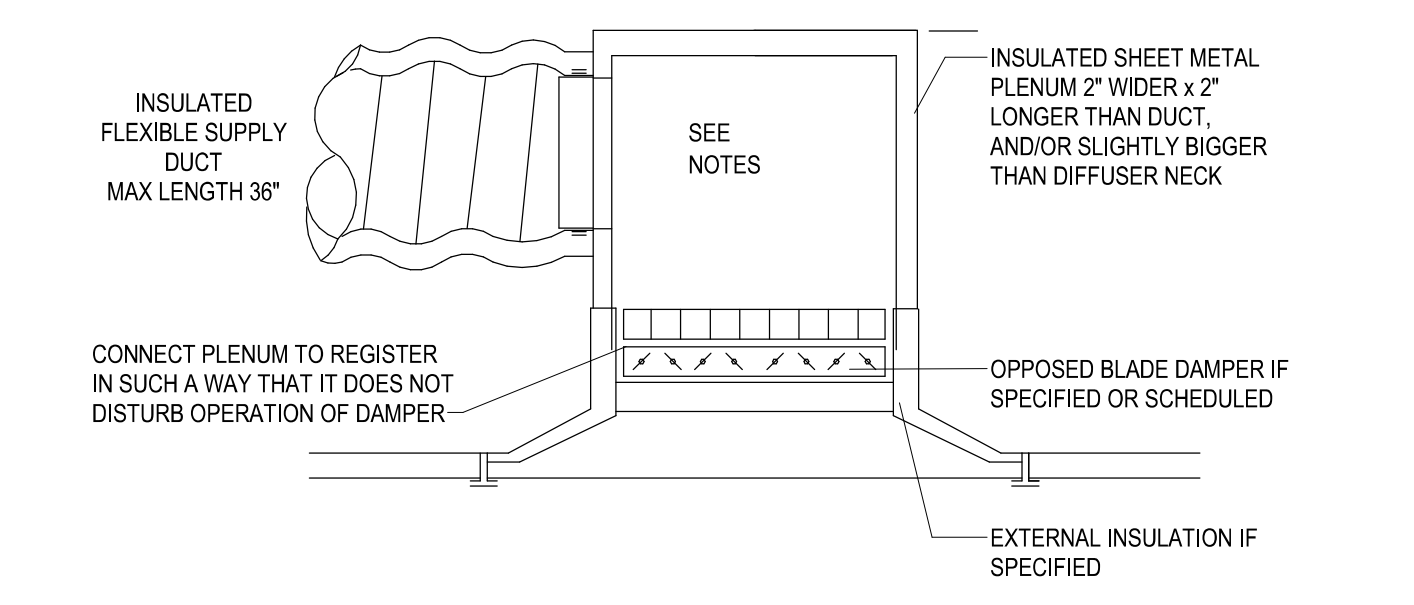


A3 DUCTWORK TRANSITIONS (WITH EQUIPMENT MOUNTED IN DUCTS)
NOT TO SCALE

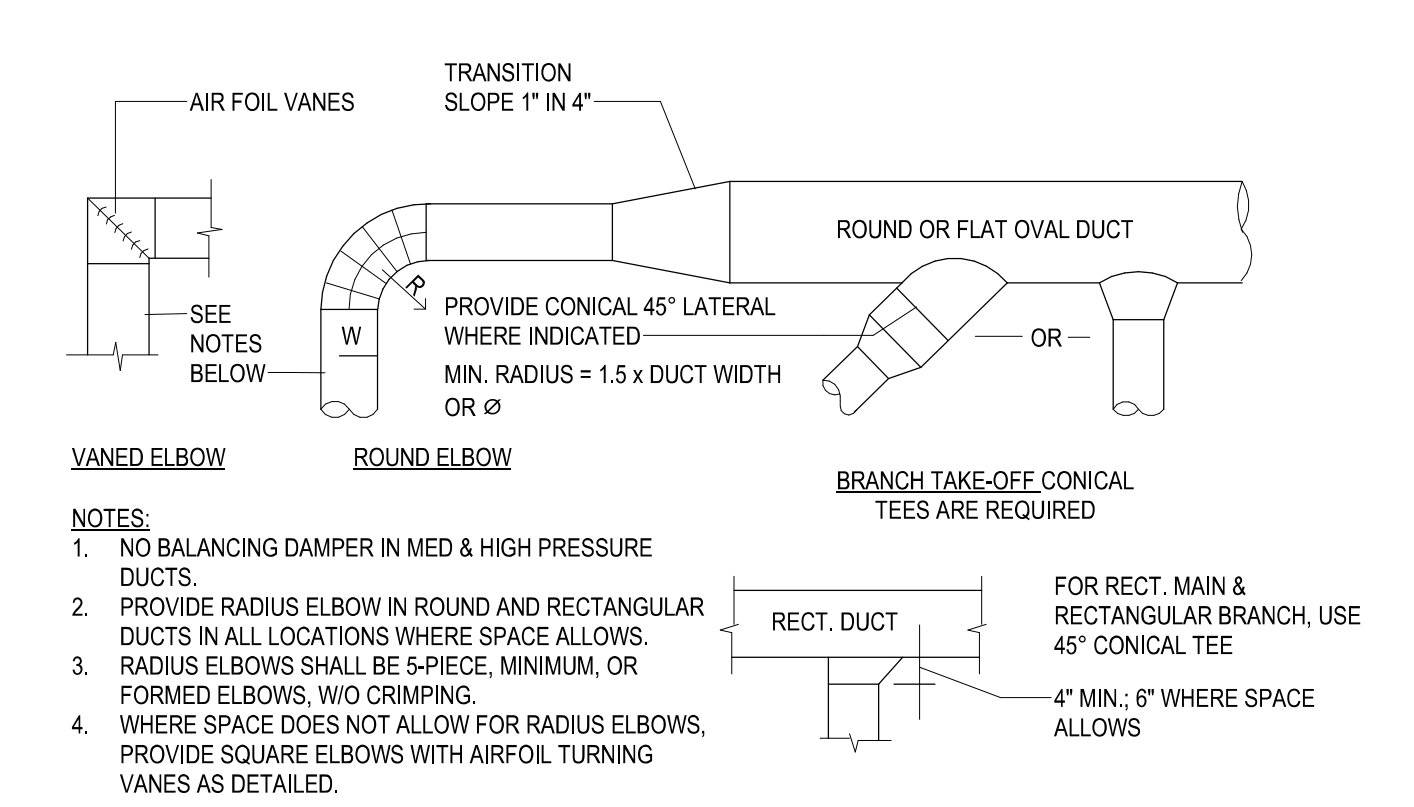


- KEYNOTES:**
- ACTUATOR
 - AUXILIARY OPERATING JACKSHAFT
 - DAMPER
 - OVER-CENTER LINK
 - SEWER
 - CAULKING MATERIAL (MAY BE ON EITHER SIDE OF DAMPER FRAME)
 - MOUNTING ANGLES (PPMA, FAST, OR CONVENTIONAL ANGLES)
 - DUCT/ELEV CONNECTION
 - ACCESS PANEL
- GENERAL NOTES:**
- ALL MOTORS SHALL BE 115V, 60HZ, FACTORY-MOUNTED, UL APPROVED.
 - ALL ELECTRICAL CONNECTIONS MUST COMPLY WITH THE LOCAL CODE REQUIREMENT.
 - MOTOR SHALL BE FIELD REPLACEABLE WITHOUT DISTURBING DAMPER SYSTEM.
 - MOTORS SHALL BE WIRED THROUGH EMT OR GREENFIELD BY DIVISION 28 TO A STANDARD JUNCTION BOX LOCATED ON THE OUTSIDE OF THE DUCT.
 - DIVISION 28 TO FIELD WIRE AND INSTALL AS REQUIRED. PROVIDE TEST SWITCH AND PERFORM OPERATING TEST AFTER INSTALLATION.
 - MOTOR SHALL BE LOCATED TO PROVIDE ACCESS FOR MAINTENANCE.
 - PROVIDE ACCESS DOOR IN DUCTWORK IN ACCESSIBLE LOCATION ON ACTUATOR SIDE OF DAMPER FOR MAINTENANCE.
 - FUSIBLE LINK SHALL BE RATED FOR 200 DEGREES F.

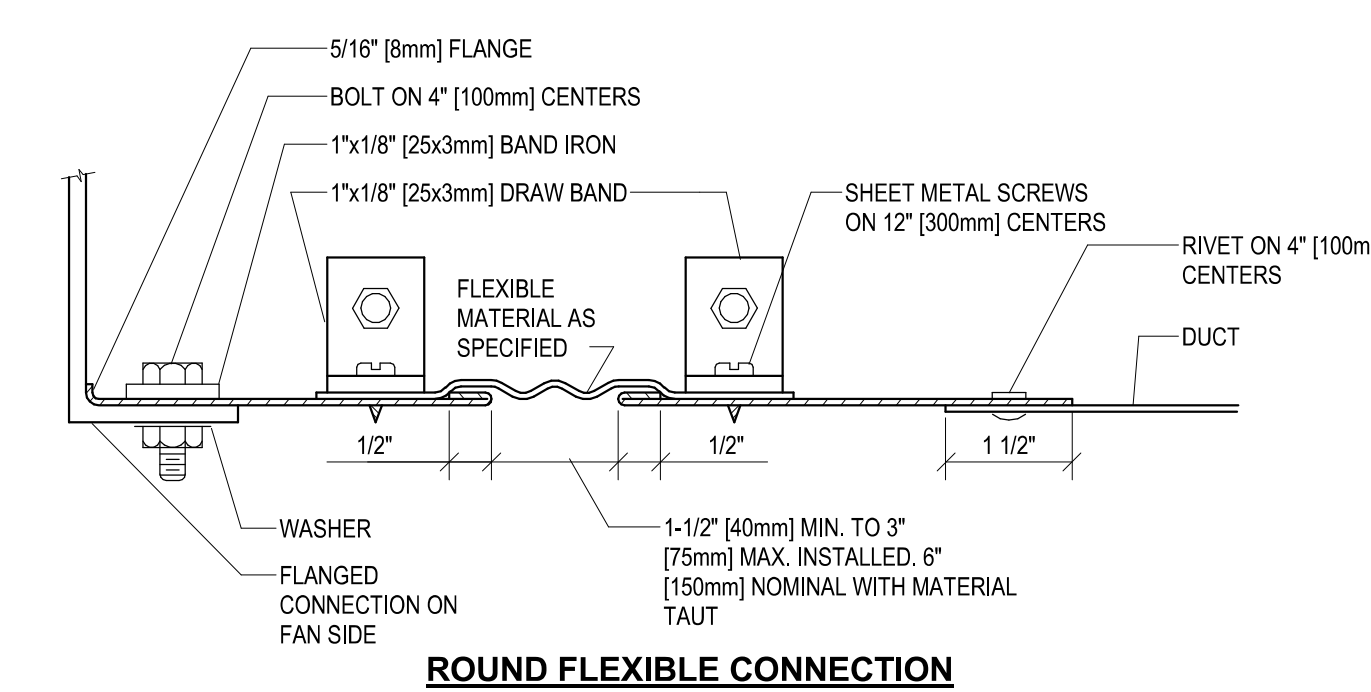
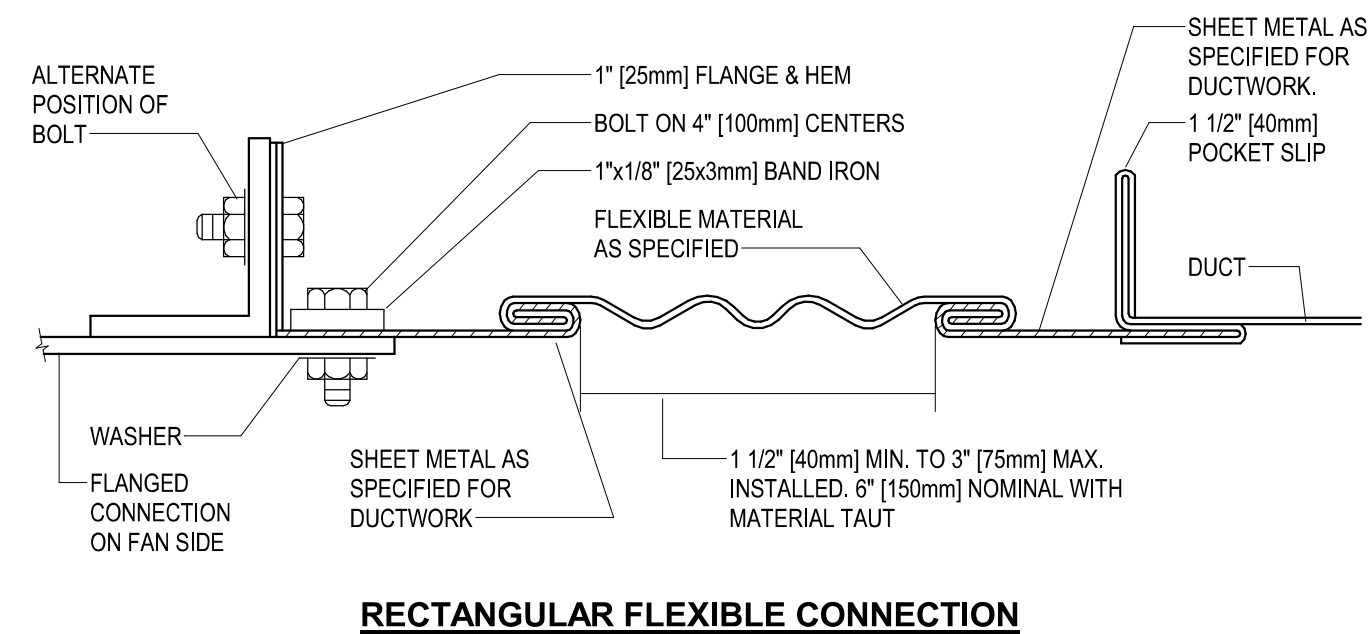
D4 COMBINATION FIRE/ SMOKE DAMPER
NOT TO SCALE



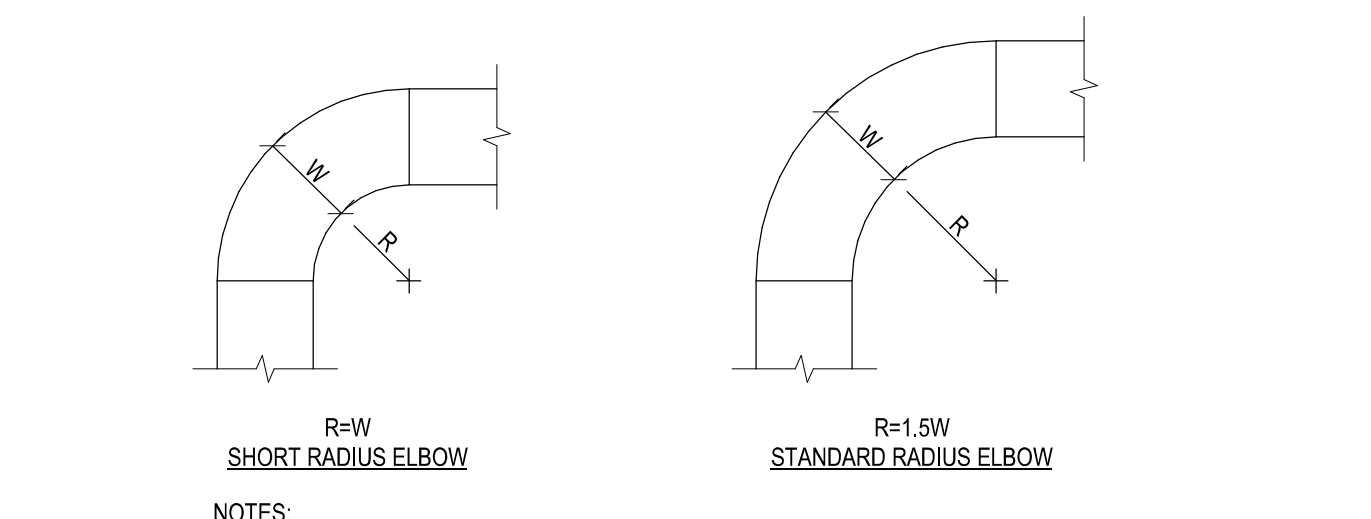
E4 LIMITED CLEARANCE DIFFUSER DUCTING
NOT TO SCALE



