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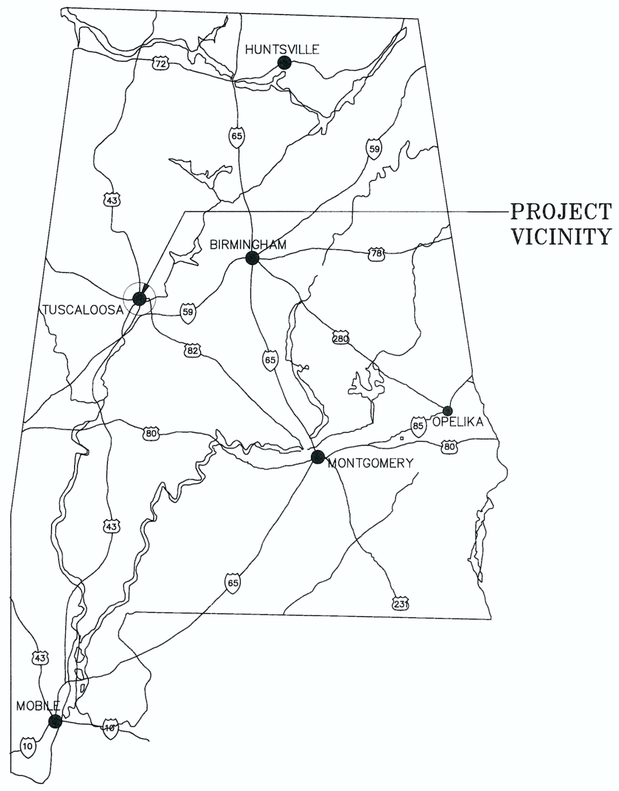
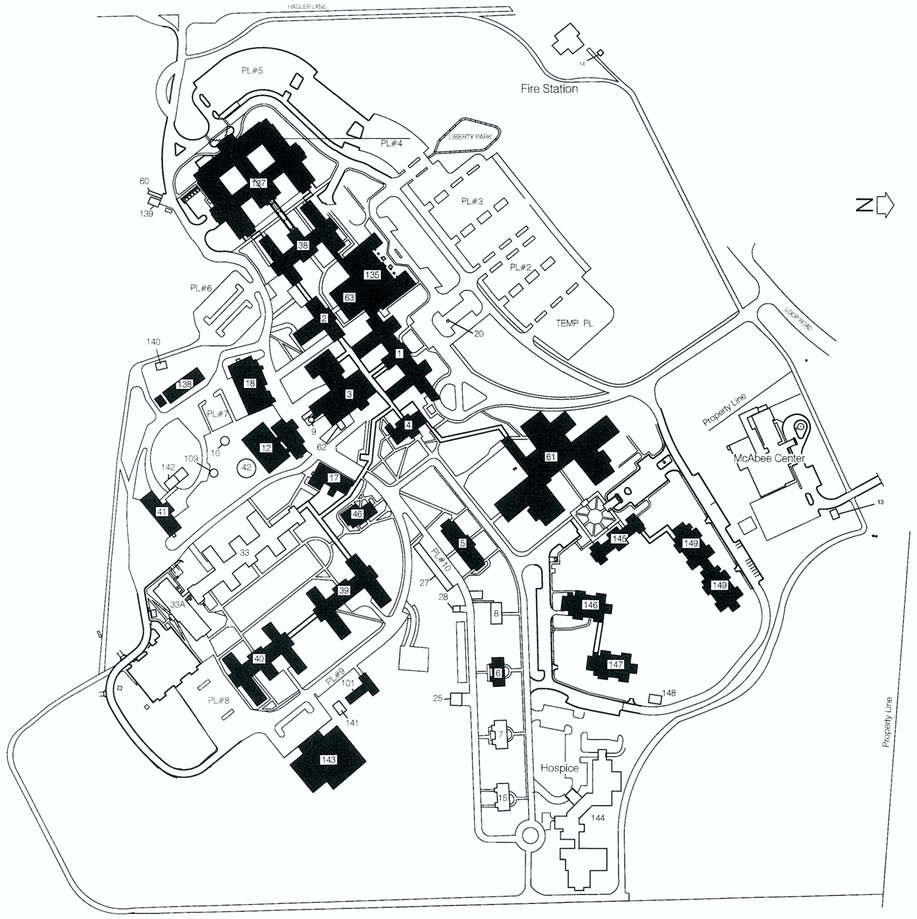
TUSCALOOSA VA MEDICAL CENTER
TUSCALOOSA, AL 35404

MECHANICAL PLUMBING

PROJECT # 679-20-104
EHRM INFRASTRUCTURE UPGRADES



VICINITY MAP
NTS



CAMPUS MAP
NTS

REVIEWER'S SIGNATURES

John F. Meckle 7/25/24	
MEDICAL CENTER DIRECTOR	DATE
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SAFETY MANAGER	DATE
JAMES HARDEMON Digitally signed by JAMES HARDEMON Date: 2024.07.17 07:41:09 -05'00'	
INFECTION CONTROL	DATE
GERALD BALLMAN Digitally signed by GERALD BALLMAN Date: 2024.07.17 17:01:46 -05'00'	
ENERGY ENGINEER	DATE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: COVER SHEET	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
Approved: Chief Engineer		Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Building Number:
		Issue Date: 03/08/2024 · Checked: TG · Drawn: MM/TR	Drawing Number: GI001

VA FORM 08 - 6231

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DWG.#	DRAWING TITLE

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Revisions:	Date:
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	INDEX OF DRAWINGS MECHANICAL / PLUMBING
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	
Approved: Chief Engineer	
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Drawing Number	GI002
Issue Date	03/08/2024
Checked	TG
Drawn	MM/TR

File Path: 6/14/2009 12:28:03 PM

VA FORM 08 - 6231

ALL EQUIPMENT OF THE SAME TYPE SHALL BE MANUFACTURED BY THE SAME MANUFACTURER.

GENERAL MECHANICAL SYMBOLS

NOT ALL SYMBOLS APPLY TO THIS SET OF DOCUMENTS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
(#)	SHEET NOTE	DENOTES SPECIFIC REQUIREMENT FOR THE SHEET ON WHICH THE NOTE APPEARS AND IS USED TO DESCRIBE WORK THAT IS TOO LENGTHY TO PLACE ON PLAN.
	PIPING - SOLID LINE INDICATES SYSTEM SUPPLY -- DASHED LINE INDICATES SYSTEM RETURN	NUMBER INDICATES NOMINAL DIAMETER IN INCHES, LETTER(S) INDICATES SYSTEM. REFER TO ABBREVIATIONS FOR SYSTEM TYPE.
Ø	DIAMETER	
	DENOTES CONNECTION OF NEW WORK TO EXISTING SYSTEM	PROTECT EXISTING SYSTEM FROM ENTRANCE OF FOREIGN DEBRIS DURING WORK.
	ARROW INDICATES DIRECTION OF FLOW IN PIPING	
	ARROW INDICATES DOWNWARD PIPE SLOPE ## INDICATES SLOPE IN INCHES PER FOOT	WHERE PIPING IS NOT MARKED, REFER TO SPECIFICATIONS FOR REQUIREMENTS
	ISOLATION VALVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	CHECK VALVE ARROW INDICATES DIRECTION OF NORMAL FLOW	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	PIPE IN SLEEVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	AUTOMATIC FLOW CONTROL VALVE # INDICATES FLOW TO BE BALANCED IN GPM	CIRCUIT SETTER, AUTOFLOW, ETC. REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	ELBOW UP ELBOW DOWN	
	TEE UP TEE DOWN TEE HORIZONTAL	
	PIPE REDUCER	INDICATES POINT WHERE PIPING CHANGES FROM ONE SIZE TO ANOTHER. SMALL POINT OF ARROW INDICATES SMALLER SIZE SIDE OF TRANSITION.
	UNION	
	Y STRAINER WITH BLOWDOWN	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	Y STRAINER	
	PRESSURE GAUGE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	PRESSURE GAUGE STEAM	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - HORIZONTAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - VERTICAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	REQUIRED SERVICE CLEARANCE FOR EQUIPMENT	
	CONTINUATION	FIRST SYMBOL APPLIES TO ROUND DUCT AND PIPING. SECOND SYMBOL APPLIES TO RECTANGULAR AND OVAL DUCT.
	AIR VENT	
	BACKFLOW PREVENTER	
	CALIBRATED BALANCING VALVE	
	VALVE - THROTTLING SERVICE	
	VALVE - SHUTOFF SERVICE	
	P/T PORT	
	PIPE CAP	
	PIPE CONTINUATION	
	PRESSURE REDUCING VALVE	
	PUMP	
	RELIEF VALVE	
S	SENSOR	
	SUCTION DIFFUSER	
	VACUUM BREAKER	
	STEAM TRAP	

GENERAL ABBREVIATIONS

NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AD	ACCESS DOOR/PANEL	LF	LINEAR FEET
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AMB	AMBIENT	MC	MECHANICAL CONTRACTOR
BOB	BOTTOM OF BEAM	MFR	MANUFACTURER
CC	CONTROLS CONTRACTOR	MIN	MINIMUM
DIA	DIAMETER	NIC	NOT IN CONTRACT
DN	DOWN	NTS	NOT TO SCALE
E	EXISTING	PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR	PSIG	POUNDS PER SQUARE INCH GAUGE
EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE
FPM	FEET PER MINUTE	SHT	SHEET
FPS	FEET PER SECOND	TOB	TOP OF BEAM
GC	GENERAL CONTRACTOR	TOS	TOP OF STEEL
GPM	GALLONS PER MINUTE	VEL	VELOCITY
L	LENGTH	VFD	VARIABLE FREQUENCY DRIVE

TEMPERATURE CONTROL SYMBOLS

NOT ALL SYMBOLS APPLY TO THIS SET OF DOCUMENTS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	WALL MOUNTED CONTROL DEVICE # INDICATES TYPE	REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING ELEVATION. T = THERMOSTAT H = HUMIDISTAT S = SENSOR (CARBON MONOXIDE, ETC.)
	OCCUPANCY SENSOR	REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WHEN SENSOR IS NOT SHOWN ON ELECTRICAL DRAWINGS IT SHALL BE PROVIDED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.
	DUCT, PIPE, OR CEILING MOUNTED CONTROL SENSOR	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. T = THERMOSTAT H = HUMIDISTAT S = SENSOR (CARBON DIOXIDE, ETC.)
	CONTROL VALVE (3-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	CONTROL VALVE (2-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	PRESSURE/TEMPERATURE TEST PORT	
	FLOW MEASURING STATION	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
F	FLOW SWITCH	

HVAC SYMBOLS

NOT ALL SYMBOLS APPLY TO THIS SET OF DOCUMENTS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
W×H	RECTANGULAR DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
D"Ø	ROUND DUCTWORK D = DUCT DIAMETER	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
W/H⌀	FLAT OVAL DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	TURNING VANES	REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	DUCT CROSS SECTION - SUPPLY DUCT CROSS SECTION - RETURN DUCT CROSS SECTION - EXHAUST	CROSS SECTION INDICATES DUCT EXTENDING PERPENDICULAR TO THE PAGE. IN PLAN VIEW THIS INDICATES A DUCT RISE OR DROP TO ANOTHER LEVEL. SOLID INTERIOR LINE INDICATES EXTENSION UP. DASHED INTERIOR LINE INDICATES EXTENSION DOWN.
	MANUAL BALANCE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE MANUAL BALANCE DAMPERS IN AN ACCESSIBLE LOCATION AND AS CLOSE TO THE MAIN DUCT AS POSSIBLE.
	CONTROL DAMPER	DAMPER SHALL BE SAME SIZE AS DUCT UNLESS NOTED OTHERWISE. REFER TO SEQUENCES, SCHEMATICS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FIRE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	FIRE/SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	DIFFUSER	
	DIFFUSER BLANK OFF	SHADED AREA INDICATES QUADRANT OF DIFFUSER TO BE PROVIDED WITH BLANK OFF PANEL.
	RETURN GRILLE	
	EXHAUST GRILLE	
	WALL REGISTER / GRILLE	
	DUCT MOUNTED REGISTER / GRILLE	
	LINEAR SLOT	
	FLOW ARROW	ARROW INDICATES DIRECTION OF AIRFLOW FROM DIFFUSERS WITH ADJUSTABLE THROWS.
D# ###	DIFFUSER TAG D = TYPE # = TYPE NUMBER ### = AIRFLOW IN CFM	REFER TO DIFFUSER SCHEDULE FOR TYPE DESCRIPTIONS AND SIZING. BALANCE TO AIRFLOW LISTED. WHEN TYPE IS NOT GIVEN AND ONLY CFM IS DESIGNATED, PROVIDE D1 FOR SUPPLY OR G1 FOR RETURN/EXHAUST.
	FLEXIBLE DUCT	REFER TO SPECIFICATIONS FOR TYPE. REFER TO DETAILS FOR INSTALLATION REQUIREMENTS. MAXIMUM LENGTH SHALL BE 48 INCHES UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS.
	FLEXIBLE PIPING	REFER TO SPECIFICATIONS FOR TYPE.
	VARIABLE AIR VOLUME BOX - NO COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - HOT WATER COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - ELECTRIC COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - DUAL DUCT	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
VB-# ### CFM	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE ### = AIRFLOW IN CFM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.
VB-# #.# GPM	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE #.# = WATER FLOW RATE IN GPM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.

HVAC ABBREVIATIONS

NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AB	AIR BLENDER	HP	HORSEPOWER
AC	AIR CONDITIONING UNIT (SPLIT SYSTEM INDOOR UNIT)	HPC	HIGH PRESSURE STEAM CONDENSATE
AHU	AIR HANDLING UNIT	HPS	HIGH PRESSURE STEAM SUPPLY (86 PSIG AND ABOVE)
BFU	BOILER FEED UNIT	HRC	HEAT RECOVERY CHILLER
BLR	BOILER	HUM	HUMIDIFIER
CAV	CONSTANT AIR VOLUME BOX	HWR	HEATING HOT WATER RETURN
CC	COOLING COIL	HWS	HEATING HOT WATER SUPPLY
CD	CONDENSATE DRAIN	LPC	LOW PRESSURE STEAM CONDENSATE
CFM	CUBIC FEET PER MINUTE	LPS	LOW PRESSURE STEAM SUPPLY (0-12 PSIG)
CH	CHILLER	LV	LOUVER
CP	CONDENSATE PUMP	LWT	LEAVING WATER TEMPERATURE
CR	CONDENSER WATER RETURN	MBH	BTU (1000'S)
CS	CONDENSER WATER SUPPLY	MD	MANUAL DAMPER
CT	COOLING TOWER	MOD	MOTOR OPERATED DAMPER
CU	CONDENSING UNIT	MPC	MEDIUM PRESSURE STEAM CONDENSATE
CUH	CABINET UNIT HEATER	MPS	MEDIUM PRESSURE STEAM SUPPLY (13-85 PSIG)
CWR	CHILLED WATER RETURN	NC	NORMALLY CLOSED, NOISE CRITERIA
CWS	CHILLED WATER SUPPLY	NO	NORMALLY OPEN, NUMBER
D	DIFFUSER	OA	OUTDOOR AIR
DD	DUAL DUCT	P	PUMP
DX	DIRECT EXPANSION	PC	PUMPED CONDENSATE
EA	EXHAUST AIR	PRV	PRESSURE REDUCING VALVE
EAT	ENTERING AIR TEMPERATURE	PSC	PUMPED STEAM CONDENSATE
EF	EXHAUST FAN	R	REGISTER
EFF	EFFICIENCY	RA	RETURN AIR
ERC	ENERGY RECOVERY COIL	REA	RELIEF AIR
ERW	ENERGY RECOVERY WHEEL	REFL	REFRIGERANT DX LIQUID
ET	EXPANSION TANK	REFS	REFRIGERANT DX SUCTION GAS
EWT	ENTERING WATER TEMPERATURE	RF	RETURN FAN
FB	FILTER BANK (CONSISTING OF ONE OR MORE FILTERS)	RH	RELATIVE HUMIDITY
FCU	FAN COIL UNIT	RTU	ROOF TOP UNIT
FMS	FLOW MEASURING STATION	SA	SUPPLY AIR
FOR	FUEL OIL RETURN	SD	SMOKE DAMPER
FOS	FUEL OIL SUPPLY	SF	SUPPLY FAN
FOV	FUEL OIL VENT	SP	STATIC PRESSURE
FRD	FIRE DAMPER	STM	STEAM
FSD	FIRE SMOKE DAMPER	TEMP	TEMPERATURE
FTR	FINNED TUBE RADIATOR	TR	TRANSFER
G	GRILLE	UH	UNIT HEATER
GCWR	GLYCOL CHILLED WATER RETURN	VAV	VARIABLE AIR VOLUME BOX
GCWS	GLYCOL CHILLED WATER SUPPLY	VTR	VENT THROUGH ROOF
GE	GRAVITY EXHAUST	WB	WET BULB TEMPERATURE
GHWR	GLYCOL HEATING HOT WATER RETURN	WC	WATER COLUMN
GHWS	GLYCOL HEATING HOT WATER SUPPLY	WPD	WATER PRESSURE DROP
GI	GRAVITY INTAKE	WSHPR	WATER SOURCE HEAT PUMP RETURN
HC	HEATING COIL	WSHPS	WATER SOURCE HEAT PUMP SUPPLY

MECHANICAL GENERAL NOTES:

A. THESE NOTES APPLY TO ALL SHEETS CONTAINING HVAC, PIPING, PLUMBING, MEDICAL GAS, AND TEMPERATURE CONTROLS WORK. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY EXISTS BETWEEN THESE PLANS AND THE PROJECT SPECIFICATIONS, THE SPECIFICATION REQUIREMENTS SHALL TAKE PRECEDENCE OVER THE DRAWINGS.
B. REFER TO THE SPECIFICATIONS AND ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. DURING EACH PHASE THE CONTRACTOR SHALL COMPLETE ALL WORK LOCATED WITHIN THE BOUNDARY OF THAT PHASE. ANY WORK AND THAT MUST BE COMPLETED IN THE AREA AFTER THAT AREA HAS BEEN TURNED OVER TO THE OWNER SHALL BE IDENTIFIED AT THE BEGINNING OF THE PHASE FOR EVALUATION AND ACCEPTANCE OF THE OWNER.
C. THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL FITTINGS, OFFSETS, VENTS, DRAINS, AND DEVICES REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
D. PROVIDE ACCESS DOORS IN DUCTWORK AND/OR ARCHITECTURAL ELEMENTS WHERE REQUIRED TO ACCESS ALL EQUIPMENT REQUIRING MAINTENANCE AND ADJUSTMENT. THIS EQUIPMENT INCLUDES BUT IS NOT LIMITED TO SENSORS, DAMPERS, ACTUATORS, CONTROL DEVICES, VALVES, ETC. ACCESS DOORS SHALL BE SIZED TO PROVIDE APPROPRIATE ACCESS BASED ON HEIGHT OF ACCESS REQUIRED AND ACTIVITY. INSTALL SUCH THAT ACCESS DOOR IS FULLY OPERABLE WITHOUT THE REMOVAL OF ARCHITECTURAL ELEMENTS SUCH AS CEILING RUNNERS, SUPPORTS, ETC. INSTALL IN A LOCATION SUCH THAT STEPPING OR LEANING OVER PERMANENT EQUIPMENT OR FURNITURE IS NOT REQUIRED. WHERE ACCESS DOORS ARE REQUIRED IN ARCHITECTURAL ELEMENTS THAT PROVIDE A FIRE AND/OR SMOKE RATING, ACCESS DOOR SHALL MAINTAIN THE REQUIRED RATING.
E. SEAL ALL WALL PENETRATIONS (DUCTWORK, PIPING, CONTROLS, CONDUITS, ETC.) WITH NON-COMBUSTIBLE MATERIAL. SEAL PENETRATIONS INTO ROOMS THAT REQUIRE PRESSURE CONTROL OR SOUND ISOLATION. WITH NON-COMBUSTIBLE MATERIAL AND CAULK.
F. PIPING AND DUCTWORK SHALL NOT BE ROUTED OVER ELECTRICAL AND TELECOM ROOMS. WHERE ROUTING OVER SUCH ROOMS IS UNAVOIDABLE, CONTRACTOR SHALL COORDINATE WITH OWNER, DESIGN TEAM, AHJ, AND OTHER TRADES REGARDING LOCATION OF PANELS AND UTILITY ROUTING AND SHALL PROVIDE DRIP PANS UNDER ALL UTILITIES WITH MOISTURE SENSORS OR DRAIN PIPING AS REQUIRED BY THE SPECIFICATIONS.
G. REMOVAL AND REINSTALLATION OF CEILINGS REQUIRED FOR THE COMPLETION OF WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED CEILING COMPONENTS TO MATCH EXISTING. WHERE AN IDENTICAL MATCH IS NO LONGER AVAILABLE, CONTRACTOR SHALL PROVIDE A SIMILAR REPLACEMENT UPON APPROVAL FROM THE OWNER.
H. FLEXIBLE DUCTWORK SHALL HAVE A MAXIMUM LENGTH OF 48" REGARDLESS OF LENGTH SHOWN ON DRAWINGS. FLEX DUCT INSTALLATION SHALL BE AT TERMINAL ENDS ONLY. CONNECTIONS AT VAV BOX INLETS SHALL BE SOLID HARD DUCT. THE DUCTWORK AT ANY FIRE AND/OR FIRE SMOKE DAMPER SHALL BE HARD DUCT.
I. LOCATE PIPING AND DUCTWORK IN EXTERIOR BUILDING WALLS ON THE WARM SIDE OF THE BUILDING AND VAPOR BARRIER. COORDINATE INSTALLATION OF BUILDING INSULATION TO RUN CONTINUOUS BETWEEN PIPING AND BUILDING WALL.
J. SUPPORT ALL DUCTWORK, PIPING AND EQUIPMENT FROM BUILDING STRUCTURE MEMBERS. ROUTE DUCT MAINS TIGHT TO STRUCTURE UNLESS NOTED OTHERWISE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK, AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM WOOD TONGUE AND GROOVE ROOF DECK. SUPPORT FROM BOTTOM CHORD OF BAR JOISTS ONLY AT PANEL POINTS. ALL COMPONENTS REQUIRING MAINTENANCE SHALL BE SUPPORTED IN SUCH A MANNER AS TO BE READILY ACCESSIBLE WITHOUT REMOVAL OF THE CEILING SYSTEM AND TO ALLOW FOR REMOVAL FROM THE SYSTEM WHEN SUCH REMOVAL IS REQUIRED FOR MAINTENANCE.
K. PROVIDE CONSTRUCTION FILTERS ON AIR MOVING EQUIPMENT SERVING THE CONSTRUCTION AREA AS WELL AS ALL RETURN/EXHAUST DUCT PENETRATIONS COMING FROM THE CONSTRUCTION AREA. AT THE COMPLETION OF WORK, REMOVE ALL TEMPORARY AND CONSTRUCTION FILTERS AND PROVIDE NEW FILTERS FOR ALL AIR MOVING EQUIPMENT.
L. PROTECT ALL DUCTWORK AND PIPING DURING CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. AT A MINIMUM, DUCTWORK AND PIPING ENDS SHALL BE COVERED AND SEALED TO PREVENT THE COLLECTION OF DUST AND DEBRIS. CLEAN ALL INTERIOR SURFACES PRIOR TO INSTALLATION AND PROTECT ONCE INSTALLED. MEDICAL GAS PIPING SHALL BE PROTECTED IN ACCORDANCE WITH NFPA 99 REQUIREMENTS.
M. AT THE COMPLETION OF WORK, CLEAN ALL STRAINERS PROVIDED AS A PART OF THE WORK AS WELL AS PRIMARY SYSTEM STRAINERS LOCATED AT PUMPS WHERE SYSTEMS WERE EXTENDED.
N. PROVIDE INTERMEDIATE TESTING AND BALANCING AT THE COMPLETION OF EACH PHASE AND AS REQUIRED TO MAINTAIN PROPER OPERATION OF SYSTEMS SERVING AREAS OF THE FACILITY IN USE INCLUDING BUT NOT LIMITED TO OCCUPIED AREAS, STORAGE AREAS, AND OTHER AREAS DEEMED CRITICAL BY THE OWNER OR AHJ.
O. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
P. REFER TO SCHEDULES FOR SIZES OF FINAL RUNOUTS TO EQUIPMENT, FIXTURES, DIFFUSERS, GRILLES, AND TERMINAL DEVICES. FINAL RUNOUT SIZES LISTED SHALL BE USED TO WITHIN 10 EQUIVALENT DIAMETERS OF FINAL CONNECTION POINT. FINAL PIPING CONNECTION TO EQUIPMENT SHALL MATCH EQUIPMENT CONNECTION SIZE, PROVIDE TRANSITIONS AS REQUIRED. REFER TO DETAILS, DIAGRAMS AND SCHEMATICS FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS.
Q. FOR DUCTWORK PENETRATING A ONE HOUR FIRE RATED WALL WHERE A FIRE DAMPER IS NOT SHOWN, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. THE SYSTEM SHALL BE FIRE TESTED PER ASTM E119 AND COMPLY WITH EXCEPTION 1 OF 2018 IBC PART 717.5.2. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. WHERE EXISTING WALLS ARE BEING UPGRADED TO A ONE HOUR FIRE RATED WALL, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS. ALL DUCTWORK PENETRATIONS SHALL BE INSPECTED BY AN APPROVED THIRD PARTY INSPECTION AGENCY IN ACCORDANCE WITH ASTM E2174. THE INSPECTION AGENCY SHALL BE PROCURED BY THE CONTRACTOR. DOCUMENTATION OF APPROVED INSPECTION SHALL BE INCLUDED WITH PROJECT CLOSEOUT DOCUMENTATION.
R. FIRE ALARM CONTRACTOR SHALL PROVIDE A DUCT SMOKE DETECTOR FOR EACH SMOKE OR FIRE/SMOKE DAMPER AS REQUIRED BY CODE. MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EACH DUCT SMOKE DETECTOR AND SHALL INSTALL THEM IN THE DUCT.
S. FOR ALL PIPING, CONDUIT, AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS.
T. ALL NEW MONITORED PARAMETERS SHALL BE INTEGRATED INTO THE EXISTING JCI METASYS BAS.
U. NOT ALL SHEET NOTES APPLY TO EACH SHEET.

COVER SHEET NOTES:

CONTRACTOR REQUIREMENTS FOR THE DEMOLITION OF, OR ADDITION TO, ANY PORTION OF AIR, PLUMBING OR HYDRONIC SYSTEMS.

THE FOLLOWING SHALL APPLY TO ALL MECHANICAL SYSTEMS AFFECTED BY CONSTRUCTION ACTIVITIES. SYSTEMS INCLUDED BUT ARE NOT LIMITED TO HVAC, EXHAUST, EQUIPMENT, DUCTWORK, DUCTWORK ACCESSORIES, HYDRONICS, COILS, FILTERS, PLUMBING, TEMPERATURE CONTROLS, LIFE SAFETY CONTROLS AND PRESSURIZATION CONTROLS.

1. AIR QUALITY, QUANTITY AND PRESSURE RELATIONSHIPS SHALL COMPLY WITH THE LATEST, ANSI/ASHRAE/ASHE STANDARD 170 REQUIREMENTS.
2. COMPLY WITH THE FACILITY'S INFECTIOUS CONTROL RISK ASSESSMENT (ICRA) REQUIREMENTS.
3. MAINTAIN EXISTING AIR QUALITY REQUIREMENTS, AIR PRESSURIZATION AND OTHER UTILITY REQUIREMENTS FOR OCCUPIED AREAS DURING ANY RENOVATION OR CONSTRUCTION.
4. DETERMINE AND VERIFY THE AREAS SERVED BY THE AFFECTED SYSTEMS.
5. TAKE AIR AND OR/ WATER BALANCE READINGS OF THE SYSTEMS BEING AFFECTED.
6. IF THERE ARE SPACES BEING SERVED OUTSIDE OF THE DEMOLITION OR ADDITION AREA, THE FOLLOWING PROCEDURES MUST BE TAKEN:
   a. TAKE AIR AND/OR WATER BALANCE READINGS AS NEEDED TO QUANTIFY THE AIR AND/OR WATER FLOWS DELIVERED TO THE SYSTEMS OUTSIDE THE AFFECTED AREA.
   b. DURING DEMOLITION, TAKE ALL NECESSARY MEASURES TO MAINTAIN THE CORRECT AIR AND/OR WATER FLOWS TO THE SYSTEMS THAT ARE REMAINING.
   c. AFTER THE COMPLETION OF DEMOLITION, VERIFY THAT AIR AND/OR WATER FLOWS ARE CORRECT.
   d. AFTER COMPLETING ANY ADDITIONS TO THE SYSTEM, VERIFY THAT AIR AND/OR WATER FLOWS ARE CORRECT.
7. THE CONTRACTOR IS TO PROVIDE TEMPORARY AIR/AND OR WATER SYSTEMS AS NEEDED TO MAINTAIN PROPER TEMPERATURE AND PRESSURE RELATIONSHIPS OF SPACES REQUIRED TO BE OCCUPIED DURING CONSTRUCTION.
8. ALL TEMPORARY AIR SUPPLY SYSTEMS MUST UTILIZE FINAL FILTERS THAT ARE A MINIMUM OF 90% EFFICIENT (MERV 14). FINAL FILTERS MUST BE DOWNSTREAM OF ALL AIR SUPPLY COMPONENTS.

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SYMBOLS AND ABBREVIATIONS
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	M-000

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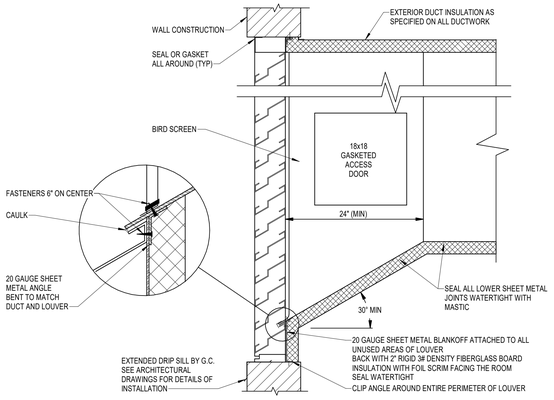
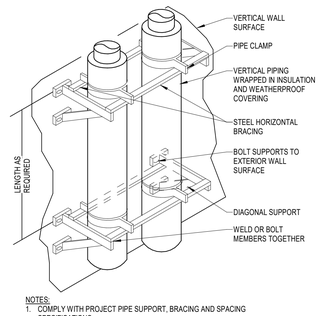


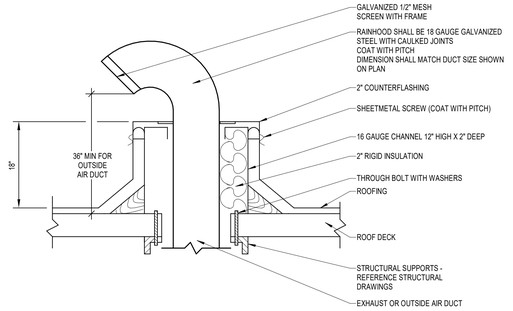
NOTES:
1. SEAL ALL JOINTS ON BOTTOM SURFACE OF DUCT WITHIN 6'-0" OF THE LOUVER WATERTIGHT.
2. CAULK SHEET METAL SCREWS WHERE THEY PENETRATE METAL.

16 LOUVER INSTALLATION DETAIL
NO SCALE

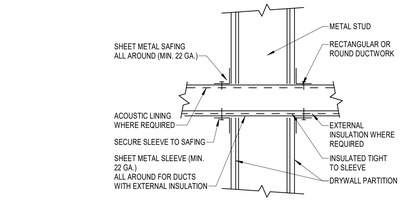


NOTES:
1. COMPLY WITH PROJECT PIPE SUPPORT, BRACING AND SPACING SPECIFICATIONS.
2. ALL PIPING SUPPORTS ARE TO BE STRUCTURALLY ENGINEERED FOR WEIGHT, WIND AND SEISMIC LOADING CONDITIONS.
3. PROVIDE STAMPED AND SEALED STRUCTURAL DRAWINGS IN COMPLIANCE WITH AHJ REQUIREMENTS.

13 EXTERIOR VERTICAL PIPE SUPPORT ON FACE OF BUILDING
NO SCALE



9 ROOF JACK
NO SCALE

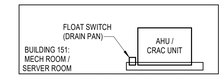


5 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL
NO SCALE

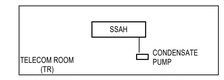
SPLIT SYSTEM DX AIR:
- CONSISTS OF WALL/CEILING MOUNTED BLOWER EVAPORATOR UNIT, ROOF/GRADE MOUNTED CONDENSING UNIT, WALL MOUNTED CONDITIONING SYSTEMS. WIRED THERMOSTAT PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR, AND MANUFACTURER SUPPLIED TEMPERATURE CONTROLLER.
- CYCLE CONDENSING UNIT AND INDOOR UNIT IN UNISON TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 75°F (ADJUSTABLE). MONITOR ROOM TEMPERATURE, EQUIPMENT STATUS AND CONDENSATE ALARM OUTPUTS FROM EQUIPMENT SUPPLIED CONTROLS THROUGH DDC. SEND ALARM TO THE OPERATOR INTERFACE IF THE SPACE TEMPERATURE EXCEEDS 90°F (ADJUSTABLE). INTEGRATE ALL MONITORED PARAMETERS INTO EXISTING JCI METASYS BAS.
- SPLIT SYSTEM SHALL BE INTERLOCKED WITH CONDENSATE PUMP FOR PUMP FAILURE AND, UPON PUMP FAILURE, AN ALARM SHALL BE SENT THROUGH DDC SYSTEM.
- BUILDING 151 REDUNDANT SPLIT SYSTEMS SERVING THE SAME ROOM: THE EXISTING JCI METASYS BAS SHALL CYCLE THE LEAD CONDENSING UNIT AND LEAD INDOOR UNIT IN UNISON TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 75°F (ADJUSTABLE). SEND ALARM TO THE OPERATOR INTERFACE IF THE SPACE TEMPERATURE EXCEEDS 90°F (ADJUSTABLE) AND START THE LAG CONDENSING UNIT AND LAG INDOOR UNIT IN UNISON. THE EXISTING JCI METASYS BAS SHALL ALTERNATE THE LEAD/LAG STATUS OF THE SPLIT SYSTEMS ON A WEEKLY (ADJUSTABLE) BASIS.

DRIP PAN LEAK DETECTION:
- CONSISTS OF POINT LEAK DETECTION, ZONE LEAK DETECTION PANELS, LINEAR DETECTION SYSTEM, WIRE-FREE SENSORS, AND DCIM INTEGRATION.
- LIQUID WATER DETECTION SHALL ALARM TO BAS UPON DETECTION OF MOISTURE. MONITORING OF LIQUID WATER DETECTION SHALL BE CONTINUAL REAL-TIME MONITORING. INTEGRATE ALL MONITORED PARAMETERS INTO EXISTING JCI METASYS BAS.

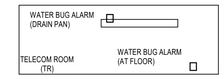
4 MISCELLANEOUS CONTROLS
NO SCALE



FLOAT SWITCH ALARMS SERVING BUILDING 151 AIR HANDLER AND CRAC UNITS:
1. FLOAT SWITCH ALARM SHALL BE INSTALLED IN STAINLESS STEEL DRAIN PAN UNDER AHU / CRAC UNIT.
2. WHEN FLOAT SWITCH ACTIVATES, THE ASSOCIATED AHU OR CRAC UNIT SHALL SHUT OFF AND AN ALARM SHALL BE SENT THROUGH THE EXISTING JCI METASYS BAS.



CONDENSATE PUMPS SERVING TR COOLING UNITS:
- THE CONDENSATE PUMP SHALL HAVE A HIGH-LEVEL SWITCH PROVIDED BY THE CONDENSATE PUMP MANUFACTURER. PROVIDE A CONTRACT TO INTEGRATE THE HIGH-LEVEL SWITCH WITH THE EXISTING JCI METASYS BAS AS WELL AS THE COOLING UNIT (COOLING UNITS, IF THE CONDENSATE PUMP SERVES MORE THAN ONE UNIT) CONTROLS. IF THE HIGH-LEVEL SWITCH IS ACTIVATED, THE COOLING UNIT(S) SHALL SHUT DOWN AND AN ALARM SHALL BE SENT THROUGH THE EXISTING JCI METASYS BAS.

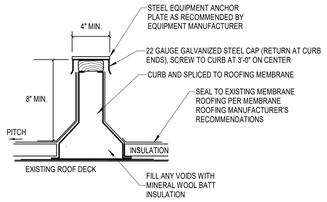


WATER BUG ALARMS:
1. WATER BUG ALARMS SHALL BE INSTALLED AT THE FLOOR LEVEL OF THE TR.
2. WITH THE EXCEPTION OF FIRE PROTECTION PIPING SERVING THE TR EXCLUSIVELY, WATER BUG ALARMS SHALL BE INSTALLED IN DRAIN PANS INSTALLED BELOW PIPING WITHIN THE CONFINES OF THE TR.
3. WHEN WATER IS SENSED BY A WATER BUG ALARM, AN ALARM SHALL BE SENT THROUGH THE EXISTING JCI METASYS BAS.



PROVIDE THE FOLLOWING MONITORING SENSORS TO REPORT BACK TO THE BUILDING MANAGEMENT SYSTEM: TEMPERATURE, HUMIDITY, DEWPOINT (LOCATED AT INLET OF EQUIPMENT RACK). ALARM TO THE BUILDING MANAGEMENT SYSTEM IF SPACE TEMPERATURE EXCEEDS 85 DEGREES F. HUMIDITY IS LESS THAT 25% RH OR GREATER THAN 60% RH. DEW POINT EXCEEDS 82 DEGREES F. ALL POINTS ADJUSTABLE.

17 TELECOM ROOM CONTROLS
1/8" = 1'-0"



15 EQUIPMENT MOUNTING RAILS
NO SCALE



A. COORDINATE ELEVATION OF DEVICES WITH ALL ADJACENT DEVICES INCLUDING THOSE WITH OTHER TRADES. ALL DEVICES WHICH HAVE ADA AND NON-ADA HEIGHTS LISTED SHALL BE MOUNTED TO COMPLY WITH ADA EXCEPT WHERE NOTED ON THE PLANS AS NON-ADA.

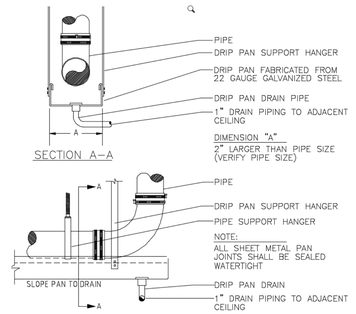
B. GROUP DEVICES IN AN ORGANIZED AND UNIFORM MANNER.

C. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL REQUIREMENTS. WHERE THESE REQUIREMENTS DIFFER FROM THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE.

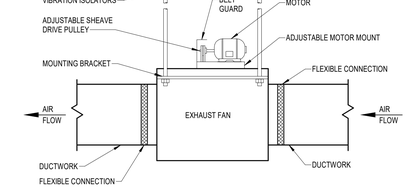
D. ALL DEVICES SHALL BE COORDINATED SO AS NOT TO INTERRUPT A BACK SPLASH OR MATERIAL TRANSITIONS. REFER TO ARCHITECTURAL ELEVATION TO CONFIRM DEVICE IS NOT LOCATED WITHIN TRANSITION AREA.

E. PROVIDE BACKING IN WALLS WHERE WALL MOUNTED DEVICES OR EQUIPMENT ARE INSTALLED. REFER TO ARCHITECTURAL SPECIFICATIONS.

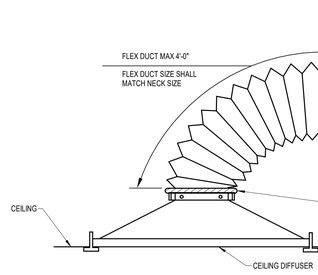
12 MECHANICAL EQUIPMENT MOUNTING HEIGHTS
NO SCALE



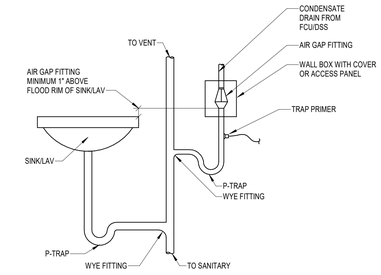
8 DRAIN PAN DETAIL
NO SCALE



3 EXHAUST FAN - CENTRIFUGAL IN-LINE
NO SCALE

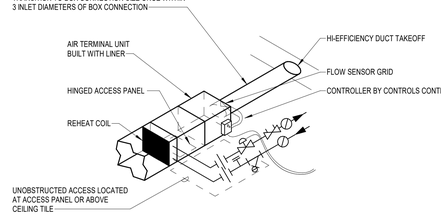


11 DIFFUSER CONNECTION - SIDE OF DUCT
NO SCALE

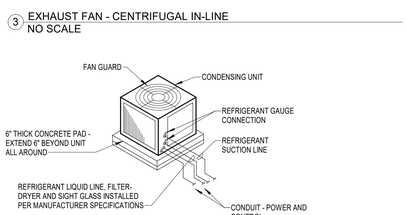


14 CONDENSATE TO SINK/LAV DETAIL
NO SCALE

MAINTAIN MIN. 3 DUCT DIAMETERS OF STRAIGHT RIGID DUCT MATCHING INLET SIZE FOR DUCT RUNOUTS LONGER THAN 5'-0", INCREASE DUCT SIZE BY 2" TRANSITION TO BOX CONNECTION SIZE ONCE WITHIN 3 INLET DIAMETERS OF BOX CONNECTION

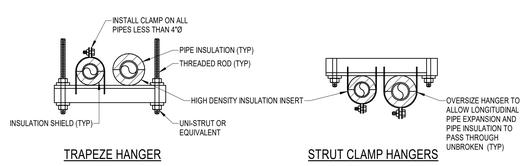


7 TERMINAL UNIT - WATER COIL
NO SCALE



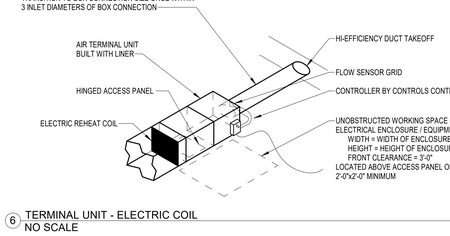
NOTES:
1. PROVIDE OIL TRAPS IN PIPING PER MANUFACTURER'S SPECIFICATIONS.
2. REFER TO ARCHITECTURAL FOR LINE SET COVER REQUIREMENTS.

2 AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE
NO SCALE

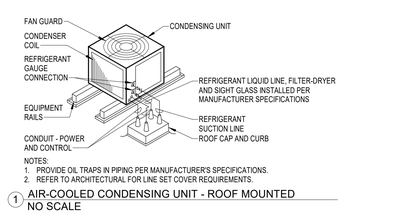


10 PIPE SUPPORT - TYPICAL FOR ALL PIPING
NO SCALE

MAINTAIN MIN. 3 DUCT DIAMETERS OF STRAIGHT RIGID DUCT MATCHING INLET SIZE FOR DUCT RUNOUTS LONGER THAN 5'-0", INCREASE DUCT SIZE BY 2" TRANSITION TO BOX CONNECTION SIZE ONCE WITHIN 3 INLET DIAMETERS OF BOX CONNECTION



6 TERMINAL UNIT - ELECTRIC COIL
NO SCALE



NOTES:
1. PROVIDE OIL TRAPS IN PIPING PER MANUFACTURER'S SPECIFICATIONS.
2. REFER TO ARCHITECTURAL FOR LINE SET COVER REQUIREMENTS.

1 AIR-COOLED CONDENSING UNIT - ROOF MOUNTED
NO SCALE

Revisions:	Date:

CONSULTANT

Wiley|Wilson
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127 Nationwide Drive
Lynchburg, VA 24502
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www.wileywilson.com

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS AND CONTROLS
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number:
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-001

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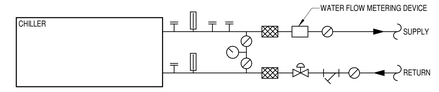
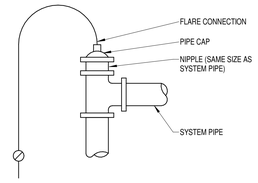
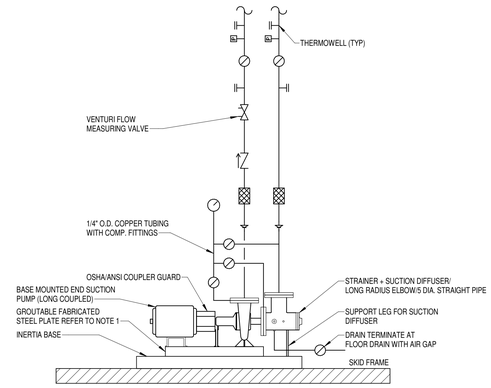


5 CHILLER PIPE CONNECTION
NO SCALE



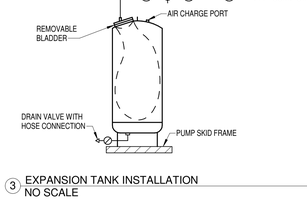
NOTES:
1. VALVE MANUAL AIR VENT. EXTEND VENT LINE TO WITHIN 6" ABOVE CEILING WHERE PIPING IS ABOVE CONCEALED ABOVE CEILING. WHERE PIPING IS EXPOSED, VALVE IS TO BE LOCATED WITHIN 5'-0" OF FLOOR.

4 MANUAL AIR VENT
NO SCALE

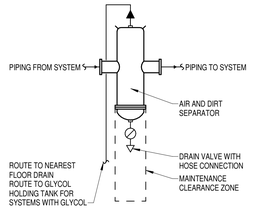


NOTES:
1. ANCHOR BASE TO INERTIA BASE. ANCHOR INERTIA BASE TO PUMP SKID. ONCE PUMP IS PROPERLY ANCHORED, LEVEL AND SECURE FILL BASE WITH GROUT.

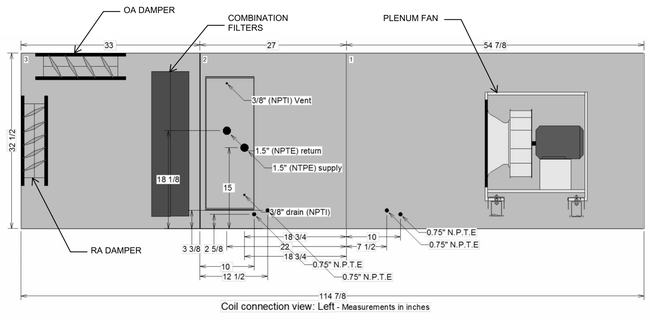
8 BASE MOUNTED PUMP
NO SCALE



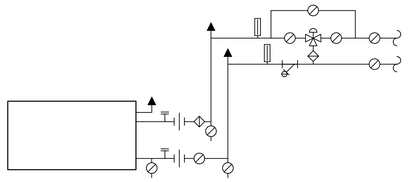
3 EXPANSION TANK INSTALLATION
NO SCALE



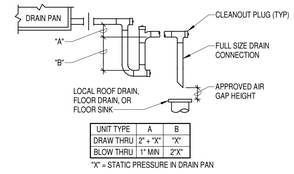
NOTES:
1. PROVIDE MOUNTED ON PUMP SKID FRAME.
2. PROVIDE ADEQUATE ACCESS TO REMOVE FILL OUT THE BOTTOM.