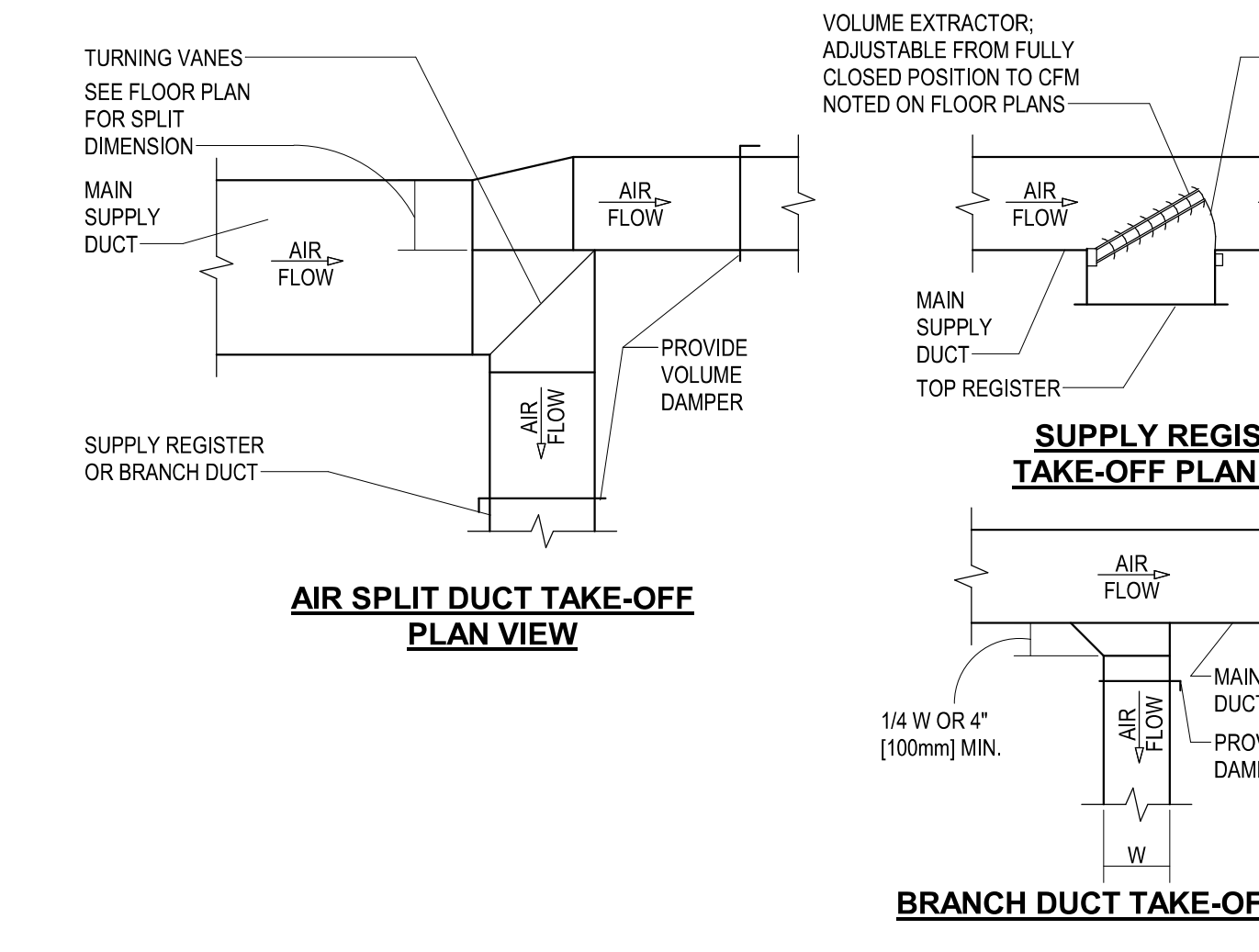
F4 MEDIUM AND HIGH PRESSURE DUCT FITTINGS
NOT TO SCALE



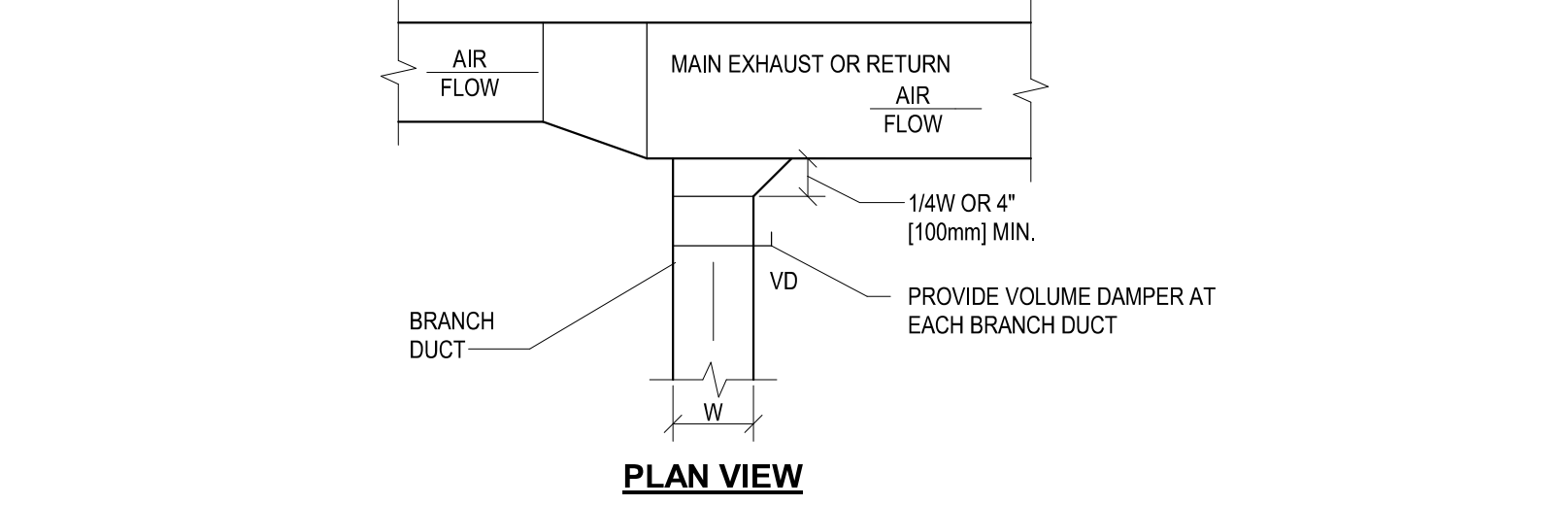
C6 FLEXIBLE DUCT CONNECTIONS
NOT TO SCALE



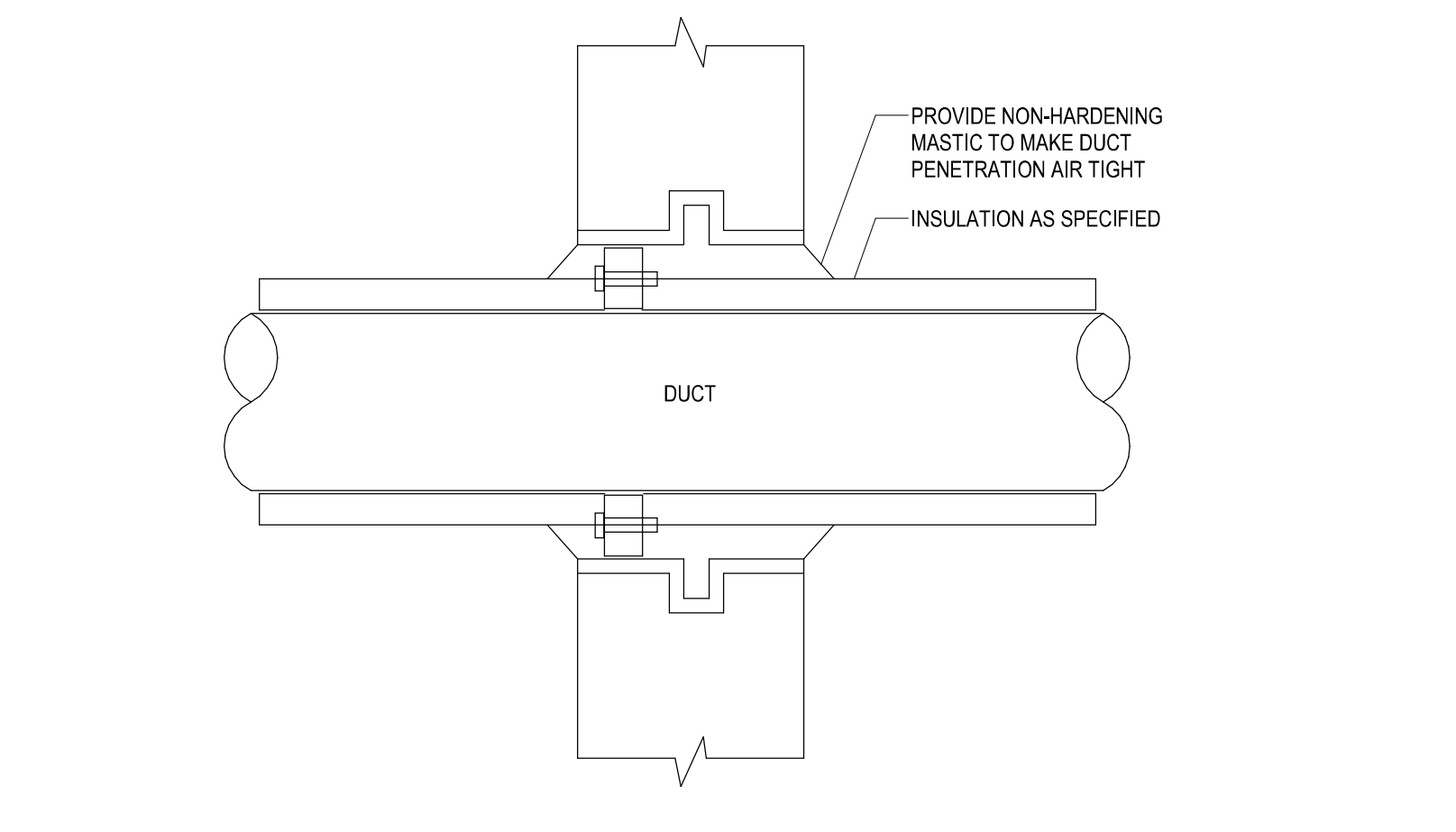
D6 DUCTWORK RADIUS ELBOWS
NOT TO SCALE



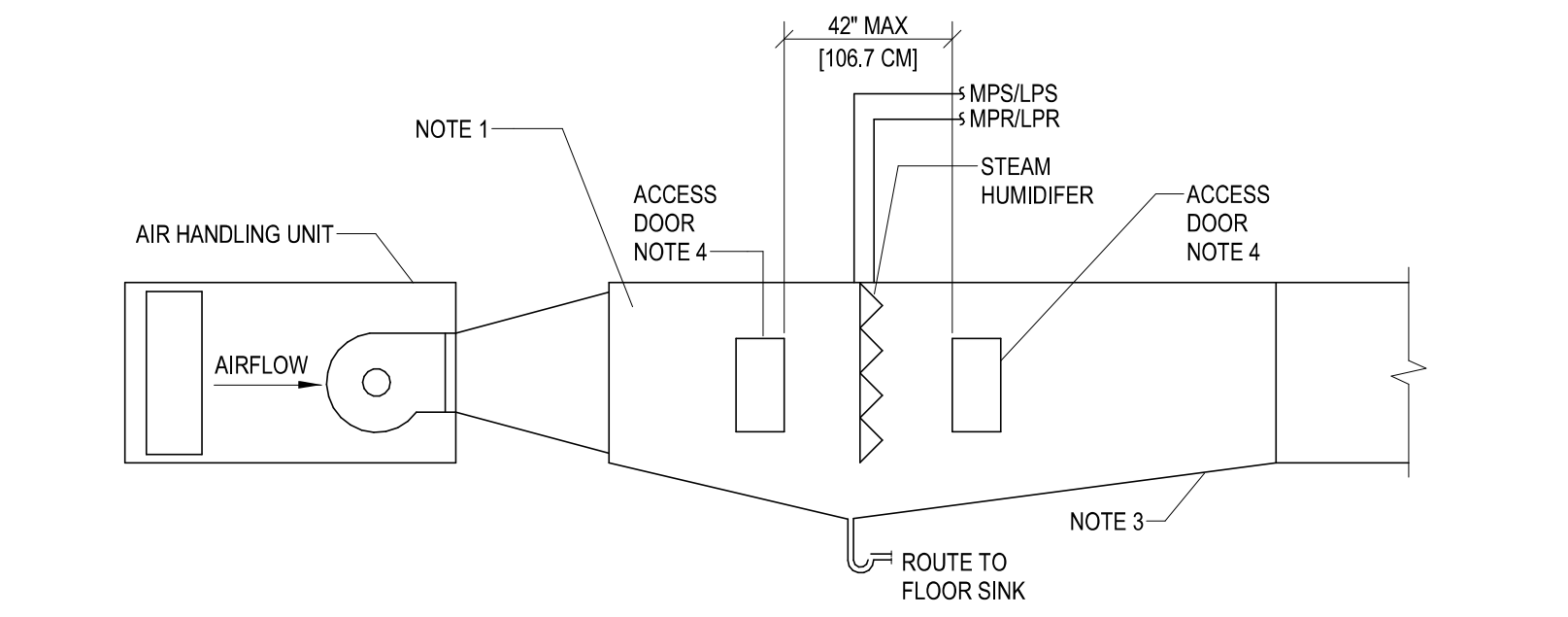
F6 SUPPLY DUCTWORK TAKE-OFFS
NOT TO SCALE



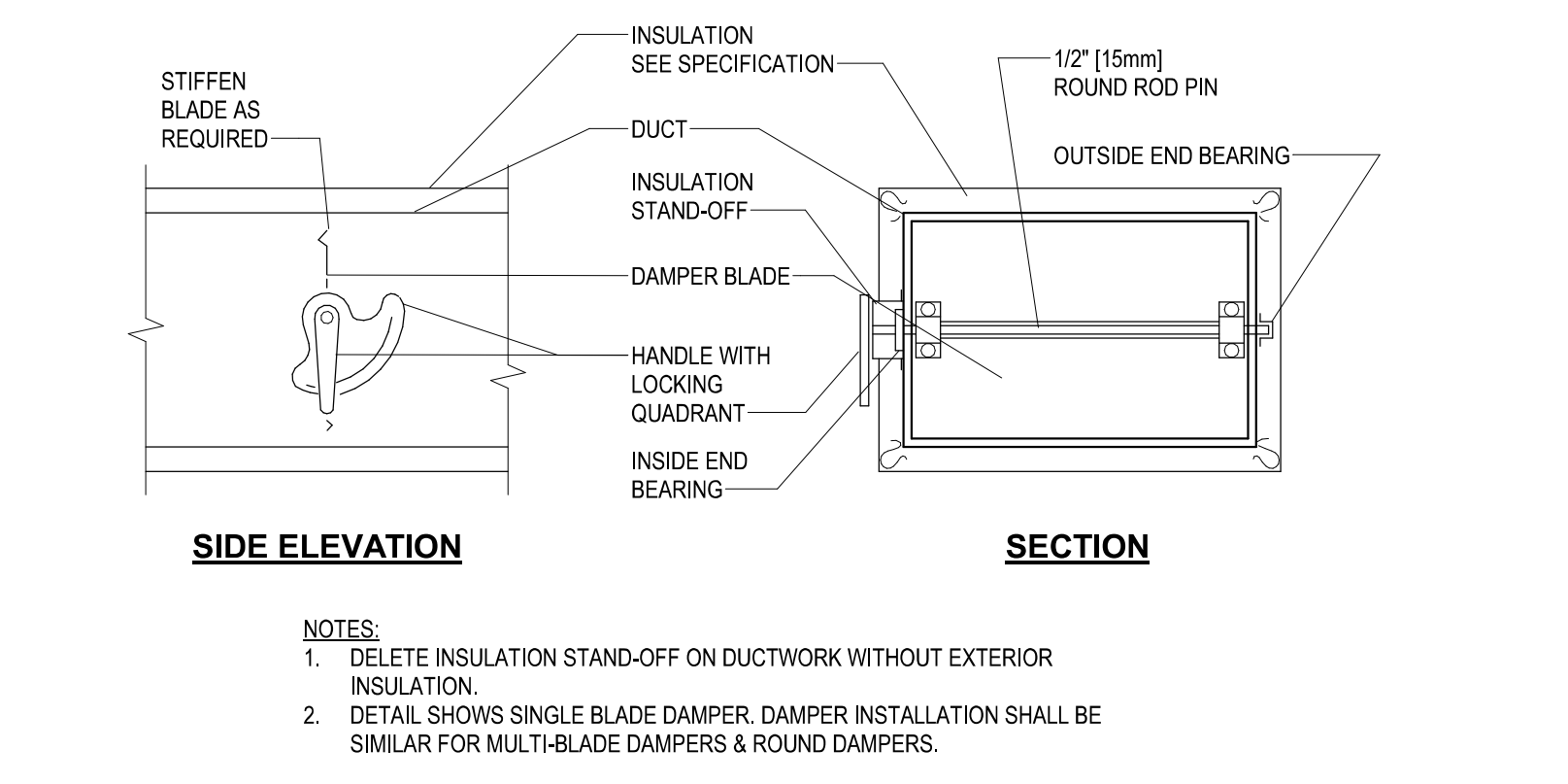
A9 EXHAUST OR RETURN BRANCH DUCTWORK
NOT TO SCALE



C8 DUCT PENETRATION OF INTERIOR WALLS
NOT TO SCALE



E8 DUCT MOUNTED HUMIDIFIER
NOT TO SCALE



F8 VOLUME DAMPER DETAIL
NOT TO SCALE

4/12/2024 11:10:52 AM
BIM 3501/19022 - Fayetteville DDG Project No. 564-19-403 Renovation of SPS/19022 - MECH - R2024.rvt

Revision Number	Revisions:	Date:

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PROJECT TITLE
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LOCATION
FAYETTEVILLE VA MEDICAL CENTER

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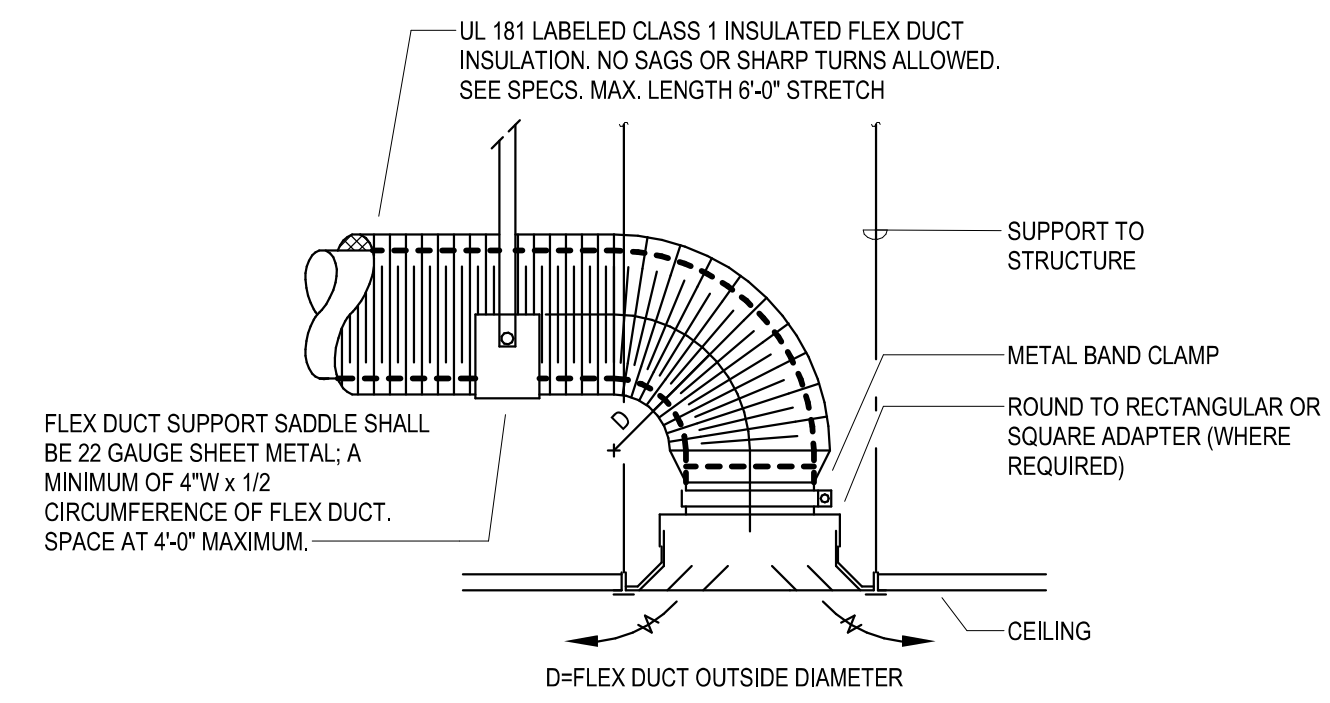
PROJECT NUMBER
564-24-104

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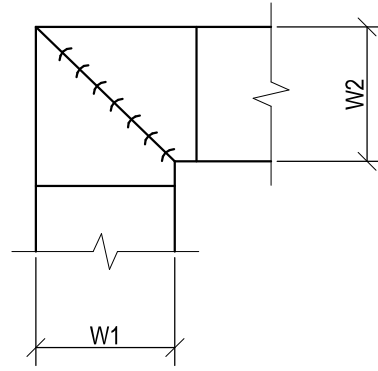
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MH501-A

Engineering Service

VA U.S. Department of Veterans Affairs

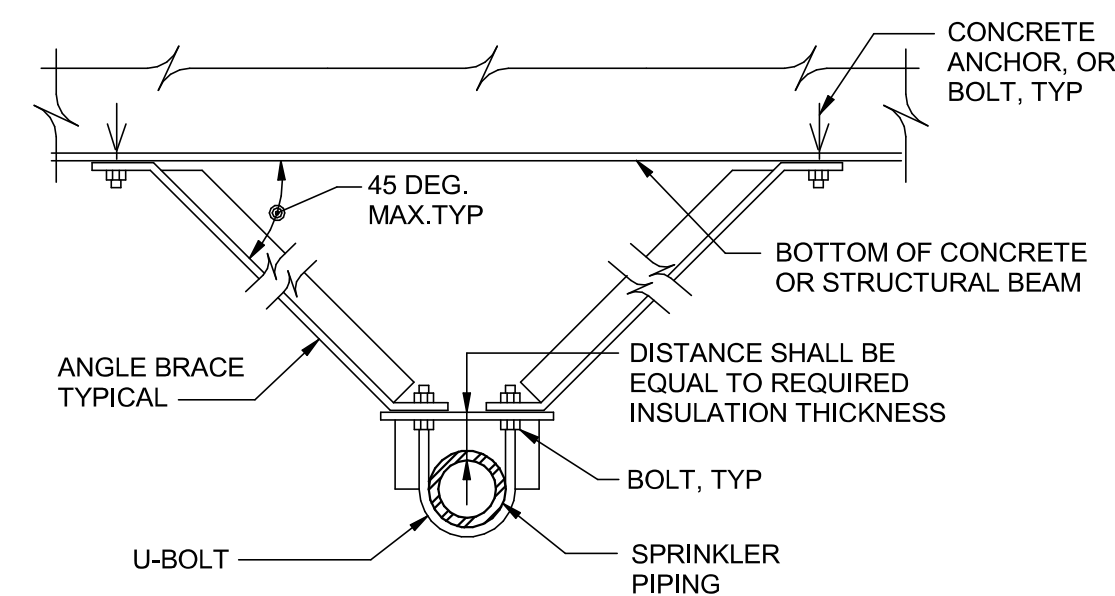


B3 DIFFUSER DUCTING
NOT TO SCALE

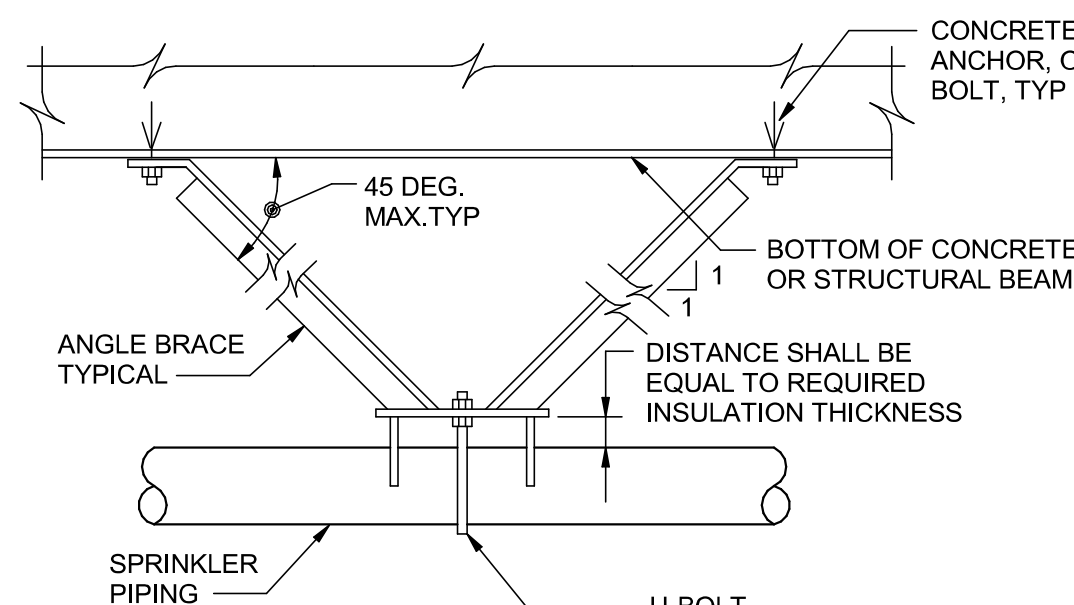


- NOTES:
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
 2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
 3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" (50mm) RADIUS, 1/2" (40mm) MAXIMUM SPACE BETWEEN VANES AND A 3/4" (20mm) TRAILING EDGE.
 4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" (500mm) VANES SHALL BE DOUBLE VANE TYPE.

C4 DUCTWORK SQUARE VANE ELBOWS
NOT TO SCALE



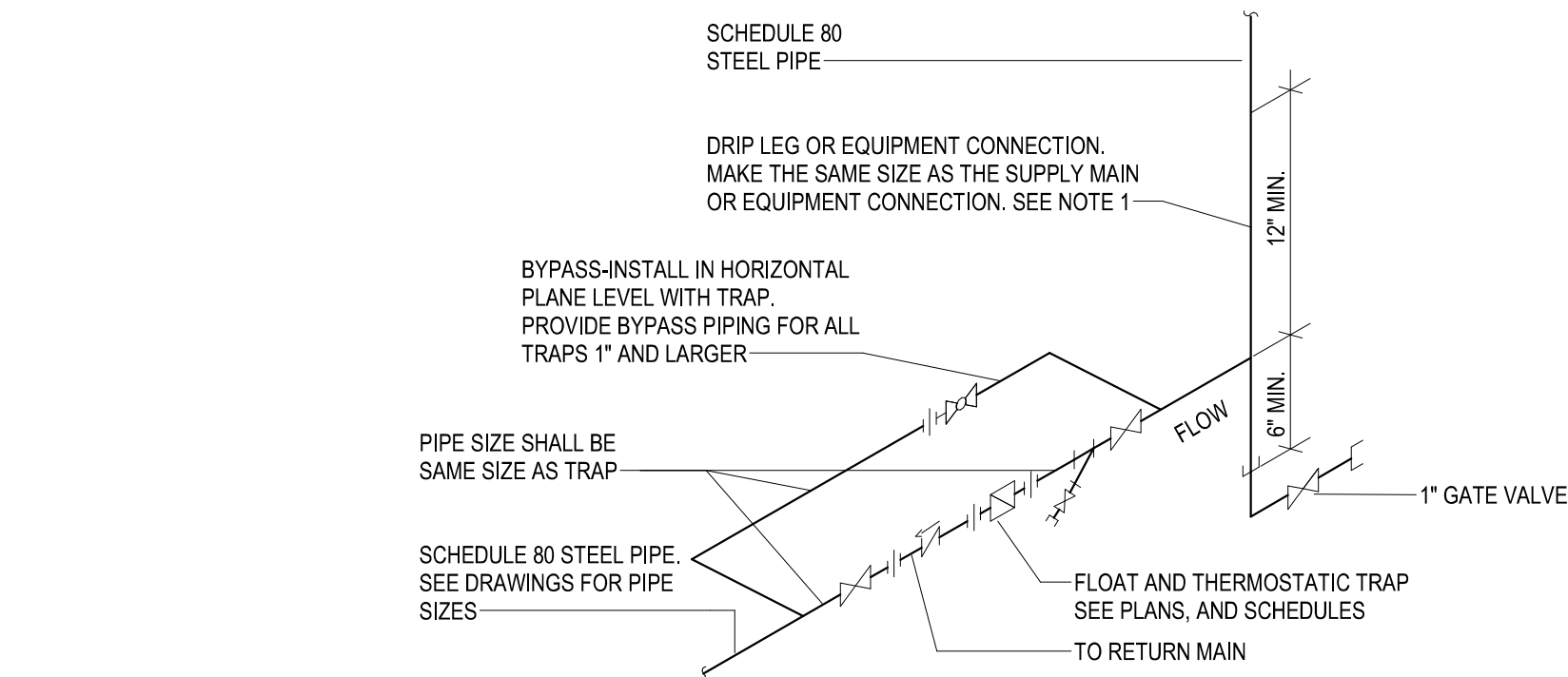
TRANSVERSE BRACE DETAIL



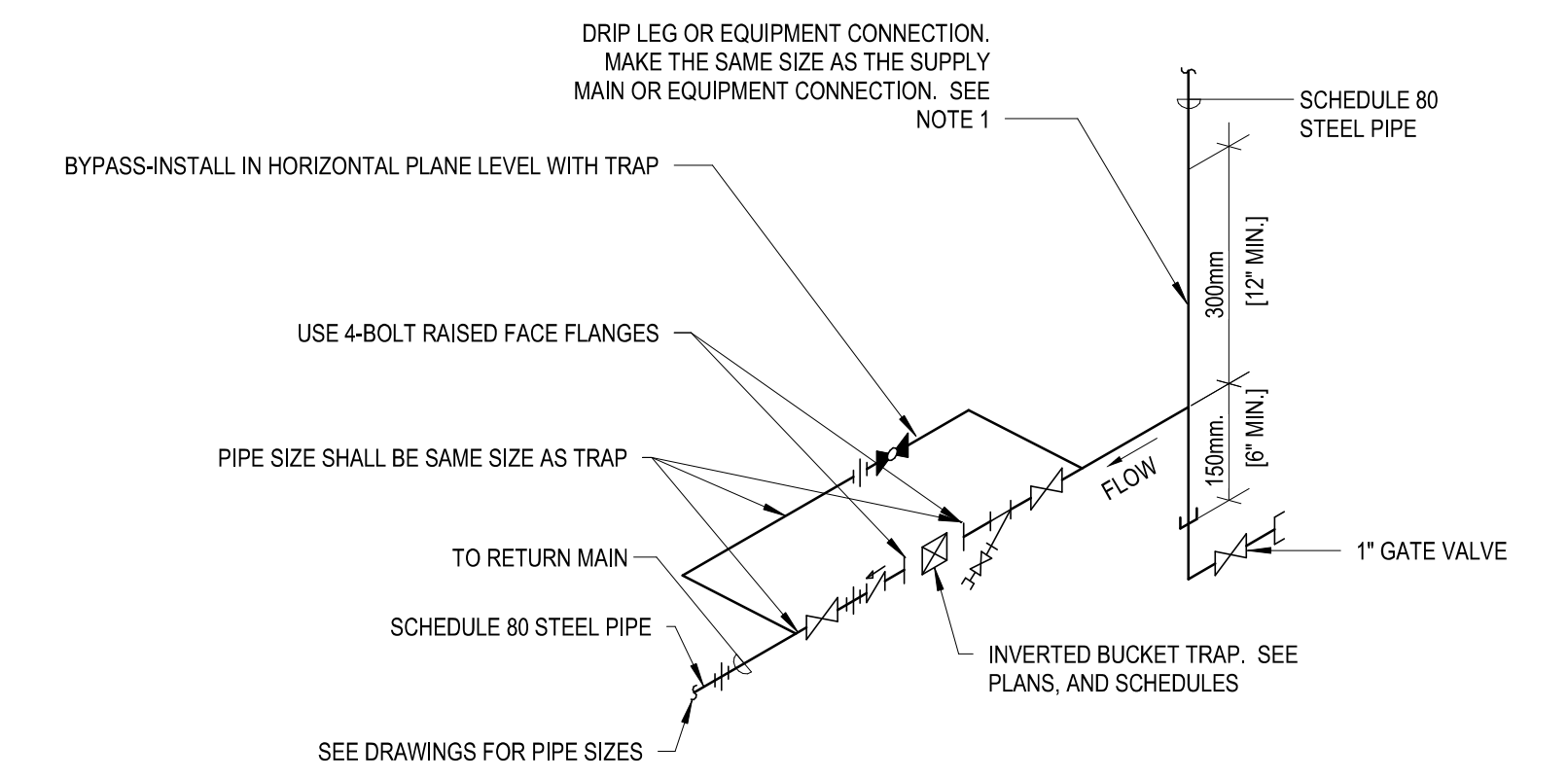
LONGITUDINAL BRACE DETAIL

- NOTES:
- A. DETAILS SHOWN ARE FOR PIPE BRACING, OTHER EQUIPMENT BRACING SHALL BE SIMILAR.
 - B. PL SIZES SHALL BE COORDINATED WITH PIPING, AND EQUIPMENT ACTUAL SIZES.
 - C. BRACE SIZES, SPACINGS, LOCATIONS, AND ATTACHMENTS SHALL BE AS SPECIFIED. BRACES SHALL BE FULLY COORDINATED WITH STRUCTURAL FRAMING AND WITH ALL OTHER BUILDING MATERIALS AND SERVICES.
 - D. TRANSVERSE AND LONGITUDINAL BRACES MAY BE COMBINED WHERE REQUIRED TO RESIST MOTIONS IN BOTH DIRECTIONS AT THE SAME TIME.
 - E. PIPING CLAMPS MAY BE UTILIZED IN LIEU OF WELDING AT BLACK STEEL OR OTHER PIPING MATERIALS.

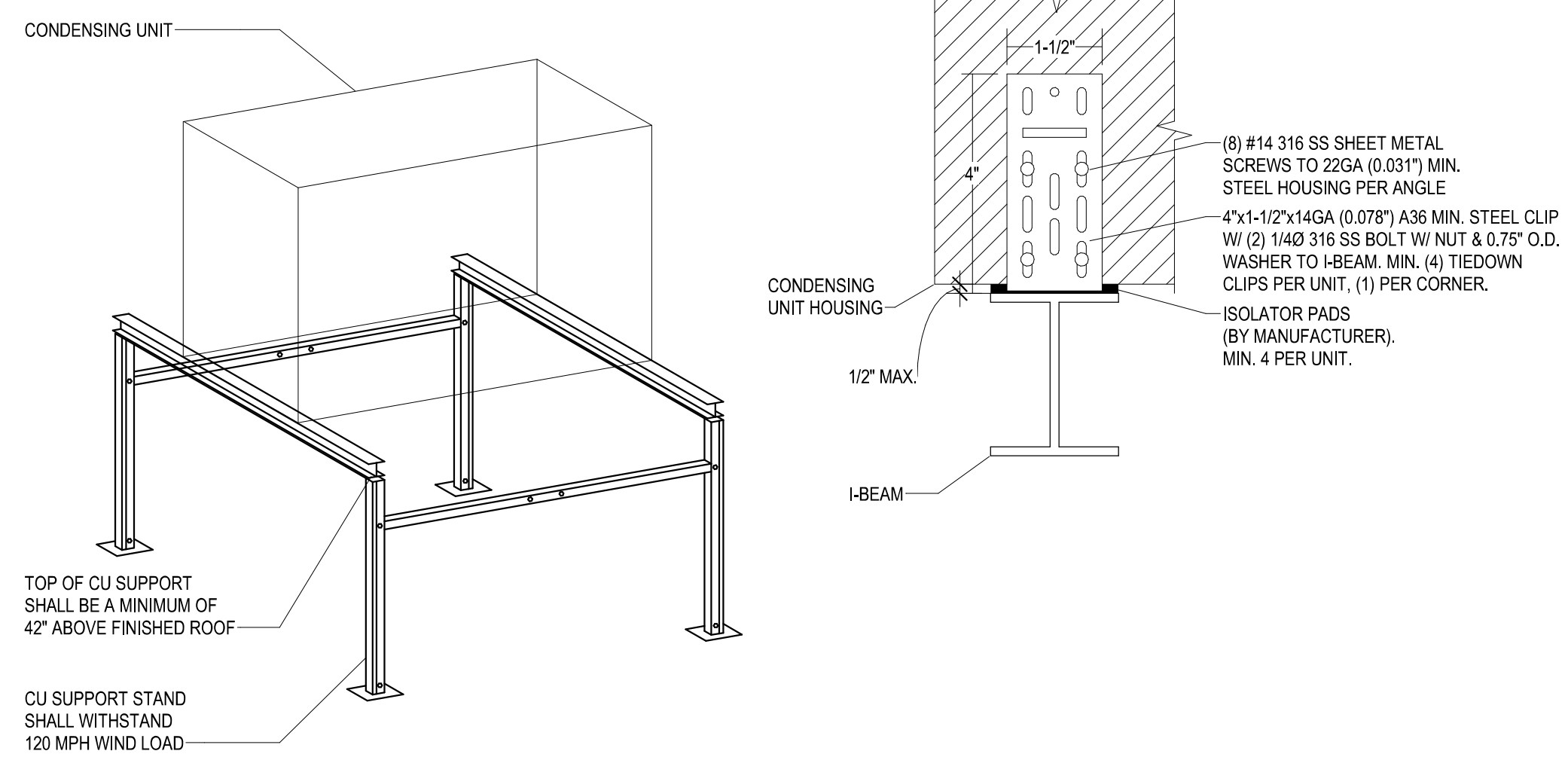
F3 SEISMIC BRACING DETAIL
NOT TO SCALE



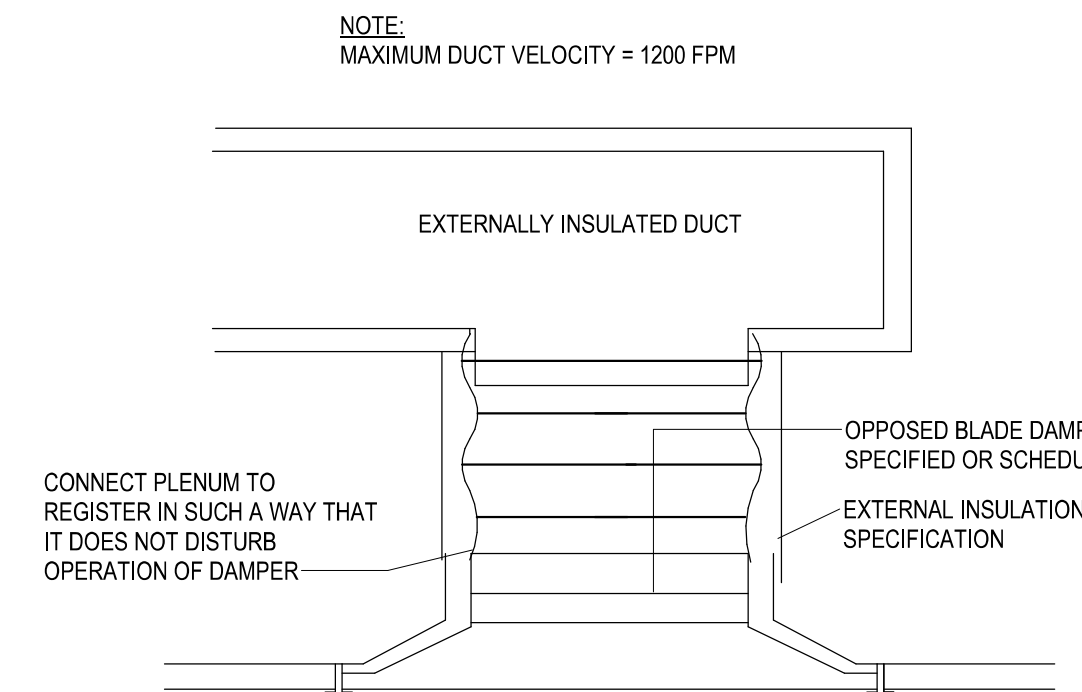
B6 FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY
NOT TO SCALE