9 AHU ELEVATION VIEW
NO SCALE



7 AHU CHILLED WATER COIL CONNECTION
NO SCALE

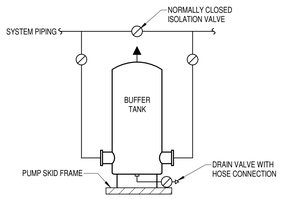


UNIT TYPE	A	B
DRAW THRU	2" + "X"	"X"
BLOW THRU	1" MIN.	2"X"

"X" = STATIC PRESSURE IN DRAIN PAN

NOTES:
1. TYPICAL @ EACH AIR HANDLING UNIT DRAIN PAN OR SECTION DRAIN.

6 CONDENSATE DRAIN
NO SCALE



2 COMBINATION AIR AND DIRT SEPARATOR
NO SCALE

1 BUFFER TANK INSTALLATION
NO SCALE

Revisions:	Date:

CONSULTANT

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title MECHANICAL DETAILS	**Phase** 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title EHRM INFRASTRUCTURE UPGRADES			**Project Number** 679-20-104
			Building Number
Location TUSCALOOSA VAMC, TUSCALOOSA, AL.			**Drawing Number** M-002
Issue Date 03/08/2024	**Checked** JKK	**Drawn** PCM	

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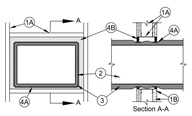
Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-7028**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
FT Rating - 3/4 Hr	FT Rating - 3/4 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 3/4 Hr



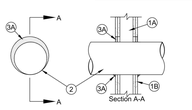
1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 or V400 Series Designs in the UL Fire Resistance Directory. Opening cut in gypsum wallboard layers to be max 4-3/4 in. (121 mm) higher and wider than steel duct (Item 2). Max area of opening is 999 sq. in (0.65 m2) with a max dimension of 36-3/4 in. (0.88 m).
   The hourly F Rating of the system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Duct** - Max 24 by 30 in. (610 by 762 mm) No. 26 gauge (or heavier) steel duct to be installed within the framed opening. Min clearance between duct and edge of framed opening in wall is 1-1/2 in. (38 mm). Steel duct to be rigidly supported on both sides of the wall assembly.
3. **Batts and Blankets*** - Nom 1-1/2 in. (38 mm) thick light density (min 3/4 pcf or 12 kg/m3) glass fiber blanket insulation jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with foil-scrim-kraft tape. During installation of the blanket insulation, blanket to be compressed approx 50 percent in thickness such that the annular space within the firestop system shall be min 1/2 in. (13 mm) to max 2 in. (51 mm).
   See **Batts and Blankets** (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread value of 25 or less and a Smoke Developed value of 50 or less may be used.
4. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Single layer of wrap strip wrapped around to compress the duct insulation (Item 3) with the ends butted and held in place by means of two layers of foil tape. Wrap strip installed such that 1/4 in. (6 mm) of the wrap strip protrudes from the wall. One set of wrap strips to be installed on each side of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal REID Wrap Strip, SpecSeal BLU Wrap Strip or SpecSeal BLU2 Wrap Strip
   B. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of the wall. A min 1/4 in. (6 mm) bead of fill material shall be applied at the wrap strip/insulated through-penetrant interface on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

   *Bearing the UL Classification Marking.

4. **Firestop System** - The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. Single layer of wrap strip wrapped around to compress the duct insulation (Item 3) with the ends butted and held in place by means of two layers of foil tape. Wrap strip installed such that 1/4 in. (6 mm) of the wrap strip protrudes from the wall. One set of wrap strips to be installed on each side of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal REID Wrap Strip, SpecSeal BLU Wrap Strip or SpecSeal BLU2 Wrap Strip
   B. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of the wall. A min 1/4 in. (6 mm) bead of fill material shall be applied at the wrap strip/insulated through-penetrant interface on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-7026**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 5.1 L/s/m2
	L Rating At 204 C- Less Than 5.1 L/s/m2



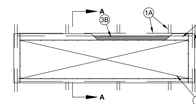
1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. When diam of opening exceeds width of stud cavity, additional lengths of steel stud installed to frame out opening around steel duct (Item 2).
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Design in the UL Fire Resistance Directory. Max diam of opening is 25 in. (648 mm).
   The hourly F and FH Rating of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Duct** - Max 24 in. (610 mm) diam No. 28 gauge (or heavier) galv steel vent duct or No. 26 gauge (or heavier) spiral wound galv steel duct. One steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space between the steel duct and the periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm) is required within the firestop system. Steel duct to be rigidly supported on both sides of the wall assembly.
2A. **Coated Ducts*** - As an alternate to Item 2, max 24 in. (610 mm) diam (or smaller) steel duct coated with BW11 coating material. Duct sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements. One duct to be installed either concentrically or eccentrically within the firestop system. The annular space between the duct and the periphery of the opening shall be min 0 in. (point contact) to a max of 1-1/2 in. (38 mm). Duct to be rigidly supported on both sides of wall assembly.
   FIRESPRAY INTERNATIONAL LTD - FLAMEBAR BW11 fire rated ductwork

3. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction fit into annular space for 2 hr rated wall assemblies only. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).
   B. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct and the gypsum board. For 2 hr Rated walls when LC150 or LE600 Sealant is used, fill material thickness installed to full depth of gypsum board layers on each side of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, or SpecSeal LE600 Sealant

   *** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-7025**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1/2 Hr	FT Rating - 1/2 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 1/2 Hr
	L Rating At Ambient - Less Than 5.1 L/s/m3
	L Rating At 204 C- Less Than 5.1 L/s/m3



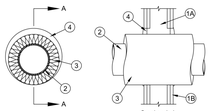
1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W 400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the Individual Design in the UL Fire Resistance Directory. Max area of opening is 73.7 sq ft (6.85 m2) with a max dimension of 104 in. (2.64 m).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Duct** - Max 100 in. by 100 in. (2.54 by 2.54 m) No. 28 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. The space between the steel duct and periphery of opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Steel duct to be rigidly supported on both sides of the wall assembly.
2A. **Coated Ducts*** - As an alternate to Item 2, max 60 by 60 in. (1524 by 1524 mm) steel duct coated with BW11 coating material. Duct sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements. Annular space between duct and periphery of opening shall be shall be min 0in. (point contact) to max 2 in. (51 mm). Duct to be rigidly supported on both sides wall assembly.
   FIRESPRAY INTERNATIONAL LTD - FLAMEBAR BW11 fire rated ductwork

3. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction fit into annular space. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct and the gypsum board. For 2 hr Rated walls when LC150 or LE600 Sealant is used, fill material thickness installed to full depth of gypsum board layers on each side of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, or SpecSeal LE600 Sealant
   C. **Steel Retaining Angles** - Min No. 16 gauge (0.059 in. or 15 mm) galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and to lap wall surfaces a min of 1 in. (25 mm). Angles attached to steel duct on both sides of wall with min No. 10 by 1/2 in. (13 mm) long steel sheet metal screws located a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

   *** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-5014**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1 Hr	FT Rating - 1 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 1 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.
   B. **Gypsum Board*** - 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner panels installed vertically. Max diam of circular cutout in gypsum liner panel is 10 in. (254 mm).
   C. **Gypsum Board*** - 1/2 in. or 5/8 in. (13 or 16 mm) thick, 48 in. (1.2 m) wide gypsum boards. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of circular cutout in gypsum board is 10 in. (254 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrants** - One metallic pipe, tube or conduit installed concentrically or eccentrically within the firestop system. The annular space between the pipe, tube or conduit and the periphery of the sleeved opening to be min 0 in. (point contact) to max 2 in. (51 mm). Pipe, tube or conduit to be rigidly supported on both sides of wall assembly. One of the following types and sizes of pipe, tube or conduit may be used:
   A. **Steel Pipe** - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing** - Nom 4 in. (102 mm) diam (or smaller) Type M (or heavier) copper tube.
   D. **Copper Pipe** - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Pipe Coverings*** - One of the following types of pipe coverings shall be used:
   A. **Pipe and Equipment Covering Materials*** - Nom 2 in. (51 mm) thick low density calcium silicate hollow cylindrical heavy density (min 11.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between insulated penetrating item and the edge of the through opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See **Pipe and Equipment Covering-Materials*** - (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. **Sheathing Materials*** - Max 2 in. (51 mm) thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube. Pipe insulation secured with min 18 SWG steel wire spaced max 12 in. (305 mm) OC. The annular space between insulated penetrating item and the edge of the through opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   IIG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc.
   C. **Sheathing Material*** - Used in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt tape.
   See **Sheathing Materials** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location between insulated through penetrant and gypsum board, a min 3/8 in. (10 mm) bead of fill material shall be applied to the insulated through penetrant/gypsum board interface on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

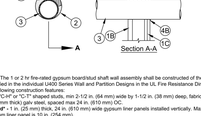
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

2. **Through Penetrants** - One metallic pipe or tube to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. **Steel Pipe** - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing** - Nom 4 in. (102 mm) diam (or smaller) Type M (or heavier) copper tube.
   D. **Copper Pipe** - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Pipe Coverings*** - One of the following types of pipe coverings shall be used:
   A. **Pipe and Equipment Covering Materials*** - Nom 2 in. (51 mm) thick low density calcium silicate hollow cylindrical heavy density (min 11.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between insulated penetrating item and the edge of the through opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See **Pipe and Equipment Covering-Materials*** - (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. **Sheathing Materials*** - Max 2 in. (51 mm) thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube. Pipe insulation secured with min 18 SWG steel wire spaced max 12 in. (305 mm) OC. The annular space between insulated penetrating item and the edge of the through opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   IIG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermalo;.
   C. **Sheathing Material*** - Used in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt tape.
   See **Sheathing Materials** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location between insulated through penetrant and gypsum board, a min 3/8 in. (10 mm) bead of fill material shall be applied to the insulated through penetrant/gypsum board interface on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1251**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 0 Hr



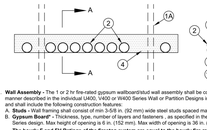
1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum board/stud shaft wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   A. **Studs** - Wall framing shall consist of min 2-1/2 in. (64 mm) wide by 1-1/2 in. (38 mm) deep, fabricated from min No. 25 gage (0.6 mm thick) galv steel, spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner panels installed vertically. Max diam of circular cutout in gypsum liner panel is 10 in. (254 mm).
   C. **Gypsum Board*** - 1/2 in. or 5/8 in. (13 or 16 mm) thick, 48 in. (1.2 m) wide gypsum boards. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of circular cutout in gypsum board is 10 in. (254 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Metallic Sleeve** - Cylindrical sleeve fabricated from min No. 30 gauge (0.3 mm thick) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of the sleeve to be equal to the thickness of the wall. Sleeve installed by securing one end of sleeve to a dam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the inside surface of the gypsum board layers. The ends of the sleeve shall be flush with each surface of the wall.
3. **Through Penetrant** - One metallic pipe, tube or conduit installed concentrically or eccentrically within the firestop system. The annular space between the pipe, tube or conduit and the periphery of the sleeved opening to be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, tube or conduit to be rigidly supported on both sides of wall assembly. One of the following types and sizes of pipe, tube or conduit may be used:
   A. **Steel Pipe** - Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 4 in. (102 mm) diam (or smaller) rigid steel, steel electrical metallic tubing (EMT) or flexible steel conduit.
   D. **Copper Pipe or Tube** - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe or Type L (or heavier) copper tube.

4. **Firestop System** - The firestop system consist of the following items:
   A. **Packing Material** - Min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into sleeved opening as a permanent form. Packing material to extend throughout thickness of wall except for a 1 in. (25 mm) recess from the finished side of wall to accommodate the fill material.
   B. **Fill Void or Cavity Materials* - Sealant or Putty** - Min 1 in. (25 mm) thickness of fill material applied within sleeve, flush with finished surface of wall. At the point contact location, a min 3/8 in. (10 mm) diam bead of fill material applied at the penetrant/sleeve interface.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, or SpecSeal Putty

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1168**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)	FT Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly** - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Wall framing shall consist of min 3-5/8 in. (92 mm) wide steel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening and fasteners , as specified in the individual U400, V400 or W400 Series designs Max height of opening is 9 ft-0 in. (2.152 mm). Max width of opening is 36 in. (914 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through-Penetrants** - Multiple cables or conduits installed in single layer annular space between the firestop system. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (point contact) to max 3 in. (76 mm). The separation between the pipes and conduits to be min 1/4 in. (6 mm). Pipes and conduits to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipe or conduit may be used:
   A. **Steel Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Conduit** - Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT).
   When diam of pipe or conduit is greater than 2 in. (51 mm), T, FT and FTH Ratings are 3/4 hr. Otherwise, T, FT and FTH Ratings are 1 hr as detailed in Item 4.
3. **Forming Material** - (Optional, Not Shown) - Foam backer rod, mineral wool batt insulation or glass fiber insulation packed into opening and recessed min 5/8 in. (16 mm) from each surface of the wall to accommodate fill material.
4. **Fill Void or Cavity Materials* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material installed to completely fill annular space between pipes, conduits and gypsum wallboard flush with each surface of wall. Min 1/4 in. (6 mm) diam bead of fill material applied to the pipe/conduit interface at the point contact locations on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LC150 Sealant, Specseal SSS Sealant or SpecSeal LCI Sealant. **When SpecSeal LC150 Sealant is used with max 2 in. (51 mm) diam pipe or conduit, T, FT and FTH Ratings are 3/4 hr. Otherwise, when SpecSeal LCI or SpecSeal Series SSS Sealant is used with max 2 in. (51 mm) diam pipe or conduit, T, FT and FTH Ratings are 1 hr.**

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

2. **Through Penetrant** - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipes, conduits or tubing and the edges of the opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** - Nom 36 in. (914 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 36 in. (914 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
   D. **Copper Tubing** - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Mineral wool batt insulation, polyethylene backer rod or glass fiber batt insulation friction fitted into annular space. Packing material to be recessed from top surface of floor or both surfaces of wall as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Material* - Caulk** - Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At point contact location, apply min 1/4 in. (6 mm) diam bead of sealant at the pipe/concrete interface on the top surface of the floor or both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - Pensil 300 Sealant or SpecSeal Series SIL300 Sealant for floors or walls and Pensil 300SL Sealant or SpecSeal Series SIL300SL Sealant for floors only.

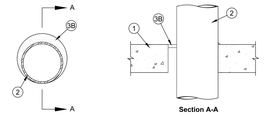
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1049**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. C-AJ-1080**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 3 Hr
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



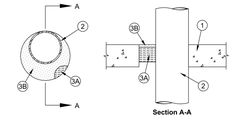
Section A-A

1. **Floor or Wall Assembly** - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 32 in.
   See **Concrete Block** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants** - One metallic pipe, conduit or tubing to be centered within the firestop system. The annular space shall range from min 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** - Nom 30 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 4 in. diam (or smaller) electrical metallic tubing or nom 6 in. diam (or smaller) rigid galv steel conduit.
   D. **Copper Tubing** - Nom 6 in. diam (or smaller) Type M (or heavier) copper tubing.
   E. **Copper Pipe** - Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Mineral wool batt insulation, polyethylene backer rod or glass fiber batt insulation friction fitted into annular space. Packing material to be recessed from top surface of floor or both surfaces of wall as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Material* - Caulk** - Min 1/2 in. thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At point contact location, apply min 1/4 in. diam bead of sealant at the pipe/concrete interface on the top surface of the floor or both surfaces of wall.
      SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

      * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively (such

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. C-AJ-1079**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 3 and 4 Hr (See Item 3C)	F Ratings - 3 and 4 Hr (See Item 3C)
T Ratings - 0, 1/4, 1/2 and 3/4 Hr (See Item 2)	FT Ratings - 0, 1/4, 1/2 and 3/4 Hr (See Item 2)
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 3 and 4 Hr (See Item 3C)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 0, 1/4, 1/2 and 3/4 Hr (See Item 2)
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

1. **Floor or Wall Assembly** - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Floor may also be constructed of any min 6 in. thick UL Classified hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks*** . Max diam of opening is 28 in. Max diam of opening in floor constructed of hollow-core precast concrete units is 7 in.
   See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants** - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tubing and the periphery of the opening shall be min 0 in. (point contact) to a max 4 in. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** - Nom 24 in diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 24 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 4 in. diam (or smaller) electrical metallic tubing or nom 6 in. diam (or smaller) rigid galv steel conduit or nom 1 in. diam (or smaller) flexible steel conduit.
   D. **Copper Tubing** - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** - Nom 6 in. diam (or smaller) Regular or heavier copper pipe.

Type of Metallic Penetrant	Max Diam of Metallic Penetrant in.	T Rating Hr
Steel or Iron Pipe, Conduit	24	0
Copper Pipe or Tube	6	0
Steel or Iron Pipe, Conduit or EMT	4	1/4
Steel or Iron Pipe, Conduit or EMT	2	1/2
Steel or Iron Pipe, Conduit or EMT	1	3/4

3. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material** - Min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material. When floor is constructed of hollow-core precast concrete units, packing material is to be recessed from both surfaces of floor to accommodate the required thickness of fill material.
      The thickness of the packing material is dependent upon the type and diam of the through penetrant (item 2) as tabulated below:

Thought Penetrant	Max Throught-Penetrant Diam In.	Min Mineral Wool Insulation Thkns In.
Steel Pipe, Conduit Or Iron Pipe	6	1-1/2++
Steel Pipe, Conduit Or Iron Pipe	24	3
Copper Tube Or Copper Pipe	6	3

      ++When annular space exceeds 2 in., packing material thickness to be min 3 in.
   B. **Fill, Void or Cavity Material* - Caulk** - Min 1/2 in. thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. When floor is constructed of hollow-core precast concrete units, fill material is to be installed symmetrically on both sides of floor, flush with floor surfaces. At the point contact location between penetrating item and concrete, a min 3/8 in. thick bead of sealant shall be applied at the concrete penetrating item interface on top surface of floor and at both surfaces of hollow-core precast concrete floor.
      SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
   C. **Steel Cover Plate** - (Not Shown) - Min 0.014 in. (No. 28 gauge) galv steel cut to fit the contour of the through-penetrant (item 2) with a min 2 in. lap on the top surface of floor and both surfaces of wall assembly around the perimeter of the through-opening. Seams of steel cover plate shall overlap a min 1/2 in. Steel cover plate secured to top surface of floor and both surfaces of wall assembly with 1/4 in. by 1-1/4 in. diam steel hex head concrete anchors a min 1/4 in. long steel concrete anchors in conjunction with 1/4 in. by 1-1/4 in. diam steel fender washers spaced a max 6 in. O.C.
      The hourly F Rating of the firestop system is dependent upon the use of the steel cover plate. If the steel cover plate is used , the F Rating of the firestop system is 4 hr. If the steel cover plate is omitted, the F Rating of the firestop system is 3 hr.
      * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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Revisions:	Date:

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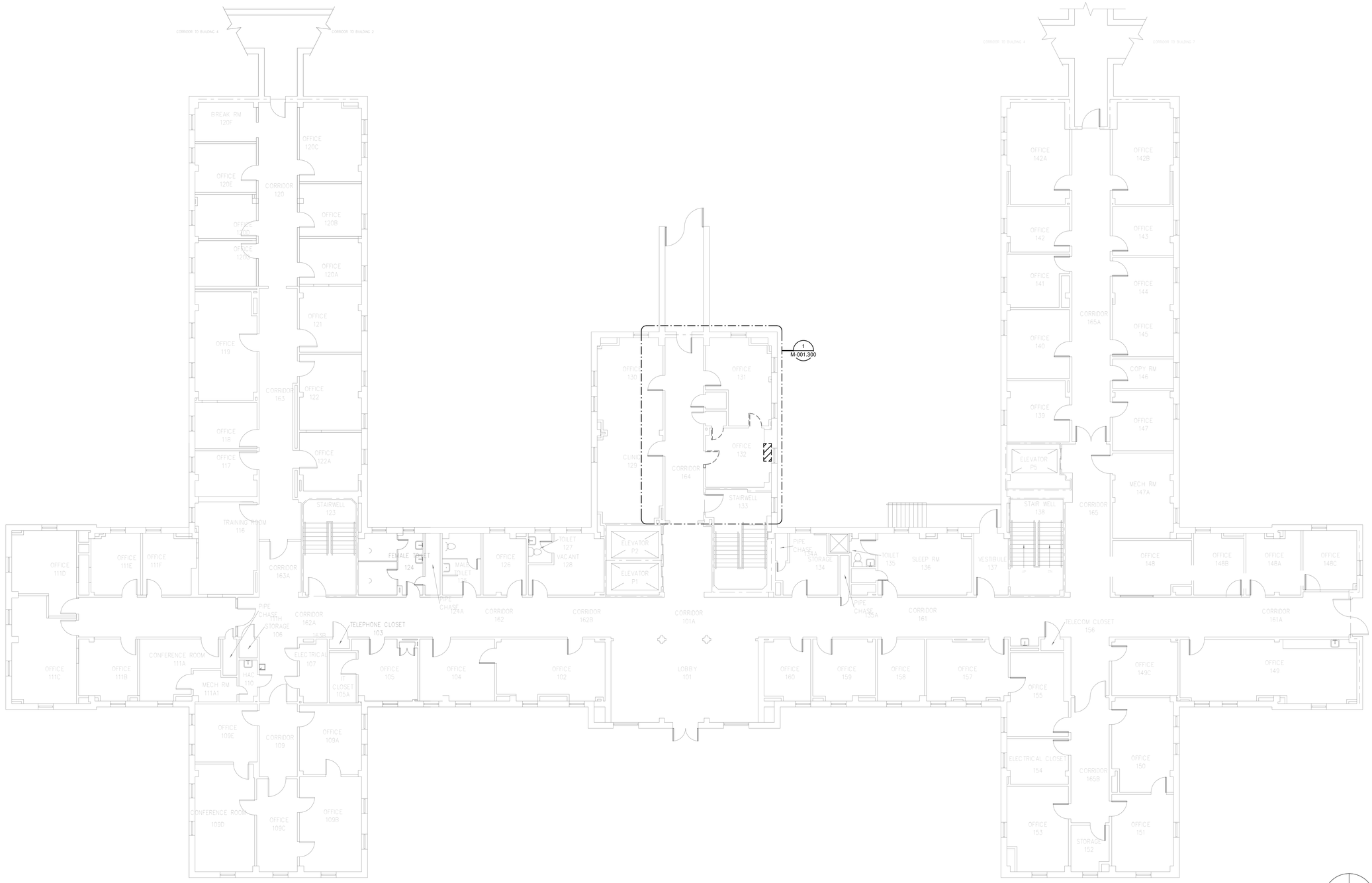
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL UL DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number:
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-004
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

TRUE

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 1 LEVEL 01 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	1
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-001.1

VA FORM 08 - 6231

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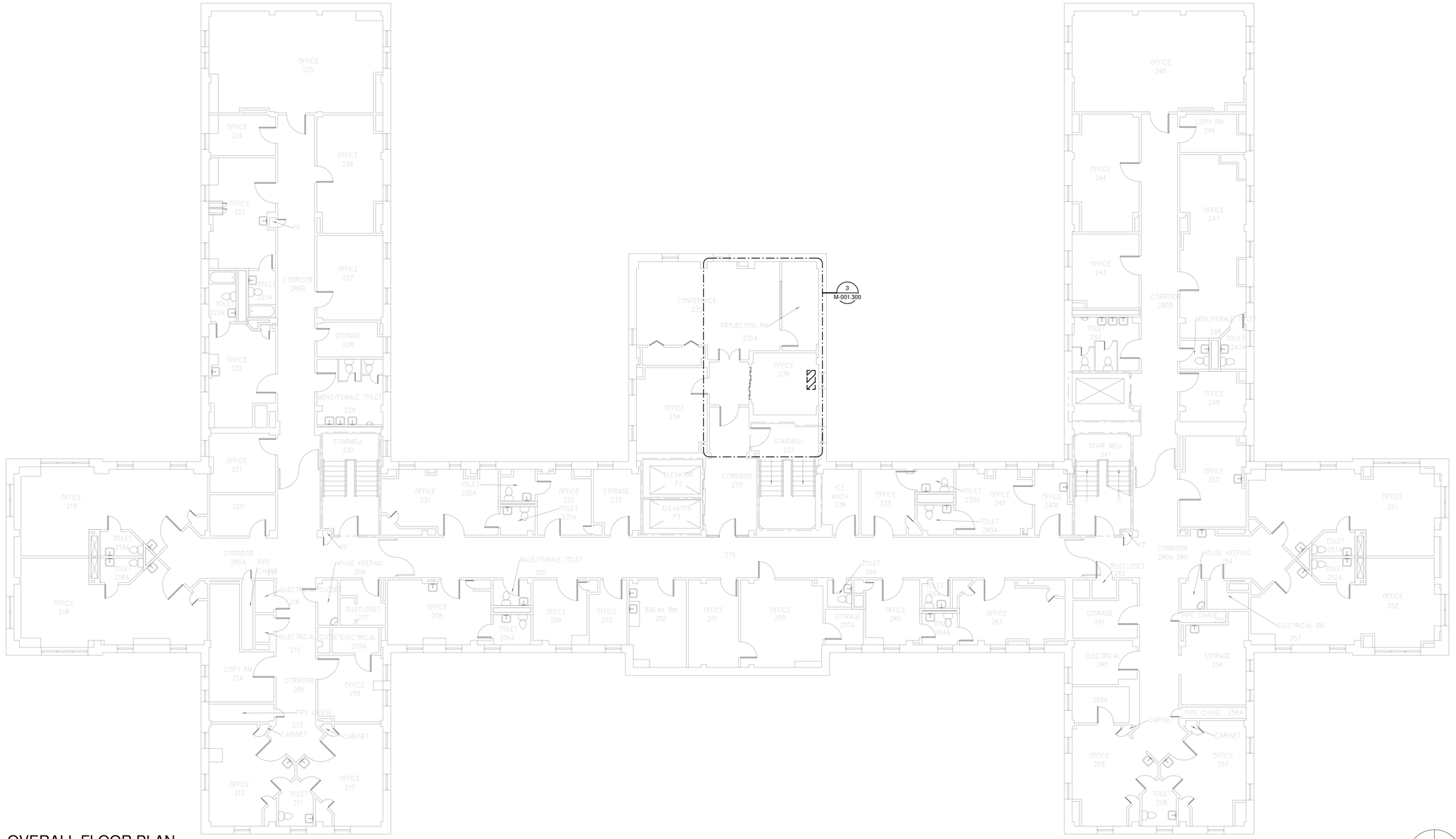

OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 1 LEVEL 02 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	1
Drawing Number	MD-001.2

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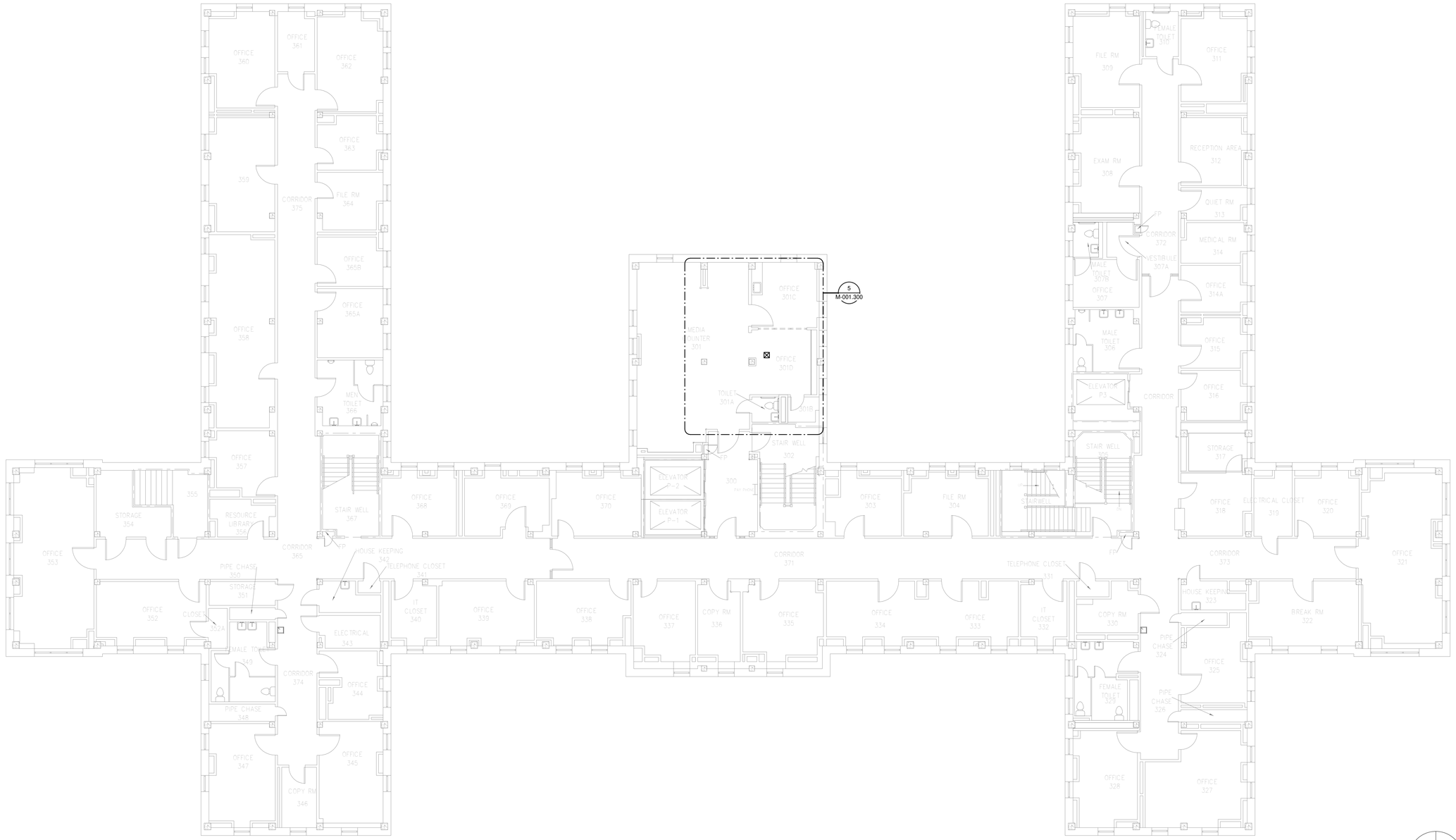
VA FORM 08 - 6231



OVERALL FLOOR PLAN
LEVEL 03 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

PLAN

TRUE

Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 1 LEVEL 03 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	1
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-001.3

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

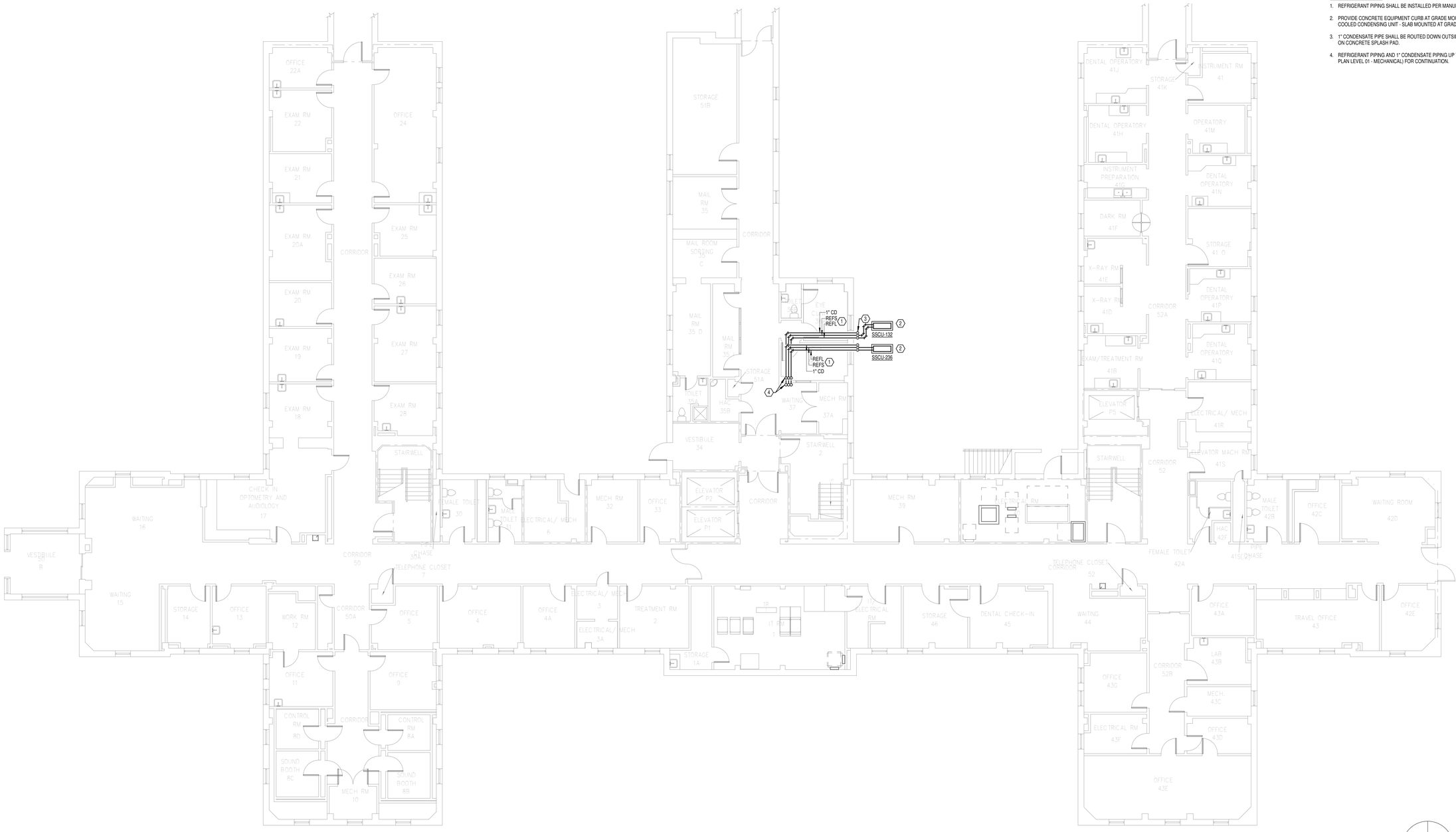
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. REFRIGERANT PIPING AND 1" CONDENSATE PIPING UP TO LEVEL 1. SEE SHEET M-001.300 PLAN 2 (NEW FLOOR PLAN LEVEL 01 - MECHANICAL) FOR CONTINUATION.



OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL

1 1/8" = 1'-0"

N PLAN

TRUE

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VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 1 GROUND LEVEL - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 1
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: M-001.G
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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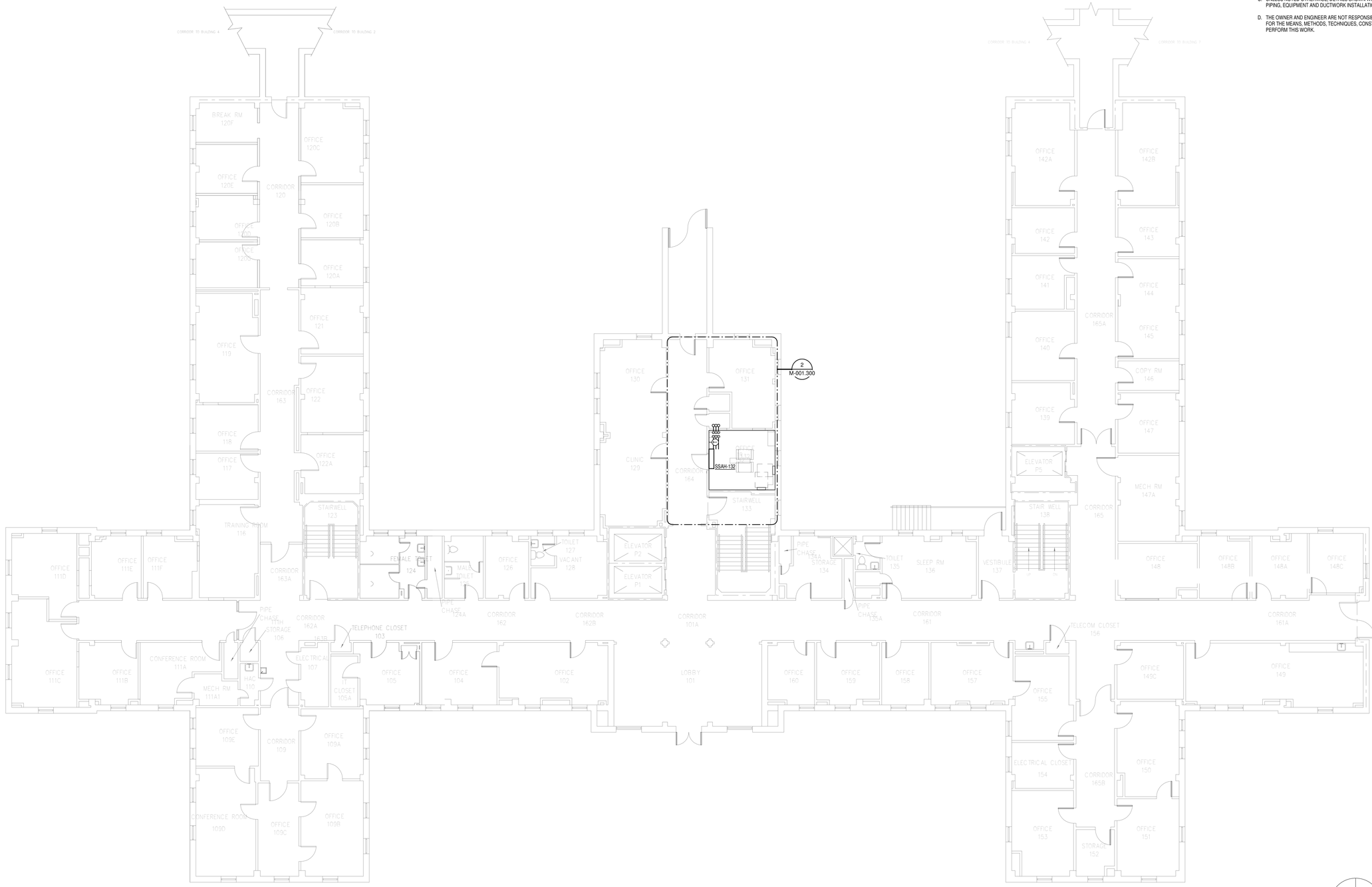

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL

1 1/8" = 1'-0"

N PLAN

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VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 1 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 1
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-001.1
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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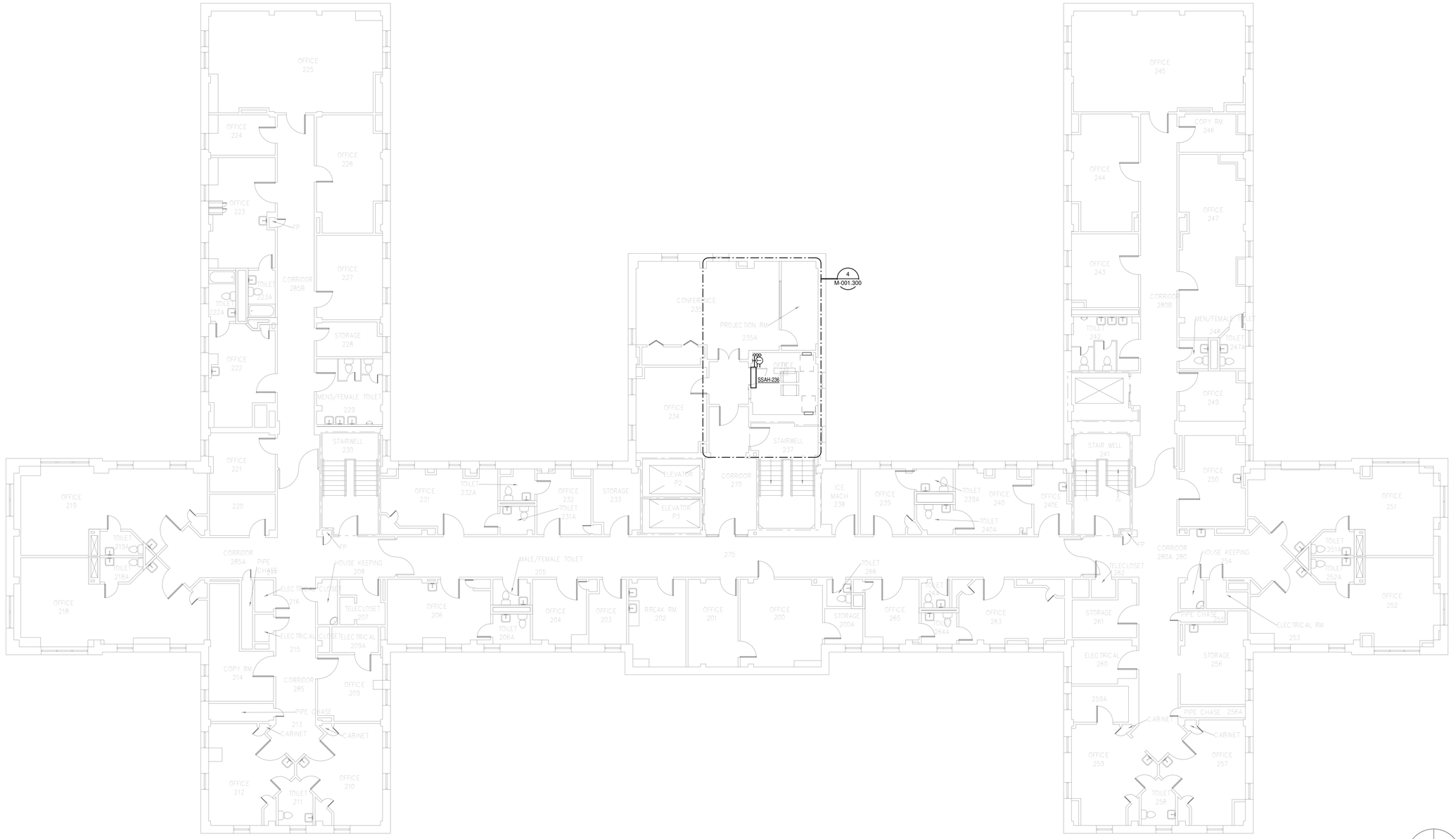

1 OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1/8" = 1'-0"

N PLAN

N TRUE

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VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 1 LEVEL 02 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 1
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-001.2
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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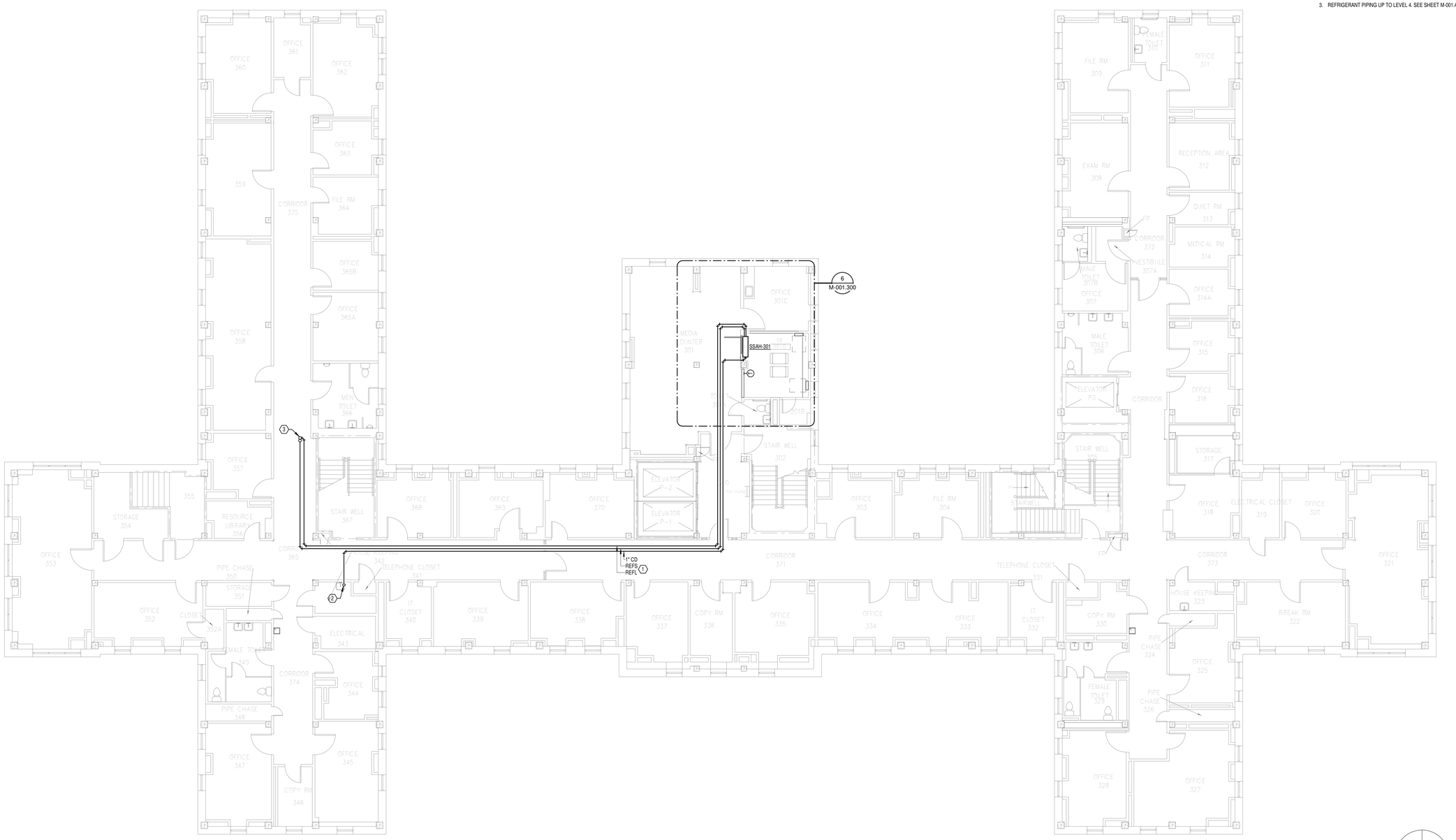
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.
3. REFRIGERANT PIPING UP TO LEVEL 4. SEE SHEET M-001.4 FOR CONTINUATION.