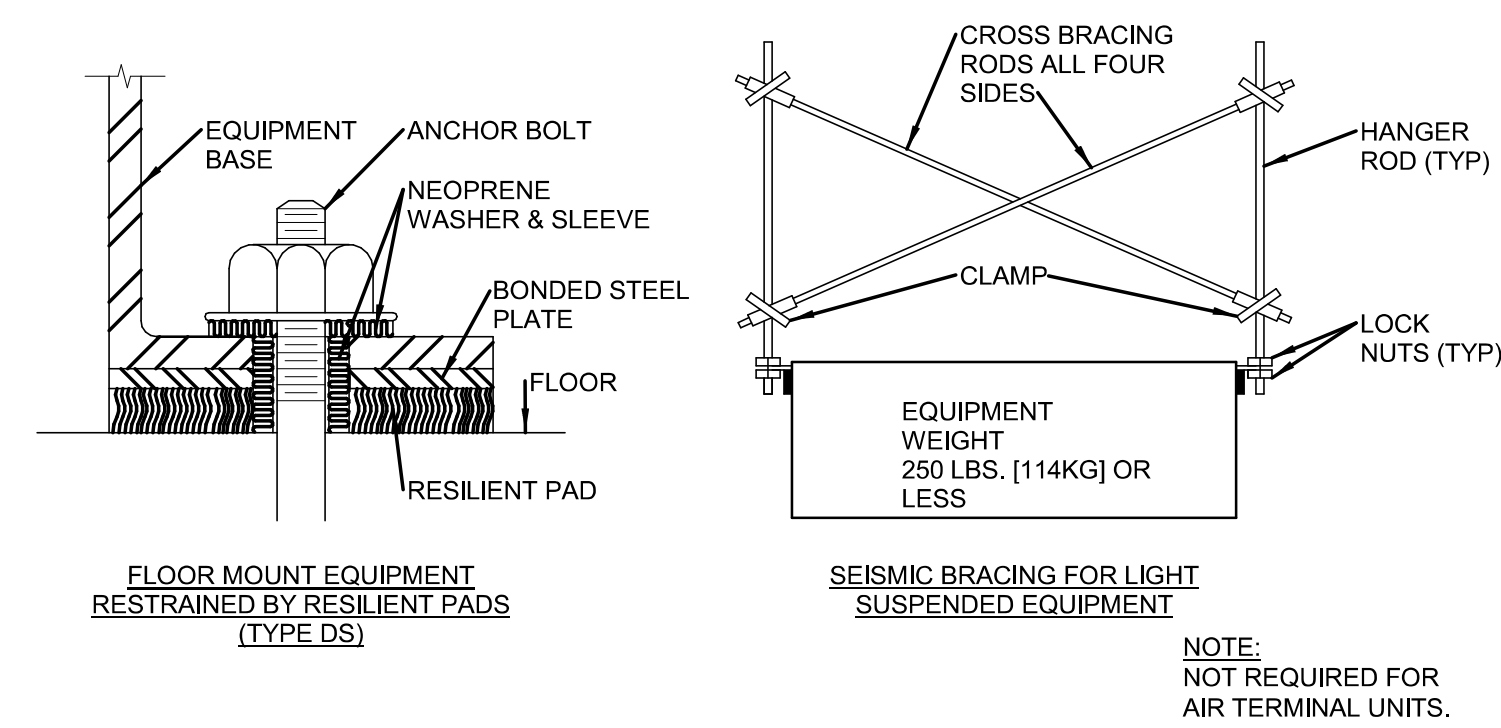
B8 INVERTED BUCKET STEAM TRAP ASSEMBLY
NOT TO SCALE



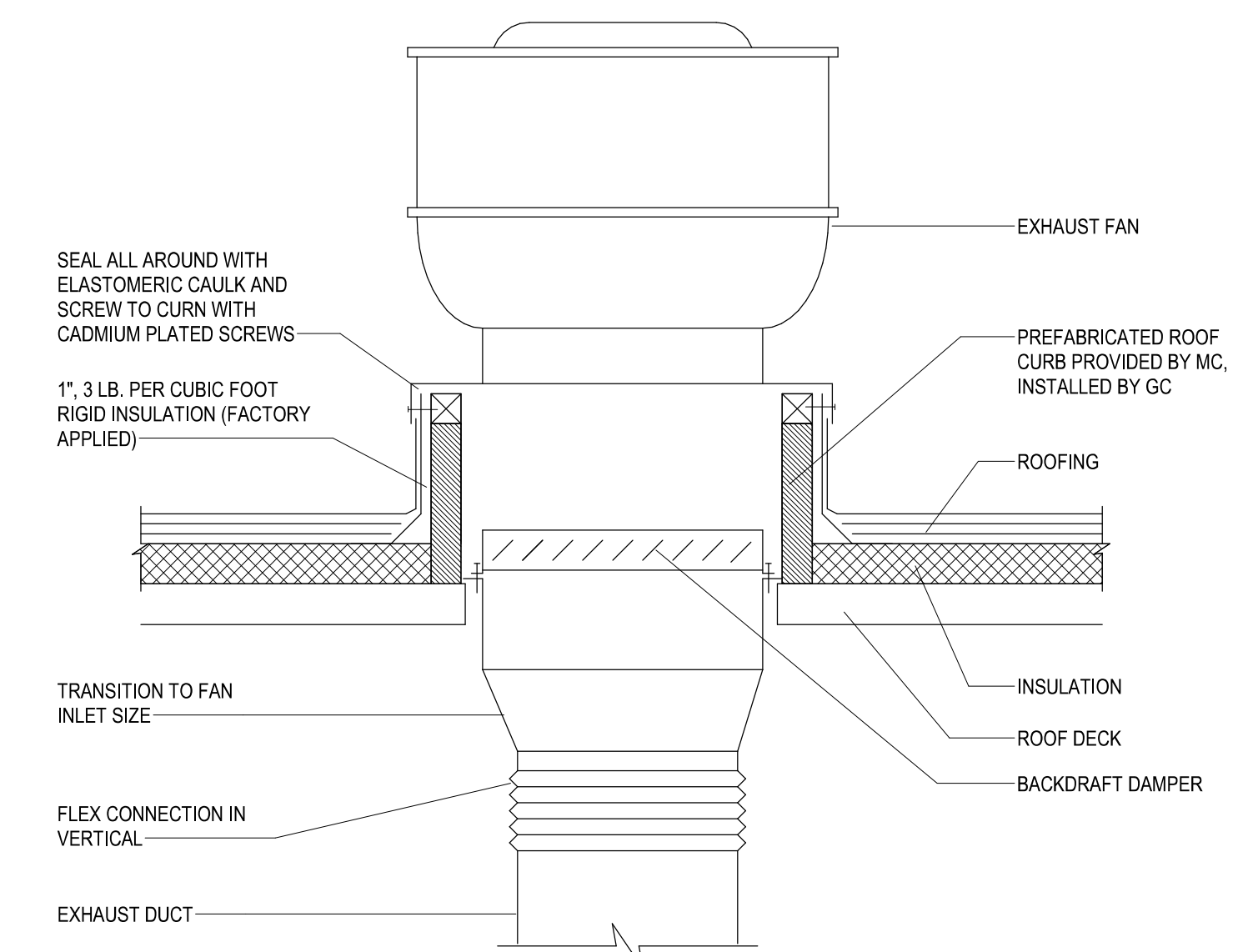
D6 CONDENSING UNIT STAND DETAIL
NOT TO SCALE



D8 DIFFUSER/REGISTER BOTTOM TAP
NOT TO SCALE



F6 SEISMIC BRACING FOR EQUIPMENT
NOT TO SCALE



F8 ROOF MOUNTED EXHAUST FAN
NOT TO SCALE

Revision Number	Revisions:	Date:

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MH502-A

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

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Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

VA U.S. Department of Veterans Affairs

A

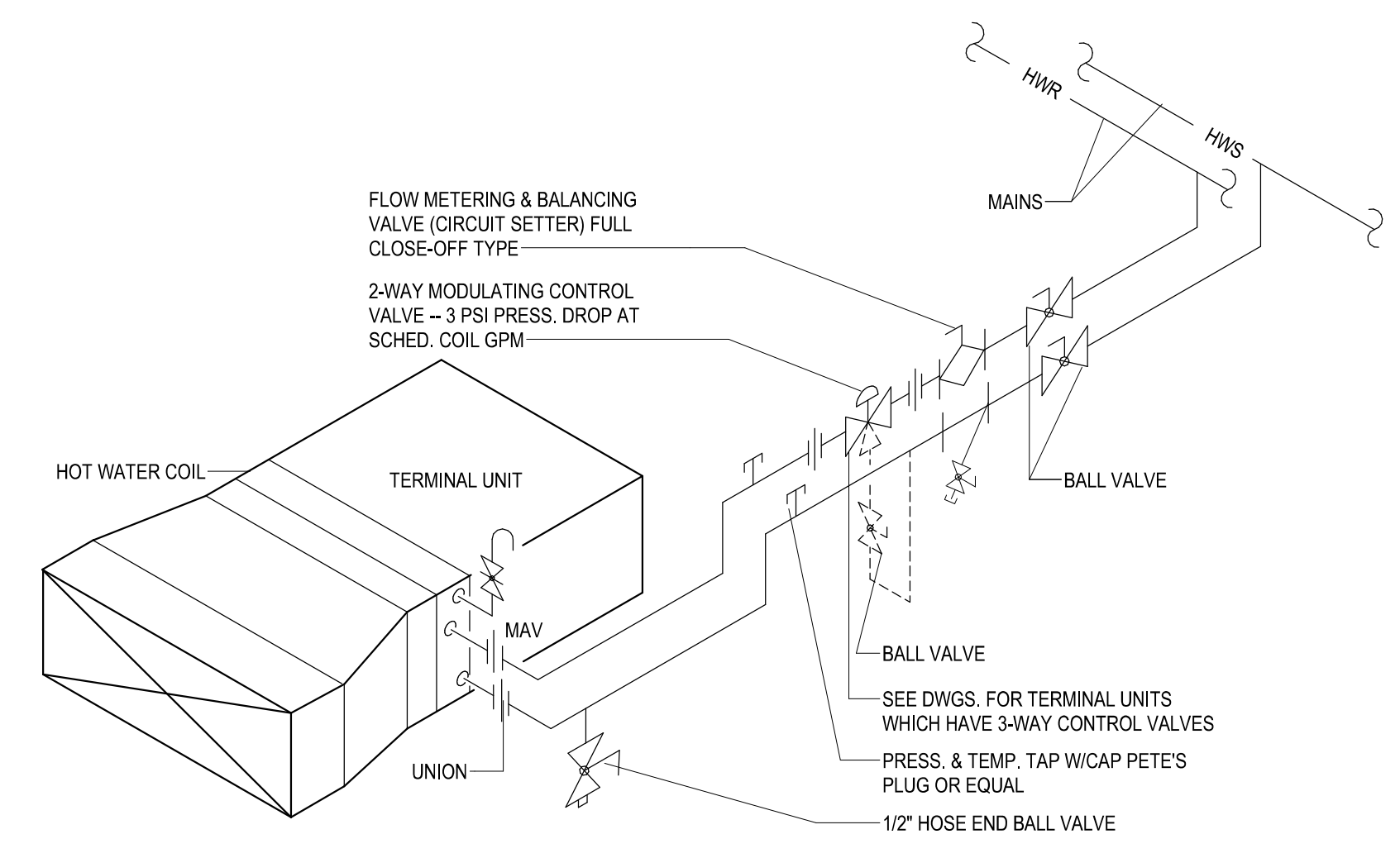
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C

D

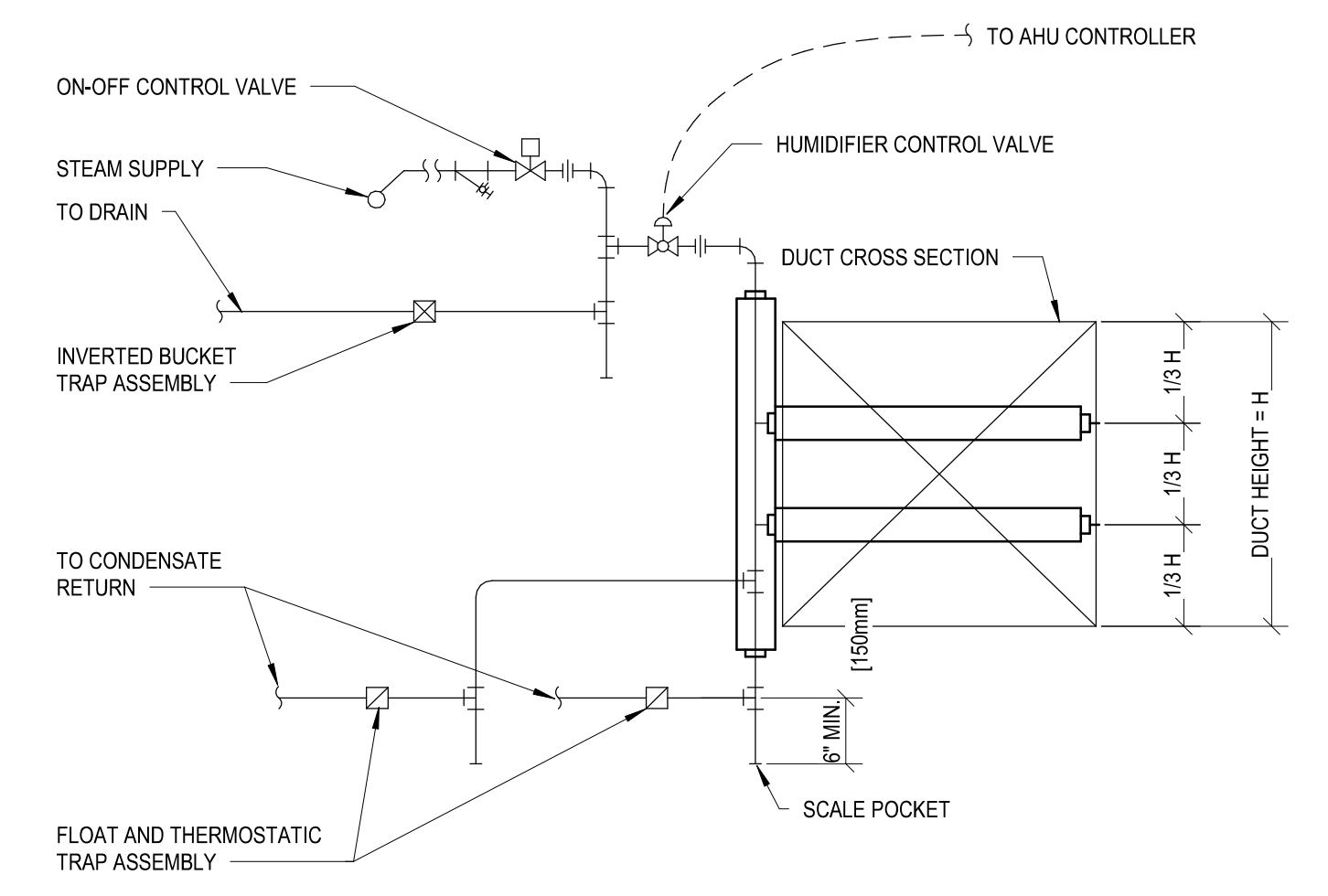
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F