1 OVERALL FLOOR PLAN LEVEL 03 - MECHANICAL

1/8" = 1'-0"

PLAN

TRUE

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 1 LEVEL 03 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	1
Drawing Number	M-001.3

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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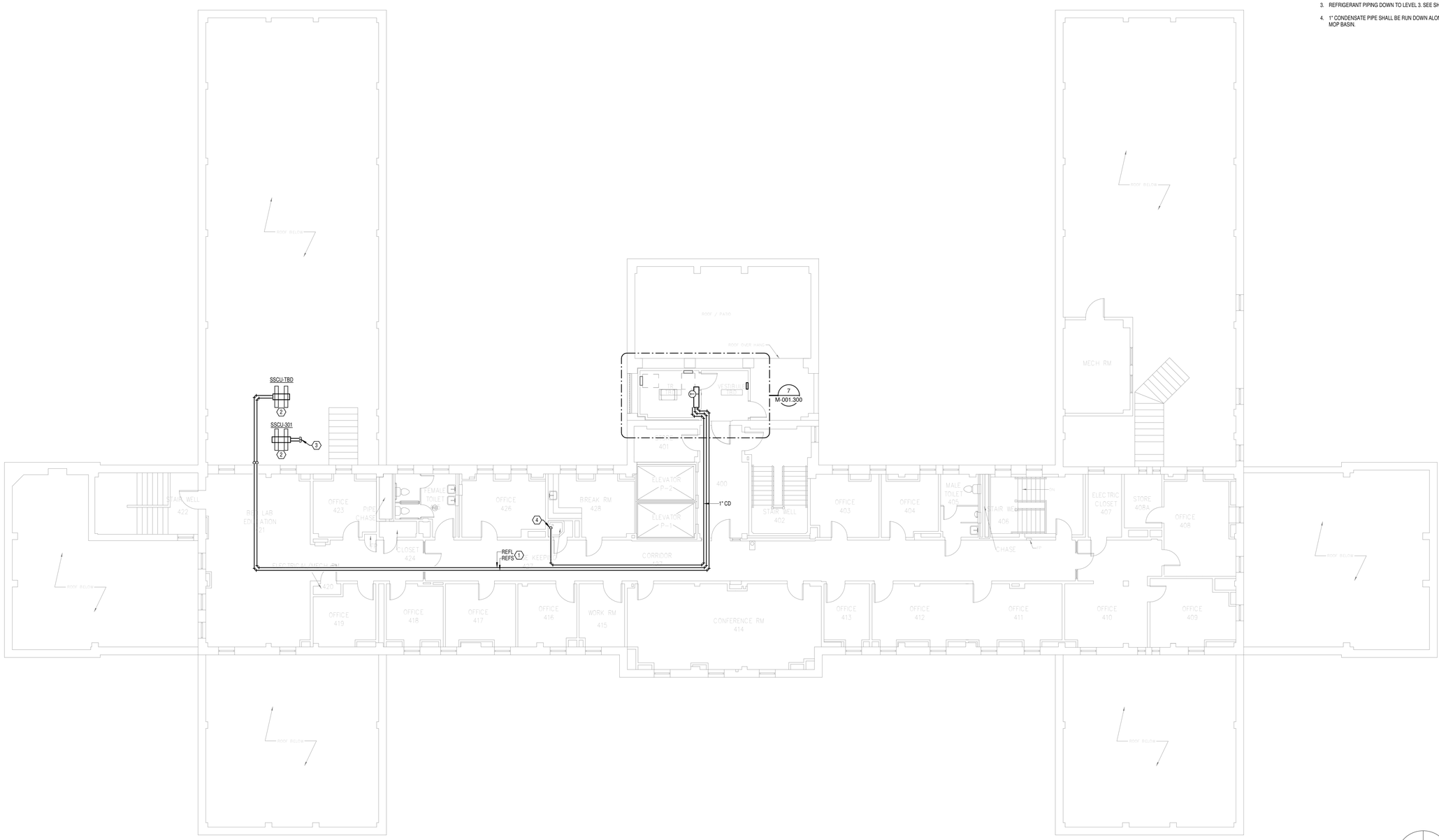
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE EQUIPMENT RAILS AT ROOF MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - ROOF MOUNTED" ON SHEET M-001.
3. REFRIGERANT PIPING DOWN TO LEVEL 3. SEE SHEET M-001.3 FOR CONTINUATION.
4. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.



1 OVERALL FLOOR PLAN
LEVEL 04 - MECHANICAL
1/8" = 1'-0"

N PLAN

TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 1 LEVEL 04 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	1
Drawing Number	M-001.4

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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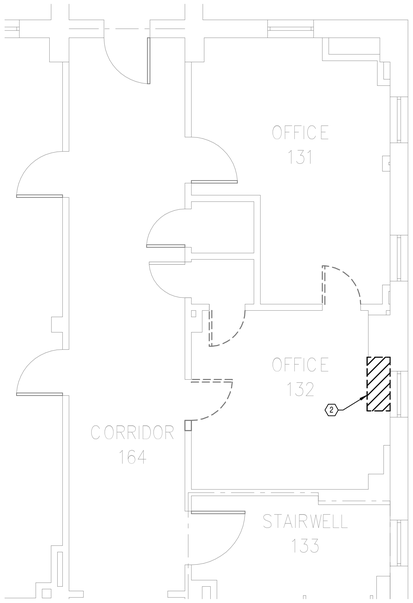
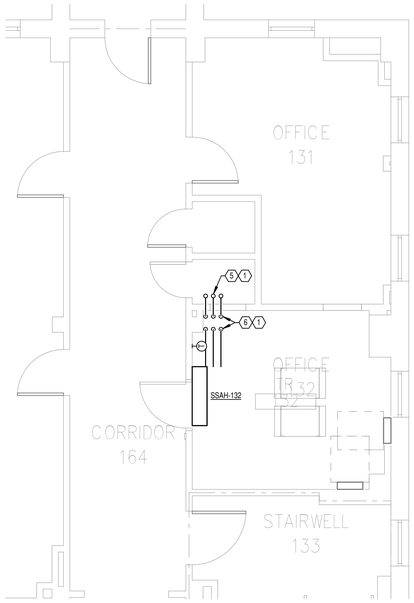
SHEET NOTES:⬡

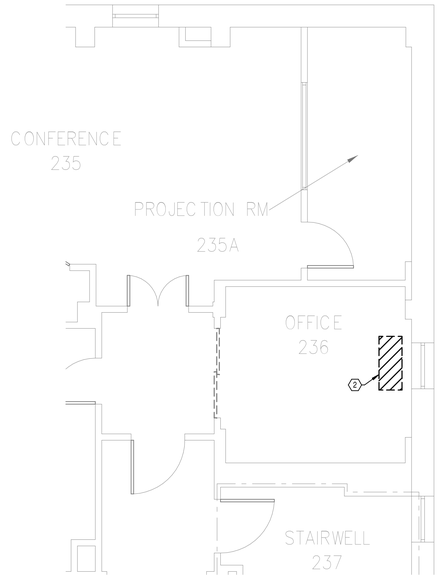
1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. DEMOLISH FLOOR MOUNTED FAN COIL UNIT AND ASSOCIATED PIPING BACK TO MAINS. CAP AND INSULATE PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT, DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS. TURN FLOOR MOUNTED FAN COIL UNIT OVER TO VA COR.
3. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. REFRIGERANT PIPING AND 1" CONDENSATE PIPING DOWN TO LEVEL 1. SEE SHEET M-001.300 PLAN 2 (NEW FLOOR PLAN LEVEL 01 - MECHANICAL) FOR CONTINUATION.
5. REFRIGERANT PIPING AND 1" CONDENSATE PIPING UP TO LEVEL 2. SEE SHEET M-001.300 PLAN 4 (NEW FLOOR PLAN LEVEL 02 - MECHANICAL) FOR CONTINUATION.
6. REFRIGERANT PIPING AND 1" CONDENSATE PIPING DOWN TO GROUND LEVEL. SEE SHEET M-001.G FOR CONTINUATION.



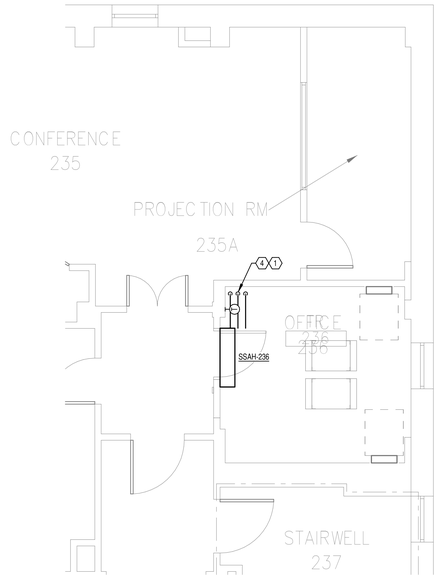
1 DEMOLITION FLOOR PLAN LEVEL 01 - MECHANICAL
1/4" = 1'-0"



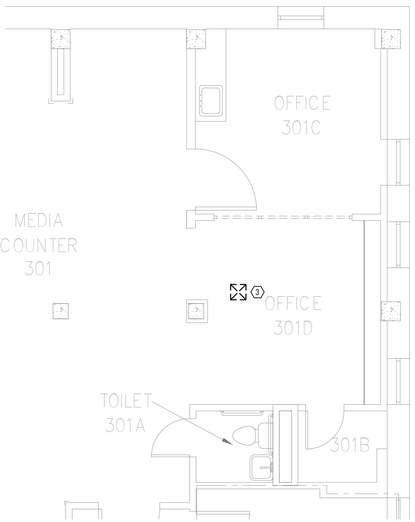
2 NEW FLOOR PLAN LEVEL 01 - MECHANICAL
1/4" = 1'-0"



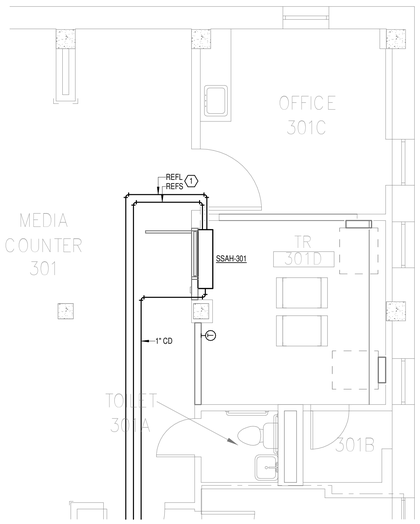
3 DEMOLITION FLOOR PLAN LEVEL 02 - MECHANICAL
1/4" = 1'-0"



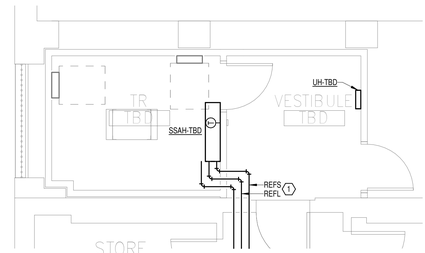
4 NEW FLOOR PLAN LEVEL 02 - MECHANICAL
1/4" = 1'-0"



5 DEMOLITION FLOOR PLAN LEVEL 03 - MECHANICAL
1/4" = 1'-0"



6 NEW FLOOR PLAN LEVEL 03 - MECHANICAL
1/4" = 1'-0"



7 NEW FLOOR PLAN LEVEL 04 - MECHANICAL
1/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ENLARGED PLANS - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 1
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-001.300
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R2D_ B001.rvt
08-03-2024 11:12:58

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-132	132	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]				(1)(4)(6)
SSAH-236	236	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]				(1)(4)(6)
SSAH-301	301	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]				(1)(4)(6)
SSAH-TBD	TBD	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]				(1)(4)(6)
SSCU-132	SSAH-132	3.0	36	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-236	SSAH-236	3.0	36	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-301	SSAH-301	3.0	36	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-TBD	SSAH-TBD	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

UNIT HEATER SCHEDULE

MARK	MAX SIZE			CAPACITY [MBH]	AIRFLOW [CFM]	ELECTRIC HEAT					MANUFACTURER	MODEL	REMARKS
	LENGTH	WIDTH	HEIGHT			KW	FLA	VOLTAGE	PHASE	DISCONNECT BY			
UH-TBD	14 1/2"	4"	19 1/2"	5.1	175	1.5	12.5	120 V	1	MANUFACTURER	MARKEL	E3323TD-RP	(1)(2)(3)(4)

REMARKS:
1. COLOR / FINISH TO BE SELECTED BY ARCHITECT.
2. PROVIDE WITH INTEGRAL THERMOSTAT AND DISCONNECT.
3. SCHEDULED FLOWS ARE APPROXIMATE AND SHALL BE CONFIRMED BY CONTRACTOR TO INCLUDE ALL REQUIRED ADJUSTMENTS BASED ON ACTUAL OPERATING CONDITIONS PRIOR TO SUBMITTAL.
4. MAINTAIN REQUIRED CLEARANCES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND NEC REQUIREMENTS.

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Revisions:	Date:

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NC Engineering License No.: P-0214
NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SCHEDULES
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	1
Drawing Number	M-001.600

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

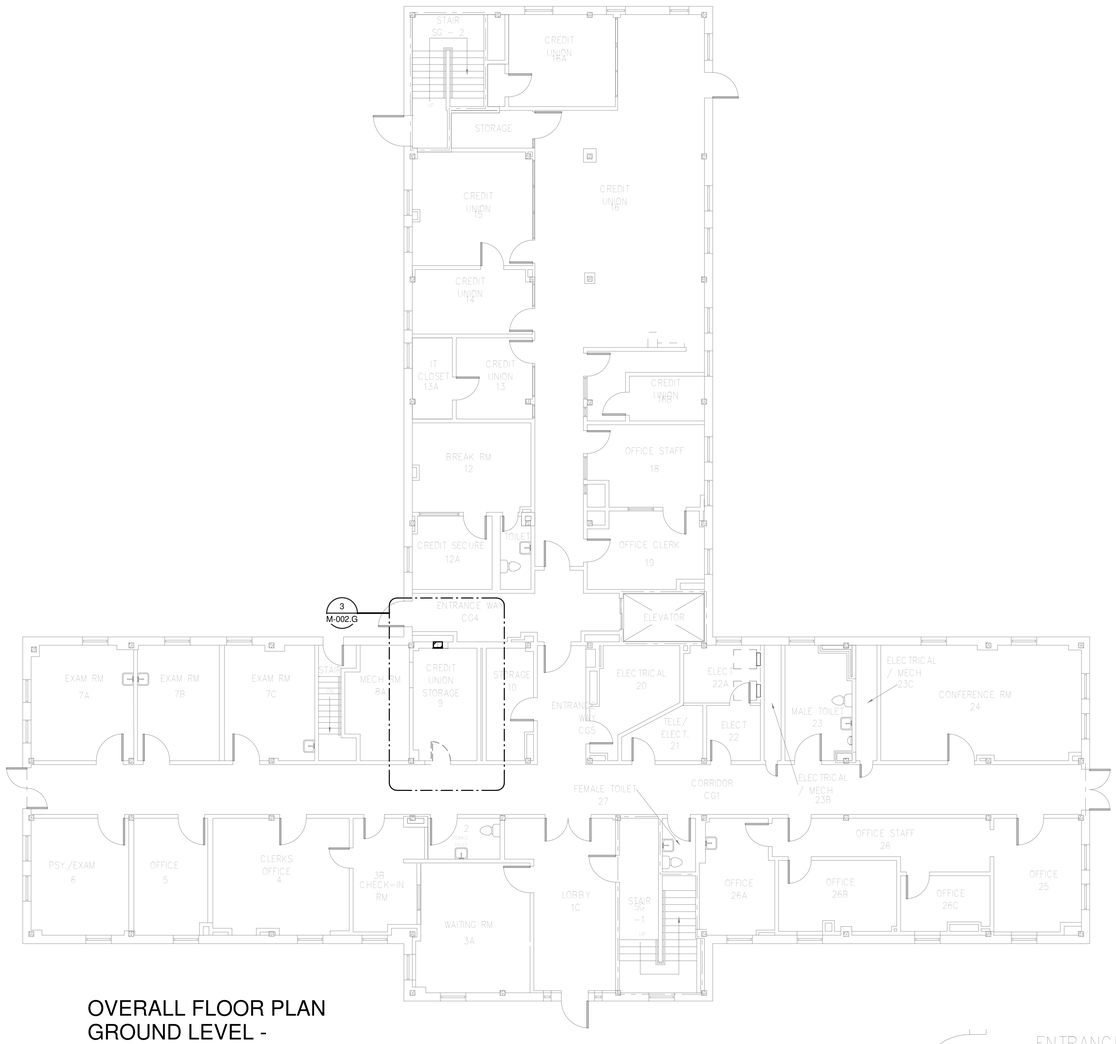
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT PAD AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL, TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. 1" CONDENSATE PIPE AND REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-002.1 FOR CONTINUATION.
5. DEMOLISH TRANSFER GRILLE. CAP DUCT.



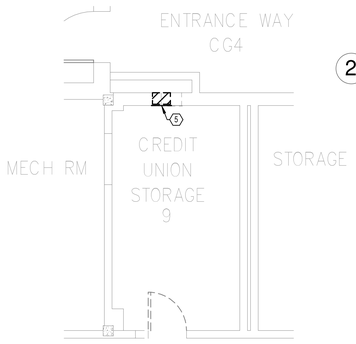
OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"



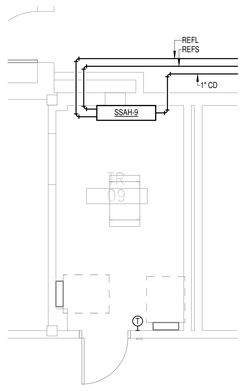
OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL

2 1/8" = 1'-0"



DEMOLITION FLOOR PLAN GROUND LEVEL - MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN GROUND LEVEL - MECHANICAL

4 1/4" = 1'-0"

N PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER 03/08/2024 ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 2 GROUND LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	2
Drawing Number	M-002.G

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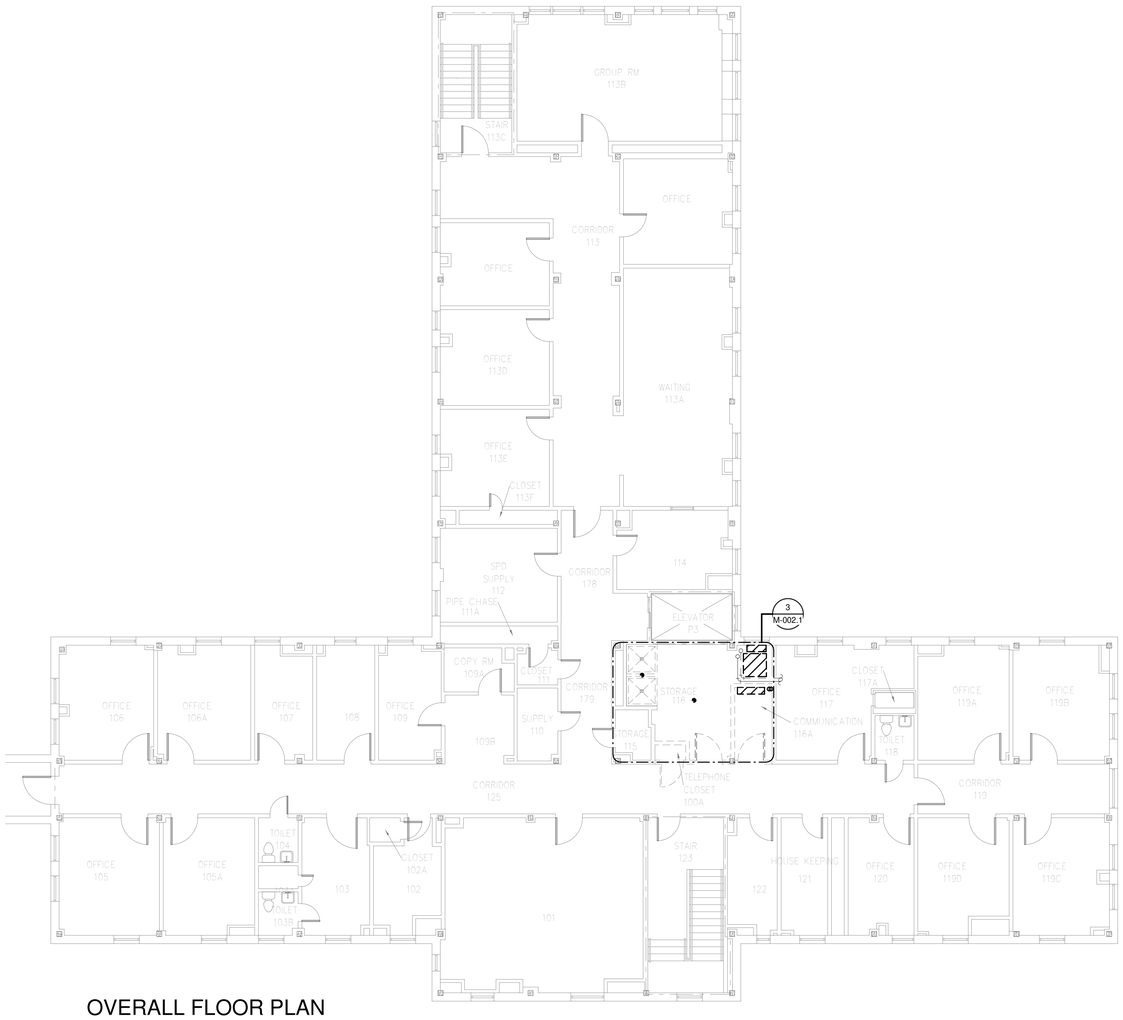


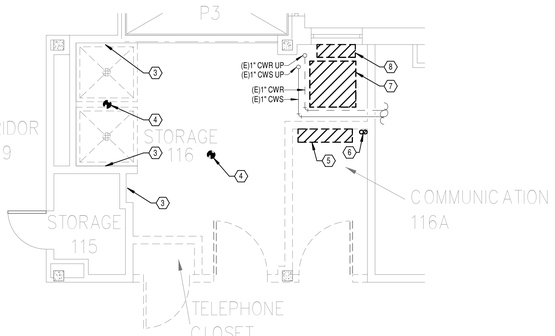
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



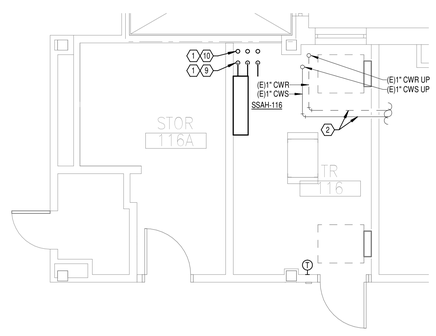
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL

2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL

4 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES AND DUCTS IN TR 116. UPON DETECTION OF MOISTURE, ALARM TO BAS.
3. DEMOLISH SHOWER, MIXING CONTROLS, AND ASSOCIATED DOMESTIC PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. DEMOLISH DRAIN AND ASSOCIATED SANITARY AND VENT PIPING BACK TO MAINS. CAP PIPES.
5. DEMOLISH SPLIT SYSTEM, ASSOCIATED CONDENSING UNIT, AND ASSOCIATED PIPING.
6. DEMOLISH PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
7. DEMOLISH CEILING MOUNTED FAN UNIT AND ASSOCIATED PIPING AND DUCTWORK BACK TO MAINS. CAP AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
8. DEMOLISH WALL MOUNTED FAN COIL UNIT AND ASSOCIATED PIPING BACK TO MAINS. CAP AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT, DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS. TURN WALL MOUNTED FAN COIL UNIT OVER TO VA COR.
9. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO GROUND LEVEL. SEE SHEET M-002.G FOR CONTINUATION.
10. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO GROUND LEVEL AND UP TO LEVEL 2. SEE SHEET M-002.G AND SHEET M-002.2 FOR CONTINUATION.

N PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER 03/08/2024 ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 2 LEVEL 01 - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	2
Drawing Number	M-002.1

VA FORM 08 - 6231

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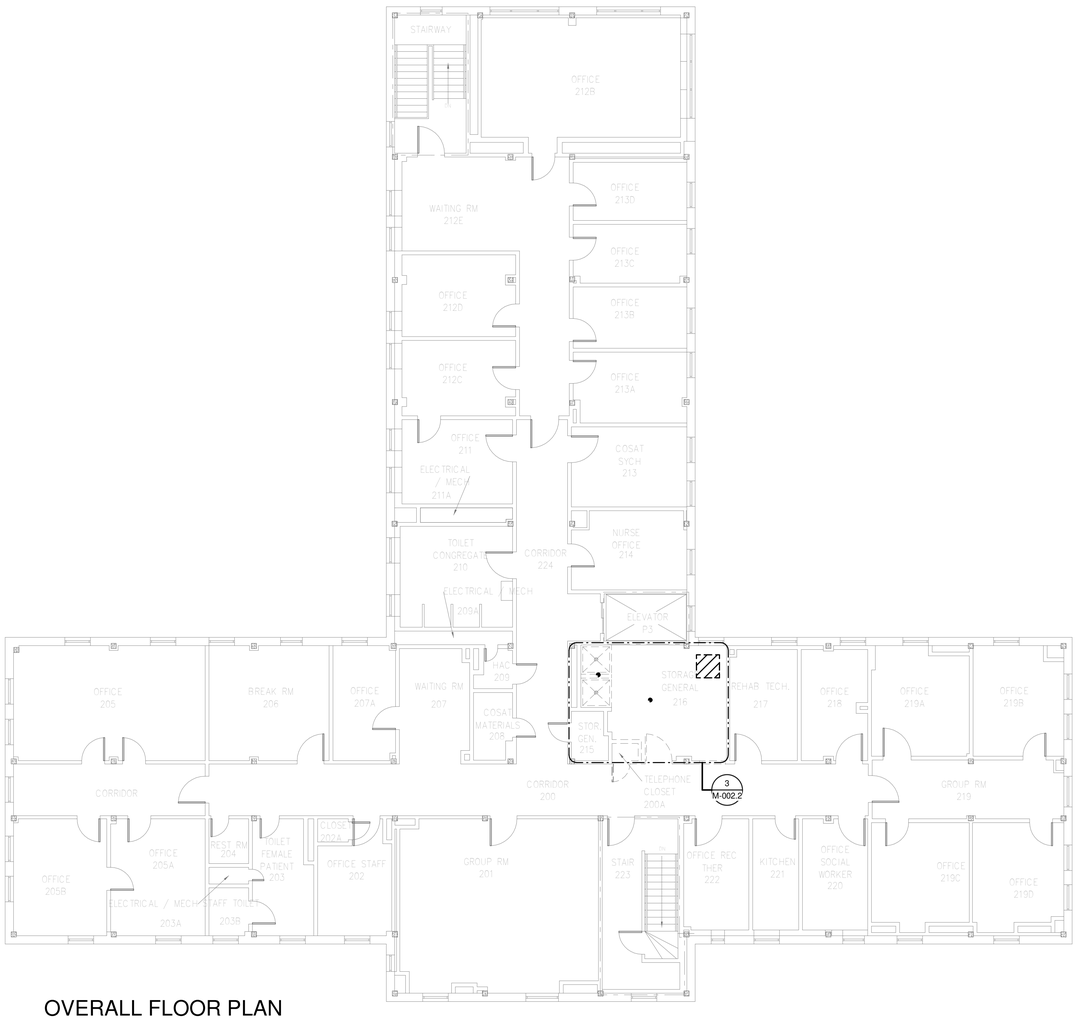
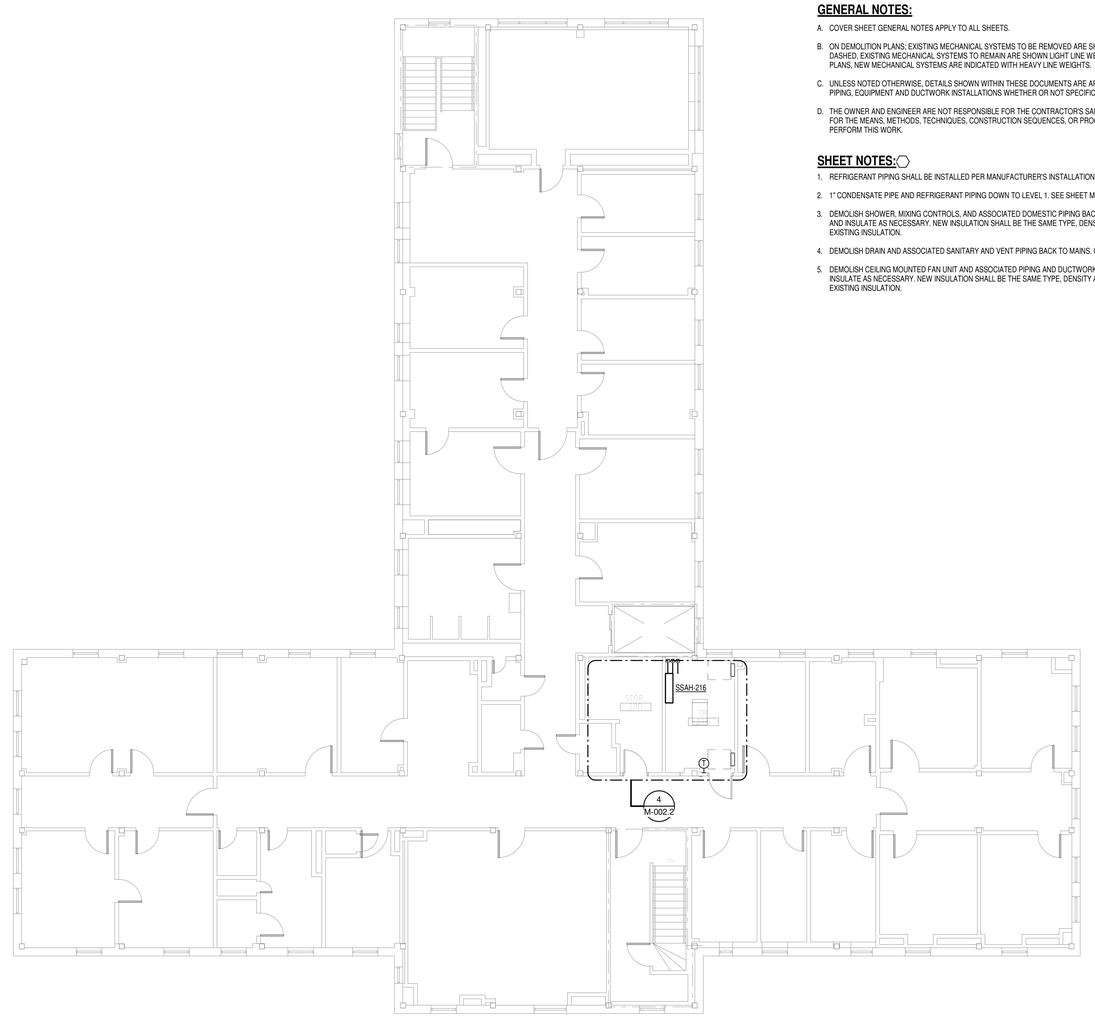


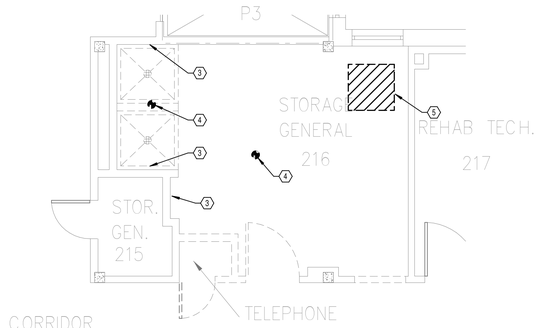
OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



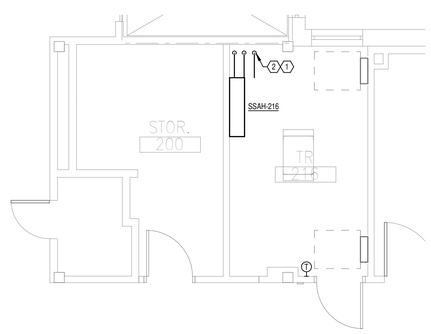
OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL

2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 02 -
MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
02 - MECHANICAL

4 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO LEVEL 1. SEE SHEET M-001.1 FOR CONTINUATION.
3. DEMOLISH SHOWER, MIXING CONTROLS, AND ASSOCIATED DOMESTIC PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. DEMOLISH DRAIN AND ASSOCIATED SANITARY AND VENT PIPING BACK TO MAINS. CAP PIPES.
5. DEMOLISH CEILING MOUNTED FAN UNIT AND ASSOCIATED PIPING AND DUCTWORK BACK TO MAINS. CAP AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.

N PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 2 LEVEL 02 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
			Building Number: 2
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-002.2
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-9	9	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-116	116	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-216	216	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSCU-9	SSAH-9	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-116	SSAH-116	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-216	SSAH-216	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.006_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.006_VA EHRM Tuscaloosa_R20_B002.rvt
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Revisions:	Date:

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NC Engineering License No.: P-0214
NC Architectural License No.: 51254

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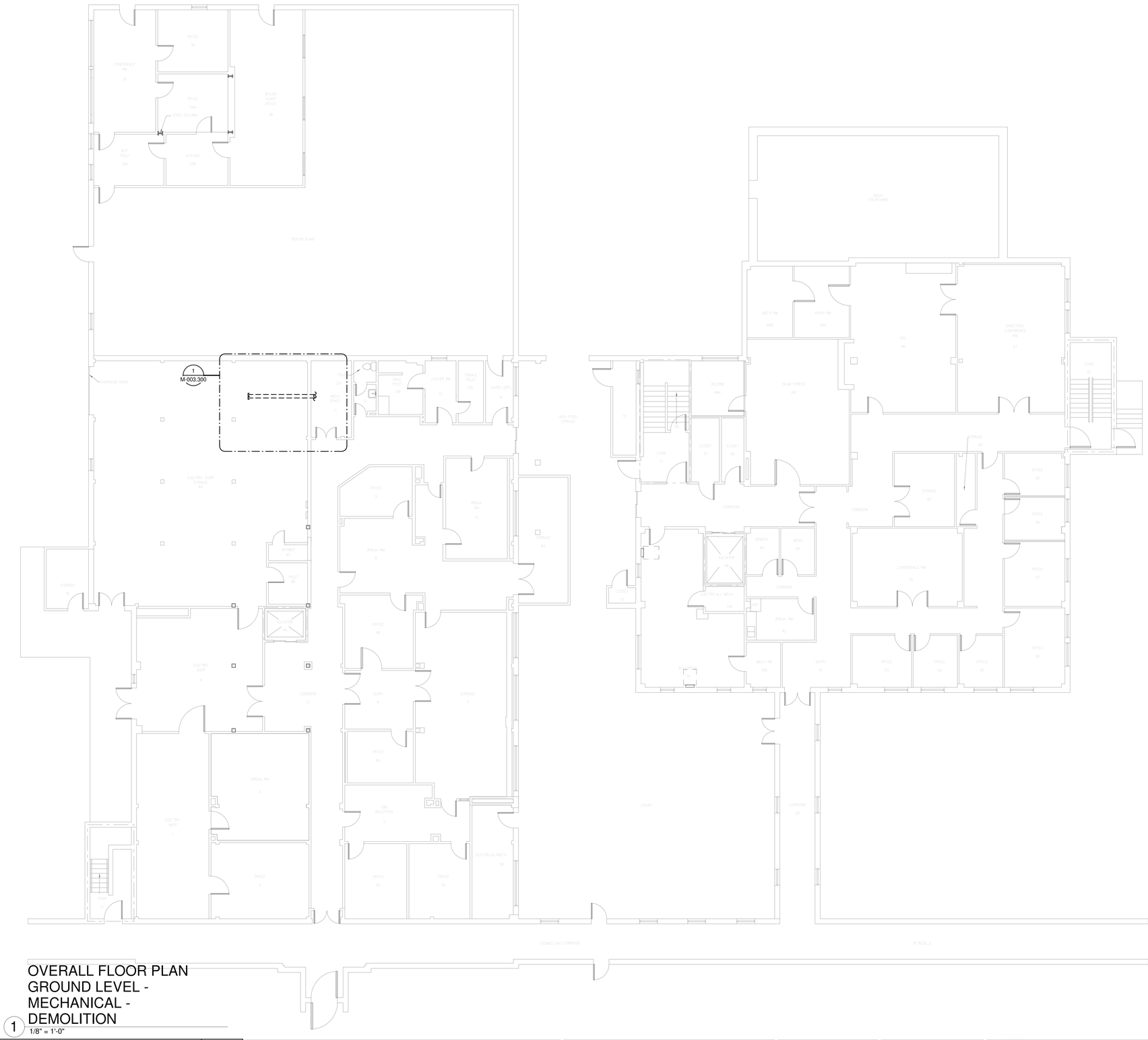
NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SCHEDULES
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	2
Drawing Number	M-002.600

VA FORM 08 - 6231



OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 3 GROUND LEVEL - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	3
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-003.G

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08-03-2024 13:51:52

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OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

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Drawing Title	BUILDING 3 LEVEL 01 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	3
Drawing Number	MD-003.1

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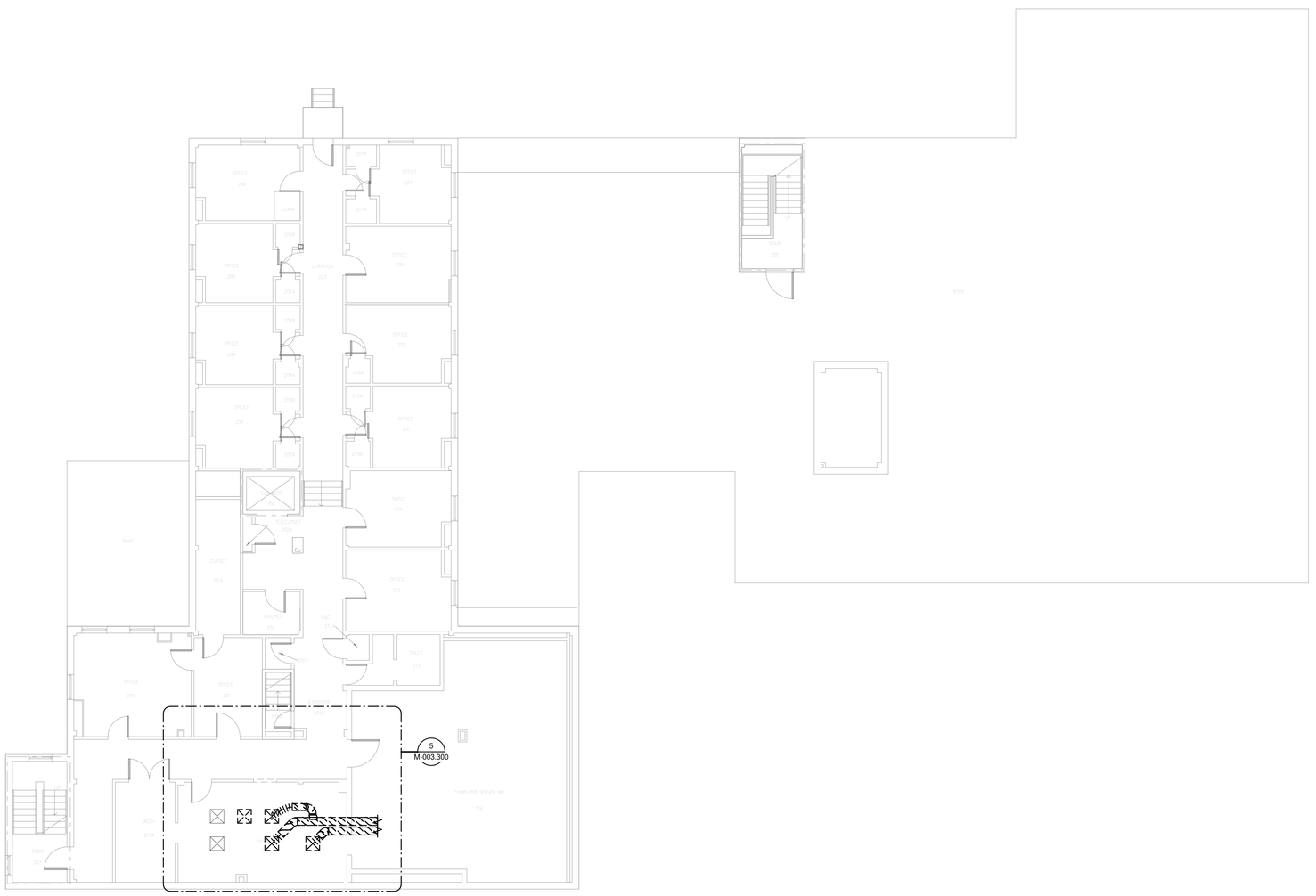

OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"

PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 3 LEVEL 02 - MECHANICAL - DEMOLITION	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 3
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: MD-003.2
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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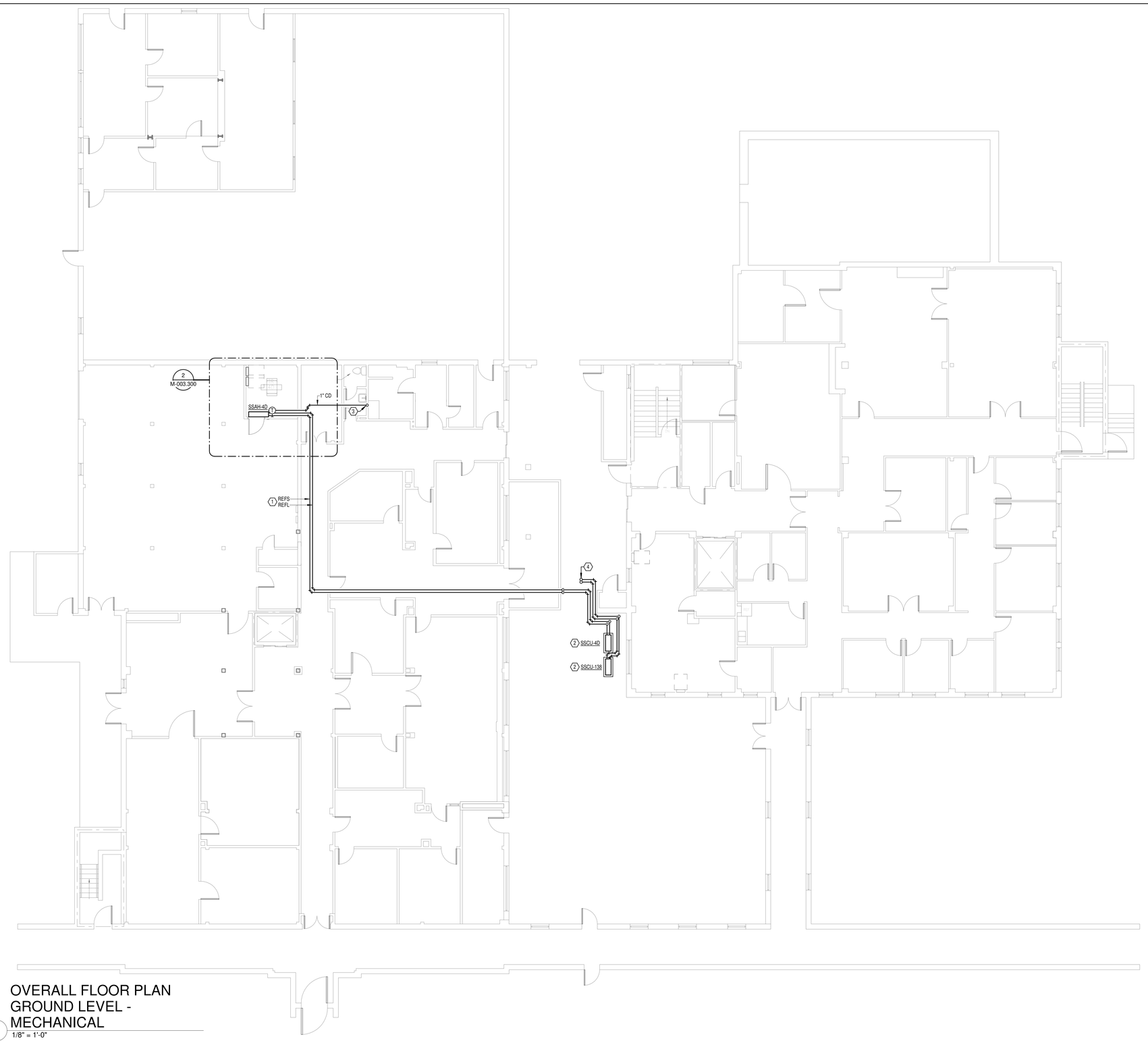

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED WITHIN WALL AND DISCHARGE PER CONDENSATE TO SINK/LAV DETAIL.
4. REFRIGERANT AND CONDENSATE PIPING UP TO LEVEL 1. SEE SHEET M-003.300 PLAN 4 (NEW FLOOR PLAN LEVEL 01 - MECHANICAL) FOR CONTINUATION.

OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL

1 1/8" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 3 GROUND LEVEL - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	3
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	M-003.G

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GENERAL NOTES:

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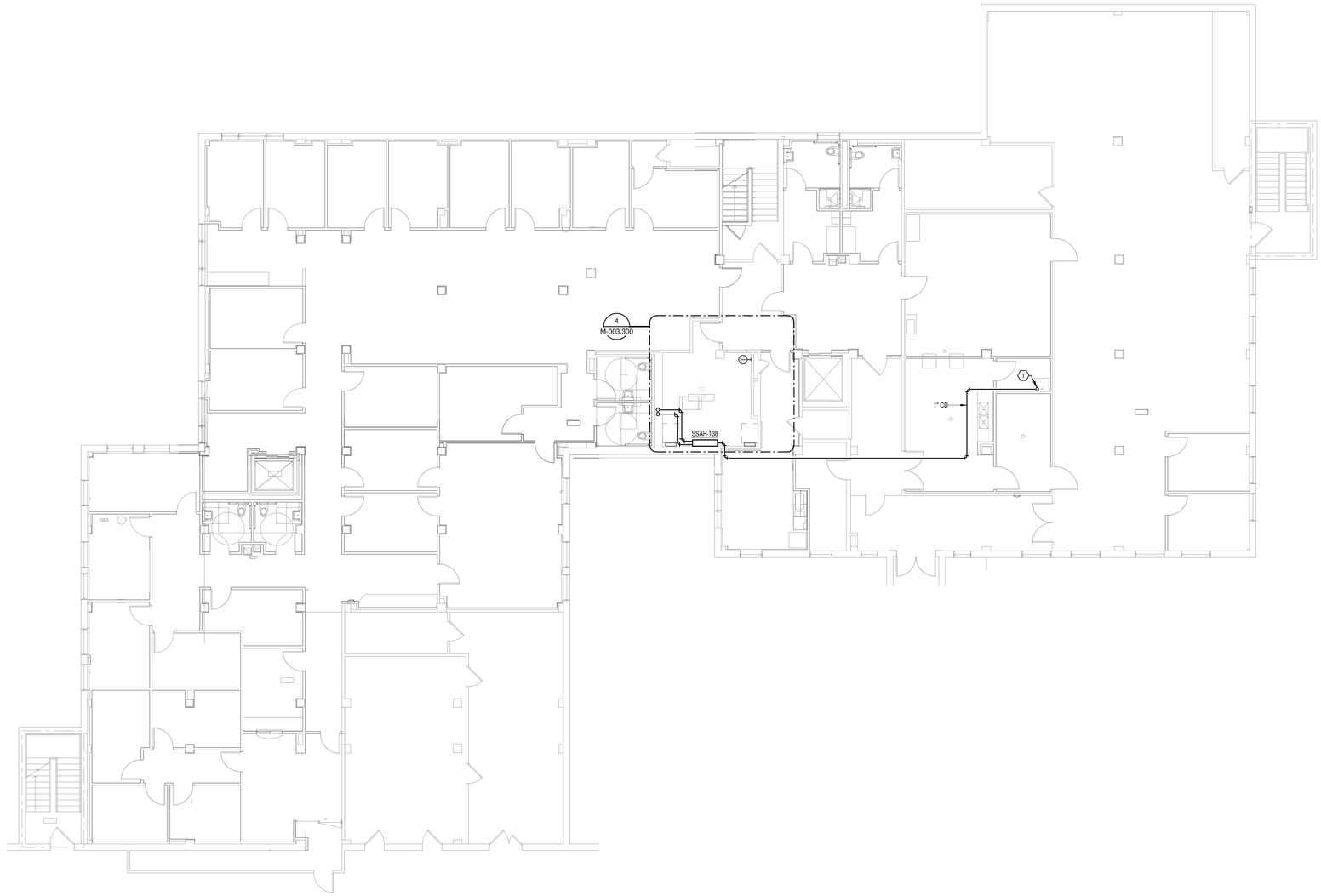
SHEET NOTES:

1. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"

PLAN

TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

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VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 3 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 3
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-003.1
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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GENERAL NOTES:

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SHEET NOTES:

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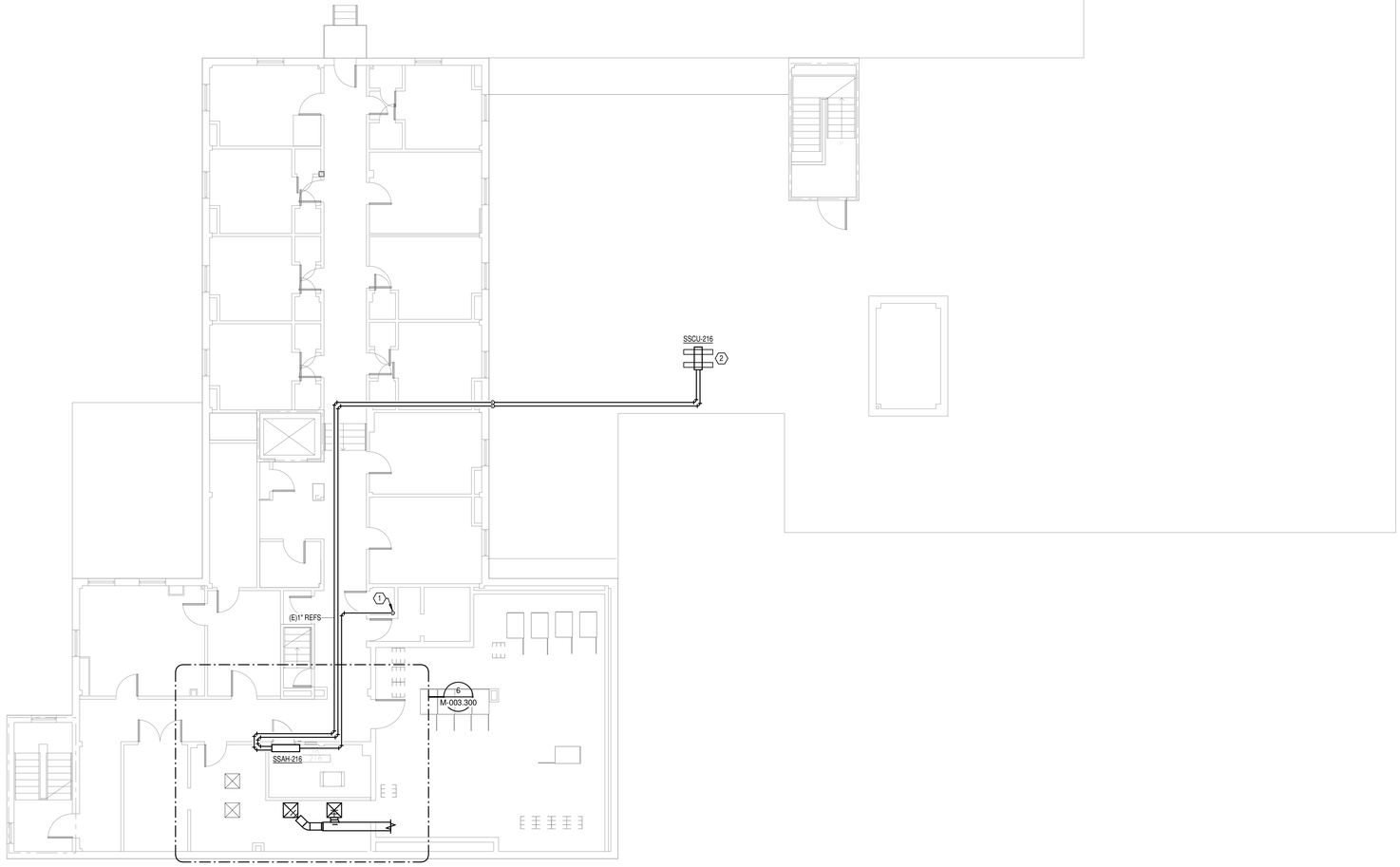
2. PROVIDE EQUIPMENT RAILS AT ROOF MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - ROOF MOUNTED" ON SHEET M-001.



OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

PLAN

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 3 LEVEL 02 - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	3
Approved:	
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	M-003.2

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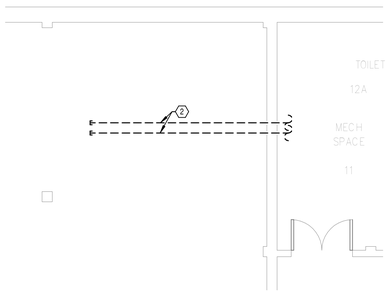
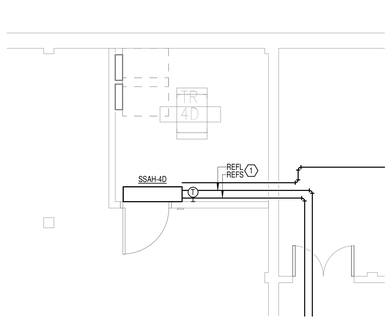


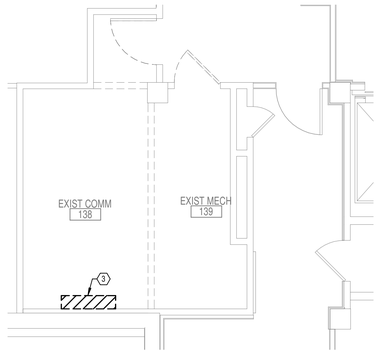
DEMOLITION FLOOR PLAN GROUND FLOOR - MECHANICAL

1 1/4" = 1'-0"



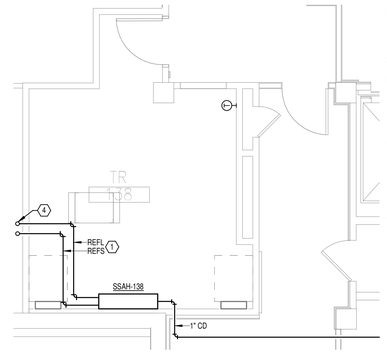
NEW FLOOR PLAN GROUND FLOOR - MECHANICAL

2 1/4" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 01 - MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 01 - MECHANICAL

4 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

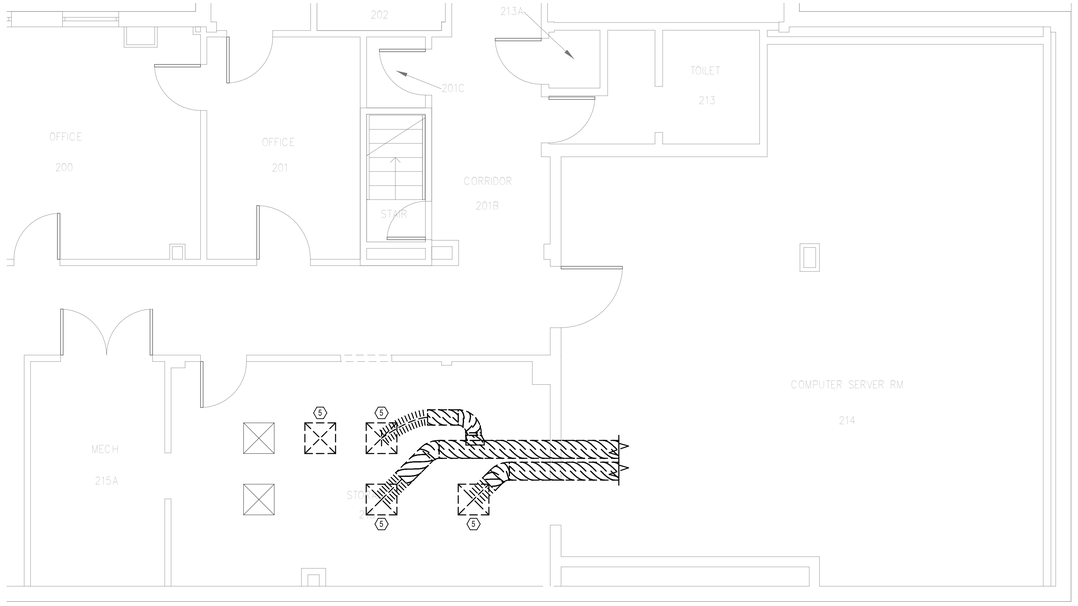
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

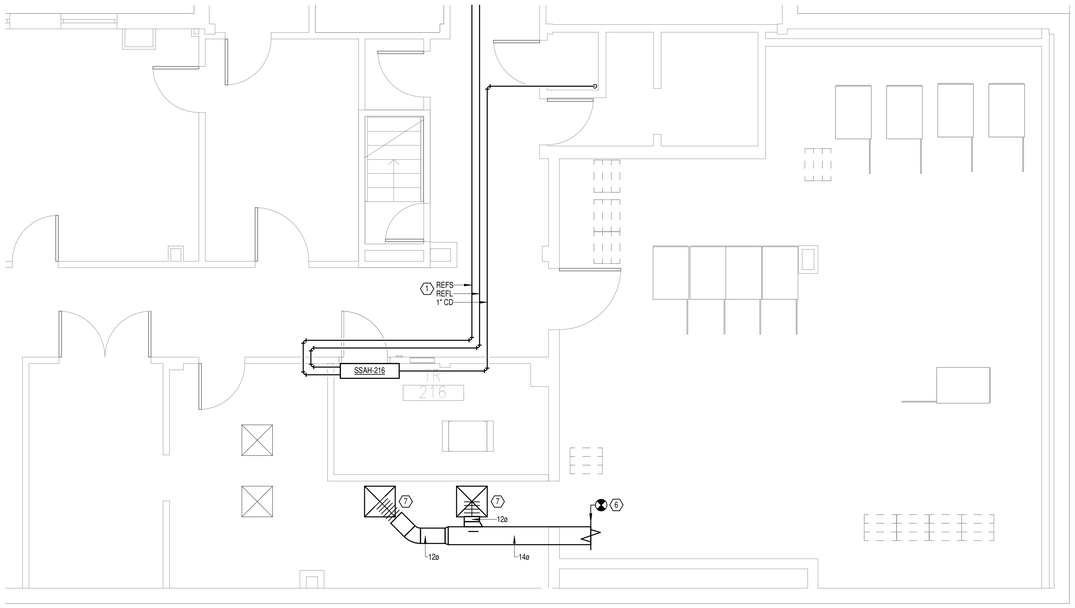
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. DEMOLISH PIPING BACK TO MAINS. CAP AND INSULATE PIPES AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
3. DEMOLISH SPLIT SYSTEM, ASSOCIATED CONDENSING UNIT, AND ASSOCIATED PIPING.
4. REFRIGERANT PIPING DOWN TO GROUND LEVEL. SEE SHEET M-003.G FOR CONTINUATION.
5. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
6. EXTEND NEW DUCT TO EXISTING MAIN AND CONNECT.
7. INSTALL NEW SUPPLY DIFFUSER AND CONNECT TO NEW SUPPLY DUCTWORK. SUPPLY DIFFUSER SHALL MATCH DEMOLISHED DIFFUSER IN COLOR AND STYLE. DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING DUCT AND INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.



DEMOLITION FLOOR PLAN LEVEL 02 - MECHANICAL

5 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 02 - MECHANICAL

6 1/4" = 1'-0"

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	ENLARGED PLANS - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	3
Drawing Number	M-003.300

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SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-4D	4D	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-138	138	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-216	216	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSCU-4D	SSAH-4D	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-138	SSAH-138	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-216	SSAH-216	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 3
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-003.600
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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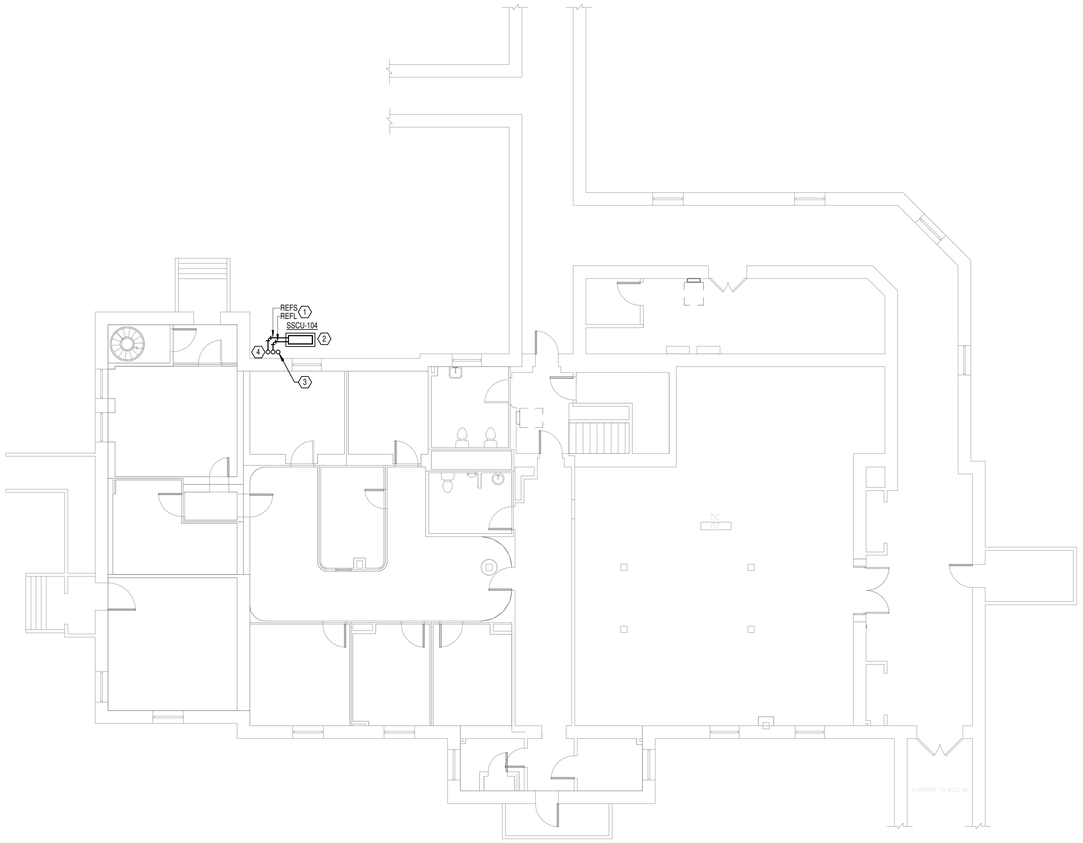

OVERALL FLOOR PLAN
GROUND LEVEL - MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

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D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. REFRIGERANT PIPING AND 1" CONDENSATE PIPING UP TO LEVEL 1. SEE SHEET M-004.1 FOR CONTINUATION.

N PLAN

N TRUE

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_BIM24.rvt

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Approved:

Drawing Title: BUILDING 4 GROUND LEVEL - MECHANICAL

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES

Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date: 03/08/2024 | Checked: JKK | Drawn: PCM

Project Number: 679-20-104

Building Number: 4

Drawing Number: M-004.G

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

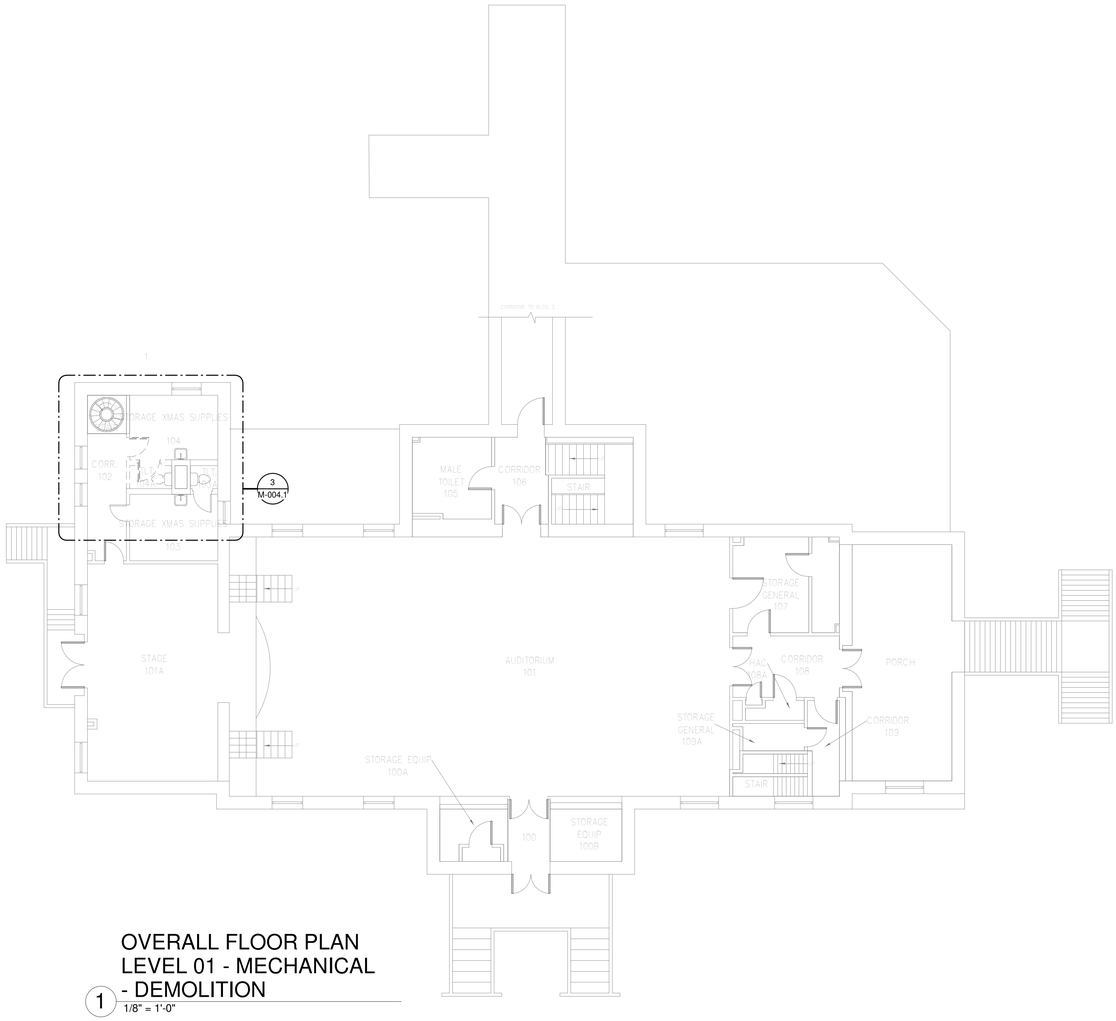
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

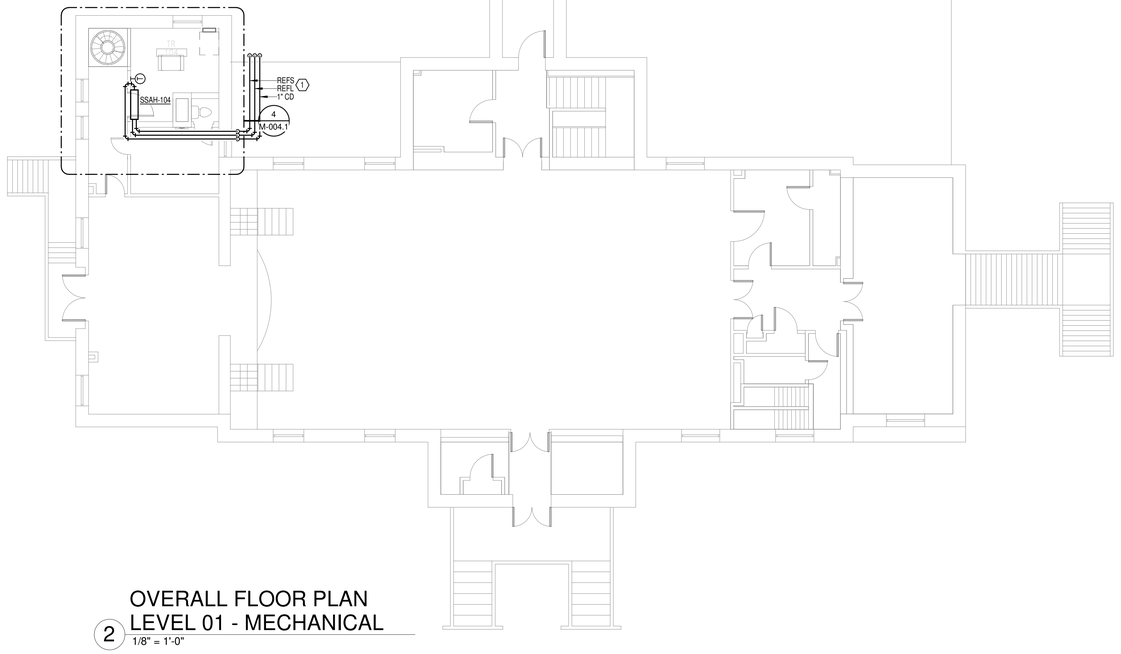
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. DEMOLISH SINK AND ASSOCIATED DOMESTIC, SANITARY, AND VENT PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
3. DEMOLISH WATER CLOSET AND ASSOCIATED DOMESTIC, SANITARY, AND VENT PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. REFRIGERANT PIPING AND 1" CONDENSATE PIPING DOWN TO GROUND LEVEL. SEE SHEET M-004.G FOR CONTINUATION.



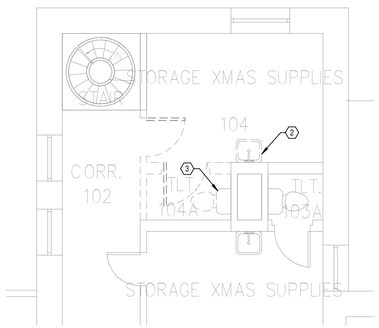
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



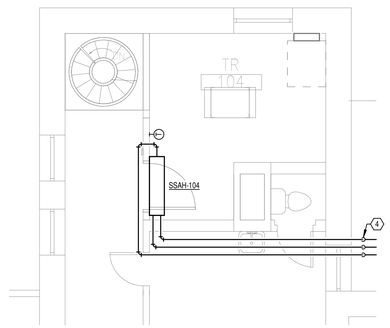
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL

2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL

4 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 4 LEVEL 01 - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	4
Drawing Number	M-004.1

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-104	104	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(4)(6)
SSCU-104	SSAH-104	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH THE HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_P20_B004.rvt 08.03.2024 14:02:59

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 4
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-004.600

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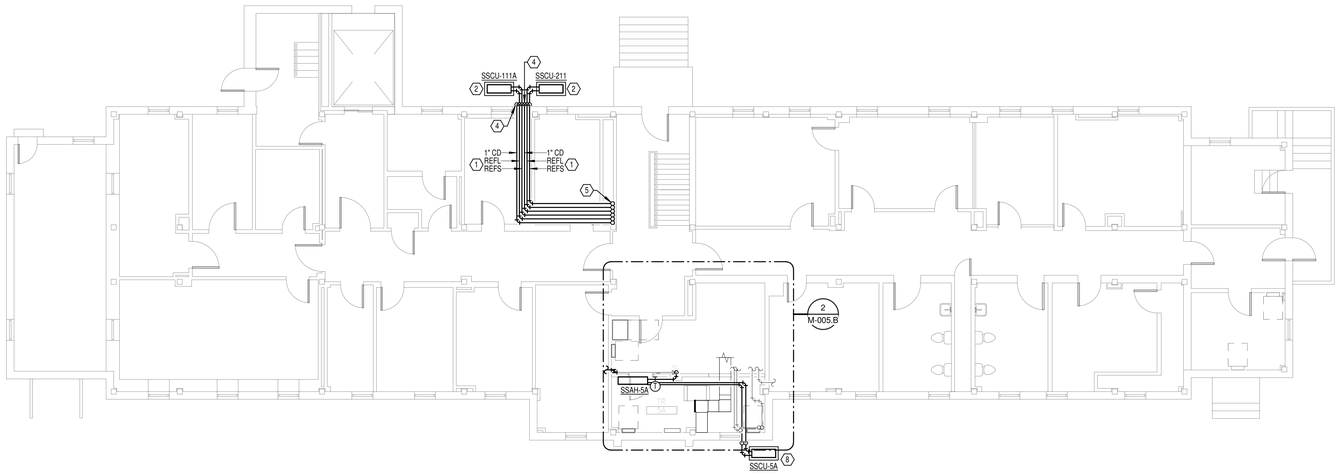
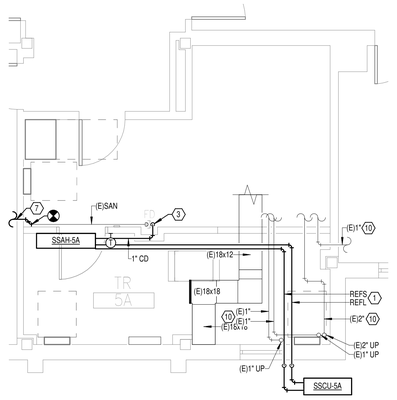


OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

1 1/8" = 1'-0"



NEW FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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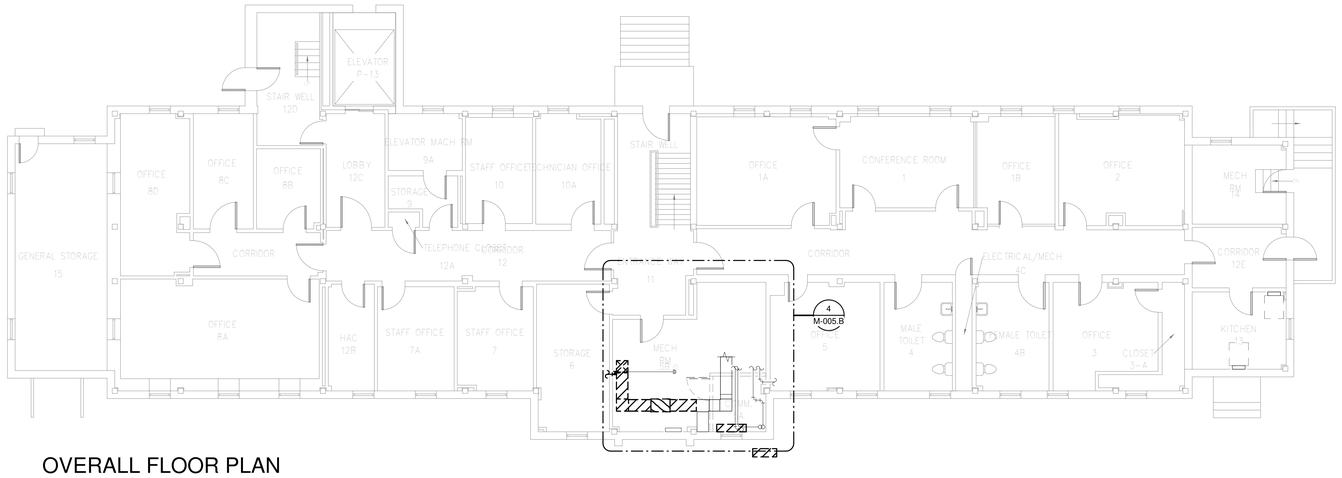
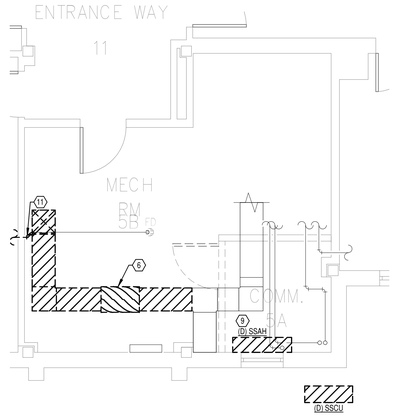
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL TO FLOOR DRAIN.
4. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL, TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
5. 1" CONDENSATE PIPE AND REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-005.1 FOR CONTINUATION.
6. DEMOLISH FAN AND ASSOCIATED DUCTWORK TO POINT INDICATED. CAP DUCT.
7. CONNECT DRAIN TO EXISTING ICE MAKER OUTLET IN ADJACENT ROOM. PIPE MATERIAL AND SIZE SHALL MATCH EXISTING.
8. REUSE EXISTING CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. EXTEND EQUIPMENT CURB AS REQUIRED. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
9. DEMOLISH SPLIT SYSTEM, CONDENSING UNIT, THERMOSTAT, CONSTROLS, REFRIGERANT PIPING, AND CONDENSATE PIPING. EXISTING CONCRETE EQUIPMENT CURB SHALL REMAIN IN PLACE FOR REUSE.
10. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES IN TR 5A. UPON DETECTION OF MOISTURE, ALARM TO BAS.
11. DEMOLISH EXISTING ICE MAKER DRAIN BACK TO ADJACENT ROOM FOR RECONNECTION.



OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL -
DEMOLITION

3 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN BASEMENT LEVEL -
MECHANICAL

4 1/4" = 1'-0"

PLAN NORTH

TRUE NORTH

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 5 BASEMENT LEVEL - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 5
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-005.B
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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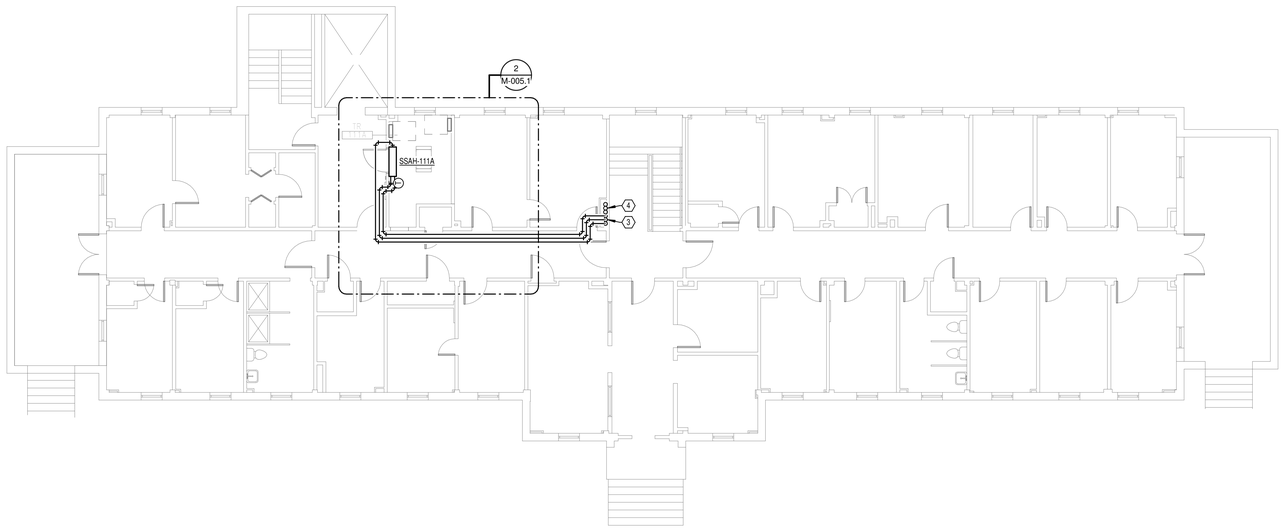
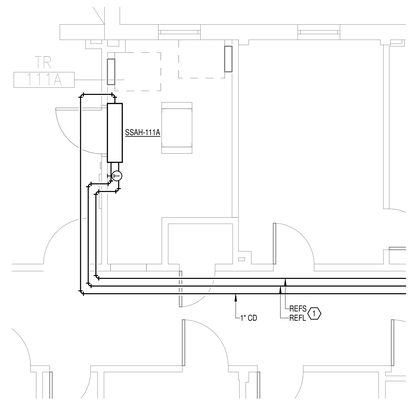
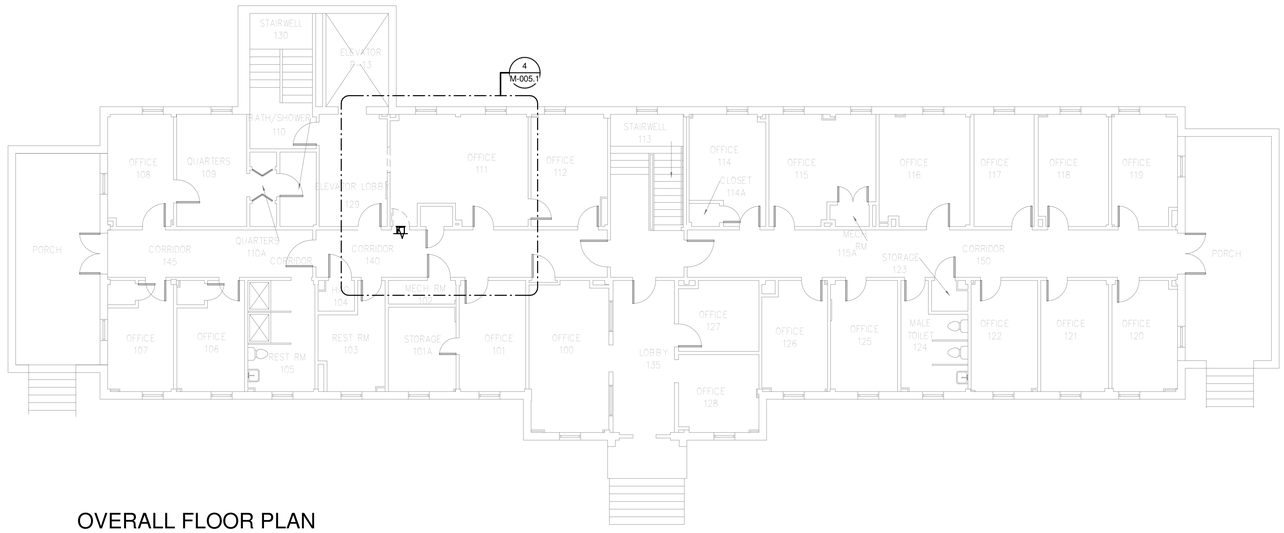


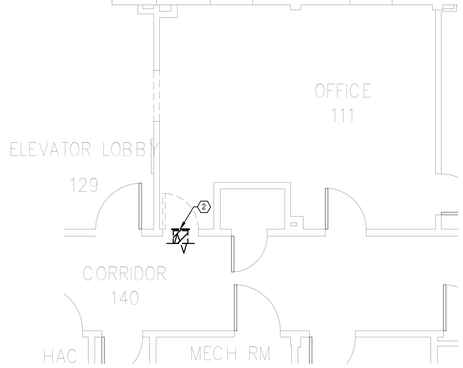
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL
2 1/4" = 1'-0"



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION
3 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL
4 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. DEMOLISH SIDEWALL DIFFUSER AND ASSOCIATED DUCT BACK TO MAIN. CAP AND INSULATE DUCT. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
3. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO BASEMENT. SEE SHEET M-005.G FOR CONTINUATION.
4. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO BASEMENT AND UP TO LEVEL 2. SEE SHEET M-005.B AND SHEET M-005.2 FOR CONTINUATION.

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 5 LEVEL 01 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	5
Drawing Number	M-005.1

Autodesk Docs://20375.006 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.006_VA EHRM Tuscaloosa_R20_BIM05.rvt
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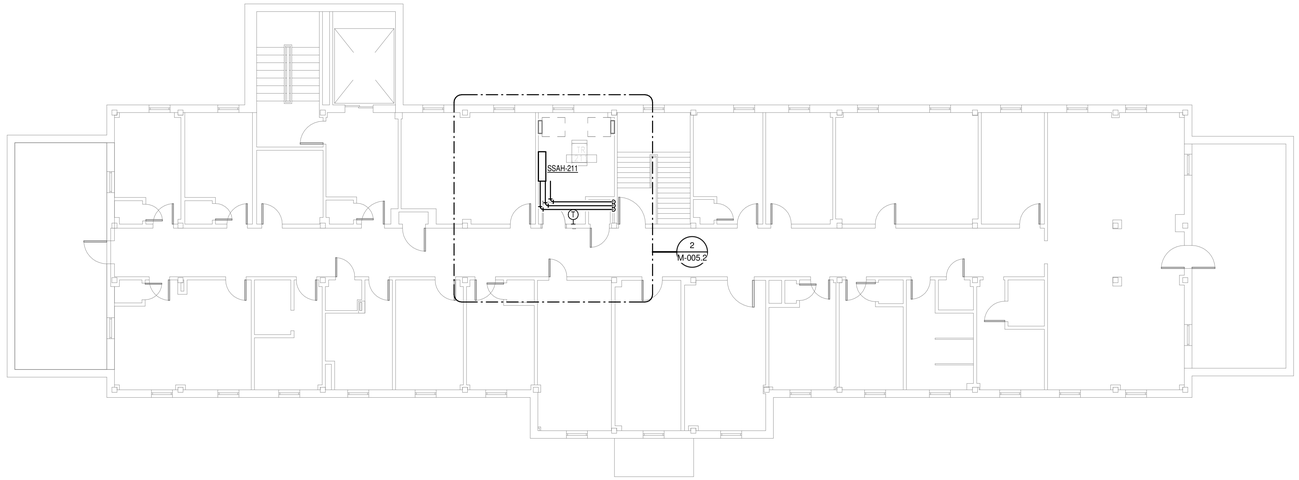
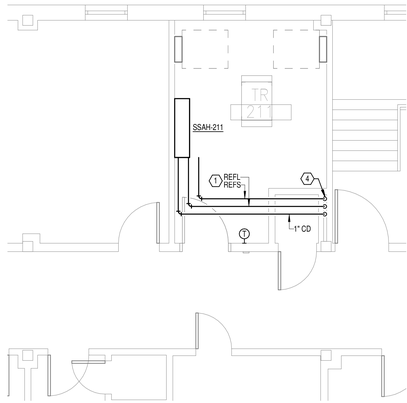
VA FORM 08 - 6231



OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
02 - MECHANICAL
2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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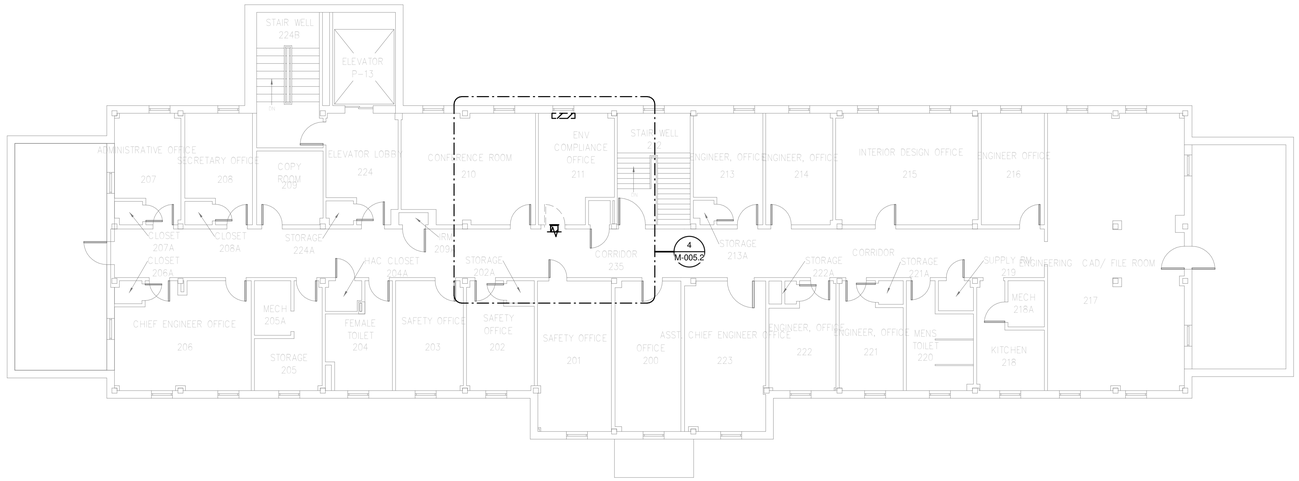
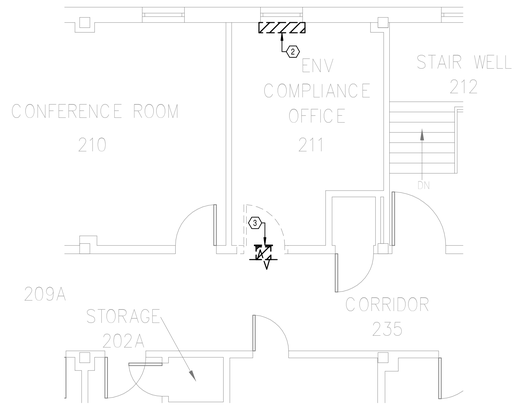
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. DEMOLISH RADIANT HEATER UNIT AND ASSOCIATED PIPING BACK TO MAINS. CAP AND INSULATE PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT, DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS.
3. DEMOLISH SIDEWALL DIFFUSER AND ASSOCIATED DUCT BACK TO MAIN. CAP AND INSULATE DUCT. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. 1" CONDENSATE PIPE AND REFRIGERANT PIPING DOWN TO LEVEL 2. SEE SHEET M-005.1 FOR CONTINUATION.



OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION
3 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 02 -
MECHANICAL
4 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 5 LEVEL 02 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	5
Drawing Number	M-005.2

Autodesk Docs://20375.006 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.006_VA EHRM Tuscaloosa_R20_B005.rvt
08/03/2024 14:13:27

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-5A	5A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-111A	111A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-211	211	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSCU-5A	SSAH-5A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-111A	SSAH-11A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-211	SSAH-211	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH THE HARD WIRED THERMOSTAT.

Autodesk Docs://20375.006_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.006_VA EHRM Tuscaloosa_P20_B005.rvt
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Revisions:	Date:

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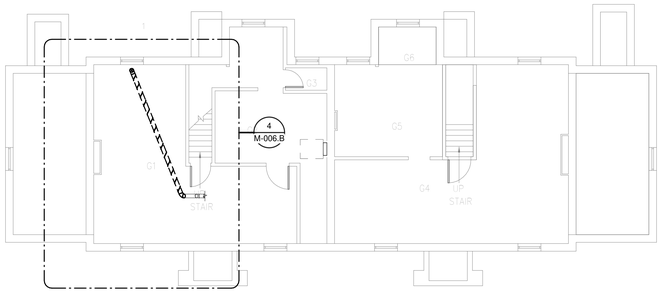
NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

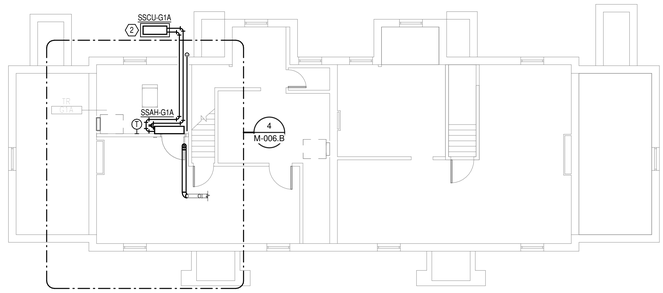
Drawing Title	MECHANICAL SCHEDULES
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	5
Drawing Number	M-005.600

VA FORM 08 - 6231



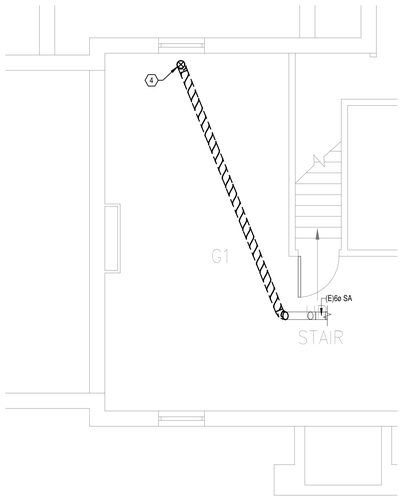
OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL -
DEMOLITION

1 1/8" = 1'-0"



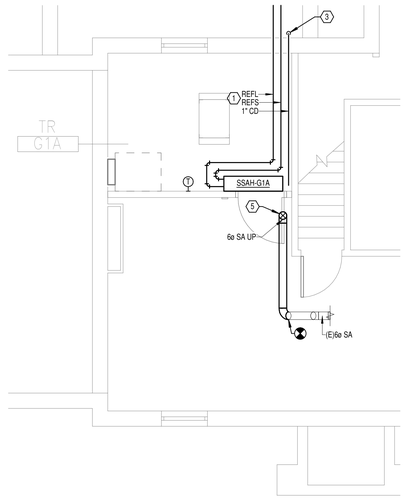
OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN BASEMENT LEVEL -
MECHANICAL

3 1/4" = 1'-0"



NEW FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

4 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH FLOOR MOUNTED SUPPLY DIFFUSER ON LEVEL ABOVE AND ASSOCIATED DUCTWORK TO POINT INDICATED.
5. INSTALL FLOOR MOUNTED SUPPLY DIFFUSER ON LEVEL ABOVE. NEW DIFFUSER SHALL BE SAME SIZE AND TYPE AS DEMOLISHED DIFFUSER. DUCT INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.

N PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 6 BASEMENT - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	6
Drawing Number	M-006.B

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B06K.rvt
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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-G1A	G1A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	-	-	-	-		(1)(4)(6)
SSCU-G1A	SSAH-G1A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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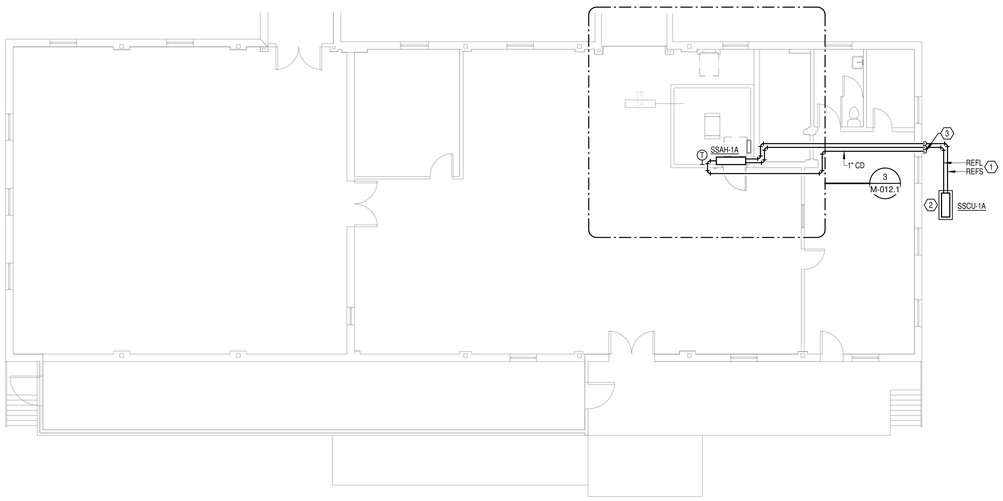
NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMIN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

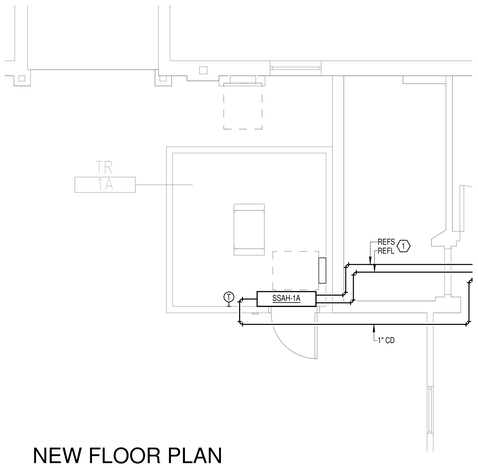
Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 6
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-006.600

VA FORM 08 - 6231



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL

1 1/8" = 1'-0"



NEW FLOOR PLAN
BASEMENT -
MECHANICAL

3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.

N PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title: BUILDING 12 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 12
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-012.1
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-1A	1A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(4)(6)
SSCU-1A	SSAH-1A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 12
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: M-012.600
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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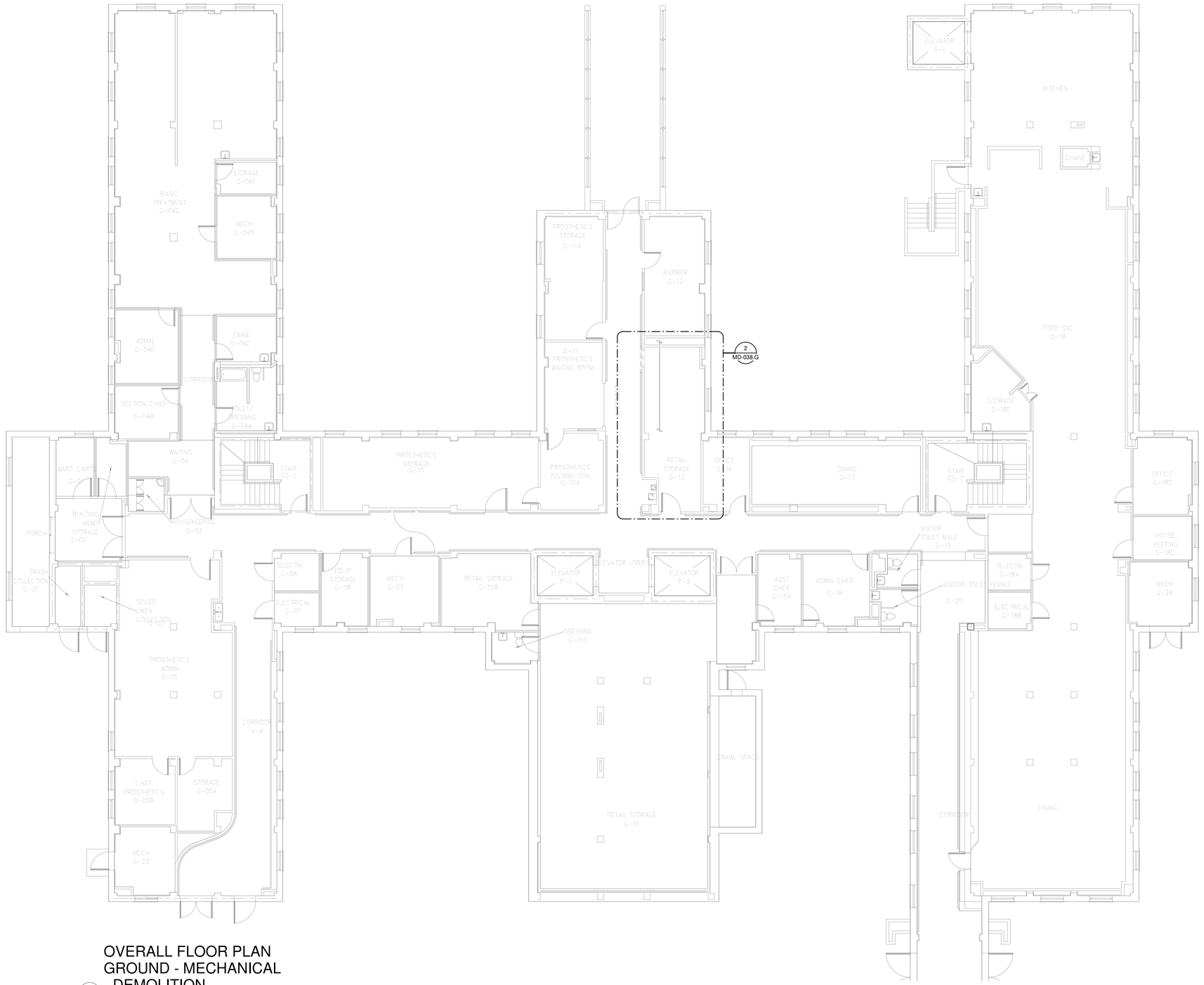

OVERALL FLOOR PLAN GROUND - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

DEMOLITION FLOOR PLAN GROUND LEVEL - MECHANICAL

2 1/4" = 1'-0"

N

PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 38 GROUND LEVEL - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	38
Drawing Number	MD-038.G

Autodesk Docs://20375.005 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B938.rvt 08-03-2024 15:20:46

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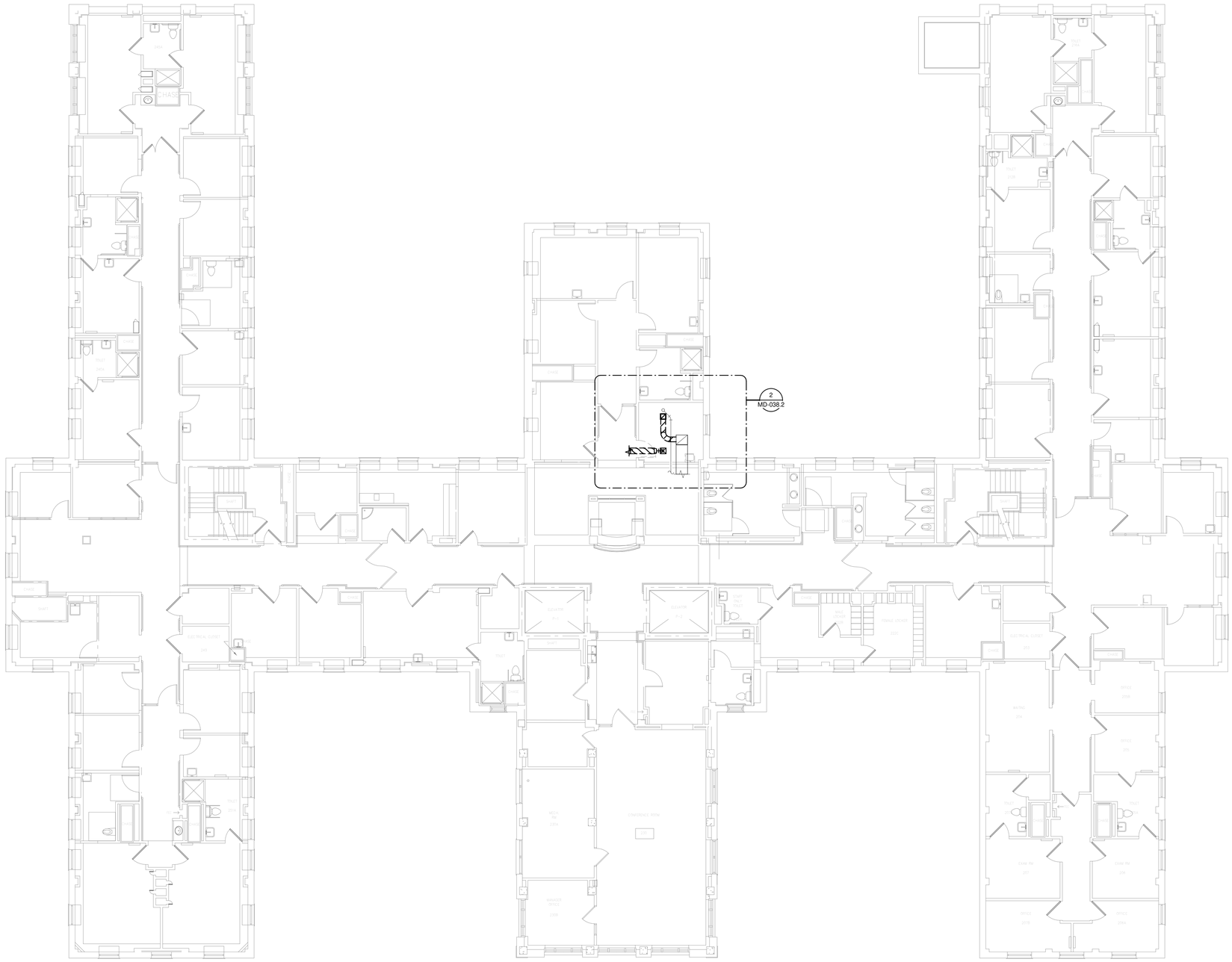
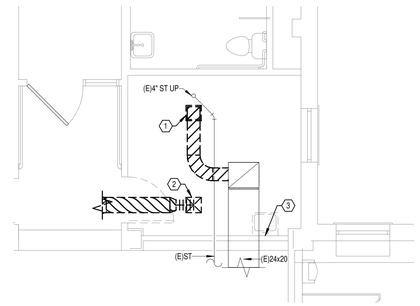


OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 02 -
MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCTWORK.
2. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
3. DEMOLISH SINK AND ASSOCIATED DOMESTIC, SANITARY AND VENT PIPING BACK TO MAINS. CAP PIPES AND INSULATE AS NECESSARY.

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PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

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VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 38 LEVEL 02 - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
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Drawing Number	MD-038.2

VA FORM 08 - 6231

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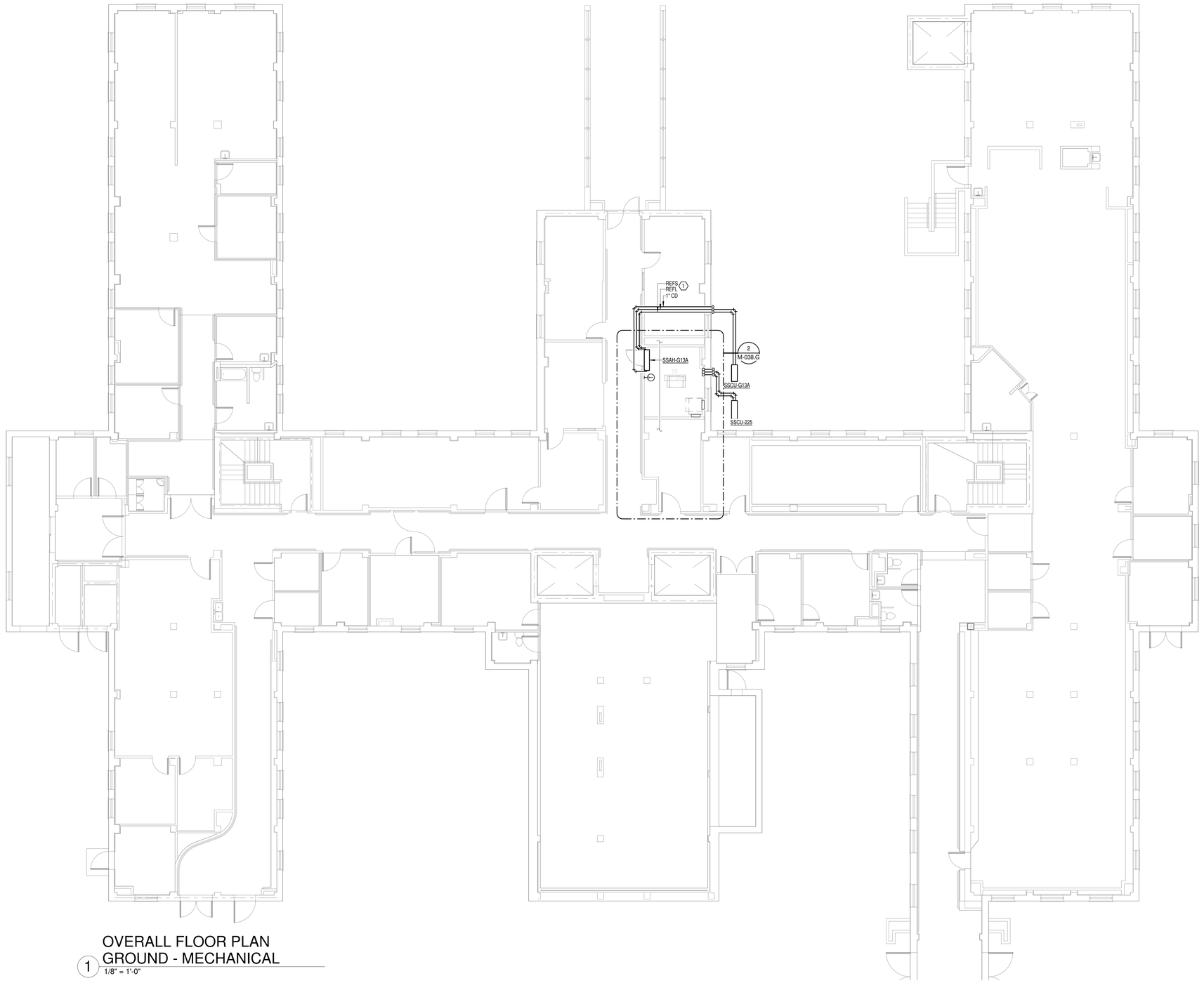
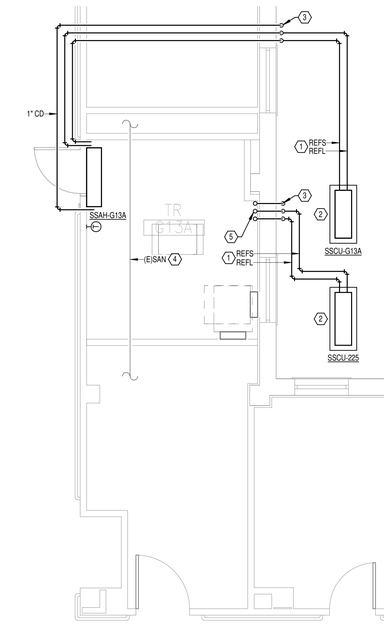


OVERALL FLOOR PLAN
GROUND - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN
GROUND LEVEL -
MECHANICAL
2 1/4" = 1'-0"

GENERAL NOTES:

1. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
2. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
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SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING SANITARY PIPE IN TR G-13. UPON DETECTION OF MOISTURE, ALARM TO BAS.
5. REFRIGERANT PIPING AND 1" CONDENSATE PIPING UP TO LEVEL 2. SEE SHEET M-038.2 FOR CONTINUATION.

N
PLAN

N
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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 38 GROUND LEVEL - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 38
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-038.G
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

Autodesk Docs://20375.005 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B938.rvt
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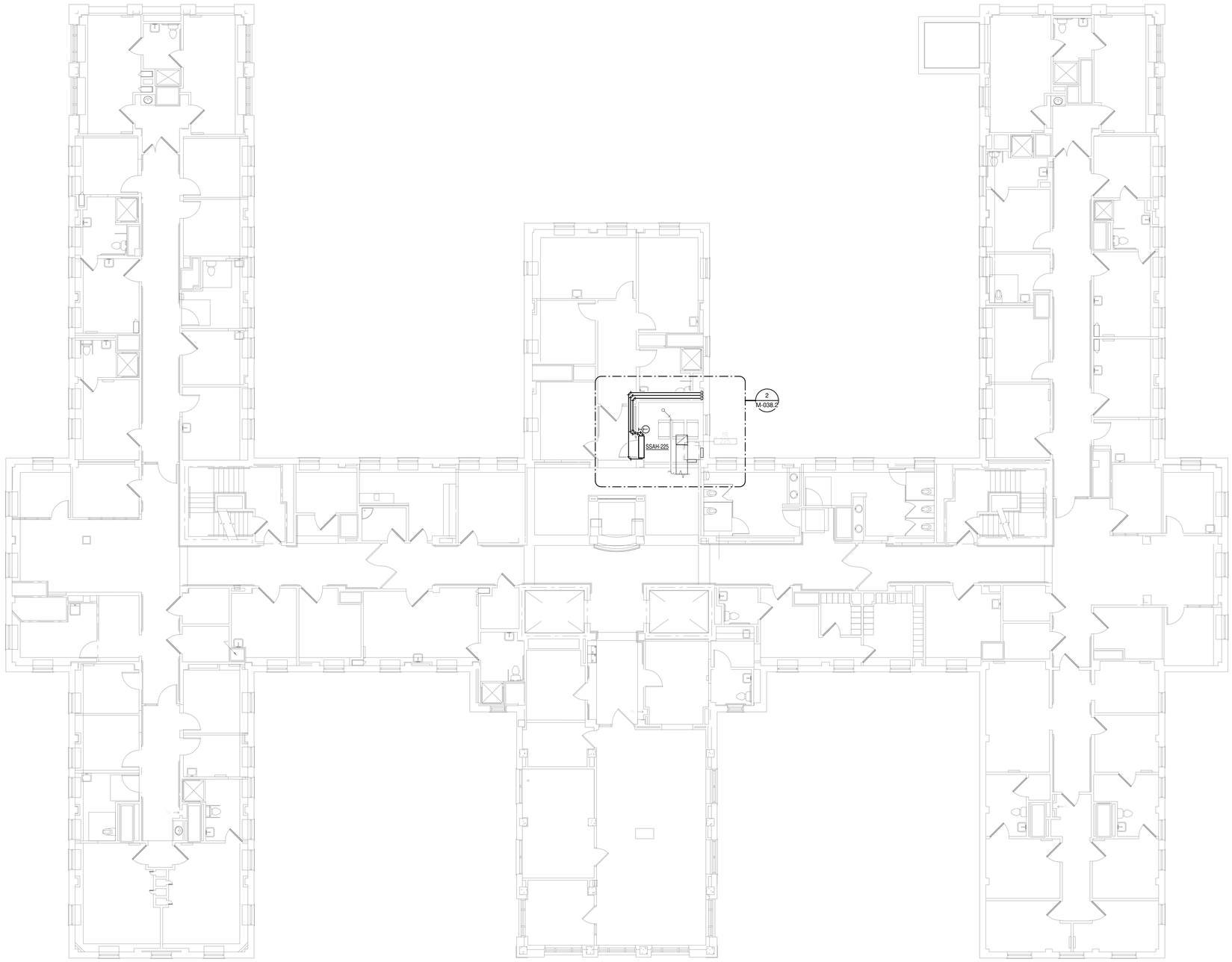
VA FORM 08 - 6231



OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

1. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
2. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
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SHEET NOTES:

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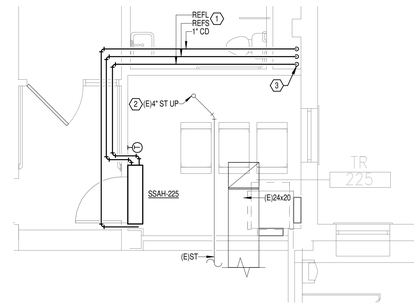
2. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPE IN TR 225. UPON DETECTION OF MOISTURE, ALARM TO BAS.
3. REFRIGERANT PIPING AND 1" CONDENSATE PIPING DOWN TO GROUND LEVEL. SEE SHEET M-038.G FOR CONTINUATION.



NEW FLOOR PLAN LEVEL
02 - MECHANICAL
2 1/4" = 1'-0"

N
PLAN

TRUE N

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC C. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 38 LEVEL 02 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	38
Drawing Number	M-038.2

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-225	225	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-G13A	G13A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSCU-225	SSAH-225	3.0	36	1"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-G13A	SSAH-G13A	2.0	24	1"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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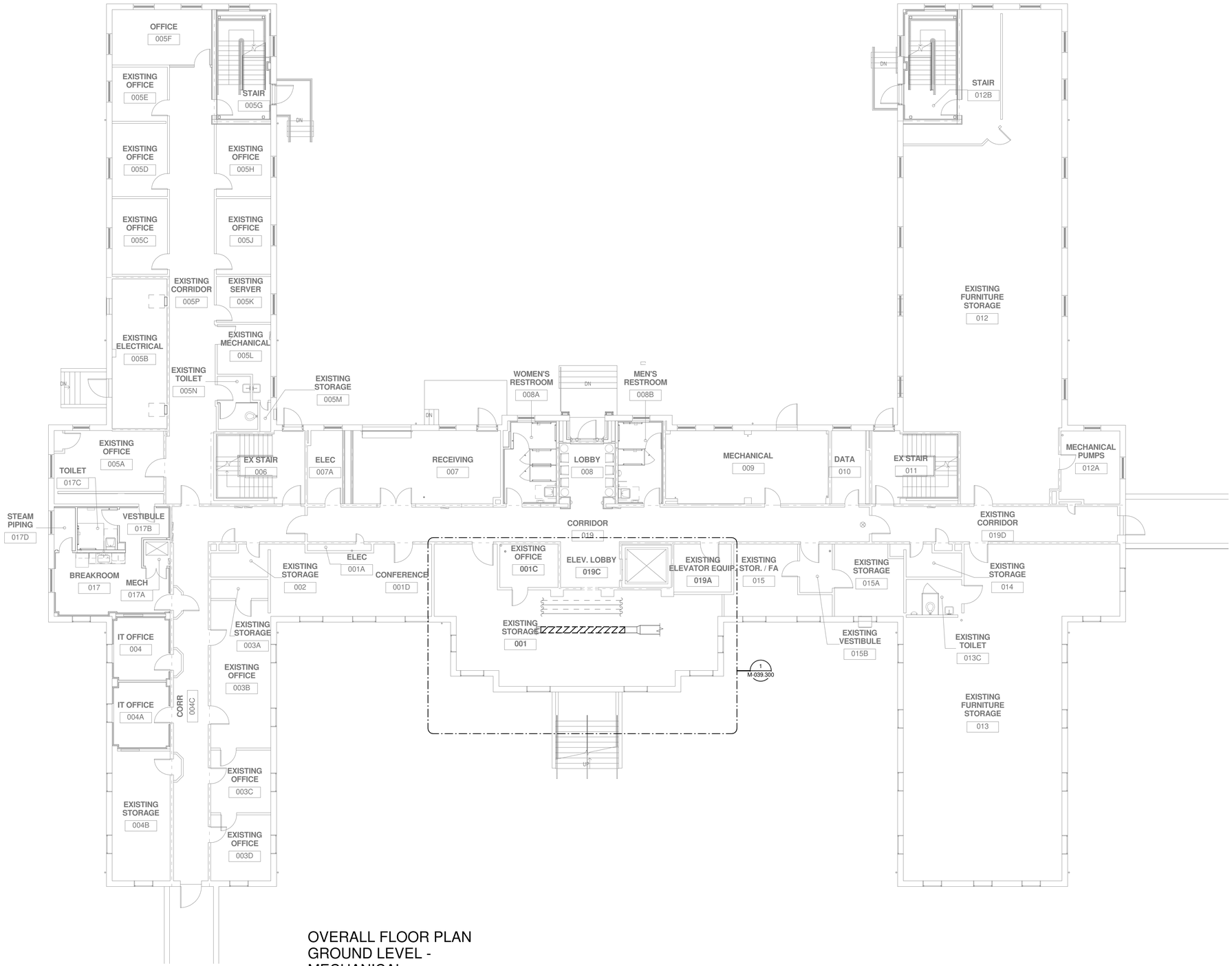
NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SCHEDULES
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	38
Drawing Number	M-038.600

VA FORM 08 - 6231



OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 39 GROUND LEVEL - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	39
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-039.G

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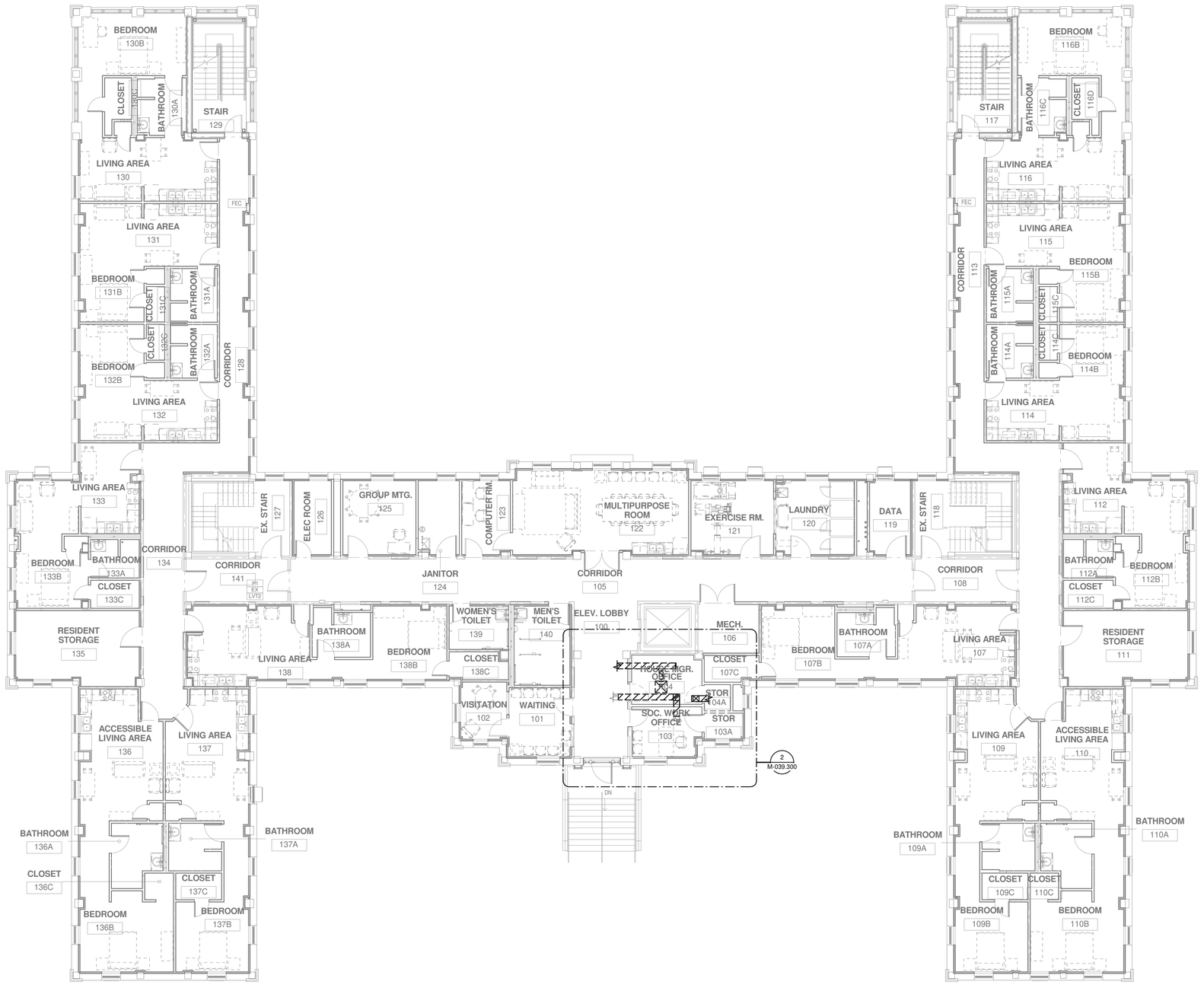

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N

PLAN

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 39 LEVEL 01 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	39
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-039.1

VA FORM 08 - 6231

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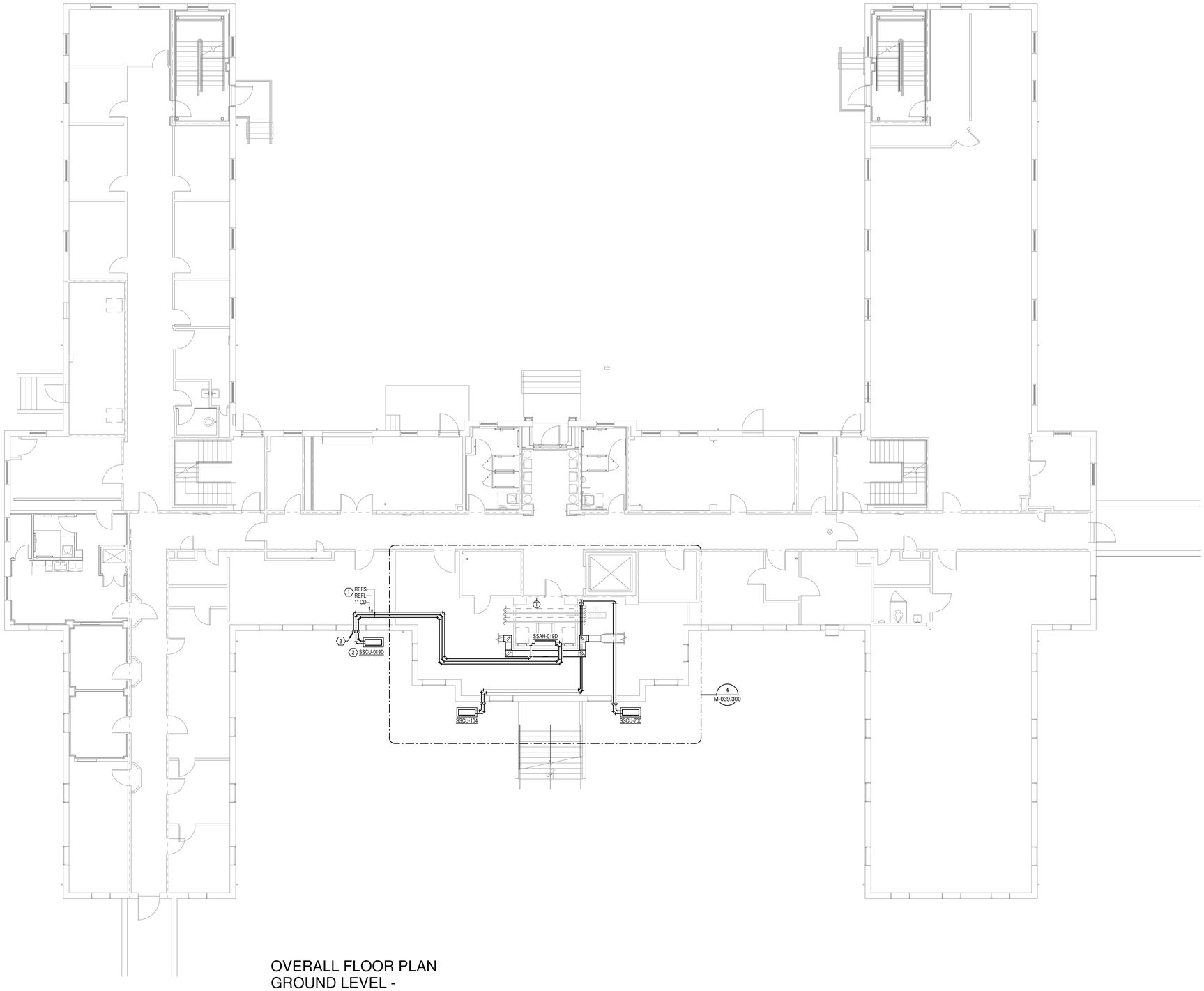

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OVERALL FLOOR PLAN GROUND LEVEL - MECHANICAL

1 1/8" = 1'-0"

N PLAN

N TRUE

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 39 GROUND LEVEL - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	39
Drawing Number	M-039.G

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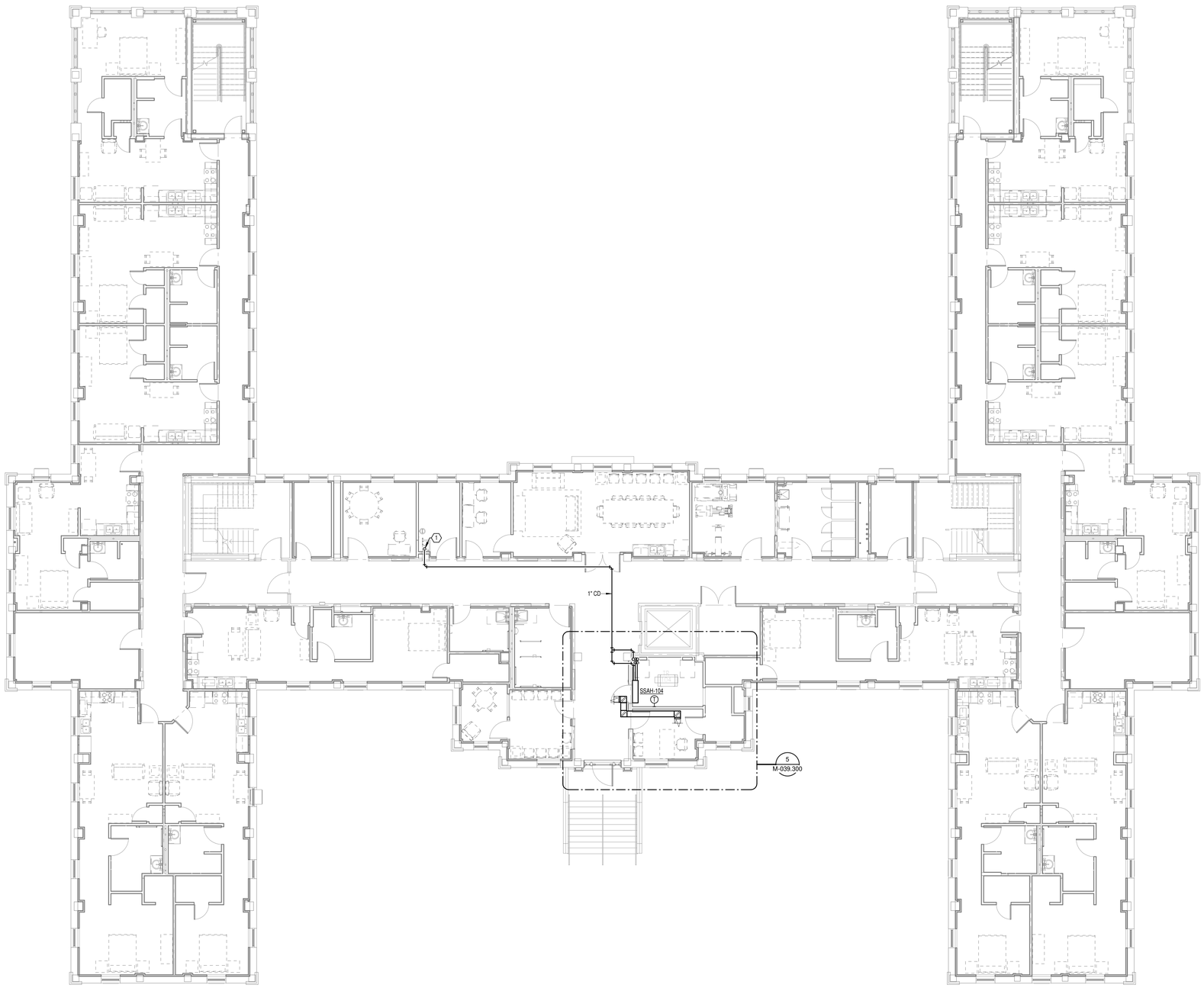

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"

PLAN NORTH

TRUE NORTH

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 39 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
			Building Number: 39
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-039.1
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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VA FORM 08 - 6231

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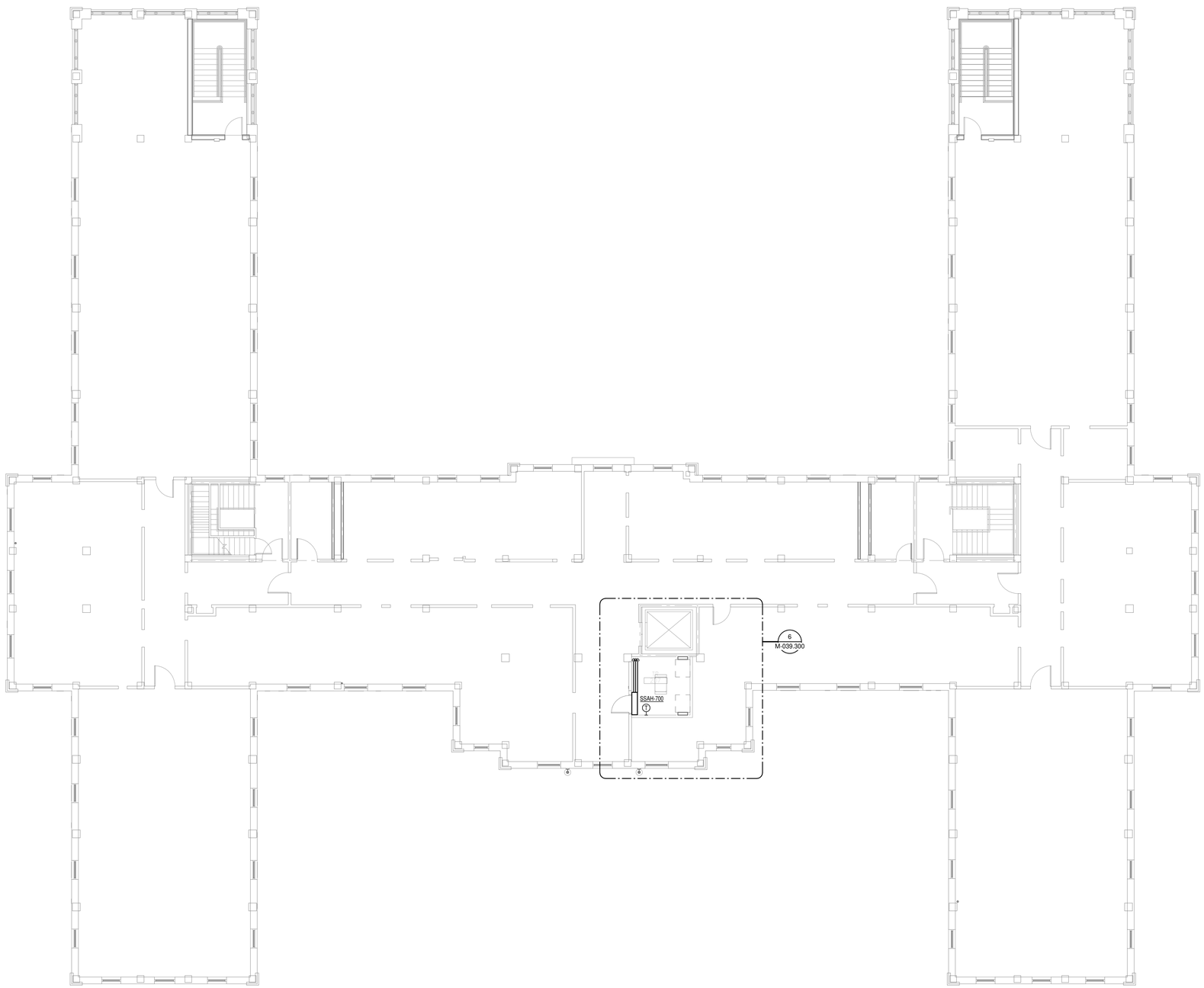

OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

N
PLAN

N
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VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 39 LEVEL 02 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 39
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-039.2
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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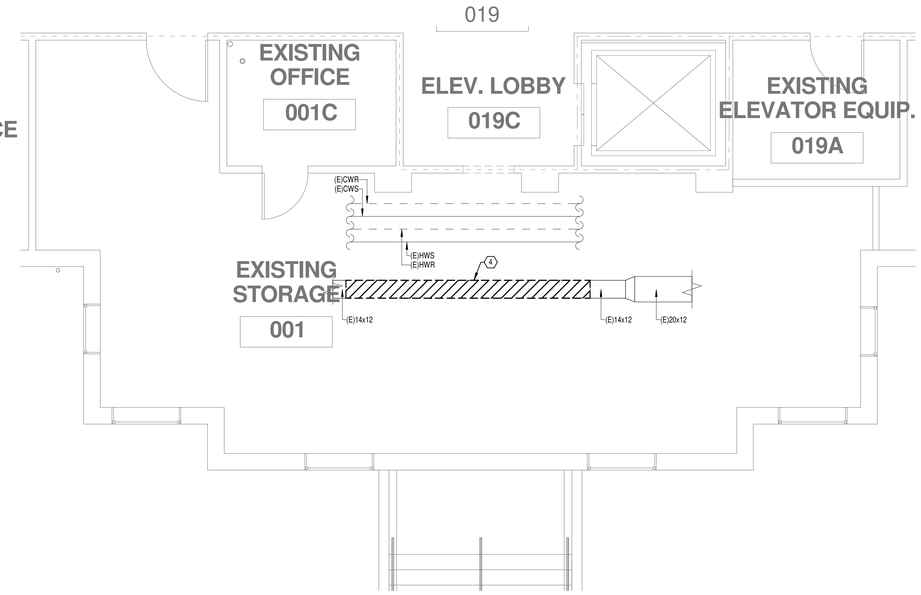
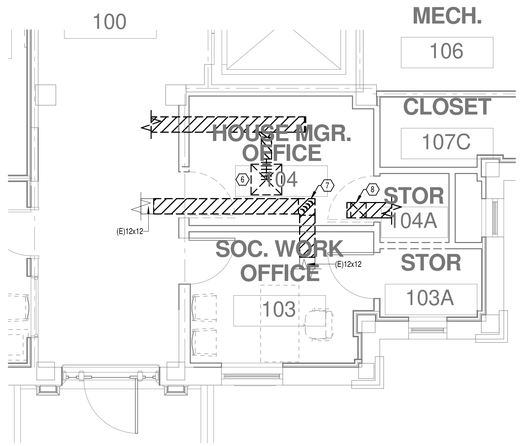


DEMOLITION FLOOR PLAN GROUND LEVEL - MECHANICAL

1 1/4" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 01 - MECHANICAL

2 1/4" = 1'-0"

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2. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
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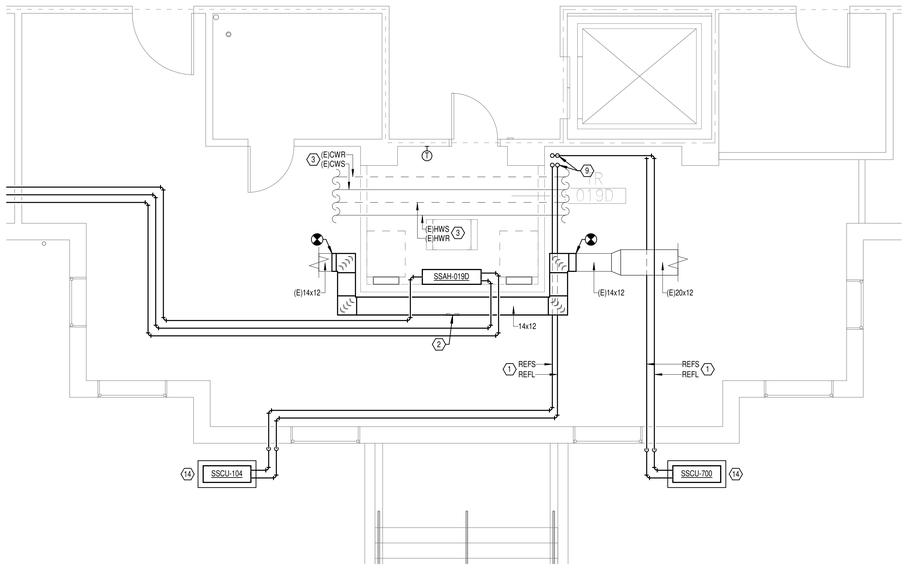
4. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

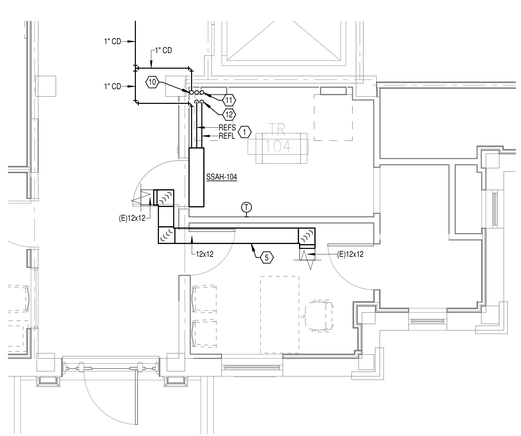
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. PROVIDE NEW SIDEWALL DIFFUSER IN NEW DUCT. DIFFUSER SIZE AND TYPE SHALL MATCH DEMOLISHED DIFFUSER SIZE AND TYPE. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.
3. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW GROUPING OF EXISTING PIPES IN TR 019D. UPON DETECTION OF MOISTURE, ALARM TO BAS.
4. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH 14"x12" DUCT BEYOND NEW WALL OF TR 019D TO ALLOW INSTALLATION OF NEW DUCT.
5. NEW DUCT SHALL MATCH EXISTING DUCT SIZE. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
6. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
7. DEMOLISH DUCT BEYOND NEW WALL OF TR 104 TO ALLOW INSTALLATION OF NEW DUCT.
8. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCT.
9. REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-039.300 FLOOR PLAN 5 FOR CONTINUATION.
10. 1" CONDENSATE PIPING UP TO LEVEL 2. SEE SHEET M-039.300 FLOOR PLAN 6 FOR CONTINUATION.
11. REFRIGERANT PIPING DOWN TO GROUND LEVEL. SEE SHEET M-039.300 FLOOR PLAN 4 FOR CONTINUATION.
12. REFRIGERANT PIPING UP TO LEVEL 2 AND DOWN TO GROUND LEVEL. SEE SHEET M-039.300 FLOOR PLANS 6 AND 3 FOR CONTINUATION.
13. REFRIGERANT PIPING DOWN TO LEVEL 1. SEE SHEET M-039.300 FLOOR PLAN 5 FOR CONTINUATION.
14. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL.



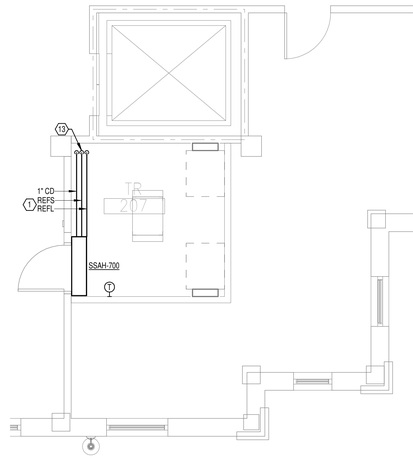
NEW FLOOR PLAN GROUND LEVEL - MECHANICAL

4 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 01 - MECHANICAL

5 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 02 - MECHANICAL

6 1/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ENLARGED PLANS - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 39
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-039.300
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-019D	019D	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSAH-104	104	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSAH-700	700	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSCU-019D	SSAH-019D	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-104	SSAH-104	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-700	SSAH-700	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES

Phase: 100% CONSTRUCTION DOCUMENTS

Approved:

FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES

Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date: 03/08/2024 | Checked: JKK | Drawn: PCM

Project Number: 679-20-104

Building Number: 39

Drawing Number: M-039.600

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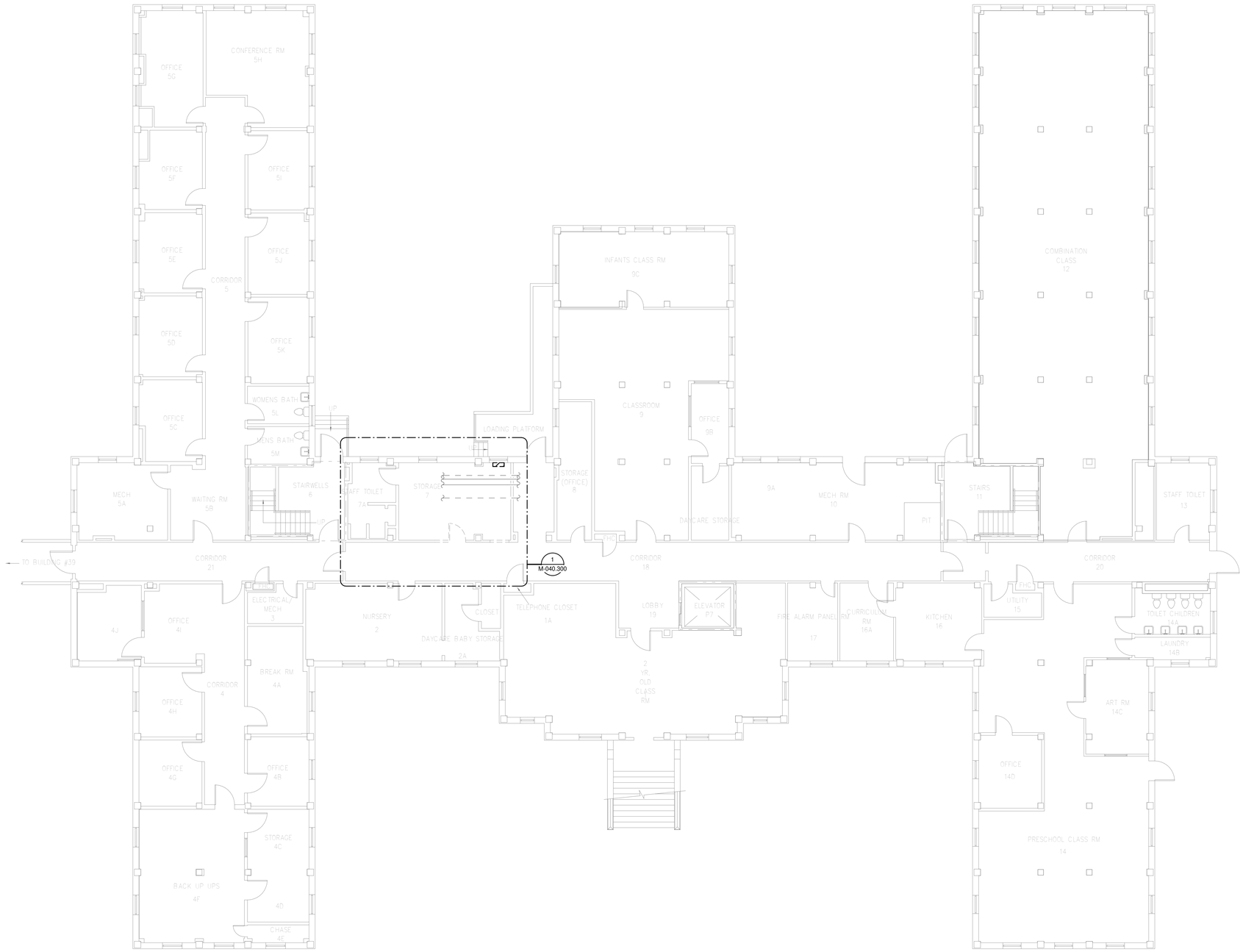

OVERALL FLOOR PLAN BASEMENT LEVEL - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 40 BASEMENT LEVEL - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	40
Drawing Number	MD-040.B

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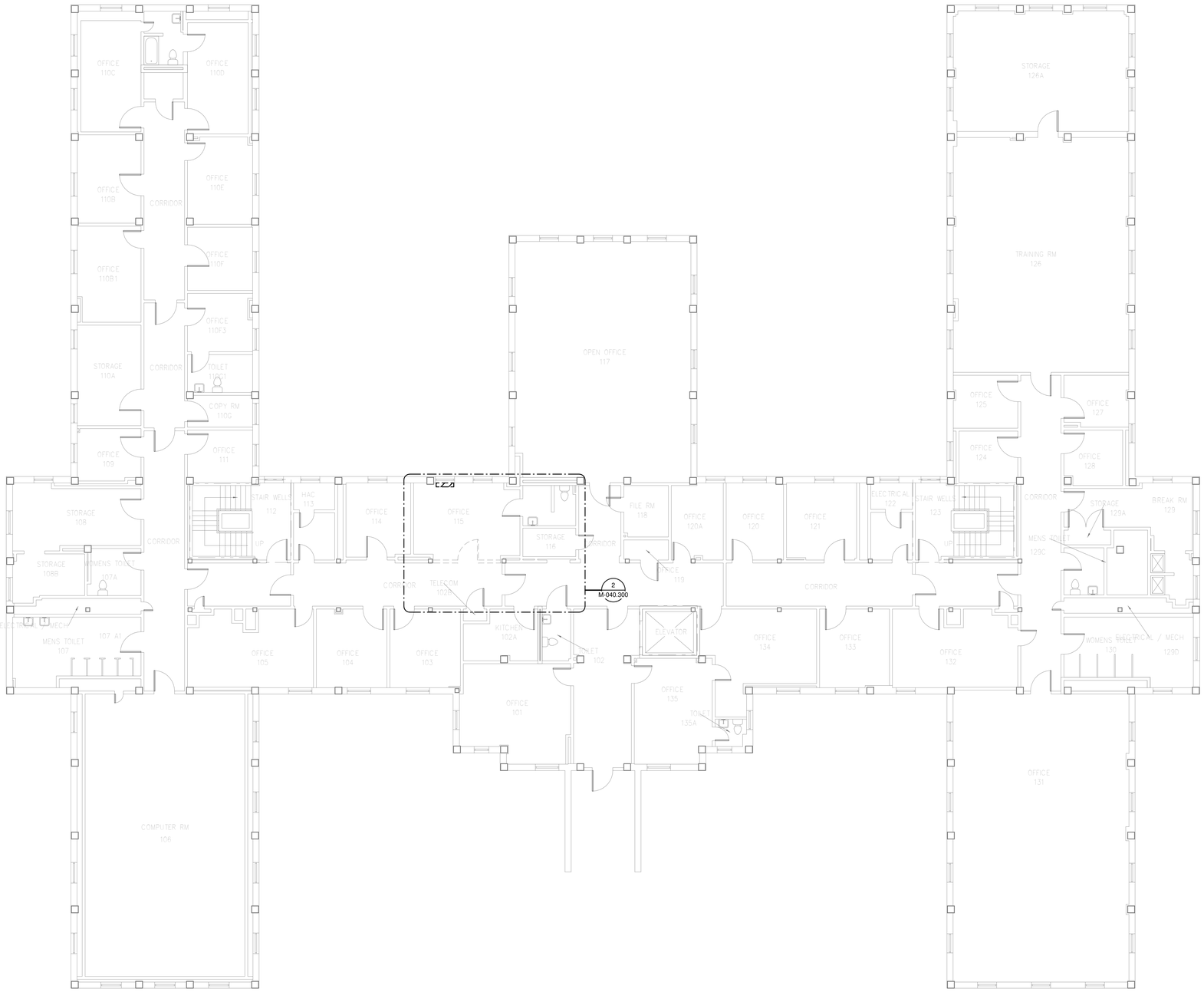

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

N TRUE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 40 LEVEL 01 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	40
Drawing Number	MD-040.1

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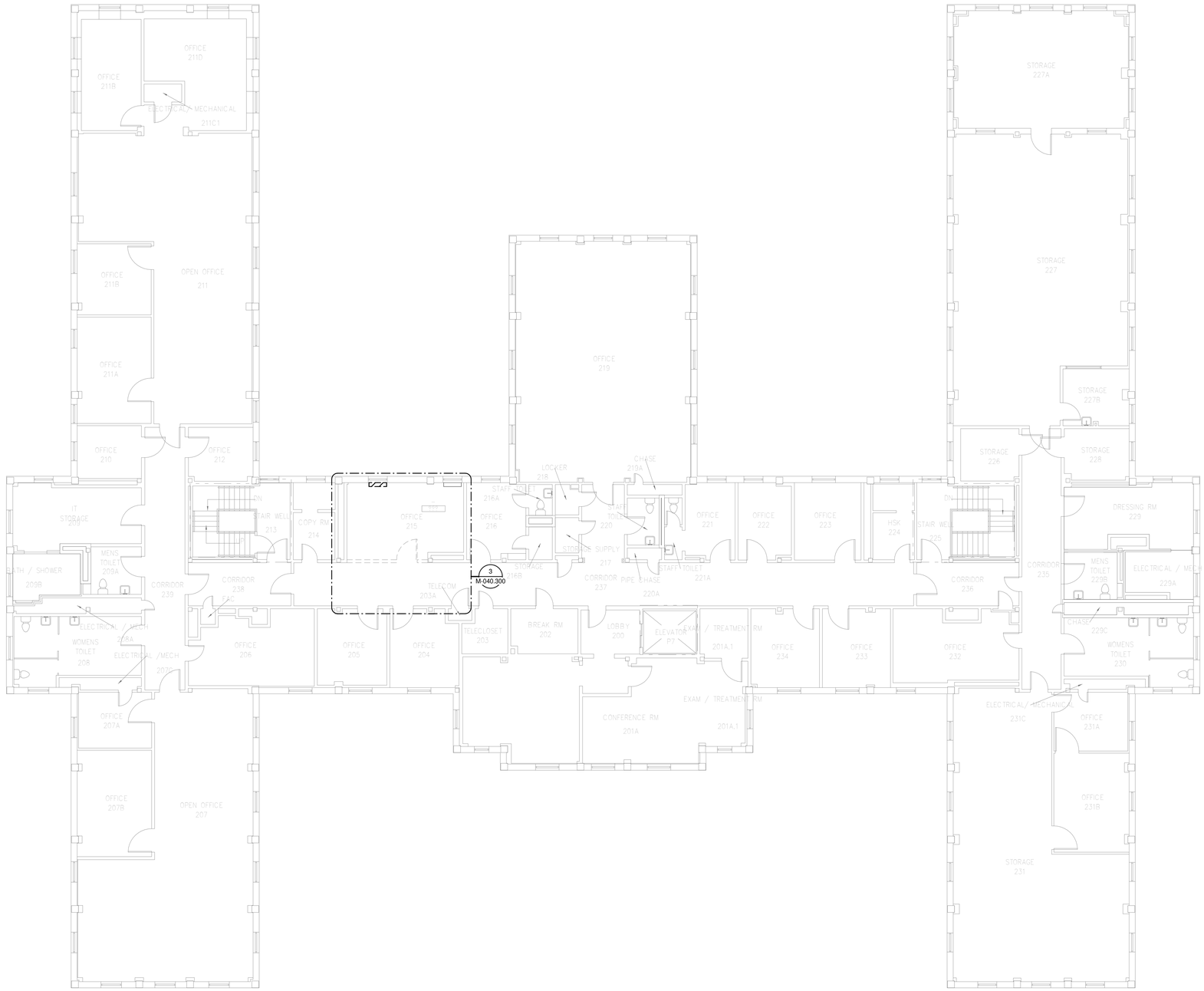

OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"

N PLAN

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 40 LEVEL 02 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	40
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-040.2

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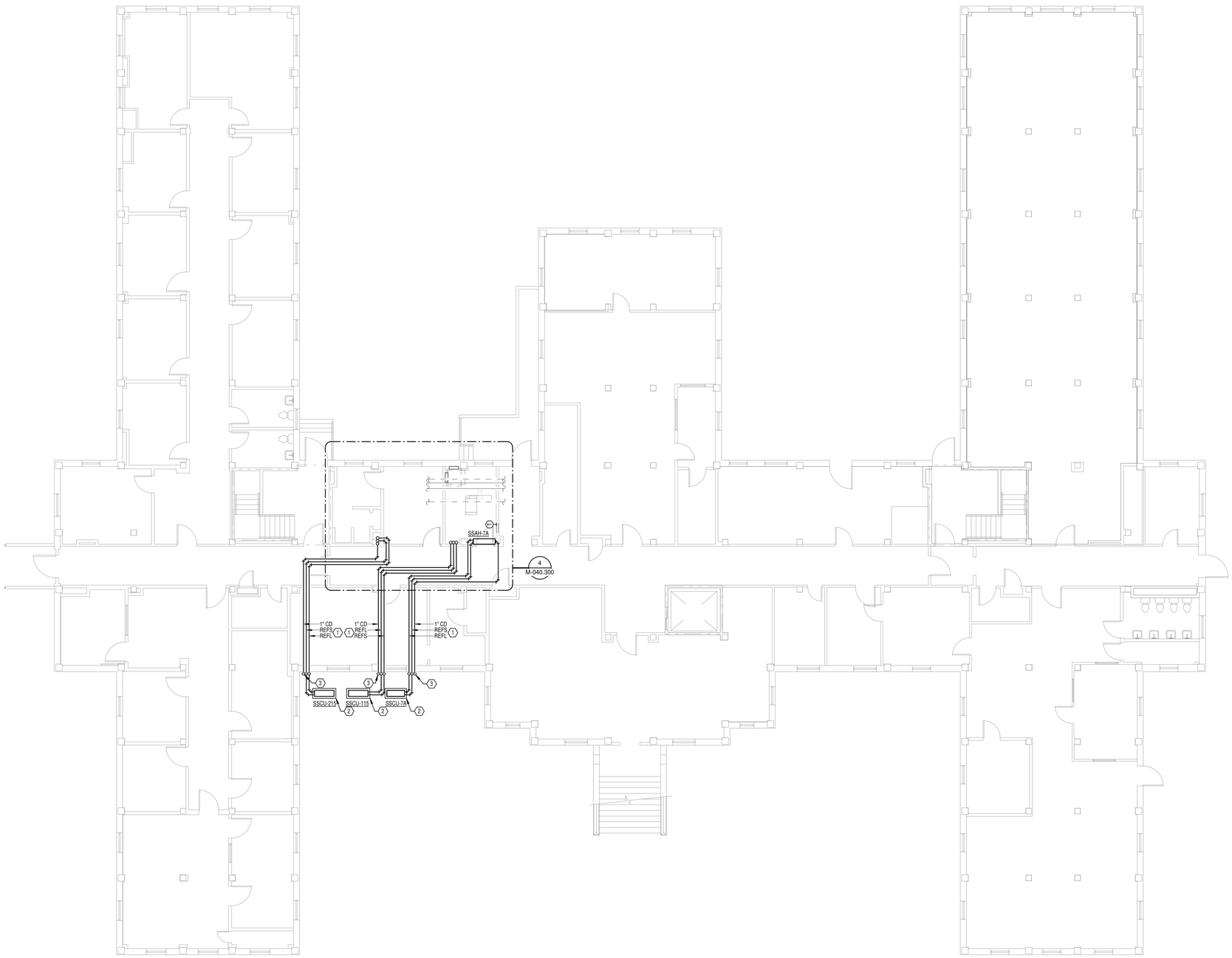

OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.

N
PLAN

N
TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC C. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 40 BASEMENT LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	40
Drawing Number	M-040.B

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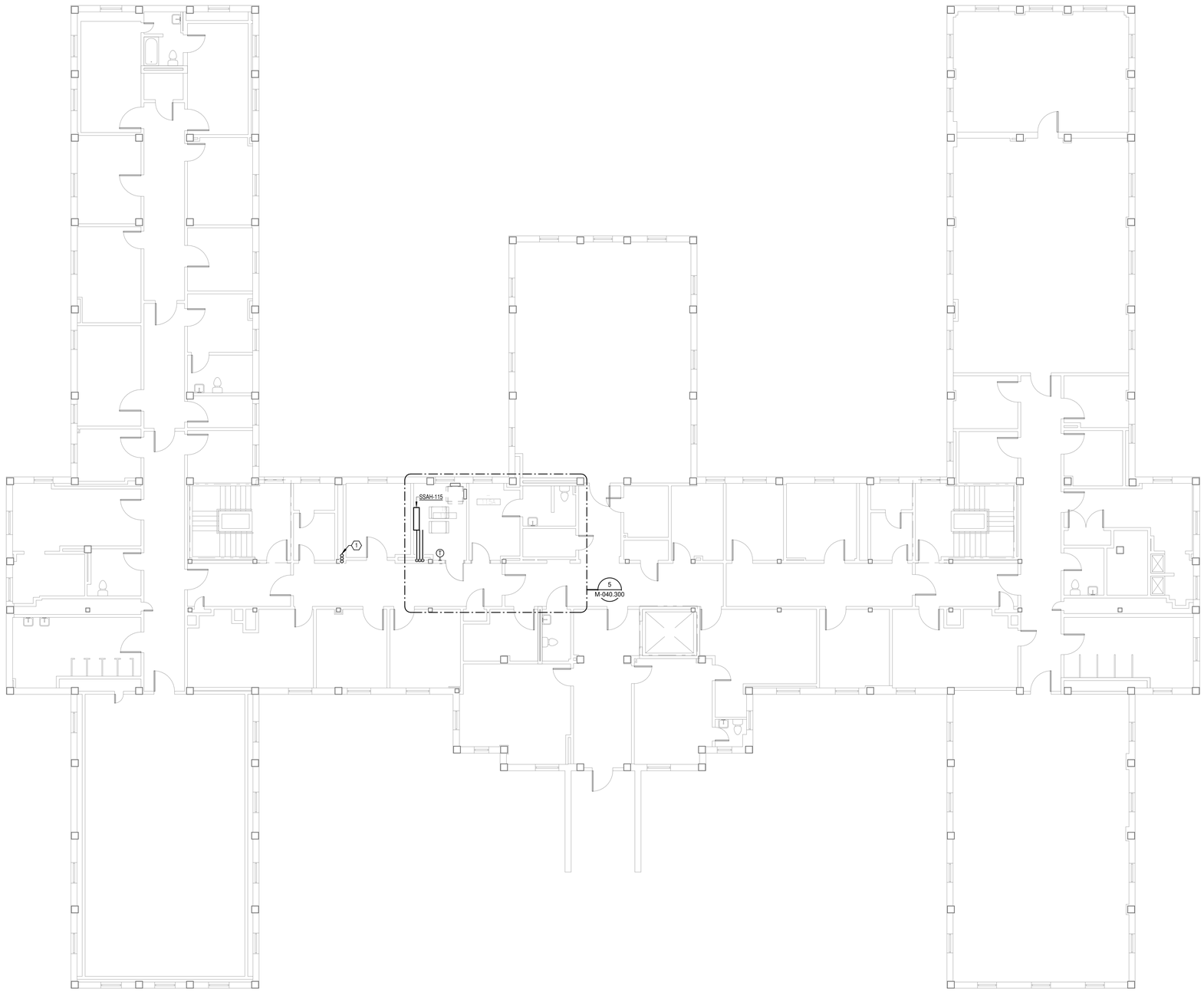

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT AND CONDENSATE PIPING UP TO LEVEL 2 AND DOWN TO GROUND LEVEL. SEE SHEET M-040.300 FLOOR PLAN 4 AND SHEET M-040.2 FOR CONTINUATION.

N
PLAN

N
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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC C. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 40 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 40
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-040.1
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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N
PLAN

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 40 LEVEL 02 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Building Number: 40
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	Drawing Number: M-040.2

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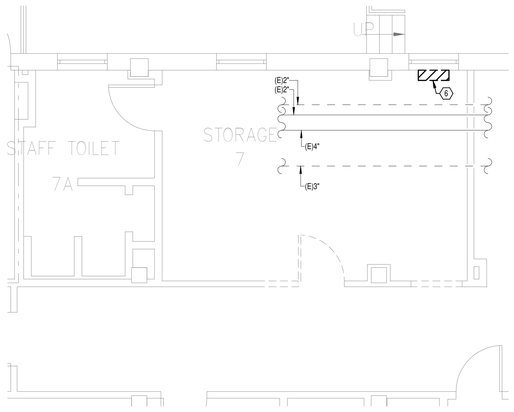
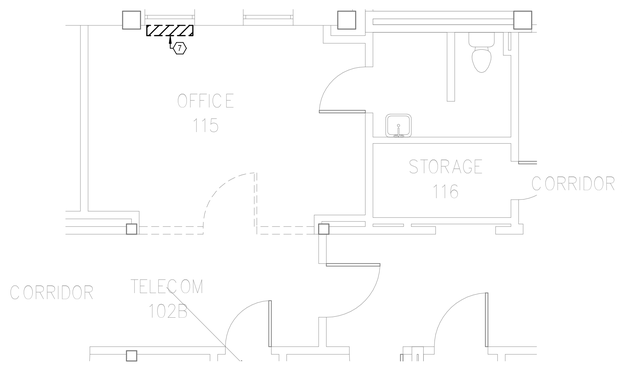


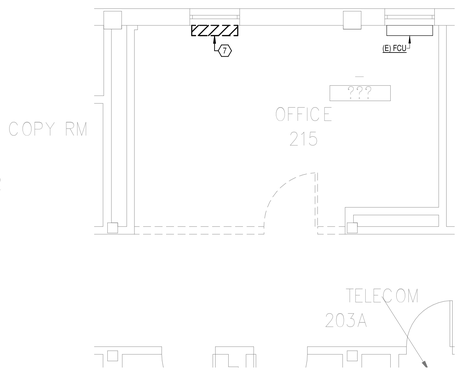
DEMOLITION FLOOR PLAN BASEMENT LEVEL - MECHANICAL

1 1/4" = 1'-0"



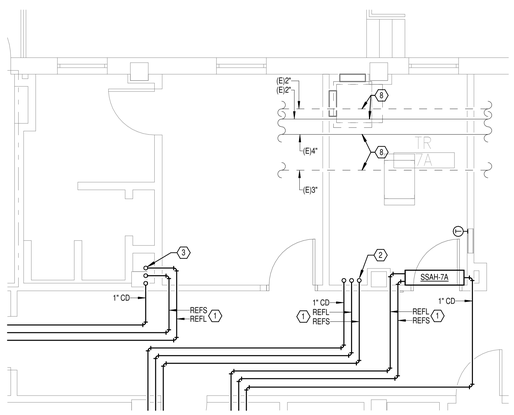
DEMOLITION FLOOR PLAN LEVEL 01 - MECHANICAL

2 1/4" = 1'-0"



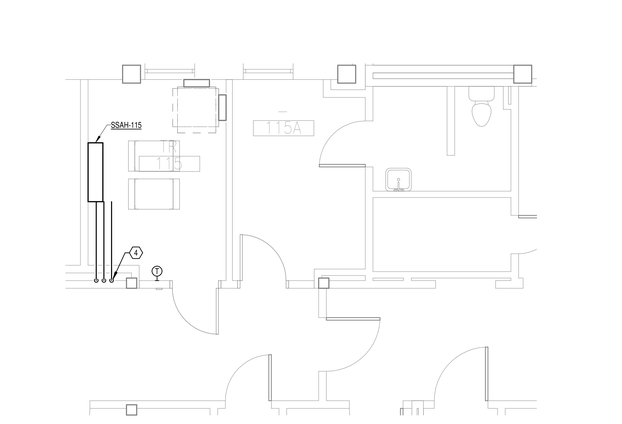
DEMOLITION FLOOR PLAN LEVEL 02 - MECHANICAL

3 1/4" = 1'-0"



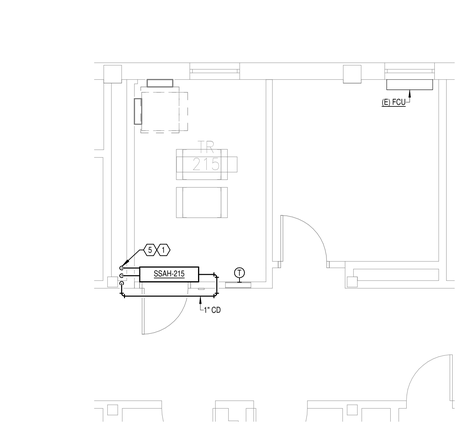
NEW FLOOR PLAN BASEMENT LEVEL - MECHANICAL

4 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 01 - MECHANICAL

5 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL 02 - MECHANICAL

6 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-040.300 FLOOR PLAN 5 FOR CONTINUATION.
3. REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-040.1 FOR CONTINUATION.
4. REFRIGERANT PIPING DOWN TO GROUND LEVEL. SEE SHEET M-040.300 FLOOR PLAN 4 FOR CONTINUATION.
5. REFRIGERANT PIPING DOWN TO LEVEL 1. SEE SHEET M-040.1 1 FOR CONTINUATION.
6. DEMOLISH RADIANT HEATER AND ASSOCIATED PIPING BACK TO MAINS. CAP AND INSULATE PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT. DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS.
7. DEMOLISH FLOOR MOUNTED FAN COIL UNIT AND ASSOCIATED PIPING BACK TO MAINS. CAP AND INSULATE PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT. DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS. TURN FLOOR MOUNTED FAN COIL UNIT OVER TO VA COR.
8. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPE IN TR 7A. UPON DETECTION OF MOISTURE, ALARM TO BAS.

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Revisions:	Date:

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ENLARGED PLANS - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 40
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: M-040.300
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-7A	7A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]	[redacted]	(1)(4)(6)
SSAH-115	115	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	(1)(4)(6)
SSAH-215	215	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	(1)(4)(6)
SSCU-7A	SSAH-7A	2.0	24	1"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-115	SSAH-115	3.0	36	1"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-215	SSAH-215	3.0	36	1"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 40
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-040.600

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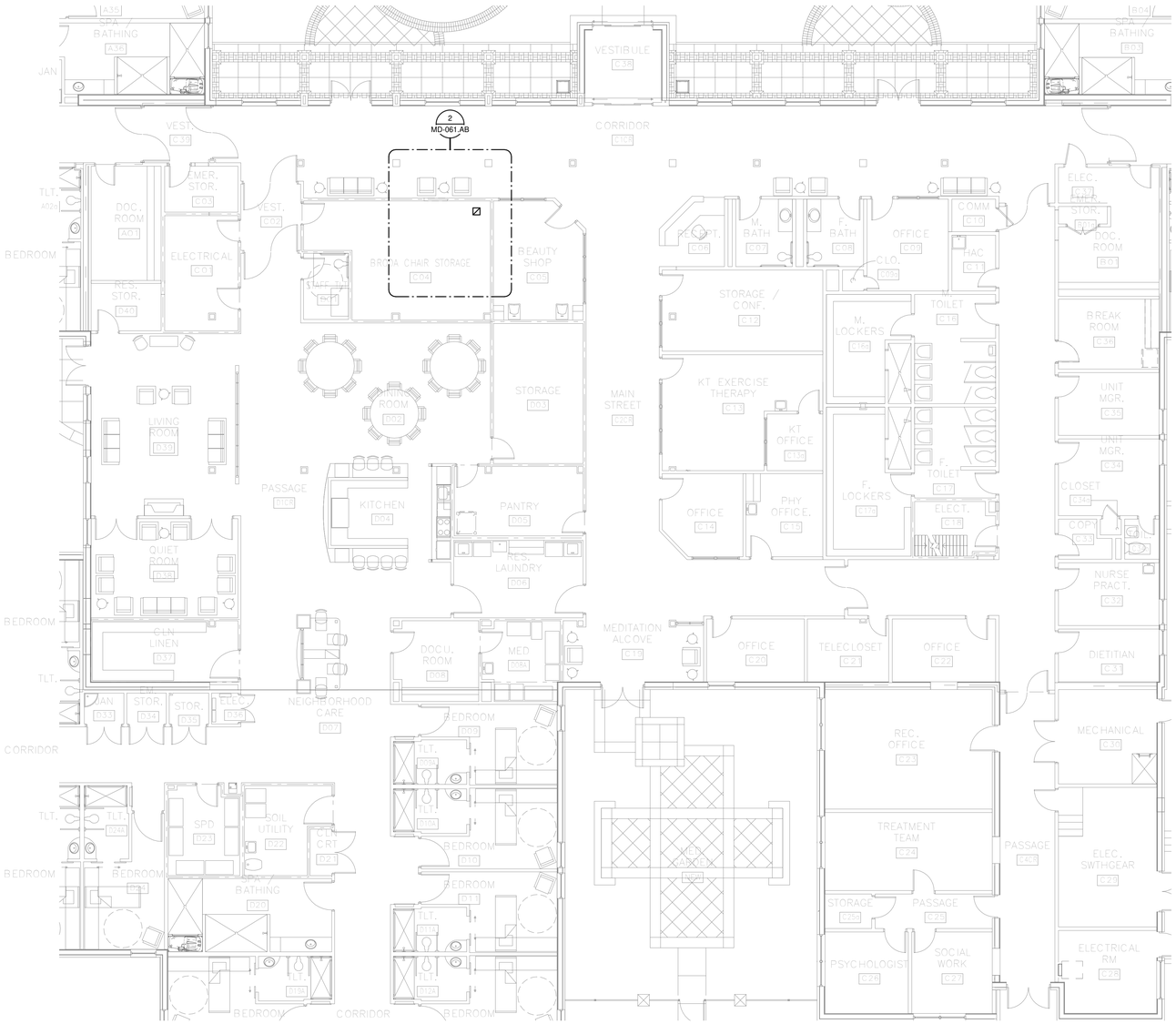
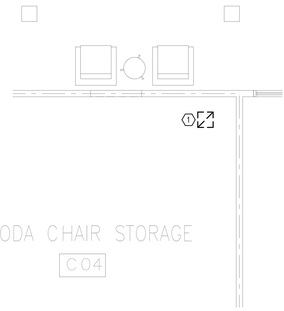


AREA B - LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 01 - ROOM 1 - MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. PERFORM PRE-TAB ON EXISTING GRILLE. DEMOLISH GRILLE AND ASSOCIATED DUCTWORK UP TO MAIN IN ATTIC ABOVE. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 61 LEVEL 01 - AREA B - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	61
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-061.AB

PLAN NORTH

TRUE NORTH

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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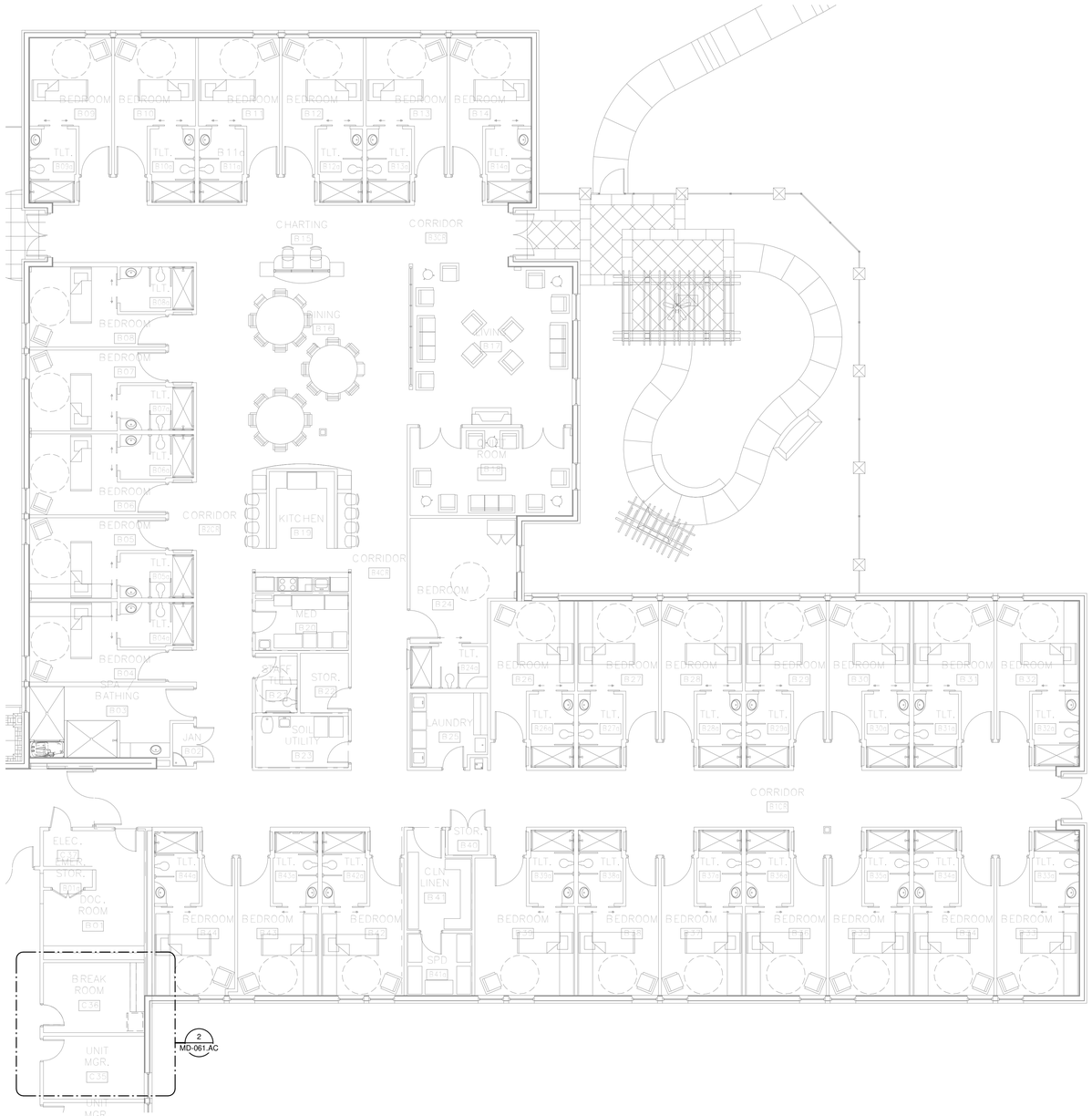
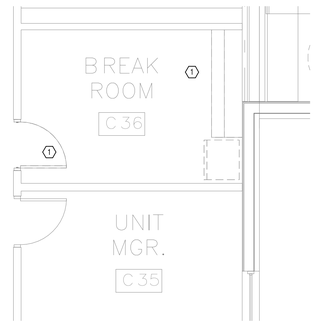
SHEET NOTES:

1. DEMOLISH SUPPLY DIFFUSER, RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.



AREA C - LEVEL 01 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 01 - ROOM 2 - MECHANICAL

2 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 61 LEVEL 01 - AREA C - MECHANICAL - DEMOLITION	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 61
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: MD-061.AC
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

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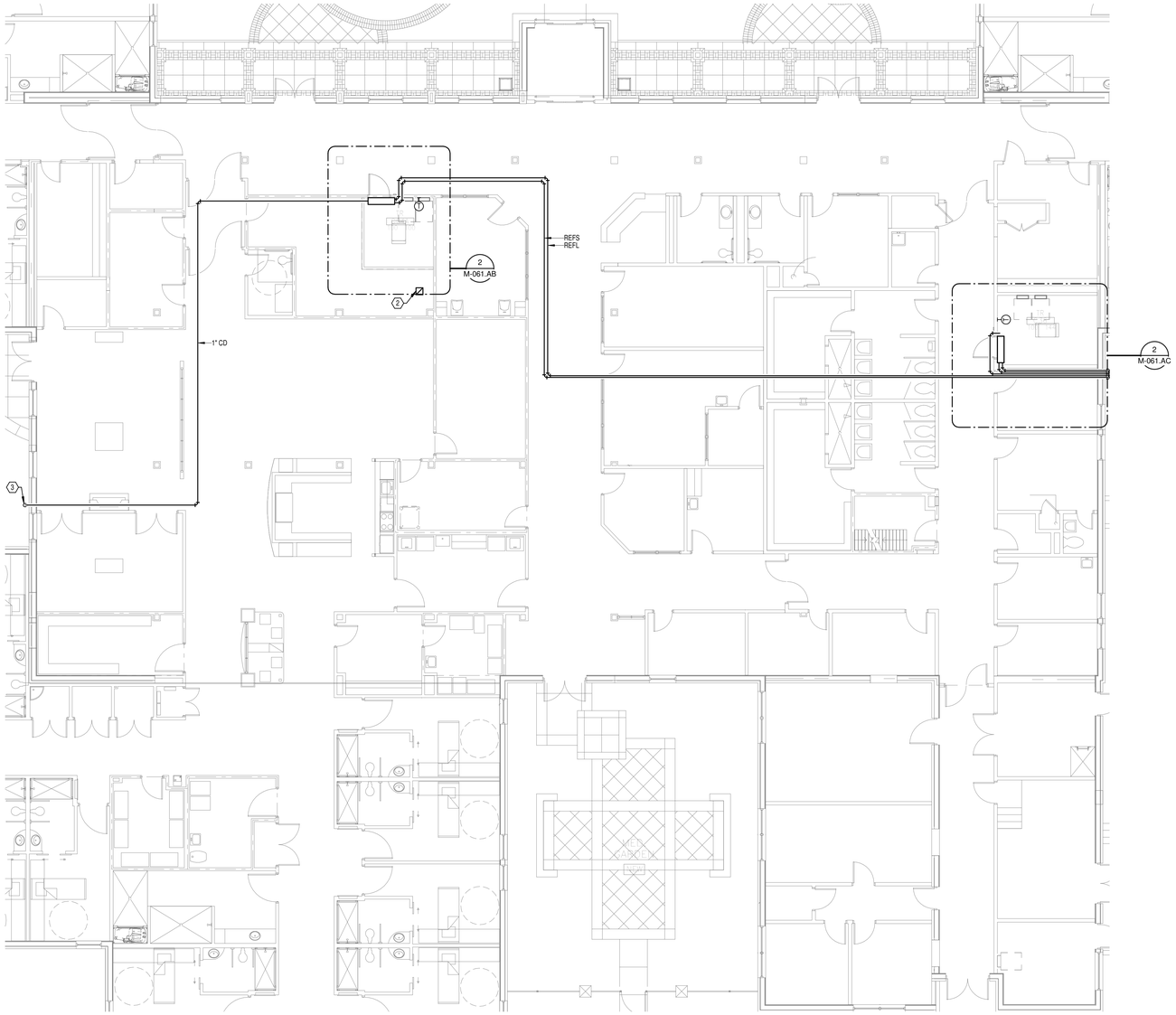
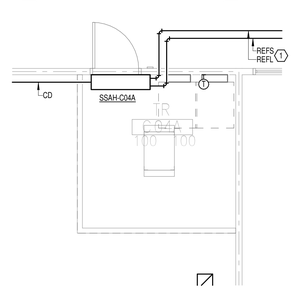


AREA B - LEVEL 01 - MECHANICAL

1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL 01 - ROOM 1 - MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. INSTALL NEW GRILLE AND DUCT INSULATED DUCT UP TO CONNECT TO EXISTING MAIN IN ATTIC. NEW GRILLE SHALL BE SAME SIZE AND TYPE AS DEMOLISHED GRILLE. DUCT SIZE SHALL MATCH DEMOLISHED DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 61 LEVEL 01 - AREA B - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	61
Drawing Number	M-061.AB

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

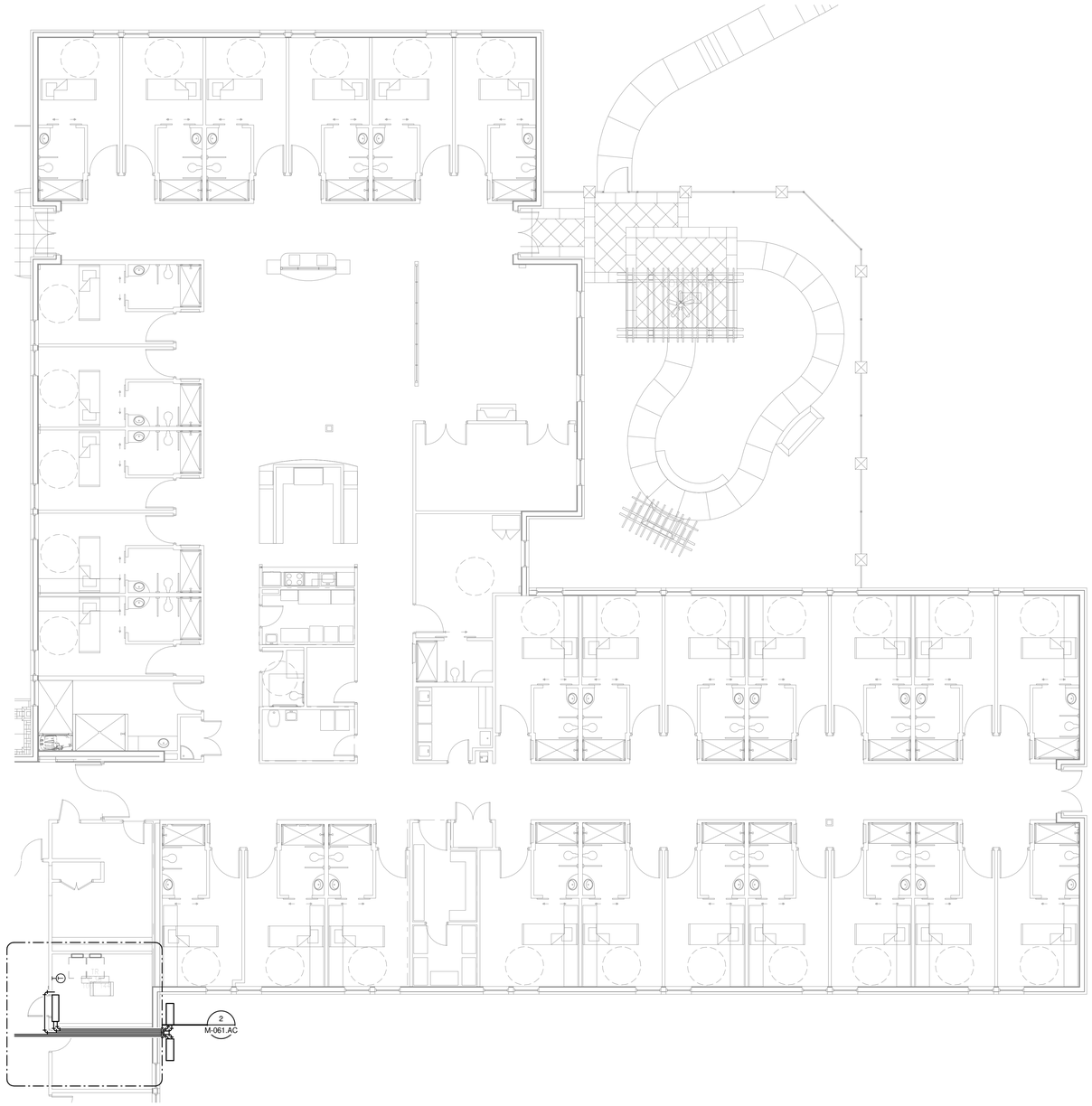
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

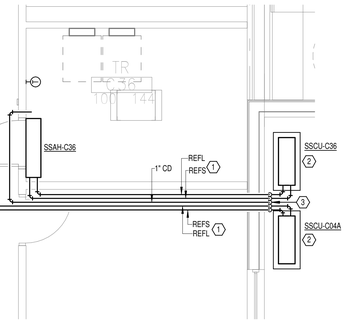
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.



AREA C - LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL 01 - ROOM 2 - MECHANICAL
2 1/4" = 1'-0"

Revisions:	Date:

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 61 LEVEL 01 - AREA C - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 61
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-061.AC
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

N PLAN

N TRUE

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08/03/2024 15:36:35

VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-C04A	C04A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSAH-C36	C36	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V					(1)(4)(6)
SSCU-C04A	SSAH-C04A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-C36	SSAH-C36	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_P20_B061.rvt
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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
MECHANICAL SCHEDULES

Phase
100% CONSTRUCTION DOCUMENTS

Project Title
EHRM INFRASTRUCTURE UPGRADES

Project Number
679-20-104

Building Number
61

Approved:

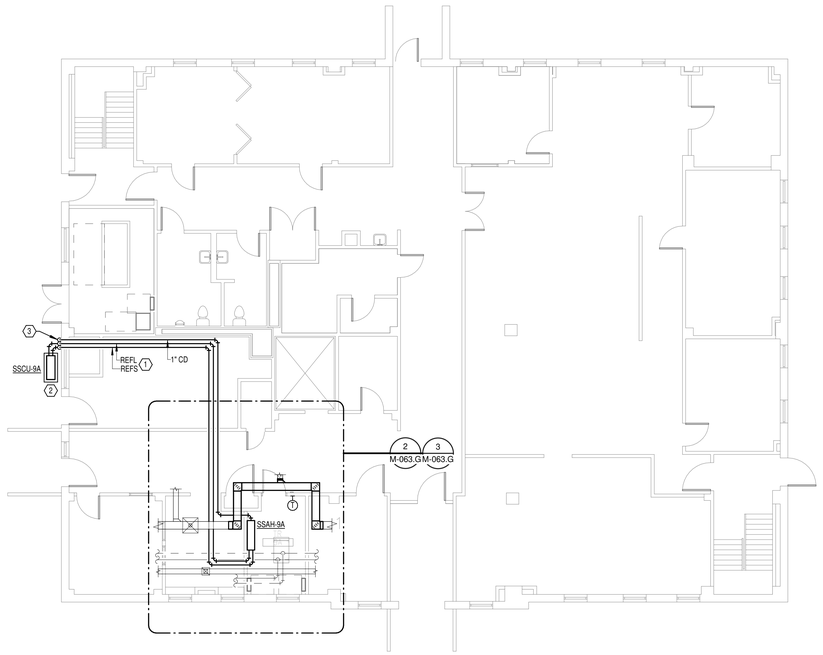
FULLY SPRINKLERED

Location
TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date 03/08/2024 | **Checked** JKK | **Drawn** PCM

Drawing Number
M-061.400

VA FORM 08 - 6231



OVERALL FLOOR PLAN
GROUND LEVEL -
MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

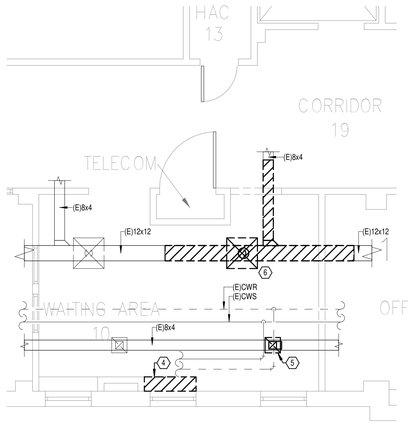
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

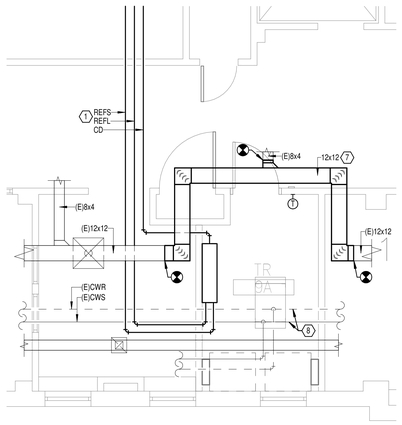
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. DEMOLISH FLOOR MOUNTED FAN COIL UNIT AND ASSOCIATED PIPING BACK TO MAIN. CAP AND INSULATE PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION. LEAD PAINT MAY BE PRESENT, DEMOLITION SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND SAFETY MEASURES TO ENSURE PROPER REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS. TURN FLOOR MOUNTED FAN COIL UNIT OVER TO VA COR.
5. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCTWORK.
6. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO BOUNDARY OF NEW TR 10.
7. REROUTE NEW 12"X12" DUCT OUTSIDE OF NEW TR 10.
8. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES IN TR 10. UPON DETECTION OF MOISTURE, ALARM TO BAS.