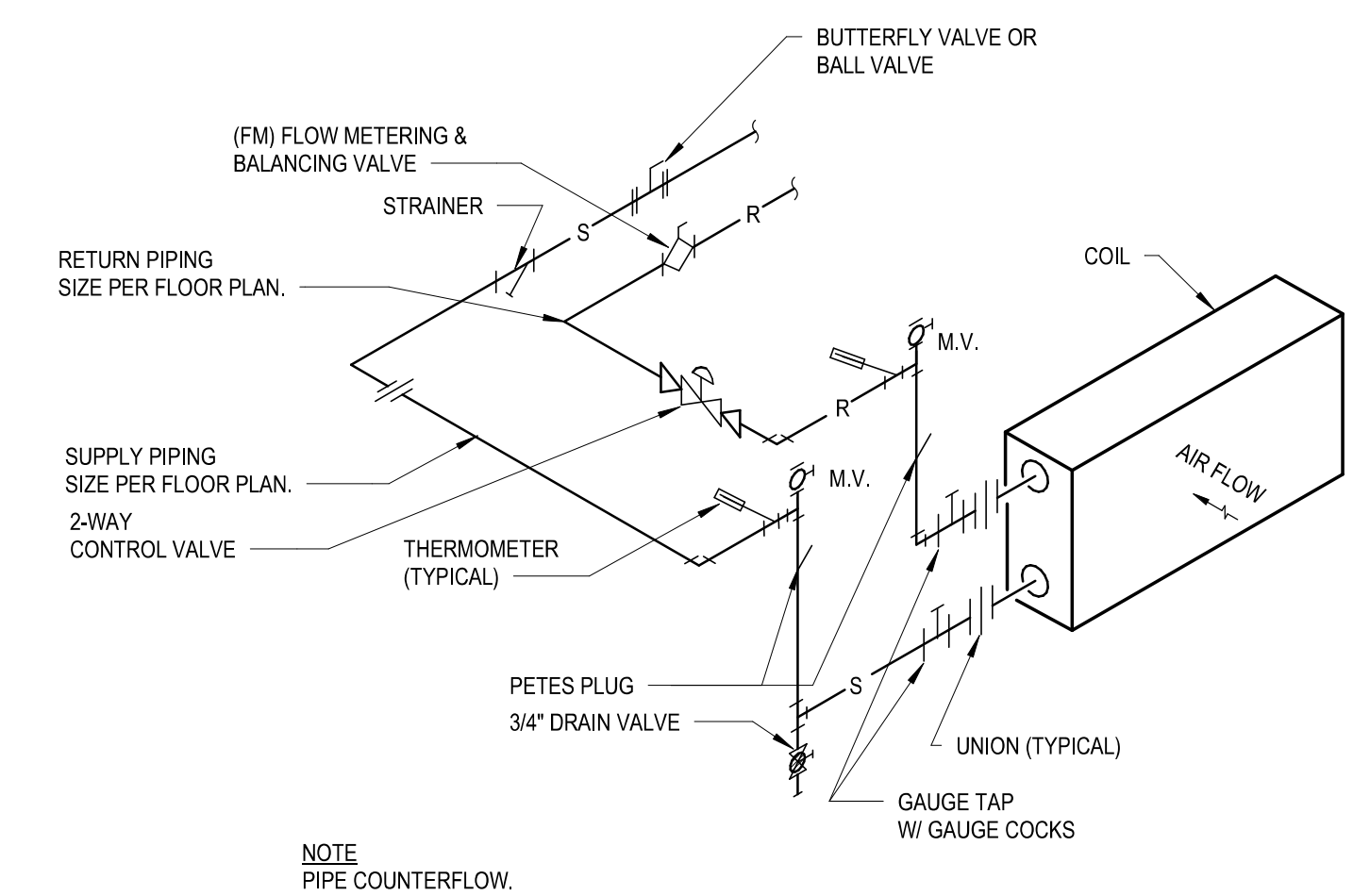
NOTE:
 1. LOCATE MANUAL VENT PIPE AND DRAIN VALVE WHERE ACCESSIBLE FOR BUCKET, AIR VENT PIPING SHALL BE PROVIDED WITH BALL VALVE FOR SERVICING AND REPLACEMENT.
 2. ALL VALVES, BALANCING DEVICES, ETC. SHALL BE LINE SIZE, MIN.
 3. PROVIDE 2-WAY CONTROL VALVE UNLESS OTHERWISE NOTED.
 4. PIPE REHEAT COIL IN ACCORDANCE WITH VALVE TRM SHOWN ABOVE.

B6 AIR TERMINAL UNIT COIL PIPING SCHEMATIC
 NOT TO SCALE

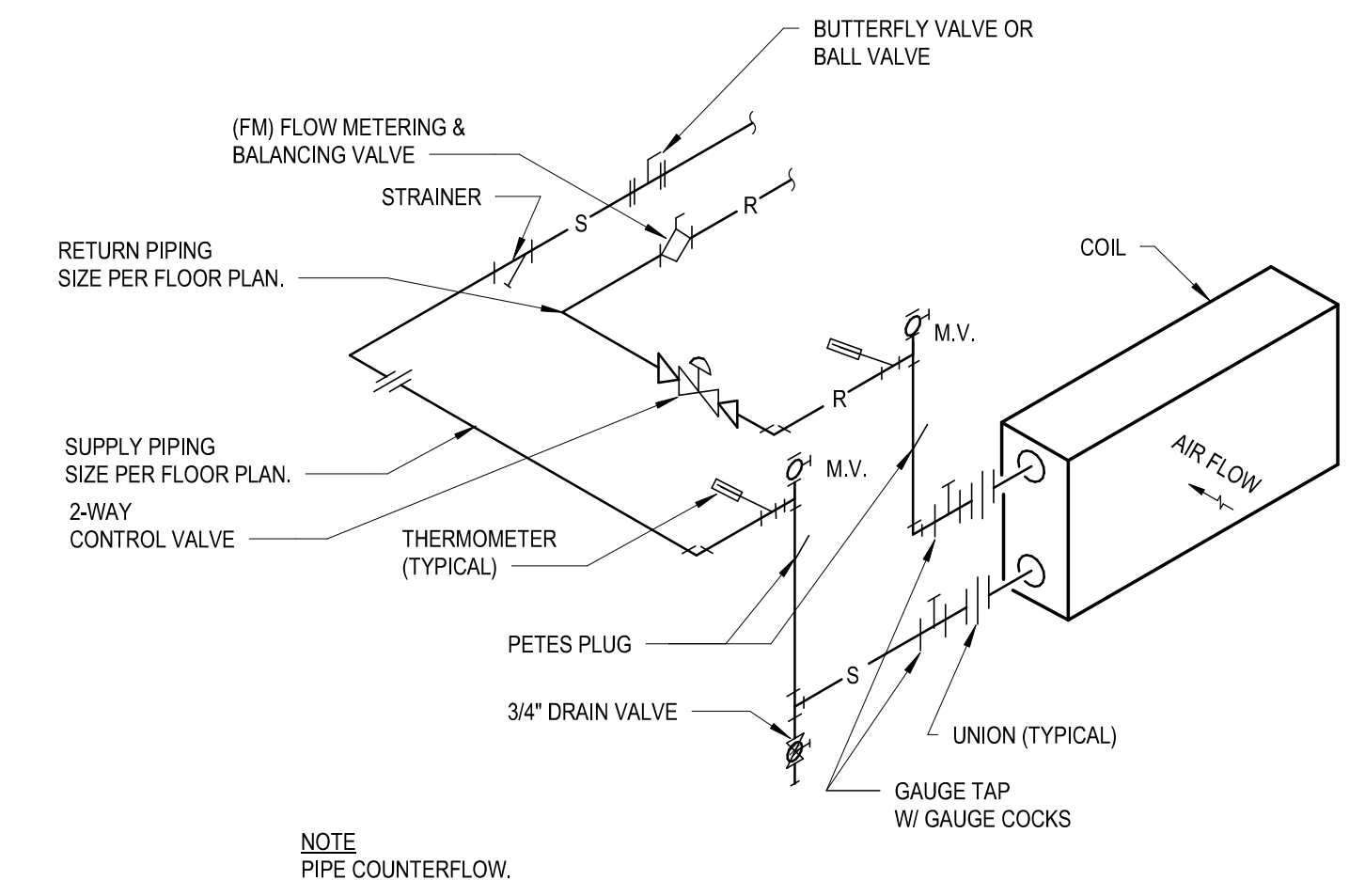


NOTE:
 1. SEE MANUFACTURER'S PIPING RECOMMENDATIONS FOR FINAL LAYOUT.
 2. SEE MP1014A FOR PIPING ORIENTATION.

B8 STEAM HUMIDIFIER - PIPING CONNECTIONS
 NOT TO SCALE



D8 HOT WATER PREHEAT COIL - PIPING CONNECTIONS
 NOT TO SCALE



F8 CHILLED WATER COIL - PIPING CONNECTIONS
 NOT TO SCALE

4/12/2024 11:10:53 AM
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PROJECT TITLE
 RENOVATE SPACE FOR LOGISTICS (B-1)

PROJECT NUMBER
 564-24-104

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Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

VA U.S. Department of Veterans Affairs

EXISTING AIR HANDLING UNIT SCHEDULE table with columns: MARK, LOCATION, PRE-FILTER 1 (PF-1), PRE-FILTER 2 (PF-2), AFTER FILTER 1 (AF-1), AIR SIDE DATA, STEAM HEATING COIL, STEAM DATA.

EXISTING AIR HANDLING UNIT SCHEDULE (CONT'D) table with columns: MARK, AIR SIDE DATA, WATER SIDE DATA, SUPPLY FAN, HUMIDIFIER DATA, FLA, FUSE SIZE, VOLT, PHASE, UNIT WEIGHT (LBS), NOTES.

AIR HANDLING UNIT SCHEDULE - LOGISTICS table with columns: MARK, LOCATION, PRE-FILTER 1 (PF-1), PRE-FILTER 2 (PF-2), AFTER FILTER 1 (AF-1), AIR SIDE DATA, HOT WATER HEATING COIL, WATER SIDE DATA.

AIR HANDLING UNIT SCHEDULE - LOGISTICS (CONT'D) table with columns: MARK, AIR SIDE DATA, WATER SIDE DATA, SUPPLY FAN, FLA, MOCP, VOLT, PHASE, UNIT WEIGHT (LBS), NOTES.

HUMIDIFIER SCHEDULE - LOGISTICS table with columns: MARK, AIRFLOW (CFM), HUMIDIFIER DATA, STEAM PRESSURE (PSI), NOTES.

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE - LOGISTICS table with columns: MARK, LOCATION, TYPE, CAPACITY (MBH), COOLING CAPACITY RANGE (MBH), MINIMUM SEER/IEER, AIRFLOW HIGH-MED-LOW (CFM), FAN MOTOR (WATT/HP), FLA, MCA, BASIS OF DESIGN MANUFACTURER, BASIS OF DESIGN MODEL NUMBER, NOTES.

AIR COOLED CONDENSING UNIT SCHEDULE - LOGISTICS table with columns: MARK, LOCATION, CAPACITY (TONS), REFRIGERANT, COOLING OAT RATING, ELECTRICAL, EMERGENCY POWER, BASIS OF DESIGN MANUFACTURER, BASIS OF DESIGN MODEL NUMBER, NOTES.

EXISTING FAN SCHEDULE table with columns: MARK, LOCATION, AREA SERVED, SERVICE, AIRFLOW (CFM), TSP (IN.W.G.), TYPE, CLASS, DRIVE, FAN MAX RPM, BHP, HP, RPM, VOLTAGE, PHASE, SPEED CONTROL, NOTES.

FAN SCHEDULE - LOGISTICS table with columns: MARK, LOCATION, AREA SERVED, SERVICE, AIRFLOW (CFM), TSP (IN.W.G.), TYPE, CLASS, DRIVE, FAN MAX RPM, NOISE CRITERIA (SONES), BHP, HP, RPM, VOLTAGE, PHASE, SPEED CONTROL, EMERGENCY POWER, BASIS OF DESIGN MANUFACTURER, BASIS OF DESIGN MODEL NUMBER, NOTES.

ROOM AIR BALANCE SCHEDULE - LOGISTICS table with columns: ROOM NO., NAME, SUPPLY, RETURN, EXHAUST, BALANCE.

AIR DISTRIBUTION DEVICE SCHEDULE table with columns: DEVICE LETTER, DEVICE TYPE, MANUFACTURER AND MODEL NUMBER, FRAME NUMBER, FRAME SIZE, NECK LETTER, NECK SIZE. Includes AIR DISTRIBUTION LEGEND KEY diagram.

VAV/CAV AIR TERMINAL UNIT SCHEDULE - LOGISTICS table with columns: MARK, SERVES, INLET SIZE (IN), AIRFLOW (CFM), MIN. AIRFLOW (CFM), MINIMUM HEATING CAPACITY (BTUH), HOT WATER FLOW (GPM). Includes notes on heating coils and CFM.

AIRFLOW CONTROL VALVE SCHEDULE - LOGISTICS table with columns: TAG, TYPE, SERVES, AIRFLOW (CFM), INLET SIZE (IN.), NOTES.

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BMM 3561791922 - Fayetteville DOD Project No. 64-19-403 Renovation of SPS/19022 - MECH - R2024.rvt

Revision table with columns: Revision Number, Revisions, Date.

CONSULTANTS: BRITT, PETERS AND ASSOCIATES consulting engineers

ARCHITECT/ENGINEER OF RECORD: HARRELL DESIGN GROUP PC, 10720 SIKES PLACE, SUITE 100, CHARLOTTE, NC 28277

STAMP: William G. Craney Jr., Professional Engineer, State of North Carolina, License No. 054948

DRAWING TITLE: SCHEDULES, PHASE: CONSTRUCTION DOCUMENTS SUBMISSION, APPROVED

FULLY SPRINKLERED

PROJECT TITLE: RENOVATE SPACE FOR LOGISTICS (B-1), PROJECT NUMBER: 564-24-104, BUILDING NUMBER: 1, DRAWING NUMBER: MH601-A

Engineering Service logo and U.S. Department of Veterans Affairs logo

GENERAL NOTES

1. REFER TO SHEET MH001-A FOR LEGENDS, STANDARDS, AND ABBREVIATIONS.

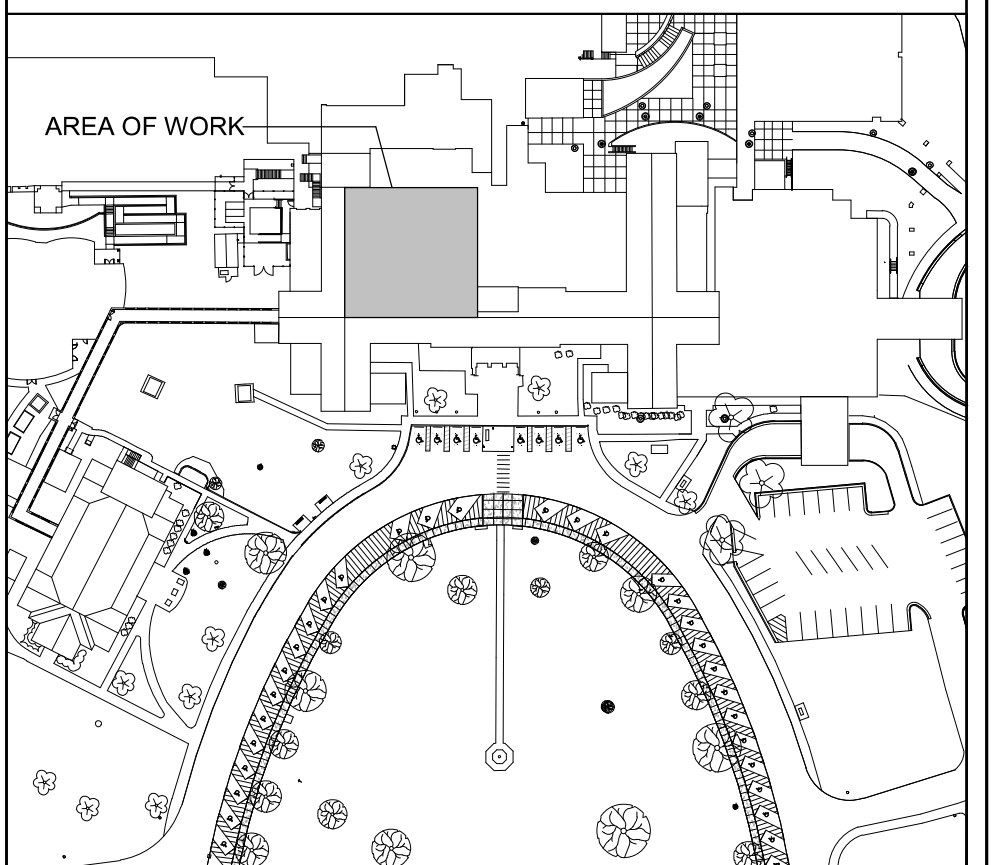
SHEET KEYNOTES

- ROUTE REFRIGERANT PIPING TO CONDENSING UNIT ON LOADING DOCK ROOF.
- ELECTRONIC ARRAY OF ALL ROOMS, PRESSURES, AND TEMPERATURES. 'RED' SIGNIFIES ALARM, 'GREEN' SIGNIFIES NORMAL OPERATION.
- 3 HP VFD W/ INTERNAL BYPASS FOR 1-AHJ-LOG.
- BAS CONTROL PANEL.
- ALL WORK IN CORRIDOR L105 MUST BE PERFORMED AFTER HOURS. CORRIDOR MUST BE PATIENT ACCESSIBLE DURING FACILITY OPERATION HOURS. SEE SHEET AE111-A FOR MORE INFORMATION.
- ONE INVERTED BUCKET AND TWO FLOAT AND THERMOSTATIC TRAPS SERVING 1-AHJ-LOG.
- PROVIDE A MINIMUM OF 12" BETWEEN EDGES OF PIPE OPENINGS.
- PROVIDE 3-WAY CONTROL VALVE.

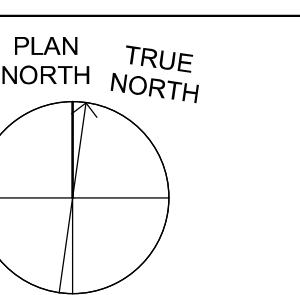
PARTITION GRAPHICS

- NO RATING
- SMOKE RESISTIVE PARTITION - NON RATED
- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/SMOKE BARRIER

KEY PLAN

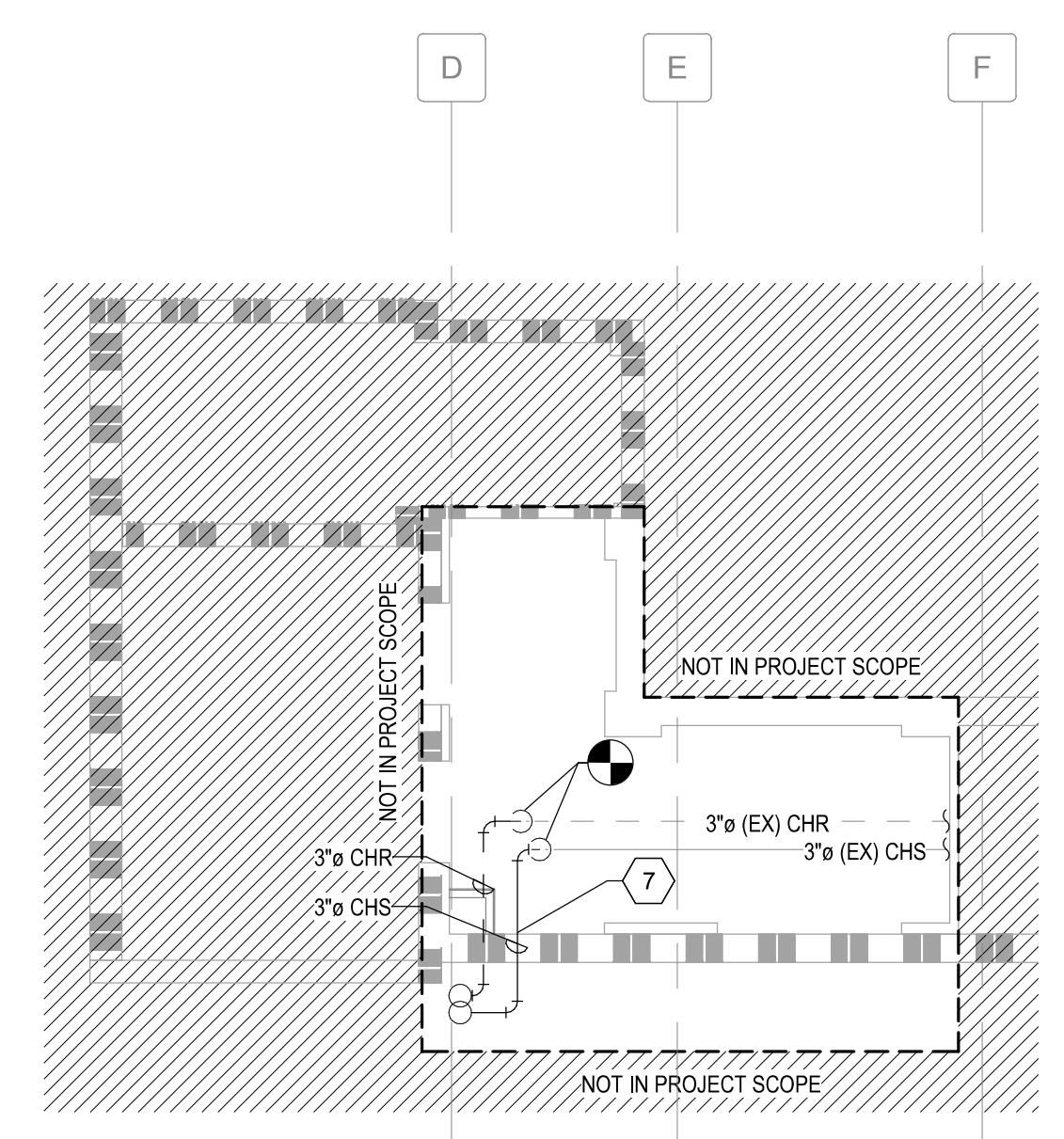


NORTH LEGEND

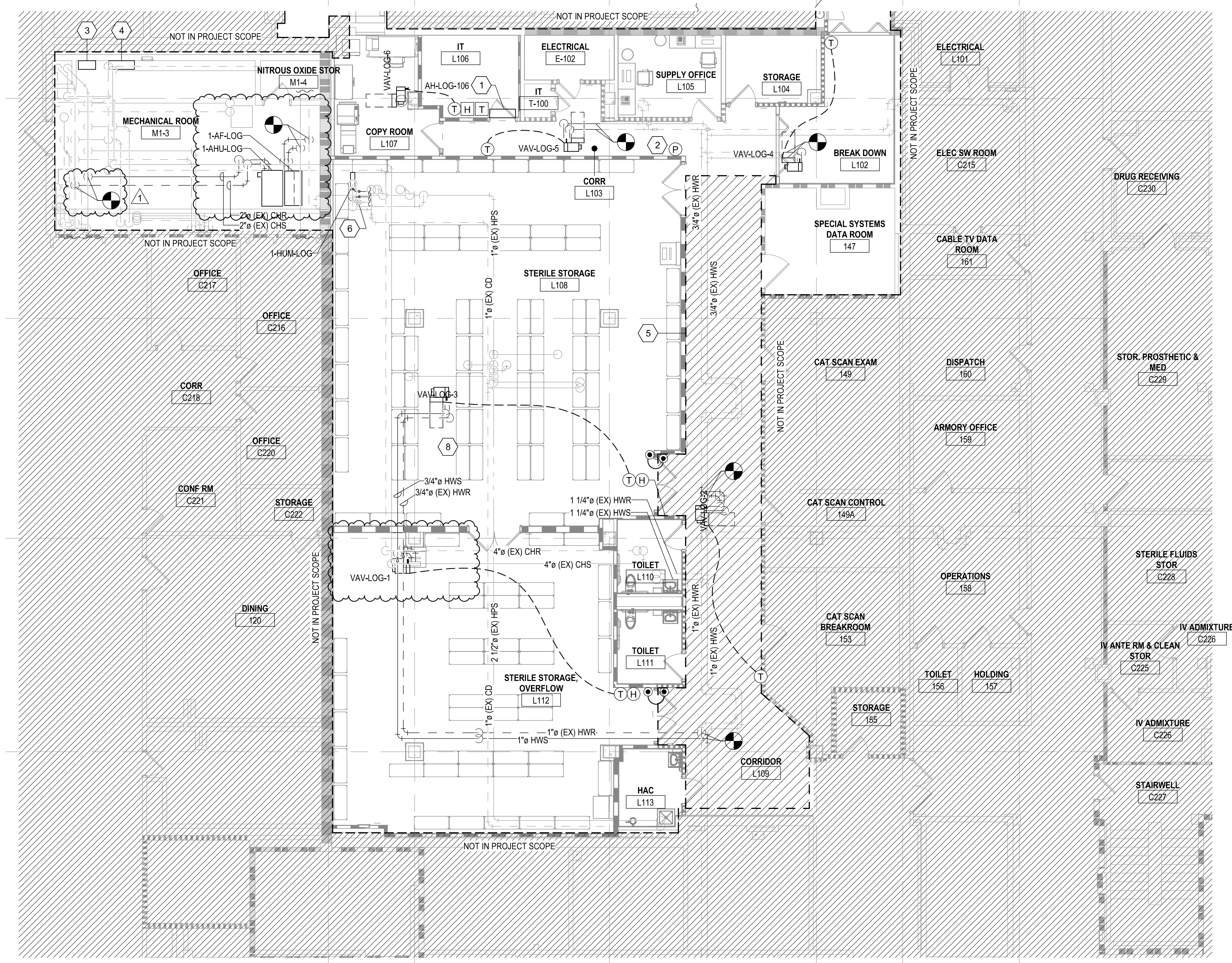


FIRST FLOOR - FFE: 0'-0"

C2 BASEMENT ELEVATOR LOBBY MECHANICAL PLAN
1/8" = 1'-0"



F4 FIRST FLOOR MECHANICAL PIPING PLAN
1/8" = 1'-0"



Revision Number	Revisions:	Date:
1	AMENDMENT 02	07/11/2024

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DRAWING TITLE
BASEMENT AND FIRST FLOOR MECHANICAL PIPING PLANS

PHASE
CONSTRUCTION DOCUMENTS SUBMISSION

APPROVED

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PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

PROJECT NUMBER
564-24-104

BUILDING NUMBER
1

DRAWING NUMBER
MP101-A

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

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ANB

Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

U.S. Department of Veterans Affairs

Autodesk Docs: 19/022 - Fayetteville IDIQ Project No. 564-B-03 Renovation of SPS 19022 - MECH - R2024.rvt 7/11/2024 12:28:06 PM

1 2 3 4 5 6 7 8 9 10

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GENERAL NOTES

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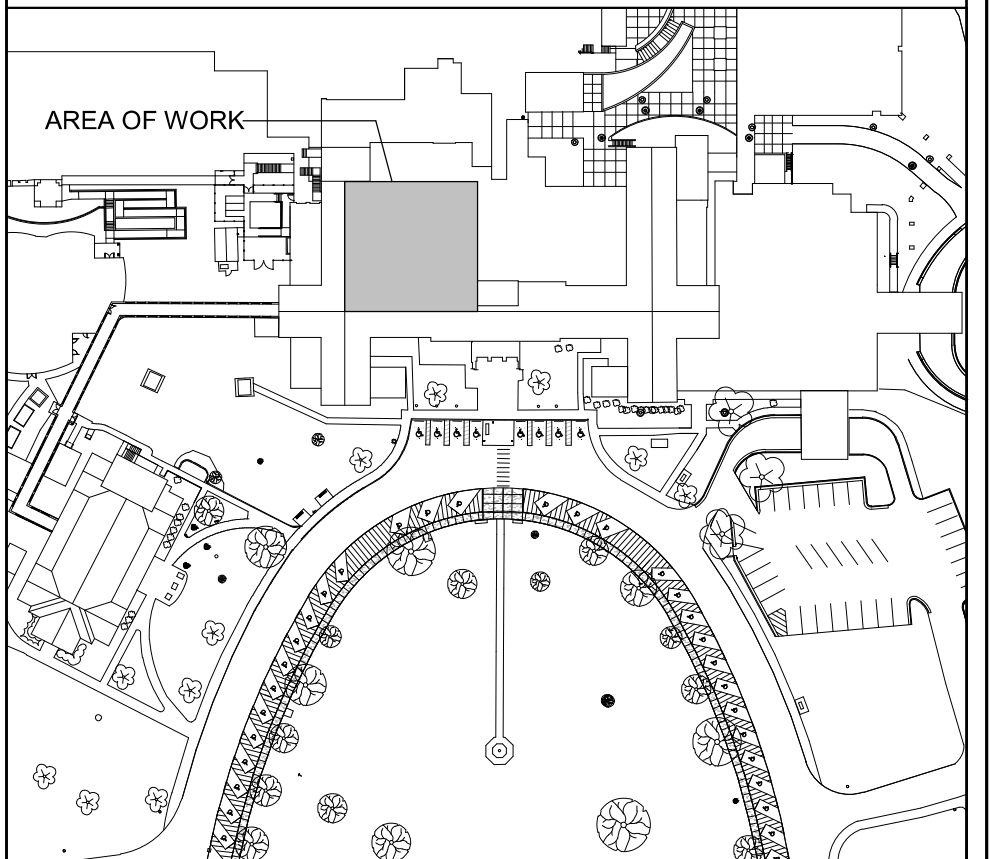
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- PROVIDE 3-WAY CONTROL VALVE.

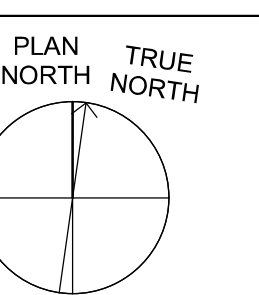
PARTITION GRAPHICS

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- 1 HOUR FIRE/SMOKE BARRIER
- 2 HOUR FIRE BARRIER
- 2 HOUR FIRE/ SMOKE BARRIER

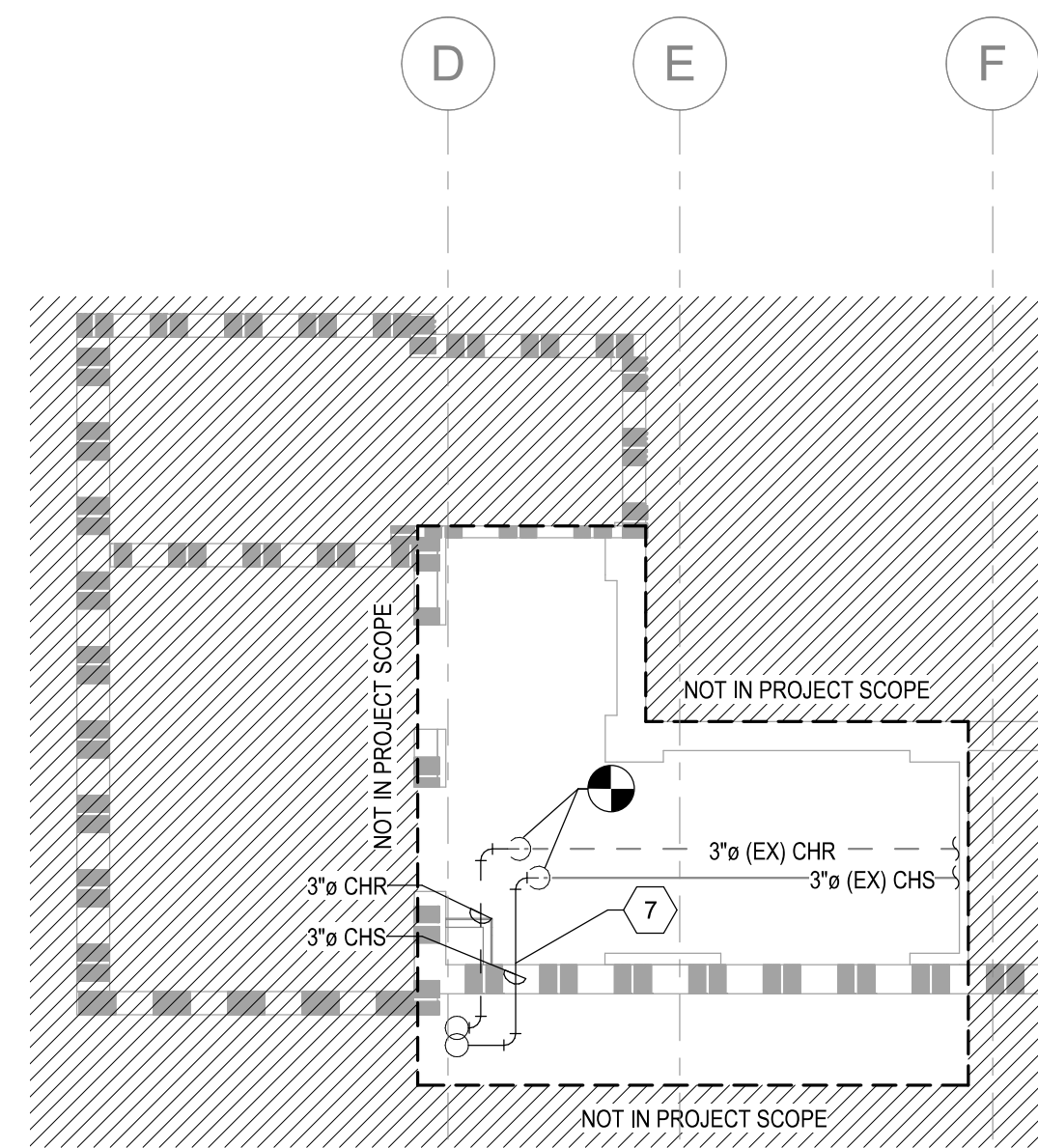
KEY PLAN



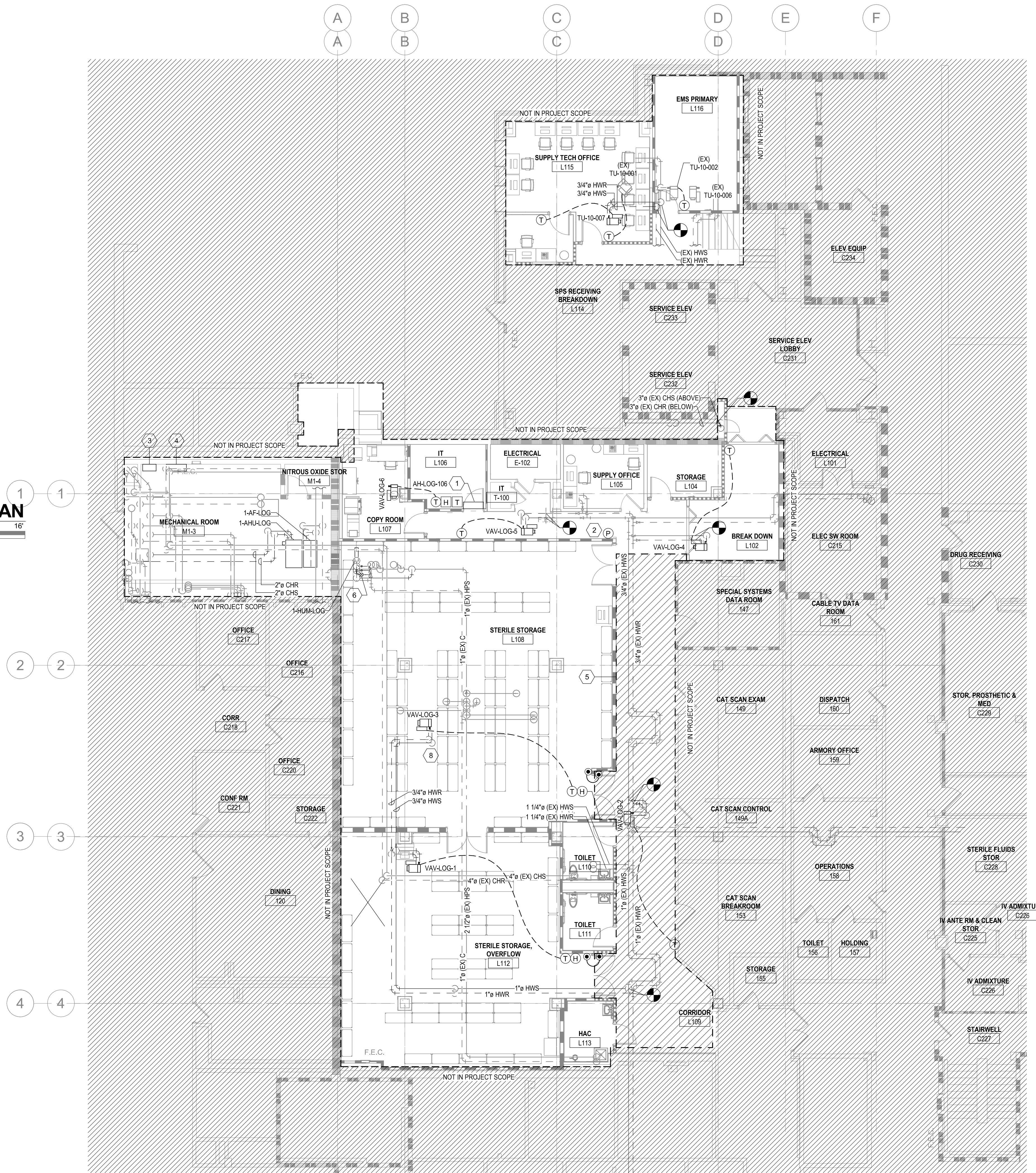
NORTH LEGEND



FIRST FLOOR - FFE: 0'-0"