DEMOLITION FLOOR
PLAN GROUND LEVEL -
MECHANICAL

2 1/4" = 1'-0"



NEW FLOOR PLAN
GROUND LEVEL -
MECHANICAL

3 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

CONSULTANT

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 63 GROUND LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	63
Drawing Number	M-063.G

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_BI063.rvt
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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-9A	9A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSCU-9A	SSAH-9A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_BIM3.rvt
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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

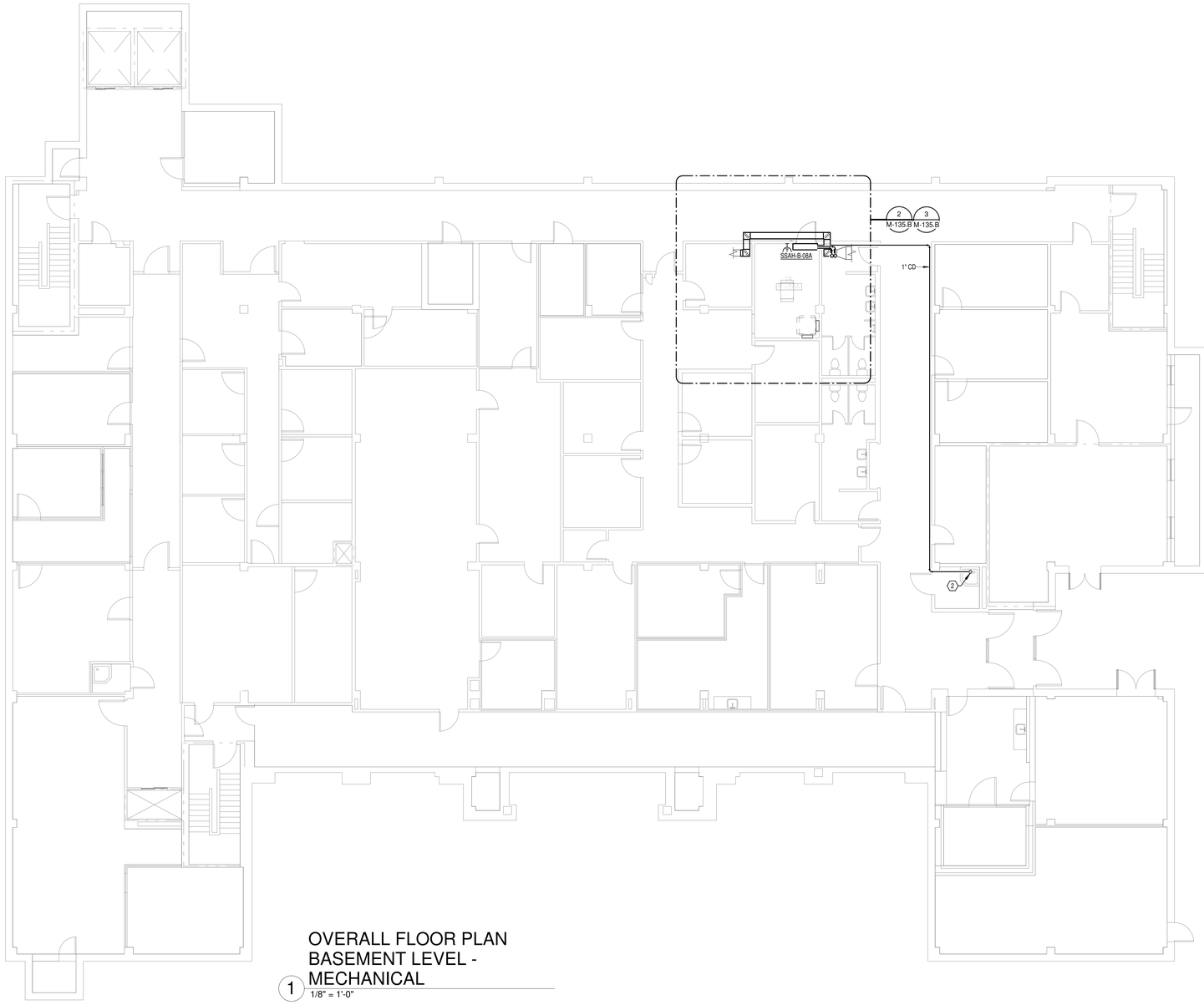
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

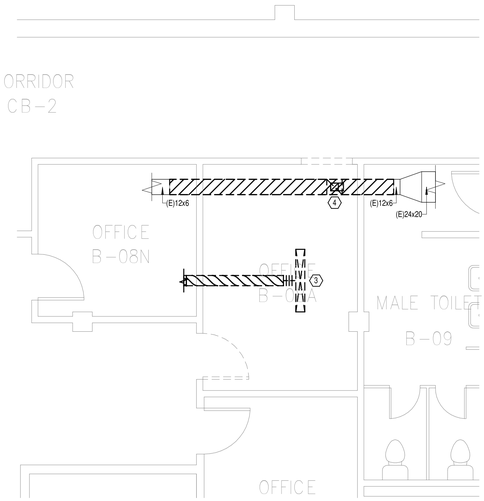
Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 63
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-063.600
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

VA FORM 08 - 6231



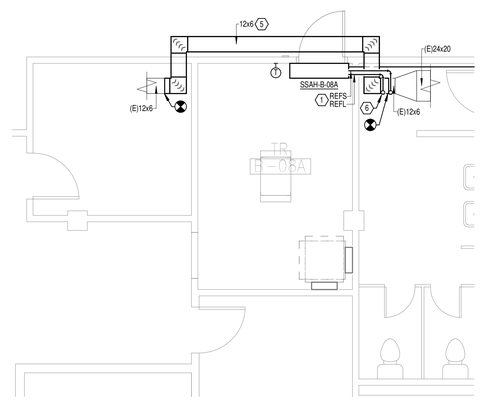
OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN BASEMENT LEVEL -
MECHANICAL

2 1/4" = 1'-0"



NEW FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:⬡

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.
3. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
4. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO BOUNDARY OF NEW TR B-08A.
5. REROUTE NEW 12"X6" DUCT OUTSIDE OF NEW TR B-08A.
6. REFRIGERANT PIPING UP TO GROUND LEVEL. SEE SHEET M-135.G FOR CONTINUATION.

N PLAN

TRUE N

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 135 BASEMENT LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	135
Drawing Number	M-135.B

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VA FORM 08 - 6231

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.
4. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
5. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK MAIN. CAP DUCTWORK.
6. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW PIPES AND DUCTWORK IN TR G-66. UPON DETECTION OF MOISTURE, ALARM TO BAS.
7. REFRIGERANT PIPING DOWN TO BASEMENT LEVEL. SEE SHEET M-135.B FOR CONTINUATION.
8. REFRIGERANT PIPING UP TO LEVEL 1. SEE SHEET M-135.1 FOR CONTINUATION.
9. INSTALL NEW THERMOSTAT AND CONTROLS WIRED TO EXISTING VAV SERVING THE SPACE.

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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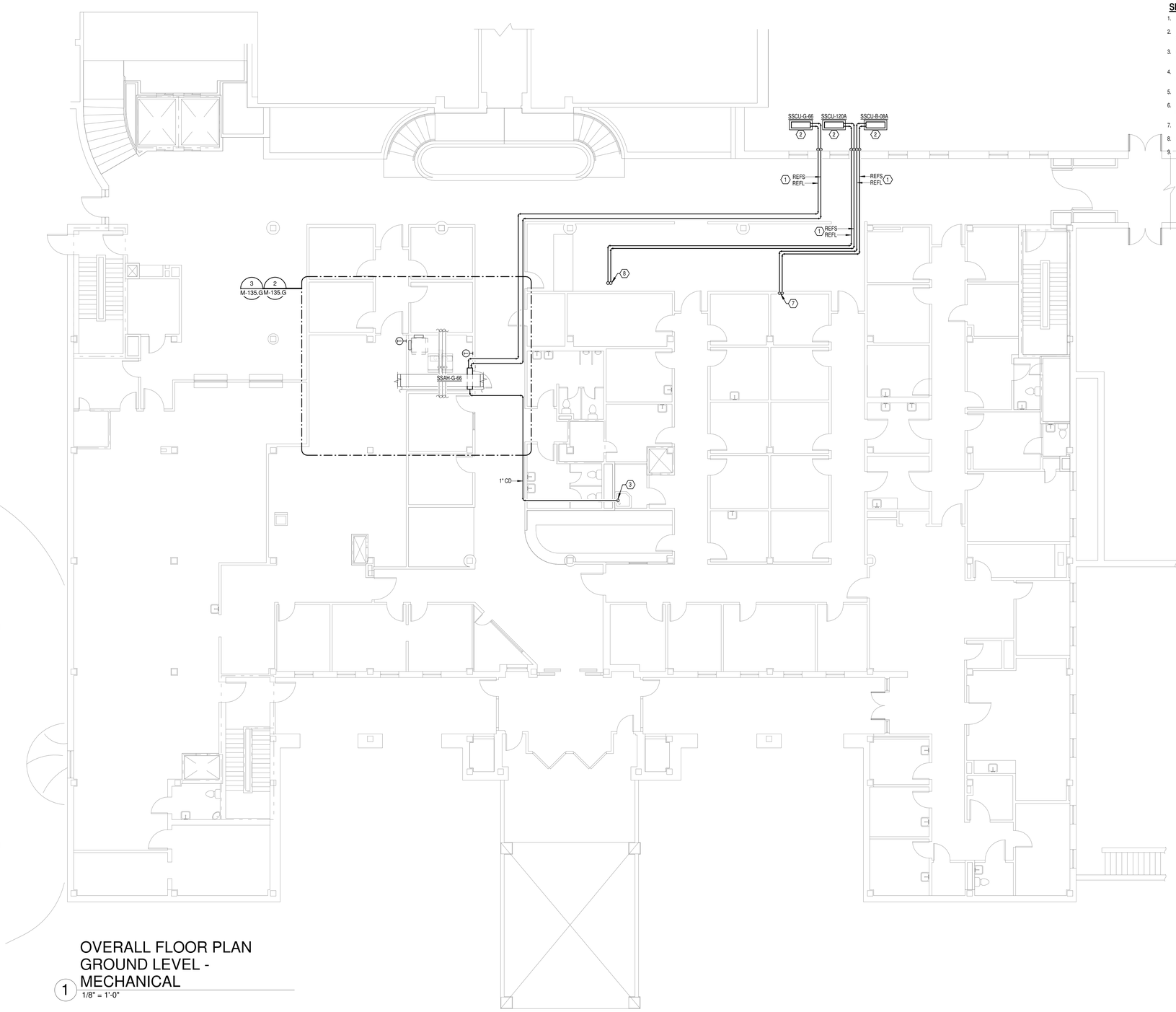
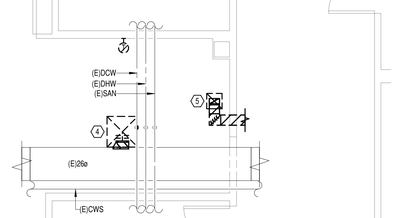
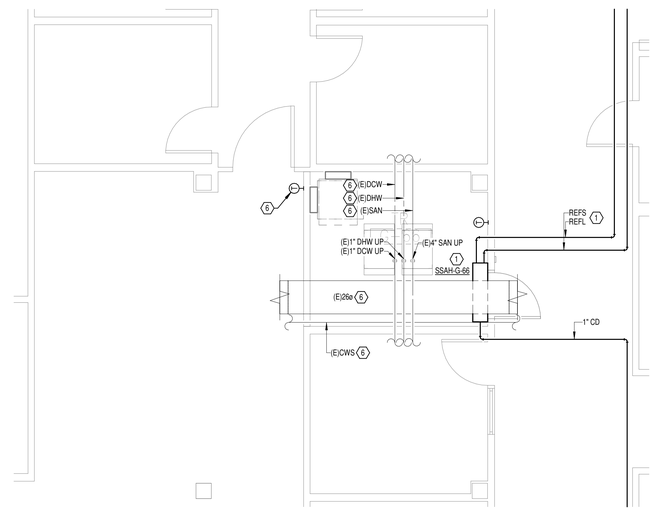


OVERALL FLOOR PLAN
GROUND LEVEL -
MECHANICAL
1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN GROUND LEVEL -
MECHANICAL
2 1/4" = 1'-0"



NEW FLOOR PLAN
GROUND LEVEL -
MECHANICAL
3 1/4" = 1'-0"

N
PLAN

TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 135 GROUND LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	135
Drawing Number	M-135.G

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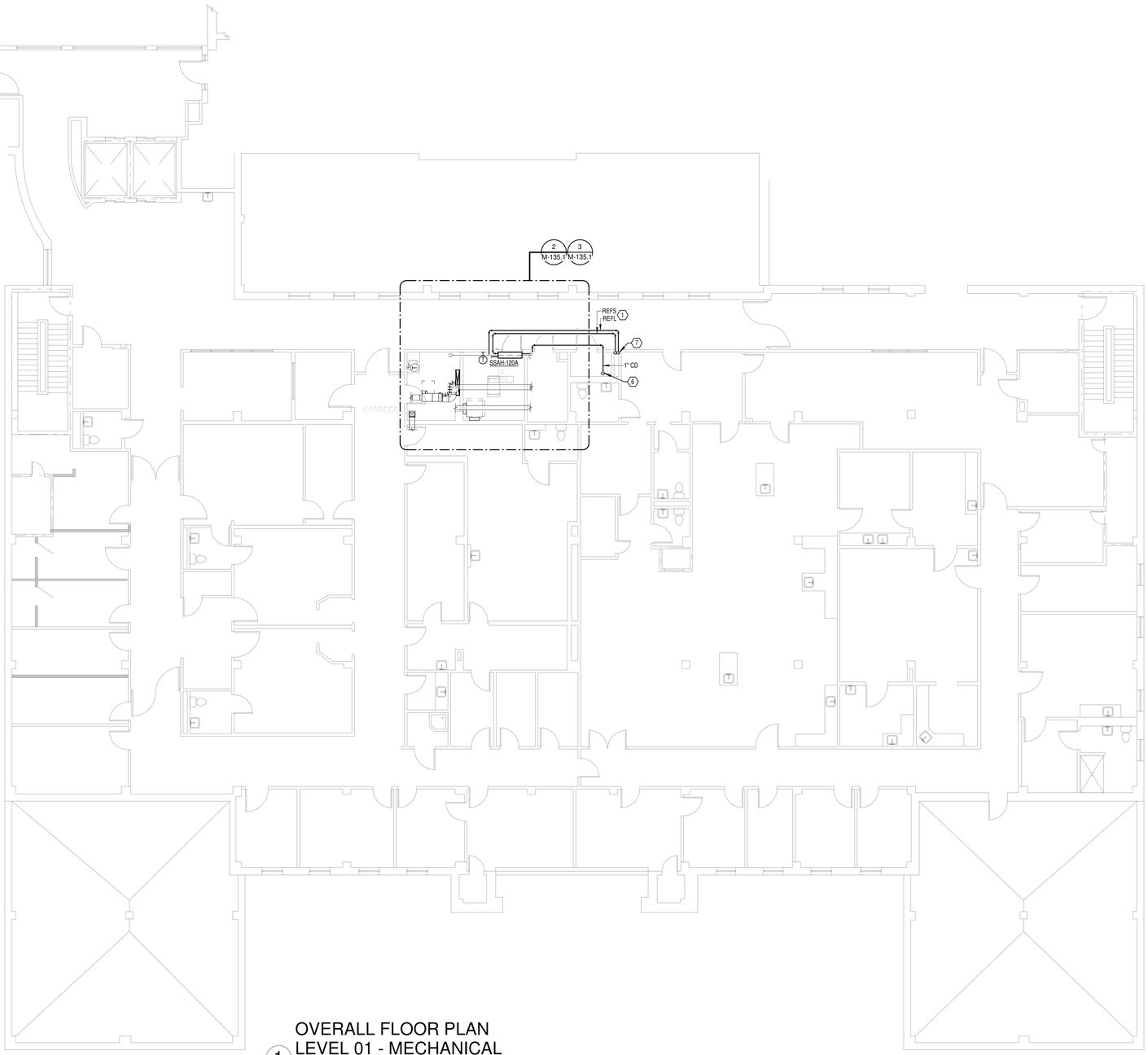

OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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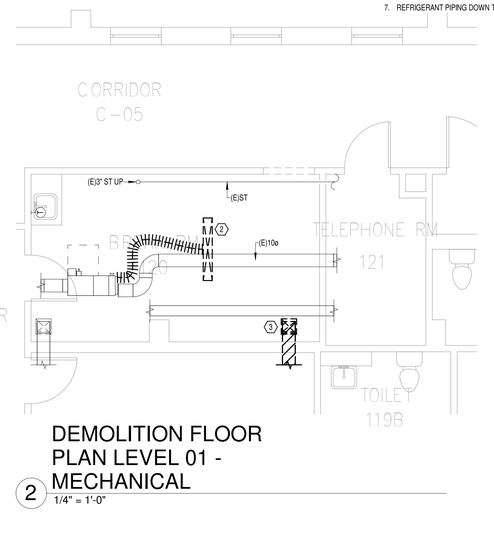
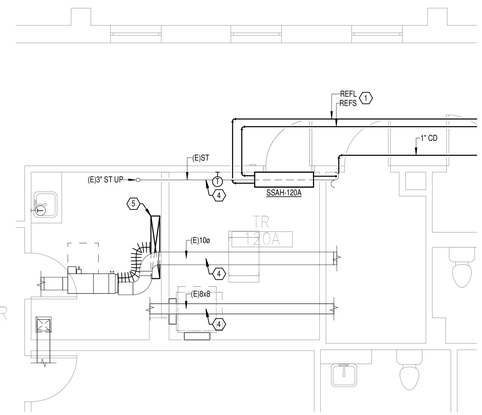
SHEET NOTES:⬡

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INTSTRUCTIONS.
2. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK TO POINTS INDICATED. NOTE COLOR AND STYLE OF SUPPLY DIFFUSER.
3. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK MAIN. CAP DUCTWORK.
4. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW PIPES AND DUCTWORK IN TR 120A. UPON DETECTION OF MOISTURE, ALARM TO BAS.
5. INSTALL NEW SUPPLY DIFFUSER AND CONNECT TO NEW SUPPLY DUCTWORK. SUPPLY DIFFUSER SHALL MATCH DEMOLISHED DIFFUSER IN COLOR AND STYLE. DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING DUCT AND INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.
6. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.
7. REFRIGERANT PIPING DOWN TO GROUND LEVEL. SEE SHEET M-135.G FOR CONTINUATION.



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL

2 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL

3 1/4" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 135 LEVEL 01 - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
			Building Number: 135
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-135.1
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-120A	120A	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-B-08A	B-08	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSAH-G-66	G-66	3.0	36	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	[redacted]					(1)(4)(6)
SSCU-120A	SSAH-120A	2.0	24	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-B-08A	SSAH-B-08A	2.0	24	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)
SSCU-G-66	SSAH-G-66	3.0	36	0"					41 5/16"	13"	52 11/16"	95	20	211	208 V	1	25	31	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 135
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-135.600
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION - OVERALL

1 3/32" = 1'-0"

N PLAN

N TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

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VA U.S. Department of Veterans Affairs

Approved:

Drawing Title	OVERALL FLOOR PLAN LEVEL 01 - MECHANICAL - DEMOLITION - OVERALL
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.1

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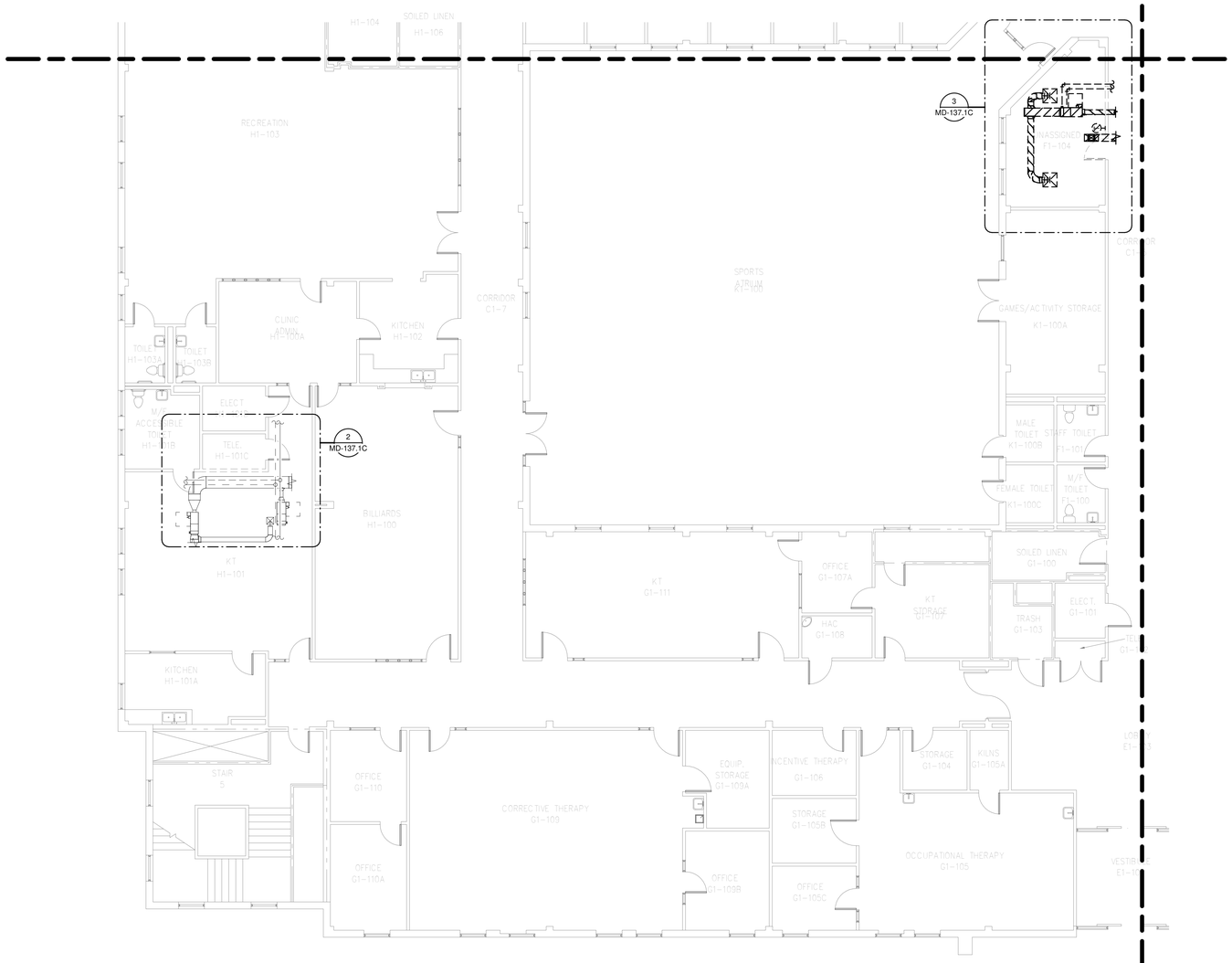
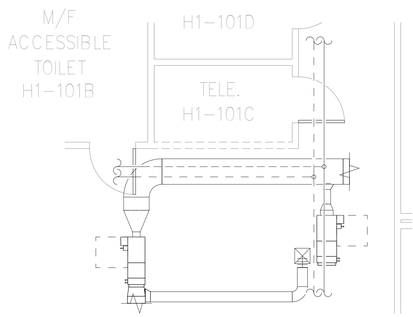
VA FORM 08 - 6231



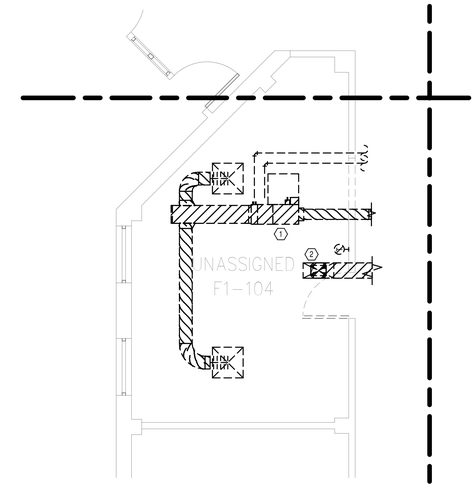
AREA C - FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 ROOM 1 -
MECHANICAL

2 1/4" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 ROOM 2 -
MECHANICAL

3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. DEMOLISH SUPPLY DIFFUSERS, VAV, ASSOCIATED THERMOSTAT, CONTROL WIRING, HEATING WATER SUPPLY AND RETURN PIPING, AND ASSOCIATED DUCTWORK. CAP AND INSULATE DUCTWORK AND PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
2. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCTWORK.

N PLAN

N TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 01 - AREA C - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.1C

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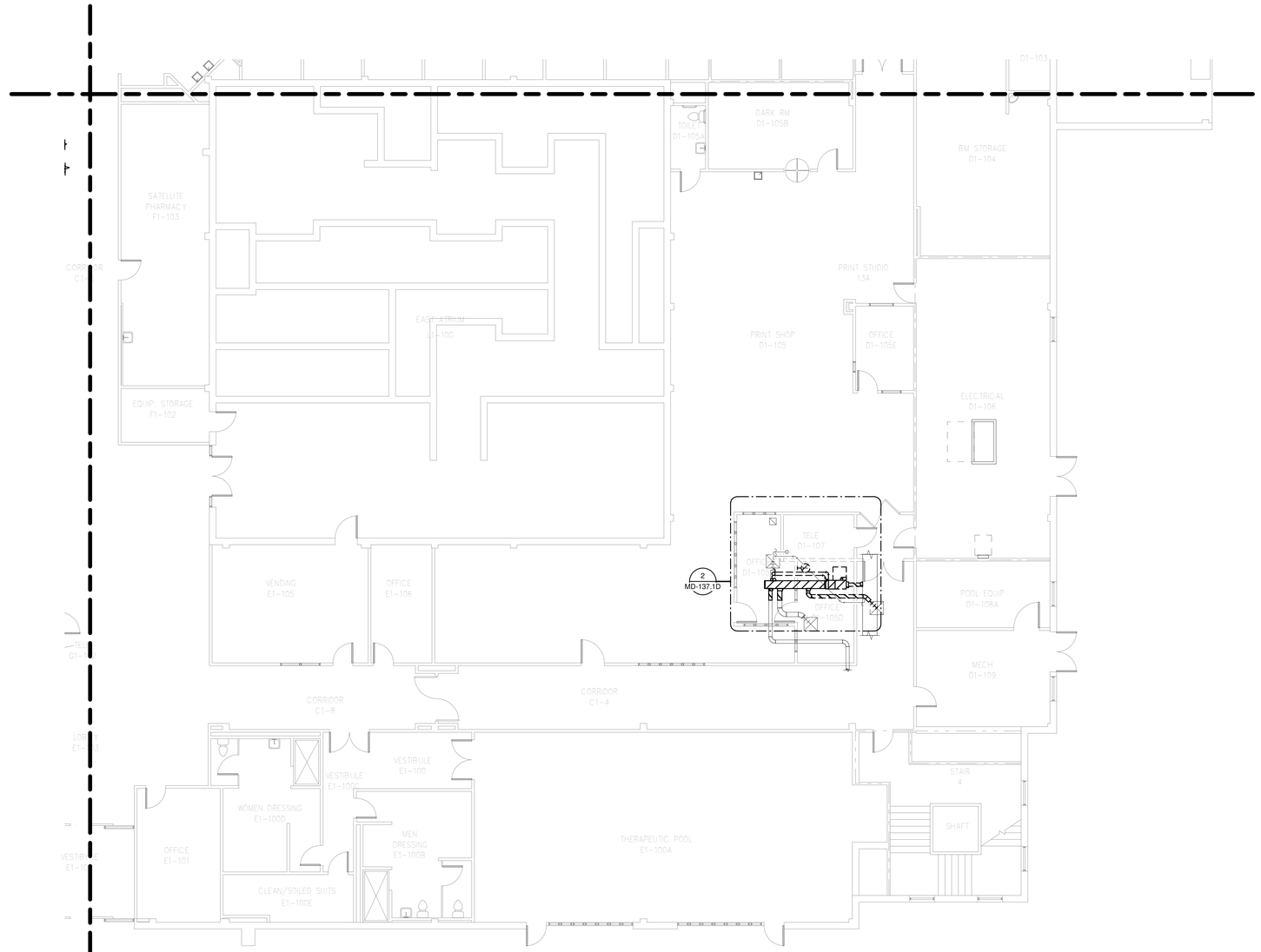
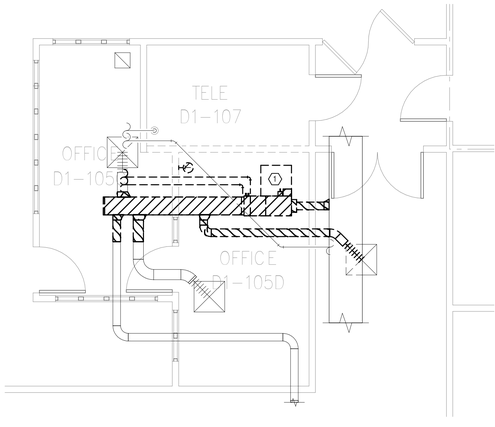


AREA D - FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 ROOM 3 -
MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. CONDUCT PRETAB ON VAV WATER FLOWS, VAV AIRFLOW, AND ASSOCIATED DIFFUSER AIRFLOWS. DEMOLISH VAV. DEMOLISH DUCTWORK AND ASSOCIATED PIPING BACK TO MAIN. CAP AND INSULATE DUCTWORK AND PIPING.

N PLAN

N TRUE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 01 - AREA D - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.1D

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OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION - OVERALL

1 3/32" = 1'-0"

N PLAN

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Drawing Title	OVERALL FLOOR PLAN LEVEL 02 - MECHANICAL - DEMOLITION - OVERALL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.2

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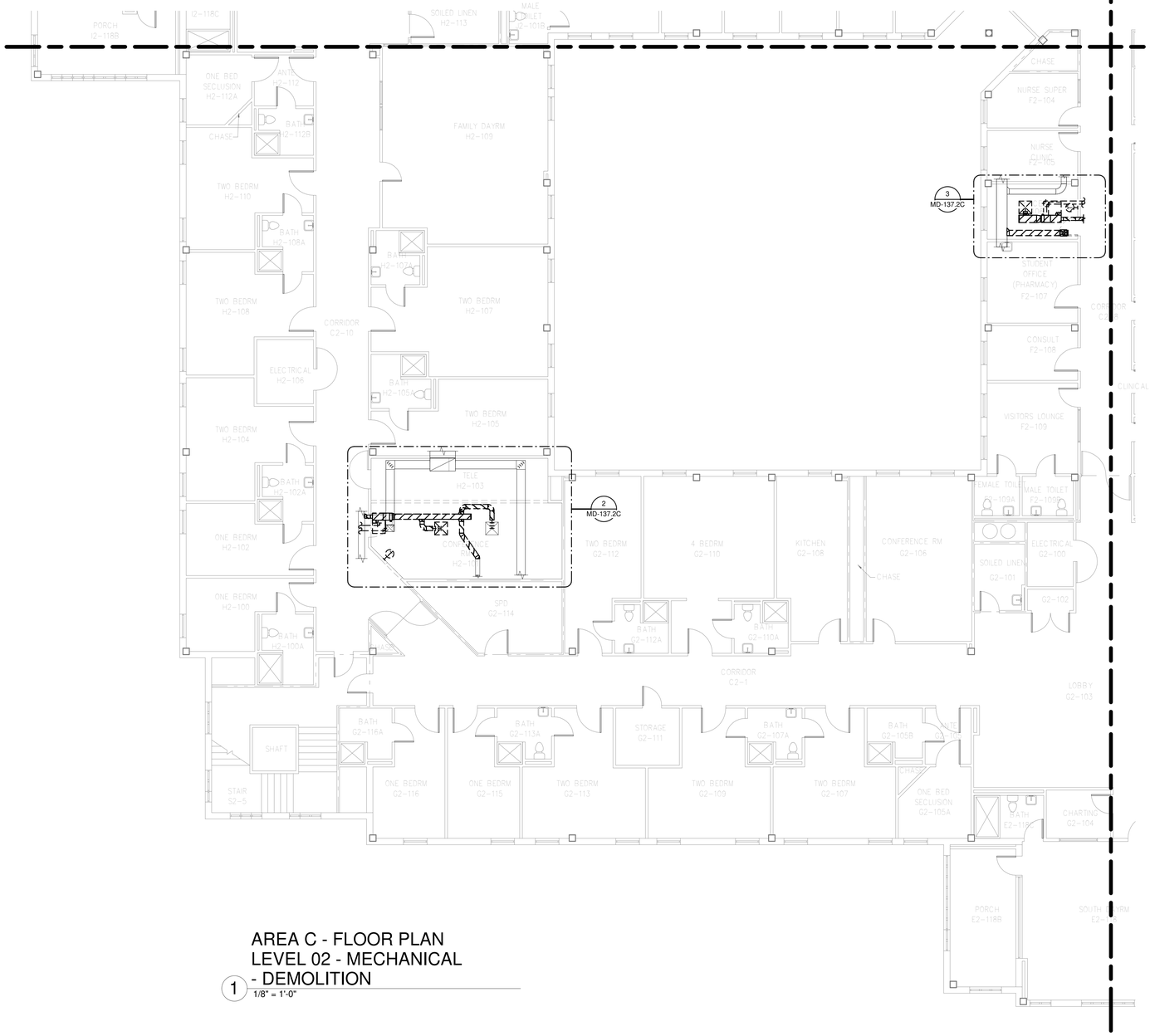


AREA C - FLOOR PLAN
LEVEL 02 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

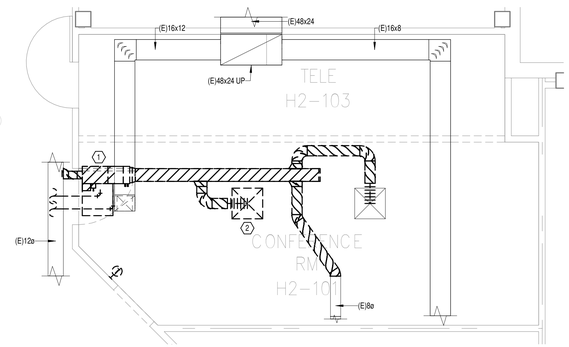
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

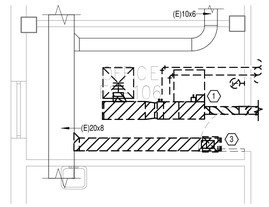
SHEET NOTES:

1. PERFORM PRE-TAB ON EXISTING VAV. DEMOLISH SUPPLY DIFFUSER, VAV, ASSOCIATED THERMOSTAT, CONTROL WIRING, AND ASSOCIATED DUCTWORK AND PIPING BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
2. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK TO POINTS INDICATED. NOTE COLOR AND STYLE OF SUPPLY DIFFUSER.
3. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCT.



DEMOLITION FLOOR
PLAN LEVEL 02 ROOM 1 -
MECHANICAL

2 1/4" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 02 ROOM 2 -
MECHANICAL

3 1/4" = 1'-0"

N
PLAN

N
TRUE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 02 - AREA C - MECHANICAL - DEMOLITION	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: MD-137.2C
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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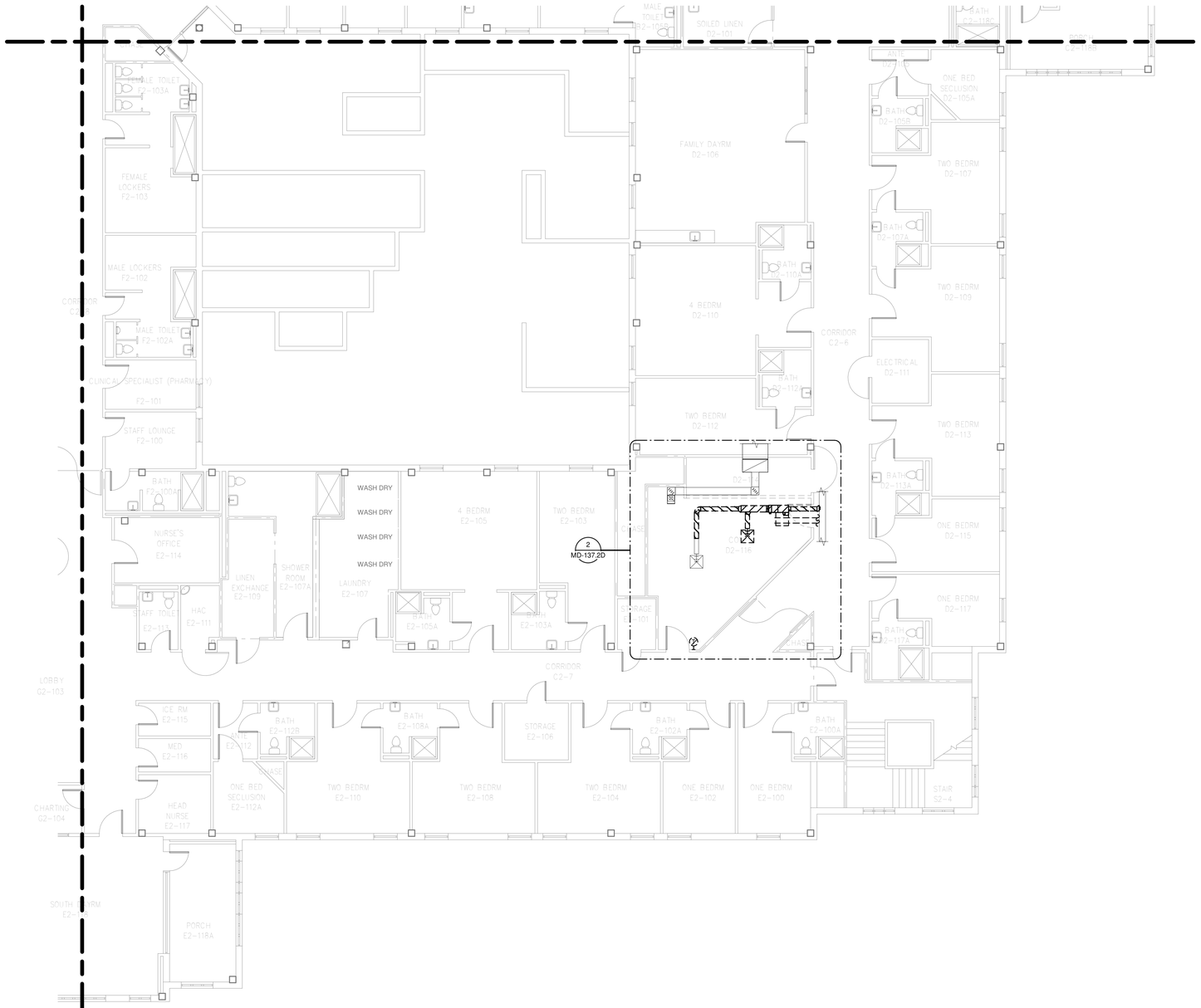
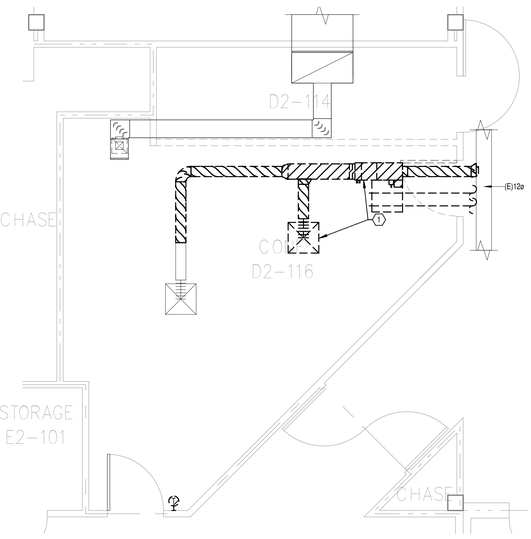


AREA D - FLOOR PLAN
LEVEL 02 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 02 ROOM 3 - MECHANICAL

2 1/4" = 1'-0"

N
PLAN

N
TRUE

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VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 02 - AREA D - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.2D

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OVERALL FLOOR PLAN LEVEL 03 - MECHANICAL - DEMOLITION - OVERALL

1 3/32" = 1'-0"

N PLAN

N TRUE

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VA U.S. Department of Veterans Affairs

Drawing Title	OVERALL FLOOR PLAN LEVEL 03 - MECHANICAL - DEMOLITION - OVERALL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.3

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

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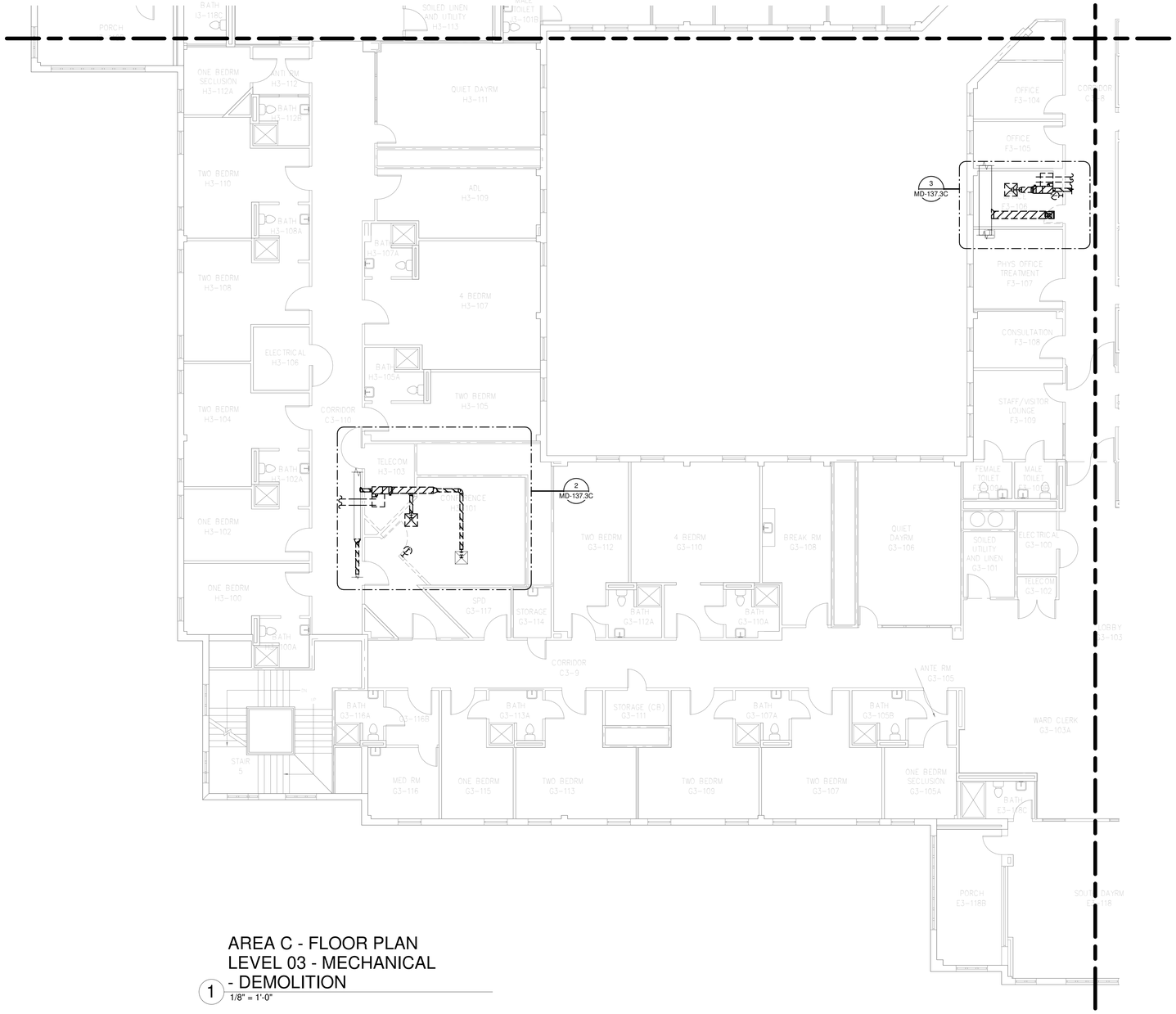
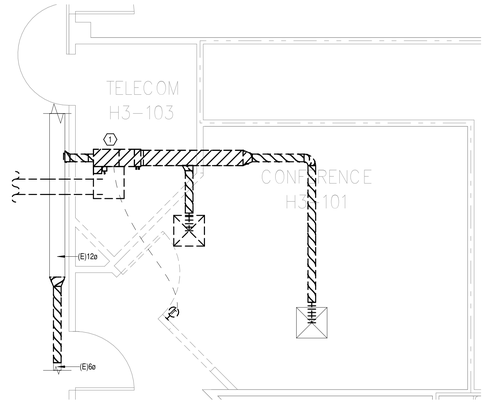
2. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCTWORK.



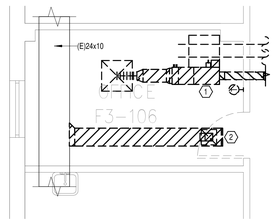
AREA C - FLOOR PLAN LEVEL 03 - MECHANICAL - DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 03 ROOM 1 - MECHANICAL

2 1/4" = 1'-0"



DEMOLITION FLOOR PLAN LEVEL 03 ROOM 2 - MECHANICAL

3 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 03 - AREA C - MECHANICAL - DEMOLITION	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES		Project Number: 679-20-104
		Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.		Drawing Number: MD-137.3C
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM

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08/03/2024 14:59:02

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

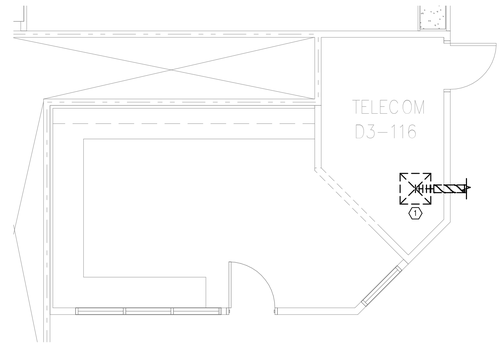
SHEET NOTES:

1. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK.



AREA D - FLOOR PLAN
LEVEL 03 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 03 ROOM 3 -
MECHANICAL

2 1/4" = 1'-0"

N
PLAN

TRUE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 03 - AREA D - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.3D

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OVERALL FLOOR PLAN LEVEL 04 - MECHANICAL - DEMOLITION - OVERALL

1 3/32" = 1'-0"

N PLAN

N TRUE

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Drawing Title	OVERALL FLOOR PLAN LEVEL 04 - MECHANICAL - DEMOLITION - OVERALL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.4

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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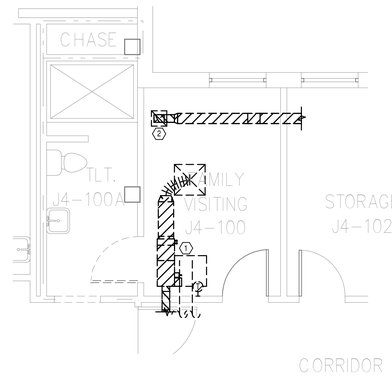
SHEET NOTES:

1. DEMOLISH SUPPLY DIFFUSER, VAV, ASSOCIATED THERMOSTAT, CONTROL WIRING, HEATING WATER SUPPLY AND RETURN PIPING, AND ASSOCIATED DUCTWORK. CAP AND INSULATE DUCTWORK AND PIPES. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
2. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO LAST TAKEOFF. CAP DUCTWORK.