C2 BASEMENT ELEVATOR LOBBY MECHANICAL PLAN
1/8" = 1'-0"



F4 FIRST FLOOR MECHANICAL PIPING PLAN
1/8" = 1'-0"

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Revision Number	Revisions:	Date:

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BASEMENT AND FIRST FLOOR MECHANICAL PIPING PLANS

APPROVED

PHASE
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PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

CHECKED
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DRAWN
ANB

PROJECT NUMBER
564-24-104

BUILDING NUMBER
1

DRAWING NUMBER
MP101-A

Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

U.S. Department of Veterans Affairs

A

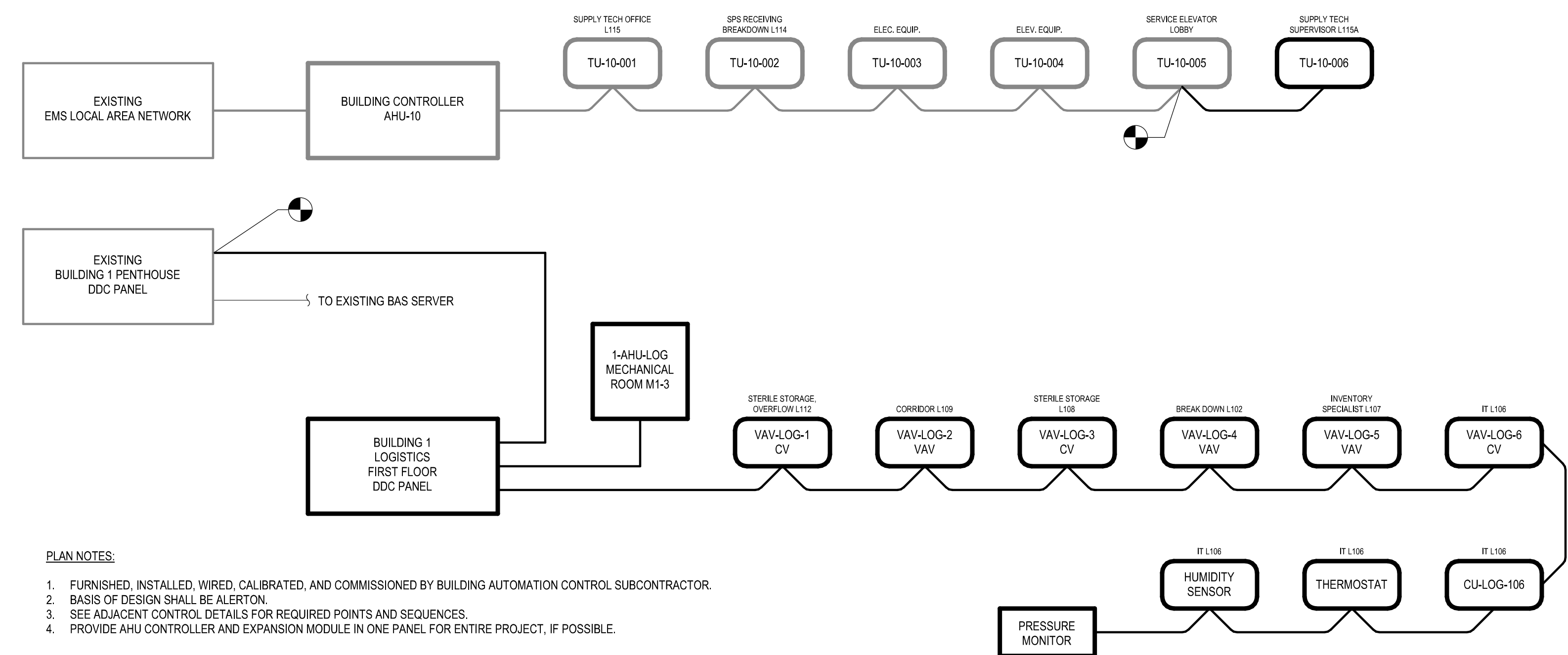
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D

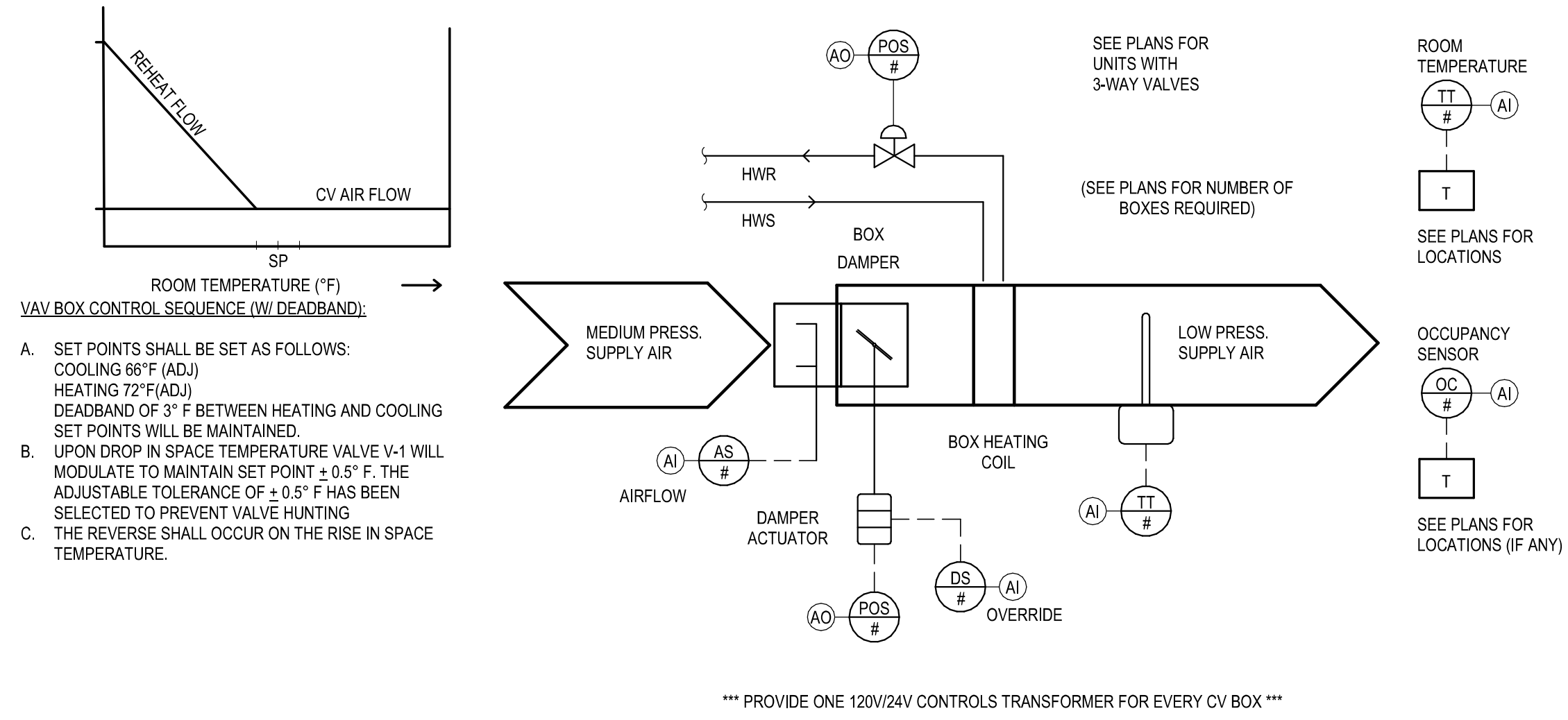
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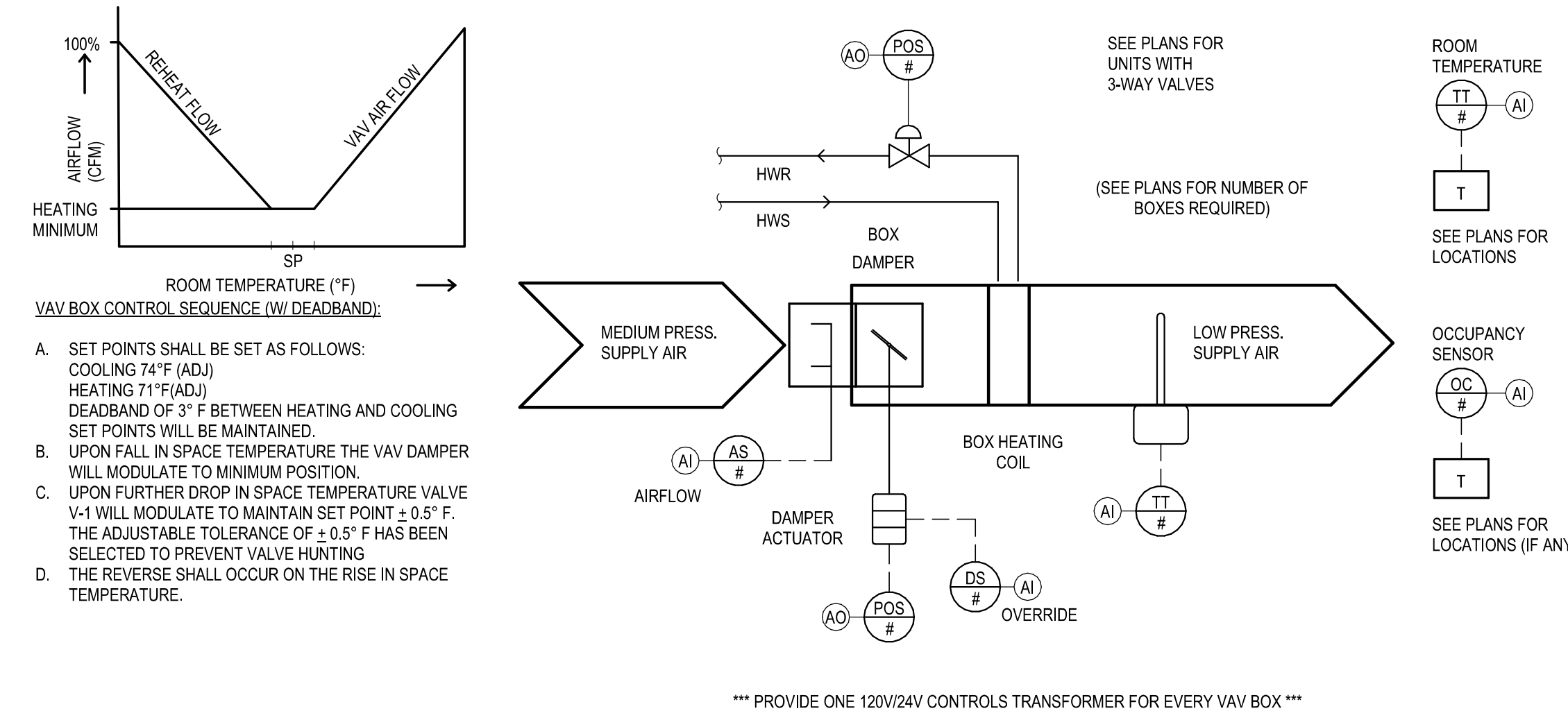


- PLAN NOTES:**
- FURNISHED, INSTALLED, WIRED, CALIBRATED, AND COMMISSIONED BY BUILDING AUTOMATION CONTROL SUBCONTRACTOR.
 - BASIS OF DESIGN SHALL BE ALERTON.
 - SEE ADJACENT CONTROL DETAILS FOR REQUIRED POINTS AND SEQUENCES.
 - PROVIDE AHU CONTROLLER AND EXPANSION MODULE IN ONE PANEL FOR ENTIRE PROJECT, IF POSSIBLE.

B6 BAS SYSTEM ARCHITECTURE
NOT TO SCALE



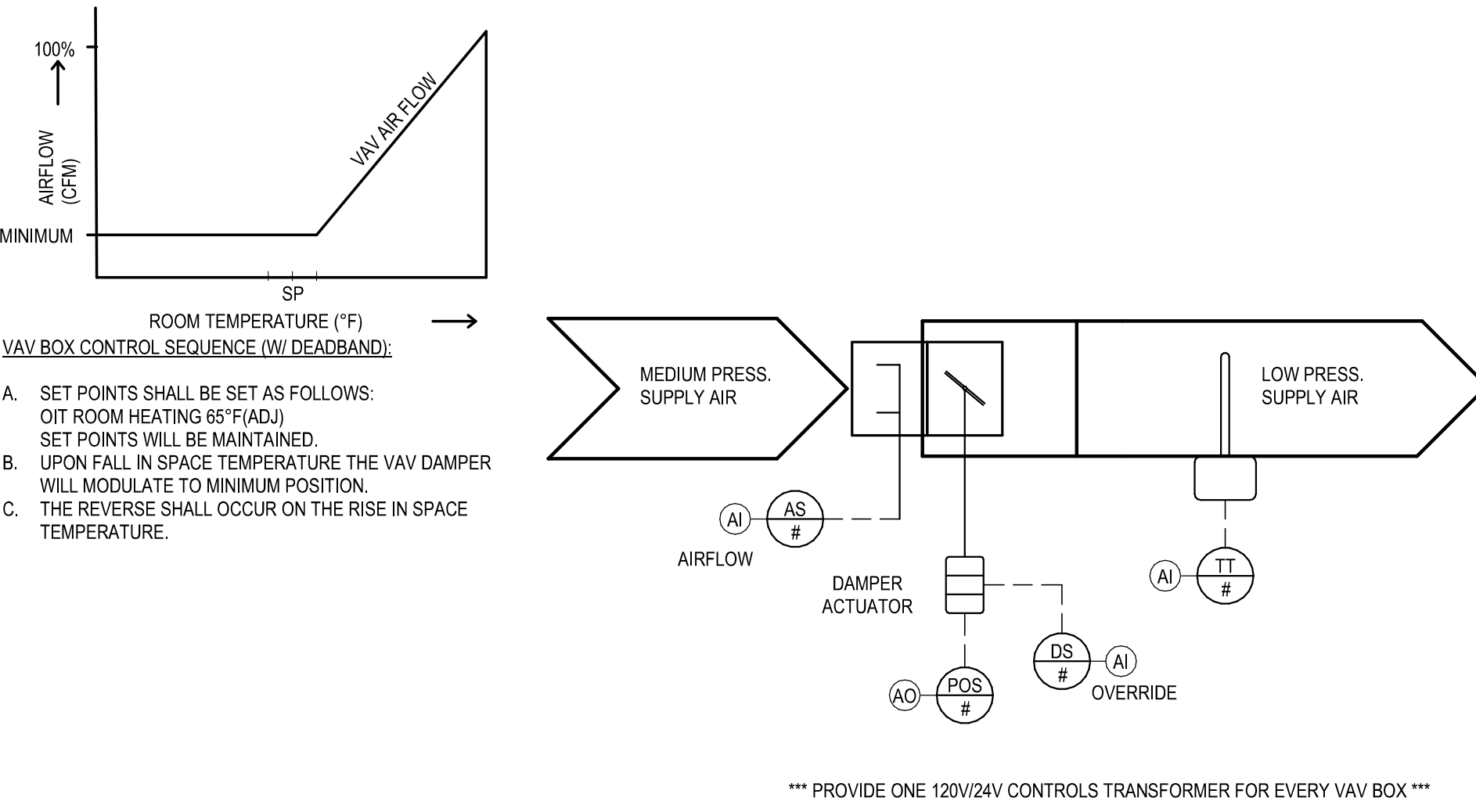
D2 CAV AIR TERMINAL UNIT WITH HOT WATER REHEAT CONTROL DIAGRAM
NOT TO SCALE



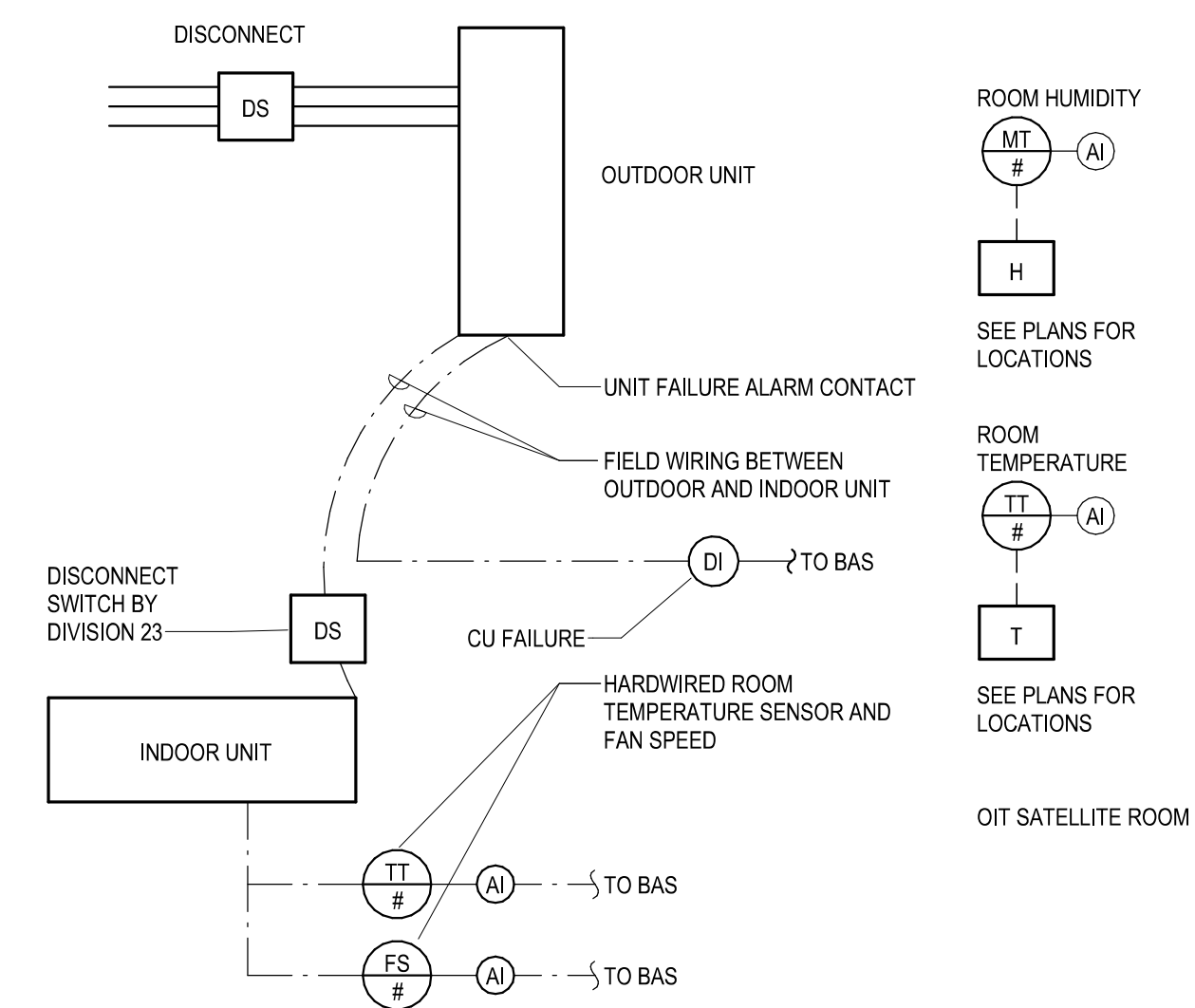
C7 VAV AIR TERMINAL UNIT WITH HOT WATER REHEAT CONTROL DIAGRAM
NOT TO SCALE

DUCTLESS SPLIT SYSTEMS SEQUENCE OF OPERATIONS:

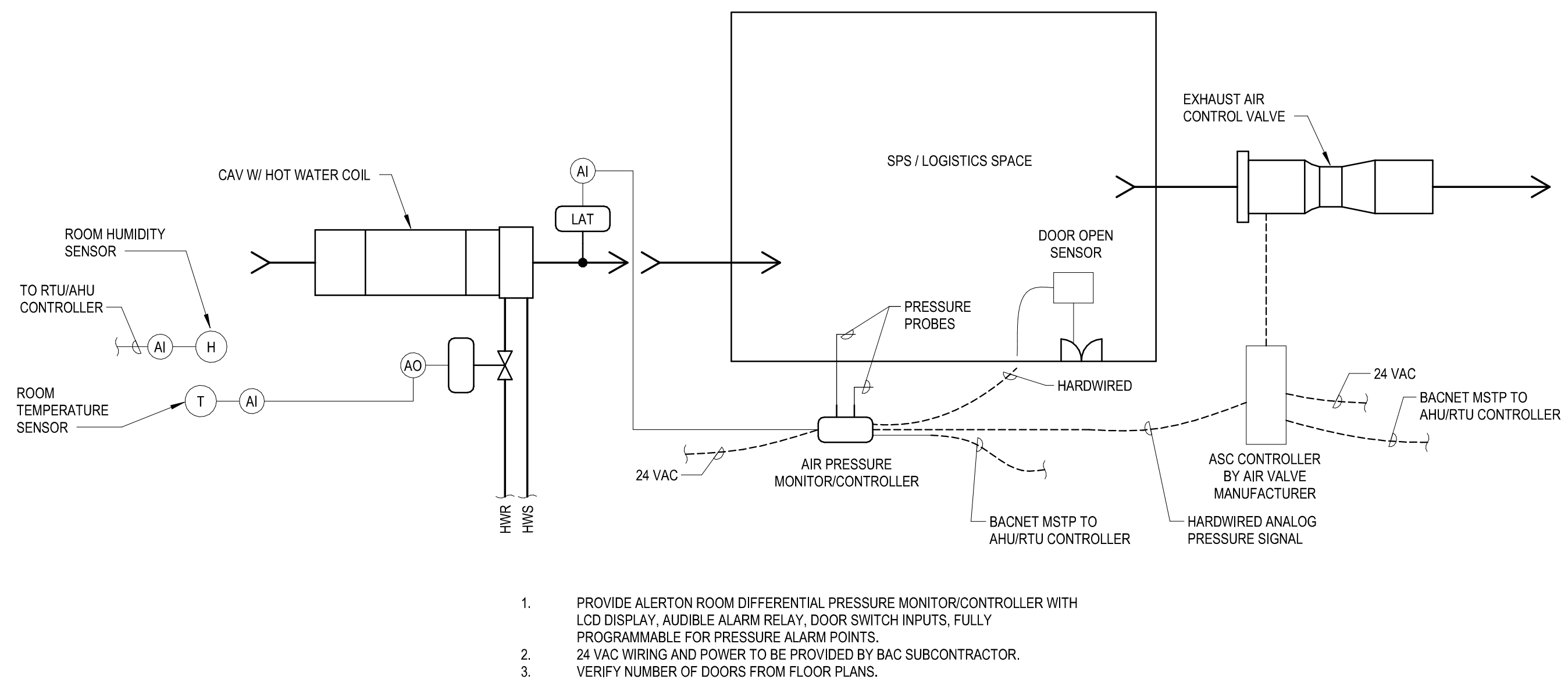
WHEN THE UNIT-MOUNTED INDOOR THERMOSTAT CALLS FOR COOLING, THE OUTDOOR AND INDOOR UNITS SHALL BE ENERGIZED. UNITS SHALL BE DE-ENERGIZED UPON REACHING 5 DEG. F (ADJ.) BELOW THE USER-DEFINED TEMPERATURE SETPOINT. DEFROST CYCLE SHALL OPERATE PER MANUFACTURER'S RECOMMENDATION. UPON RECEIPT OF ANY ALARM, BOTH THE INDOOR AND OUTDOOR UNITS SHALL BE DE-ENERGIZED AND AN ALARM SENT TO THE LOCAL BAS PANEL AND CAMPUS ECC.



F1 OIT SATELLITE ROOM CONTROLS
NOT TO SCALE



F7 PRESSURE MONITOR CONTROL DIAGRAM
NOT TO SCALE



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Revision Number	Revisions:	Date:

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DRAWING TITLE
CONTROLS SCHEMATICS AND CONTROL POINTS

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PROJECT TITLE
RENOVATE SPACE FOR LOGISTICS (B-1)

PROJECT NUMBER
564-24-104

BUILDING NUMBER
1

DRAWING NUMBER
MI701-A

LOCATION
FAYETTEVILLE VA MEDICAL CENTER

ISSUE DATE
11 APRIL 2024

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ANB

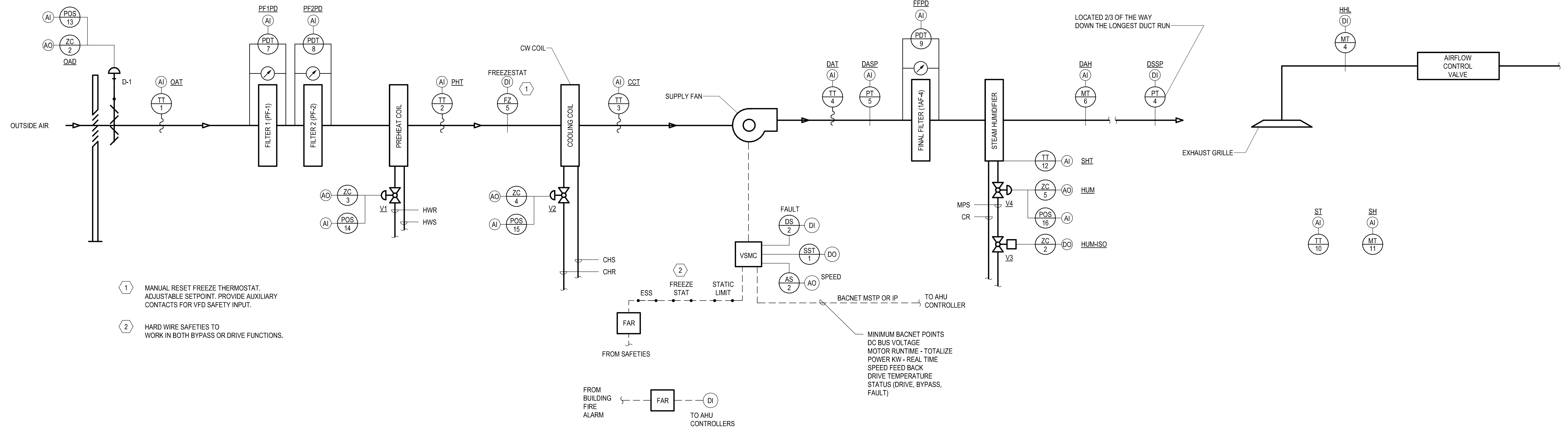
Engineering Service

VETERANS HEALTH CARE SYSTEM OF THE OZARKS

U.S. Department of Veterans Affairs

CONTROLS SYMBOLS

- ANALOG SIGNAL INPUT OR OUTPUT (0-10V / 4-20 MA ONLY)
- DIGITAL SIGNAL (PULSE) (SWITCH, RELAY, ETC.)
- FLOW TRANSMITTER
- FREEZESTAT
- CURRENT TRANSMITTER (STATUS)
- HUMIDITY SENSOR
- OCCUPANCY SENSOR
- POSITION SENSOR
- PRESSURE TRANSMITTER
- START/STOP (ENABLE)
- TEMPERATURE SENSOR
- DAMPER/VALVE ACTUATOR (0-10V / 4-20 MA ONLY)
- HAND SWITCH
- CONNECTION TO ECCBAS
- FIRE ALARM RELAY CONTROLLED BY FIRE SYSTEM N.C.
- PRESSURE DIFFERENTIAL TRANSMITTER



1. MANUAL RESET FREEZE THERMOSTAT, ADJUSTABLE SETPOINT. PROVIDE AUXILIARY CONTACTS FOR VFD SAFETY INPUT.
2. HARD WIRE SAFETIES TO WORK IN BOTH BYPASS OR DRIVE FUNCTIONS.

MINIMUM BACKNET POINTS
DC BUS VOLTAGE
MOTOR RUNTIME - TOTALIZE
POWER KW - REAL TIME
SPEED FEED BACK
DRIVE TEMPERATURE
STATUS (DRIVE, BYPASS, FAULT)

GENERAL BUILDING AUTOMATION SYSTEM NOTES

1. ALL NEW BUILDING AUTOMATION CONTROLS SHALL BE BY ALERTON.
2. IN ADDITION TO THE BUILDING AUTOMATION POINTS SHOWN ON THIS SHEET ALERTON SHALL PICK UP ANY ADDITIONAL INTERLOCK POINTS PROVIDED TO THE EXISTING AHU CONTROLLER.
3. ALERTON SHALL PROVIDE GRAPHICS FOR ALL AHU SYSTEMS INDICATING ALL POINT VALUES AND SETPOINTS.
4. ALL POINTS SHALL BE COMMUNICATED BACK TO THE ALERTON CENTRAL CAMPUS OWS.

SEQUENCES OF OPERATIONS - 1-AHU-LOG

1. GENERAL
 - 1.1 UNIT IS NORMALLY STARTED AND STOPPED REMOTELY AT THE CENTRAL BAS OWS. H-Q-A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION. "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE. WHEN THE UNIT IS "OFF" D-1 SHALL BE FULLY CLOSED. WHEN THE UNIT IS "ON" D-1 SHALL BE FULLY OPEN.
2. TEMPERATURE CONTROL
 - 2.1 SPACE TEMPERATURE, SENSED BY SPACE AIR TEMPERATURE SENSOR, SHALL BE MAINTAINED AT SETPOINT VIA DIGITAL CONTROL PANEL BY MODULATING V-1A AND V-1B OR V-3 IN SEQUENCE.
 - 2.2 DURING MECHANICAL COOLING OPERATION, THE COOLING COIL CHILLED WATER VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE TEMPERATURE SETPOINT (SATSP), NOMINALLY 55°F DB (ADJ.), AS MEASURED BY THE SUPPLY AIR TEMPERATURE (DAT) SENSOR. THE COOLING SATSP SHALL BE RESET UPWARD TO 60°F DB OR LESS (ADJ.) BASED ON ZONE COOLING DEMAND FEEDBACK TO MAINTAIN THE ZONE WITH THE GREATEST COOLING REQUIREMENT. IF ZONE COOLING DEMAND INCREASES, THE SATSP SHALL BE RESET DOWNWARD TO 55°F DB OR GREATER (ADJ.).
 - 2.3 DURING HEATING OPERATION, THE HEATING COIL STEAM VALVES SHALL MODULATE TO MAINTAIN A SPACE TEMPERATURE SETPOINT, (DAT), WHICH CAN BE RESET FROM THE OWS.
- UNOCCUPIED MODE:
 - 2.4 WHEN DISABLED BY THE BUILDING AUTOMATION SYSTEM, THE SUPPLY FAN VFD SHALL RAMP THE SUPPLY FAN SPEED DOWN TO STOP, THE COOLING COIL CHILLED WATER VALVE, HEATING COIL STEAM VALVE, HUMIDIFIER VALVE AND OUTDOOR AIR DAMPER SHALL EACH CLOSE.

3. STEAM HUMIDIFIER CONTROL

- UNOCCUPIED MODE:
- 3.1 EXHAUST AIR HUMIDITY SHALL BE MONITORED. ON A CALL FOR HUMIDIFICATION, HUMIDIFIER VALVE V-4 SHALL MODULATE TO MAINTAIN THE EXHAUST AIR HUMIDITY SET POINT TO 30% (ADJUSTABLE). PRIOR TO ACTIVATION OF V-4, THE ON/OFF CONTROL VALVE V-3 SHALL BE ENABLED THROUGH ECC AND JACKET TEMPERATURE SENSED BY TSH SHALL BE WARM ENOUGH TO PREVENT CONDENSATION. THE HIGH LIMIT HUMIDITY SENSOR, LOCATED IN THE SUPPLY AIR DUCT 3000MM (10 FEET) AWAY FROM THE HUMIDIFIER SHALL DISABLE THE HUMIDIFIER AND GIVE AN ALARM SIGNAL TO THE ECC. IF THE SUPPLY AIR HUMIDITY EXCEEDS 90% RH (ADJUSTABLE), THE DASP SHALL PROVE AIRFLOW BEFORE HUMIDITY CONTROLS ARE ACTIVATED.
- OCCUPIED MODE:
- 3.2 SEE TEMPERATURE CONTROL 2.4 FOR UNOCCUPIED MODE.
 4. AIR FLOW CONTROL
 - 4.1 THE SUPPLY AIR FLOW SHALL BE CONTROLLED BY THE DIGITAL CONTROL PANEL MODULATING THE SUPPLY FAN VARIABLE SPEED MOTOR CONTROLLER TO MAINTAIN DUCT STATIC PRESSURE. SETPOINT.
 5. FREEZE PROTECTION
 - 5.1 IF THE AIR TEMPERATURE AS SENSED BY TT-3 FALLS BELOW 45°F, AN ALARM SIGNAL SHALL INDICATE AT THE DCP AND ECC. IF THIS TEMPERATURE FALLS BELOW 40°F, AS SENSED BY FZ-1, THE SUPPLY FAN SHALL SHUT DOWN. THE OUTSIDE AIR DAMPER SHALL CLOSE, THE STEAM VALVE (V-1A) SHALL OPEN AND A CRITICAL ALARM SIGNAL INDICATE AT THE DIGITAL CONTROL PANEL AND BAS OWS.
 6. AUTOMATIC SHUTDOWN/RESTART
 - 6.1 FAN SHALL SHUT DOWN FROM A SIGNAL FROM THE BUILDING FIRE ALARM SYSTEM.

JOB: BUILDING:	POINT LEGEND		SYSTEM OUTPUTS		SYSTEM INPUTS		SYSTEM SOFTWARE/CONTROL		PAGE:
			BINARY	ANALOG	BINARY	ANALOG	ALARM PROCESSING	APPLICATION/FUNCTION	
SYSTEM: VAV AIR HANDLER									
SYSTEM COMPONENT:									
OUTSIDE AIR TEMPERATURE	AI-1	OAT							
PRE-HEAT TEMPERATURE	AI-2	PHT							
COOLING COIL TEMPERATURE	AI-3	CCT							
DISCHARGE AIR TEMPERATURE	AI-4	DAT							
DISCHARGE STATIC PRESSURE	AI-5	DASP							
DISCHARGE AIR HUMIDITY	AI-6	DAH							
PREFILTER 1 STATIC PRESSURE	AI-7	PF1PD							
PREFILTER 2 STATIC PRESSURE	AI-8	PF2PD							
FINAL FILTER STATIC PRESSURE	AI-9	FFPD							
SPACE TEMPERATURE	AI-10	ST							
SPACE HUMIDITY	AI-11	SH							
HUMIDIFIER JACKET TEMPERATURE	AI-12	SHT							
OUTSIDE AIR DAMPER POSITION	AI-13	OADP							
PREHEAT COIL VALVE POSITION	AI-14	PHTP-V1							
COOLING COIL VALVE POSITION	AI-15	CLGP-V2							
STEAM HUMIDIFIER VALVE POSITION	AI-16	HUMP-V4							
	AI-17								
SUPPLY FAN STATUS	BI-1	SF-ST5							
STATIC PRESSURE HIGH LIMIT	BI-2	DSSP							
SUPPLY FAN VSMC ALARM	BI-3	SF-ALA							
HUMIDITY HIGH LIMIT	BI-4	HHL							
FREEZESTAT	BI-5	FZ							
	BI-6								
SUPPLY FAN VSMC	AO-1	SF-SPD							
OUTSIDE AIR DAMPER	AO-2	OAD							FULL COMMUNICATION
PRE-HEAT VALVE V-1	AO-3	PHT-V1							
COOLING VALVE V-2	AO-4	CLG-V2							
STEAM HUMIDIFIER VALVE V-4	AO-5	HUM-V4							
	AO-6								
SUPPLY FAN START/STOP	BO-1	SF-SST							
STEAM ISOLATION VALVE V-3	BO-2	HUM-ISO-V3							
NOTE:	BO-3								

Revision Number	Revisions:	Date:

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MI702-A

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