AREA A - FLOOR PLAN
LEVEL 04 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 04 ROOM 1 -
MECHANICAL

2 1/4" = 1'-0"

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VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 04 - AREA A - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.4A

N PLAN

N TRUE

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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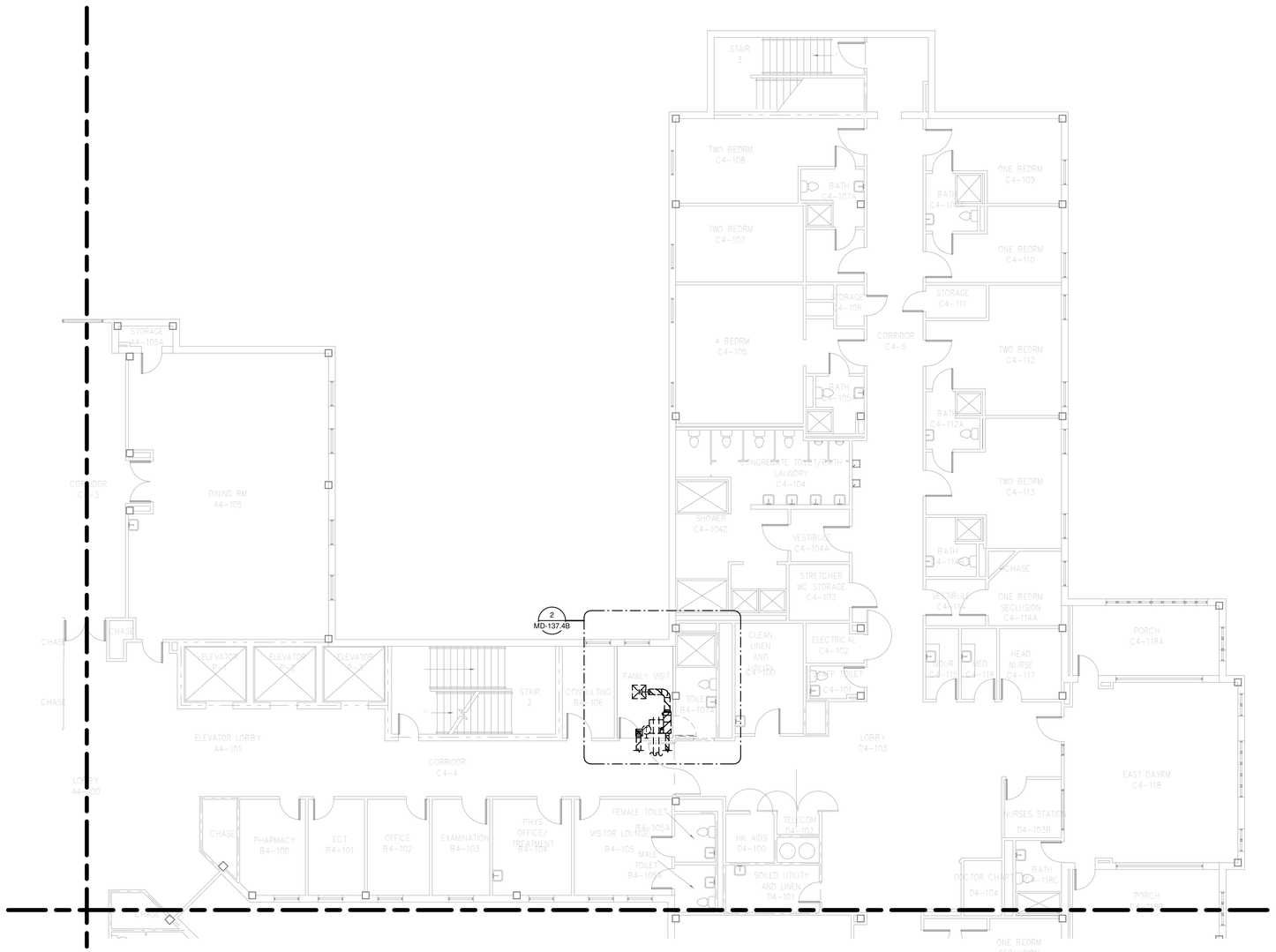
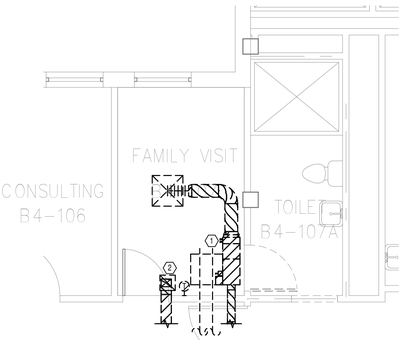
2. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCTWORK.



AREA B - FLOOR PLAN
LEVEL 04 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 04 ROOM 3 -
MECHANICAL

2 1/4" = 1'-0"

N

PLAN

N

TRUE

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Drawing Title	BUILDING 137 LEVEL 04 - AREA B - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.4B

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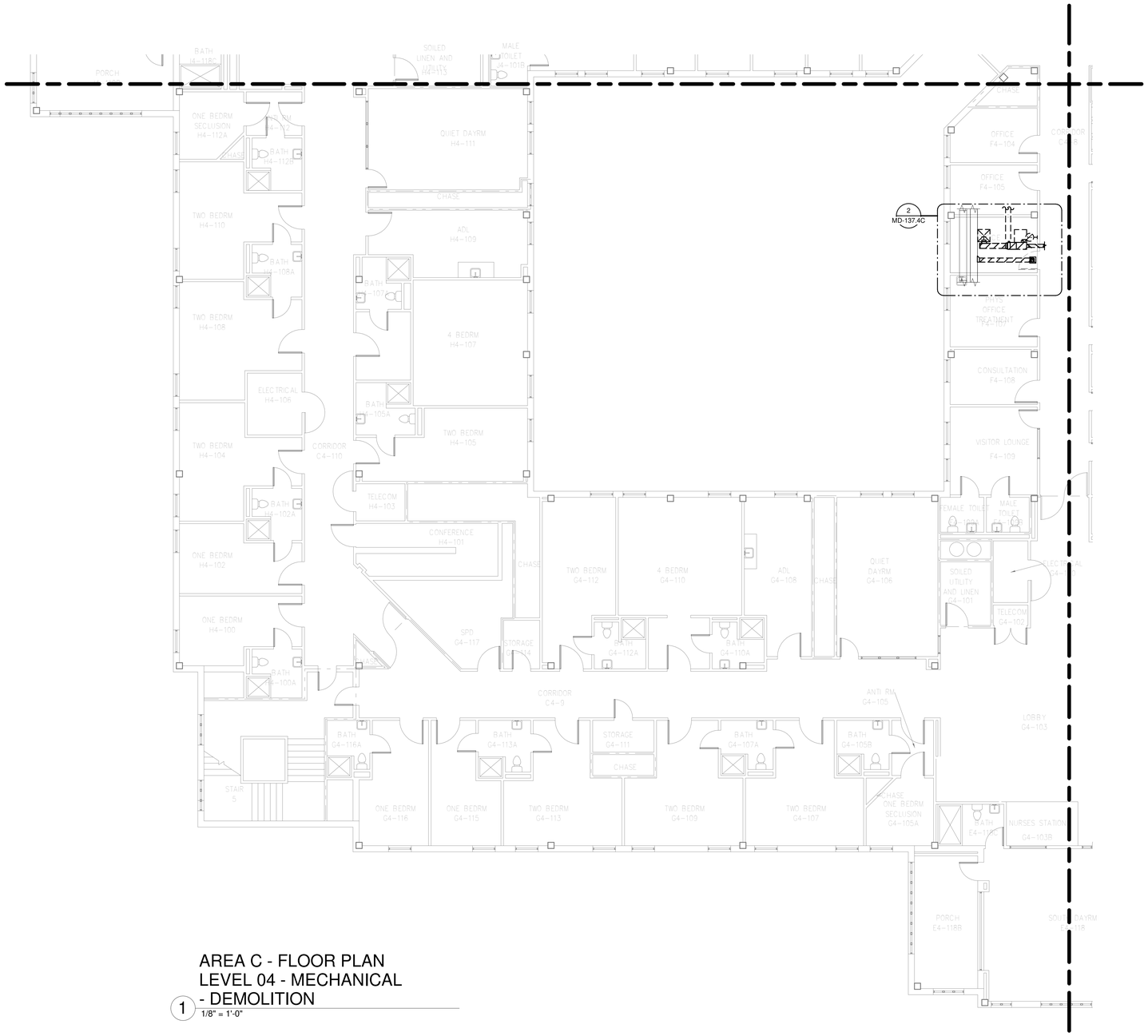
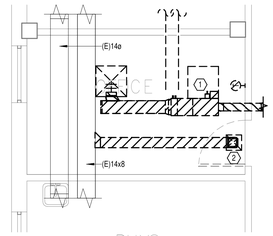


AREA C - FLOOR PLAN
LEVEL 04 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



PHYS

DEMOLITION FLOOR
PLAN LEVEL 04 ROOM 2 -
MECHANICAL

2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

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2. DEMOLISH RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP DUCT.

N
PLAN

N
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VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 04 - AREA C - MECHANICAL - DEMOLITION
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	MD-137.4C

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OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- OVERALL

1 3/32" = 1'-0"

PLAN

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VA U.S. Department of Veterans Affairs

Drawing Title: OVERALL FLOOR PLAN LEVEL 01 - MECHANICAL - OVERALL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-137.1
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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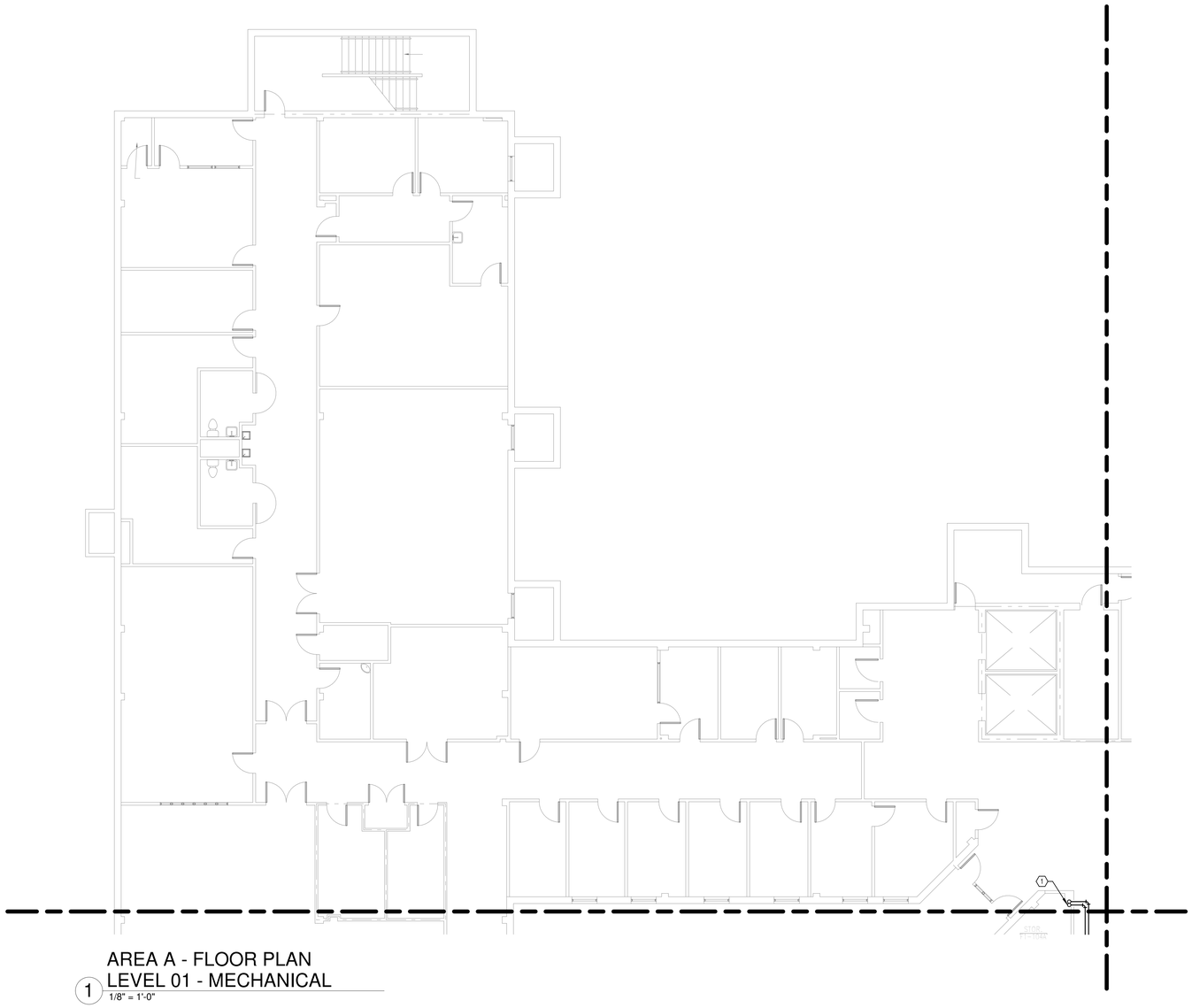

AREA A - FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. REFRIGERANT PIPING UP TO LEVEL 2. SEE SHEET M-137.2A FOR CONTINUATION.

N
PLAN

N
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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 01 - AREA A - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-137.1A
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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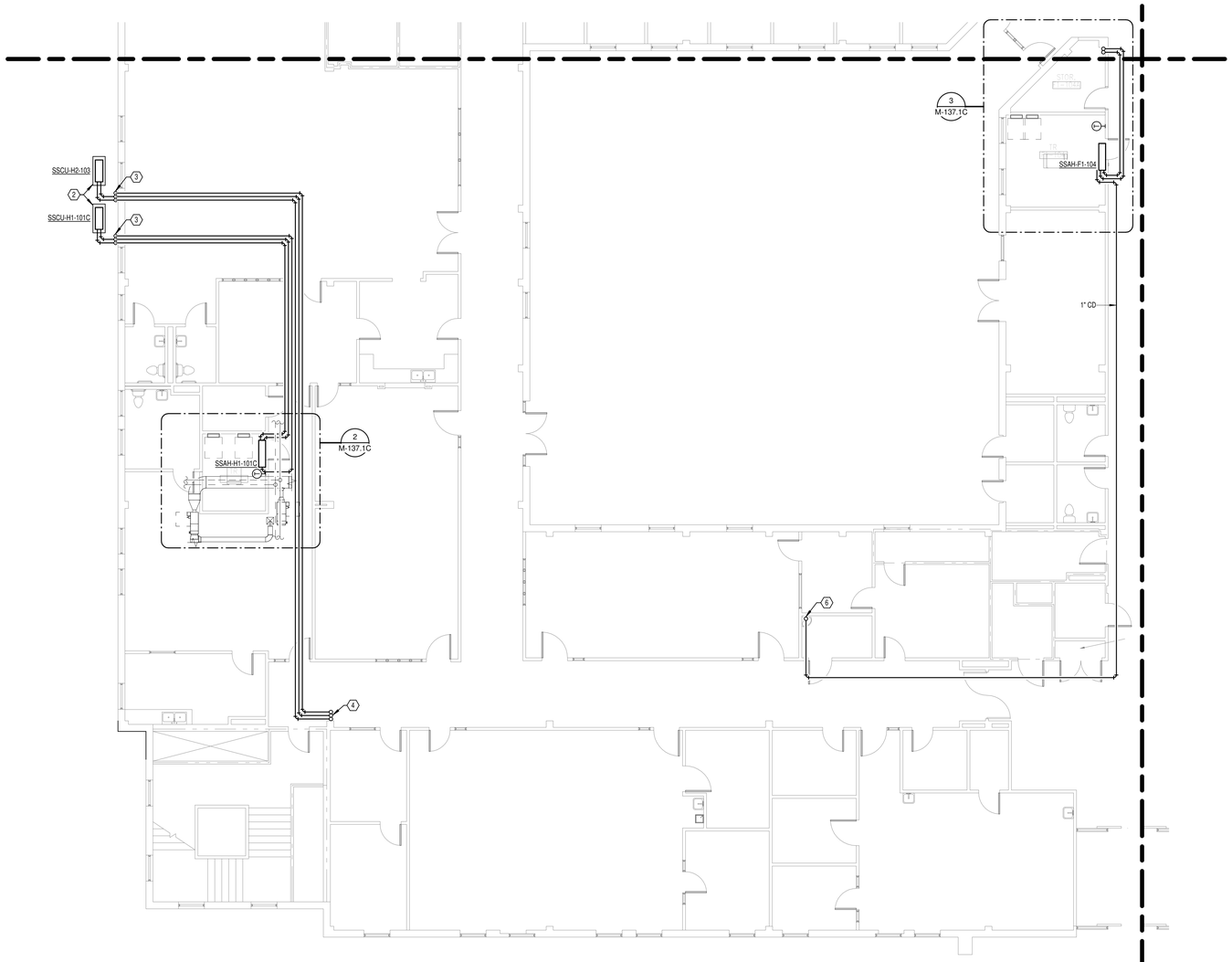
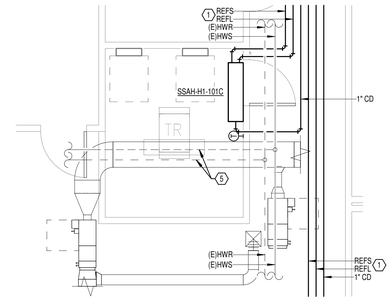
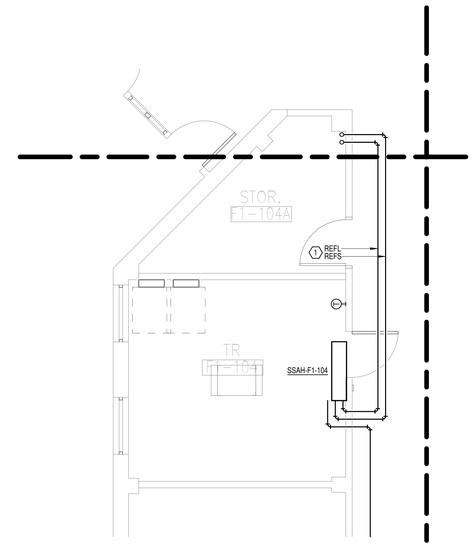


AREA C - FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
01 ROOM 1 -
MECHANICAL
2 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
01 ROOM 2 -
MECHANICAL
3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. REFRIGERANT AND CONDENSATE PIPING UP TO LEVEL 2. SEE SHEET M-137.2C FOR CONTINUATION.
5. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES IN TR. UPON DETECTION OF MOISTURE, ALARM TO BAS.
6. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 01 - AREA C - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-137.1C
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

VA FORM 08 - 6231

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R2D_B137.rvt
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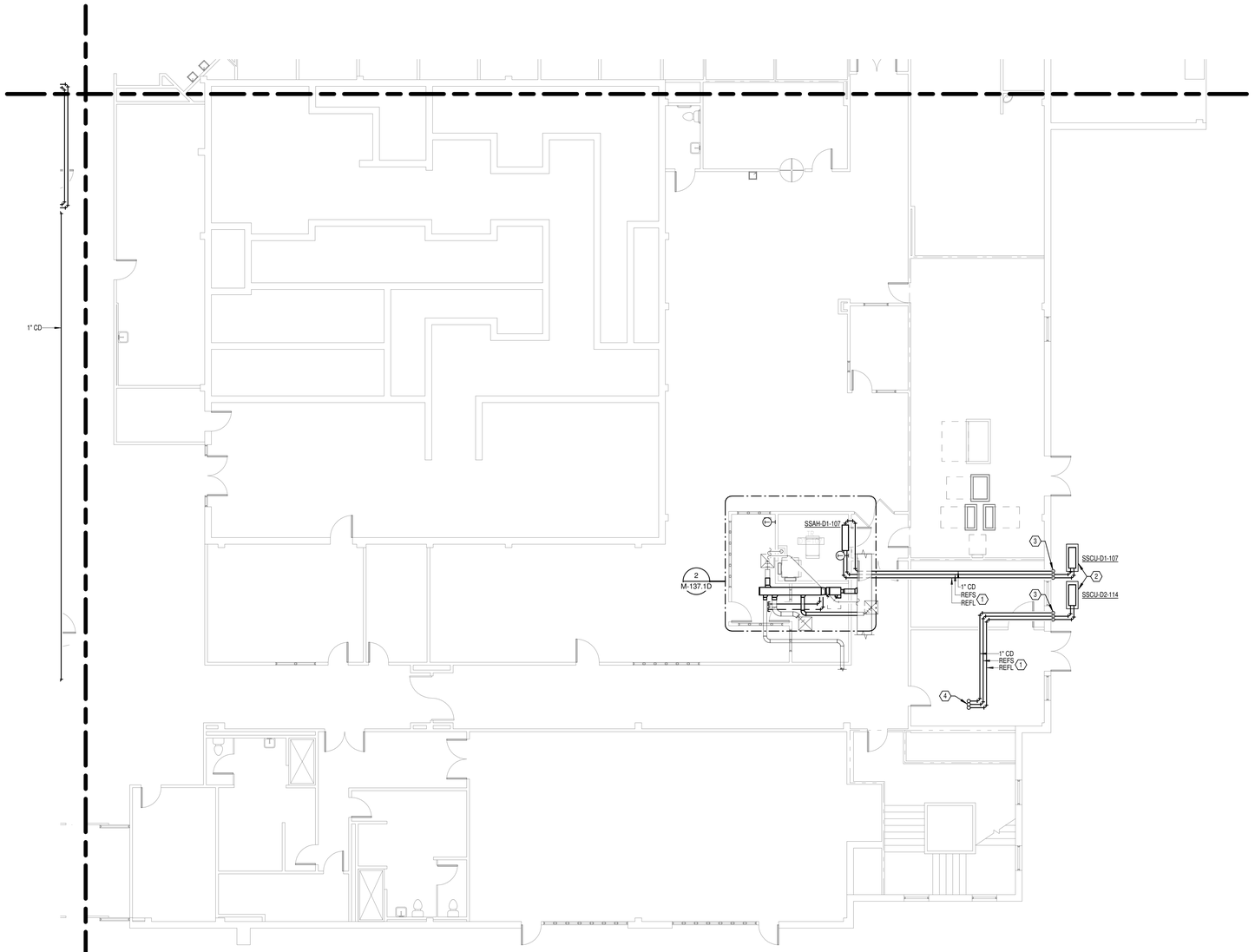


AREA D - FLOOR PLAN
LEVEL 01 - MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

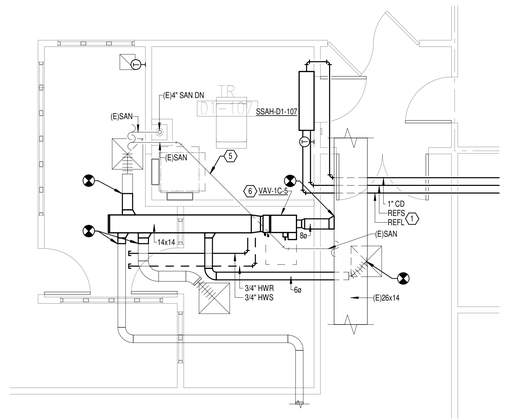
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. REFRIGERANT AND CONDENSATE PIPING UP TO LEVEL 2. SEE SHEET M-137.2D FOR CONTINUATION.
5. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING SANITARY PIPES IN TR D1-107. UPON DETECTION OF MOISTURE, ALARM TO BAS.
6. REBALANCE CONNECTED DIFFUSERS TO ORIGINAL AIRFLOWS.



NEW FLOOR PLAN LEVEL
01 ROOM 3 -
MECHANICAL

2 1/4" = 1'-0"

N

PLAN

N

TRUE

Revisions:	Date:

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 01 - AREA D - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-137.1D
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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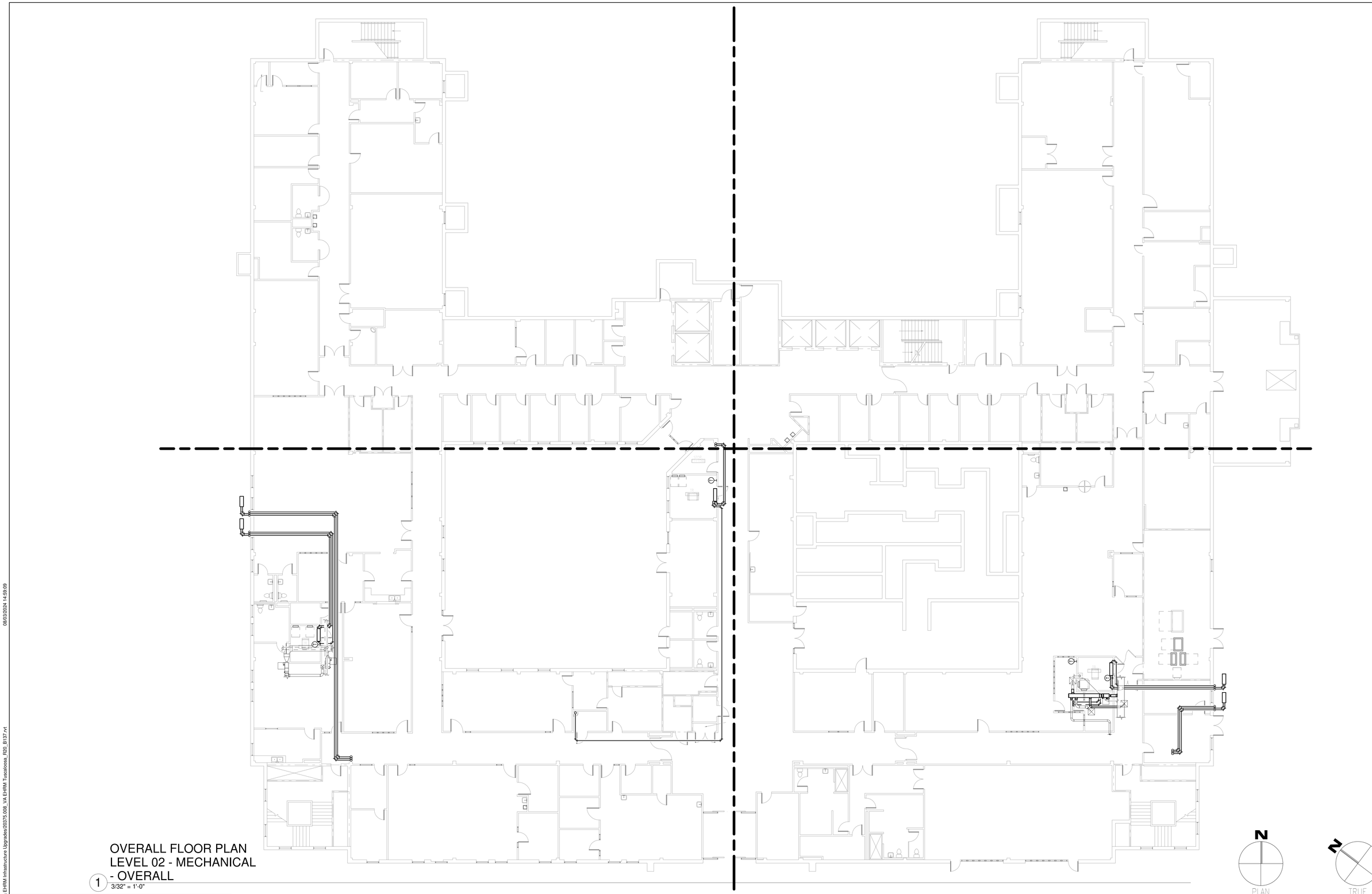

OVERALL FLOOR PLAN
LEVEL 02 - MECHANICAL
- OVERALL

1 3/32" = 1'-0"

PLAN

TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: OVERALL FLOOR PLAN LEVEL 02 - MECHANICAL - OVERALL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-137.2
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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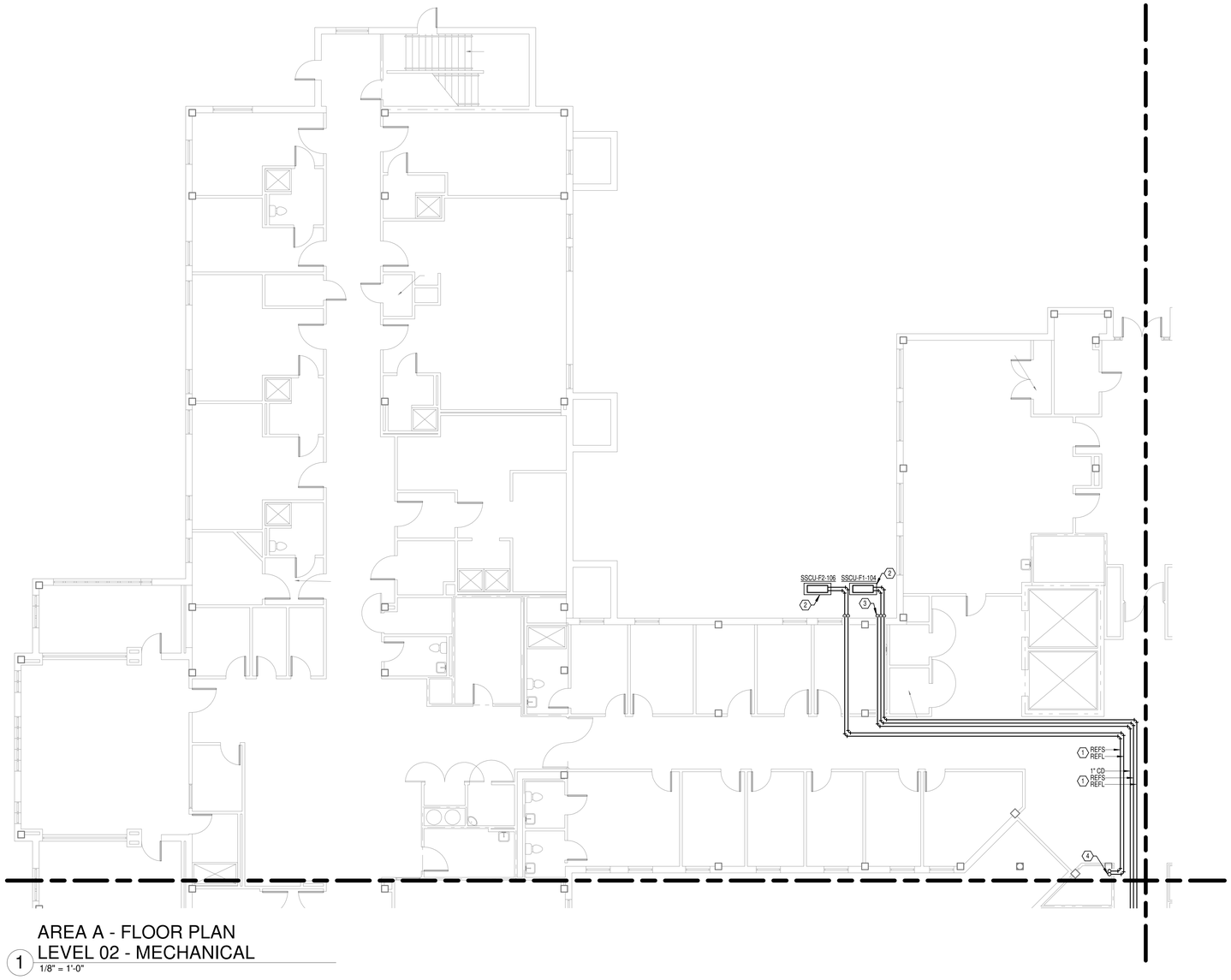
VA FORM 08 - 6231



AREA A - FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
4. REFRIGERANT PIPING DOWN TO LEVEL 1. SEE SHEET M-137.1A FOR CONTINUATION.

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC C. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 02 - AREA A - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.2A

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GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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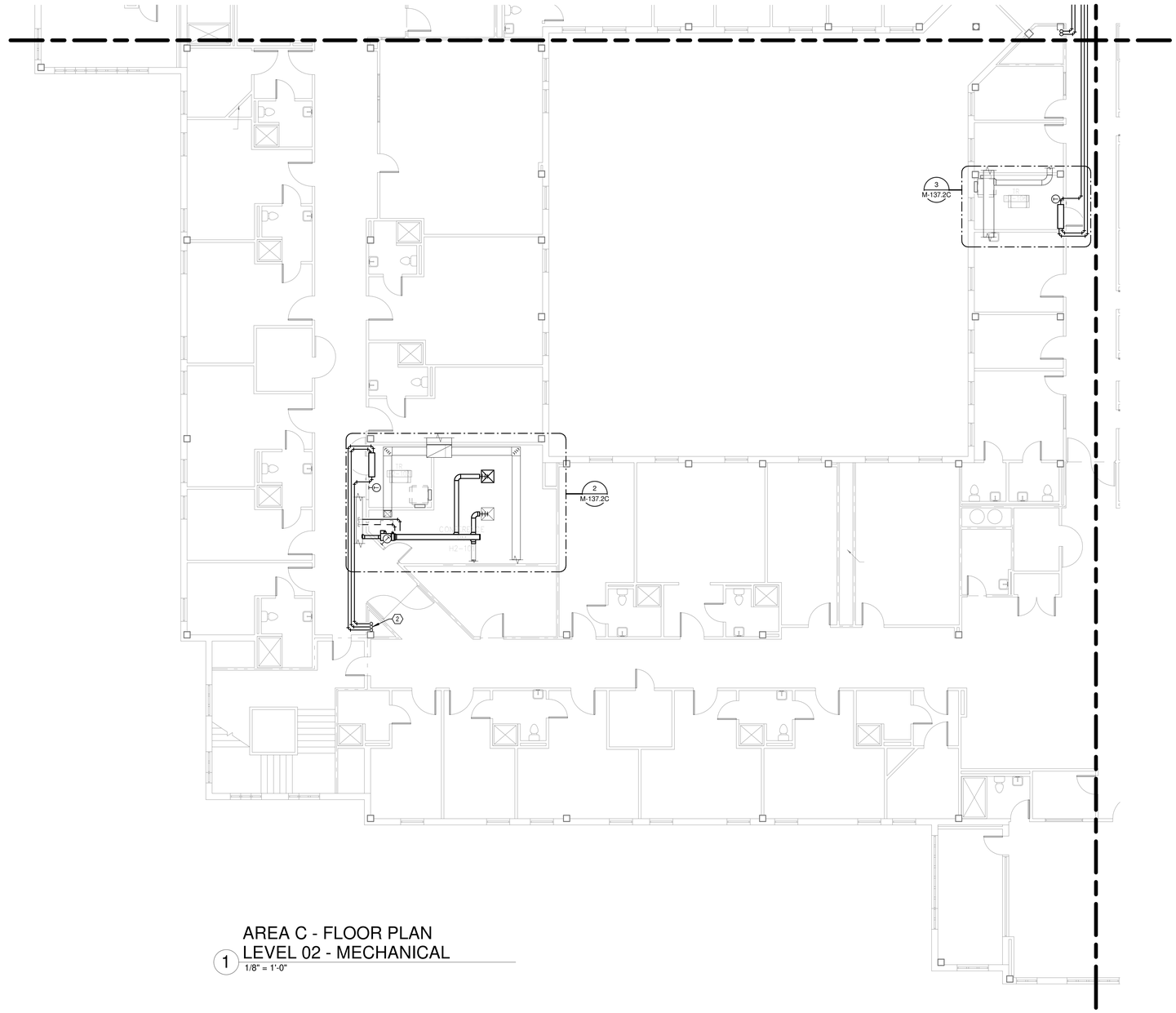
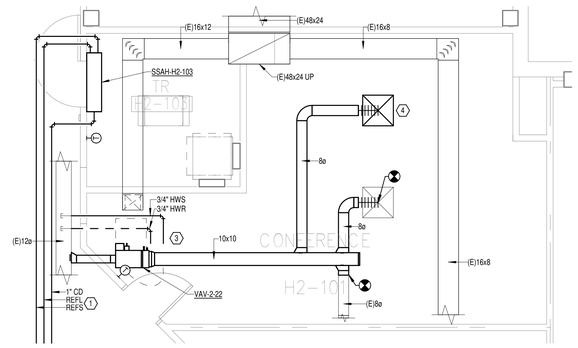
SHEET NOTES:

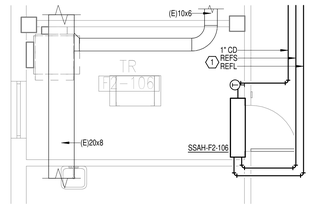
1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT AND CONDENSATE PIPING DOWN TO LEVEL 1. SEE SHEET M-137.1C FOR CONTINUATION.
3. INSTALL NEW VAV WITH INLET CONNECTED TO EXISTING SUPPLY DUCT AND HEATING WATER SUPPLY AND RETURN PIPES IN CORRIDOR. REBALANCE CONNECTED DIFFUSERS TO ORIGINAL AIRFLOWS AND BALANCE HEATING WATER FLOW TO MATCH PRE-TAB VALUES.
4. INSTALL NEW SUPPLY DIFFUSER AND CONNECT TO NEW SUPPLY DUCTWORK. SUPPLY DIFFUSER SHALL MATCH DEMOLISHED DIFFUSER IN COLOR AND STYLE. DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING DUCT AND INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.



AREA C - FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
02 ROOM 1 -
MECHANICAL
2 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
02 ROOM 2 -
MECHANICAL
3 1/4" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

CONSULTANT

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 02 - AREA C - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.2C

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AREA D - FLOOR PLAN
LEVEL 02 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

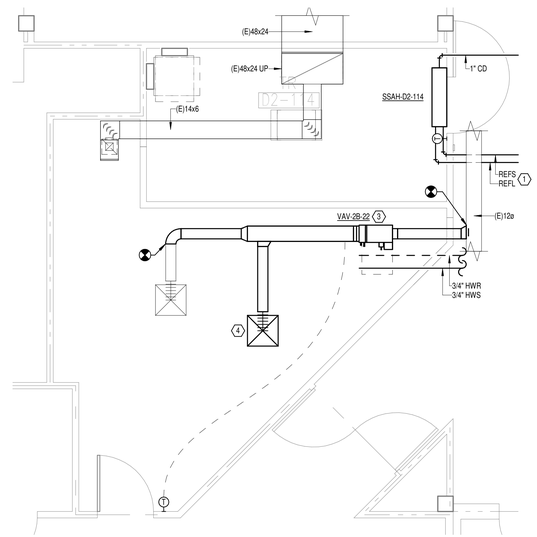
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT AND CONDENSATE PIPING DOWN TO LEVEL 1. SEE SHEET M-137.1D FOR CONTINUATION.
3. INSTALL NEW VAV WITH INLET CONNECTED TO EXISTING SUPPLY DUCT AND HEATING WATER SUPPLY AND RETURN PIPES IN CORRIDOR. REBALANCE CONNECTED DIFFUSERS TO ORIGINAL AIRFLOWS AND BALANCE HEATING WATER FLOW TO MATCH PRE-TAB VALUES.
4. INSTALL NEW SUPPLY DIFFUSER AND CONNECT TO NEW SUPPLY DUCTWORK. SUPPLY DIFFUSER SHALL MATCH DEMOLISHED DIFFUSER IN COLOR AND STYLE. DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING DUCT AND INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.



NEW FLOOR PLAN LEVEL
02 ROOM 3 -
MECHANICAL
2 1/4" = 1'-0"

N

PLAN

N

TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 02 - AREA D - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.2D

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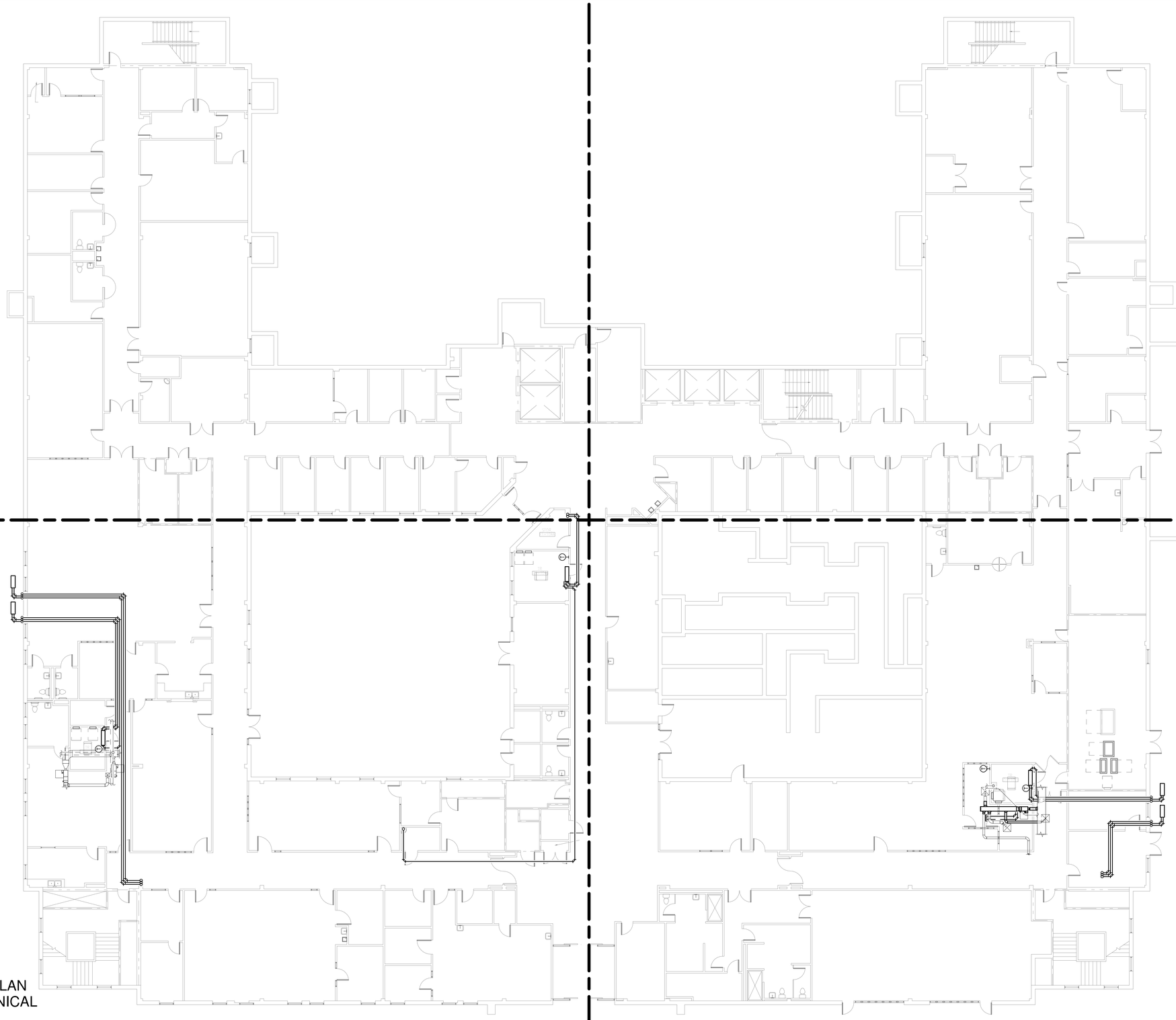

OVERALL FLOOR PLAN
LEVEL 03 - MECHANICAL
- OVERALL

1 3/32" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: OVERALL FLOOR PLAN LEVEL 03 - MECHANICAL - OVERALL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-137.3
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

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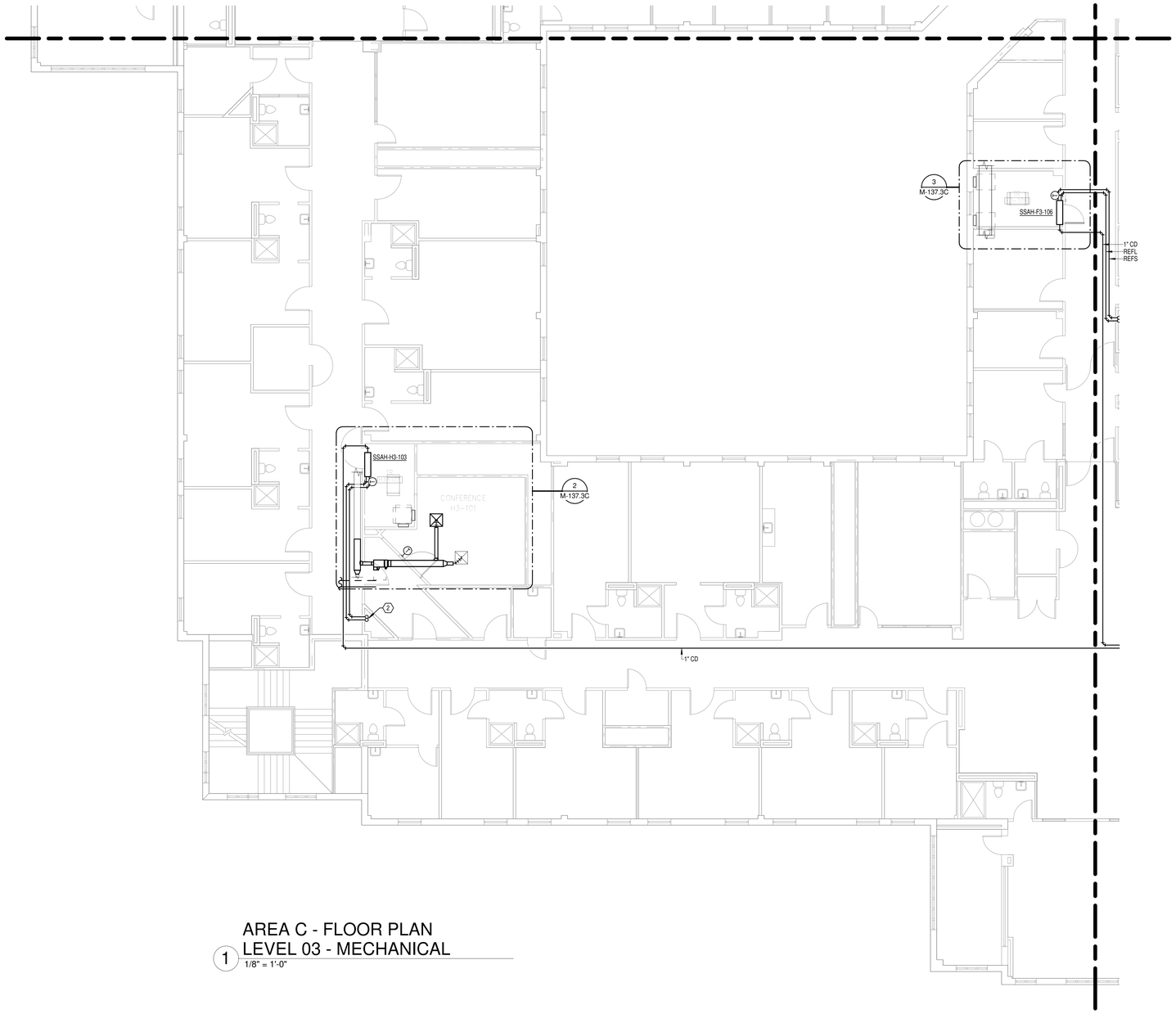
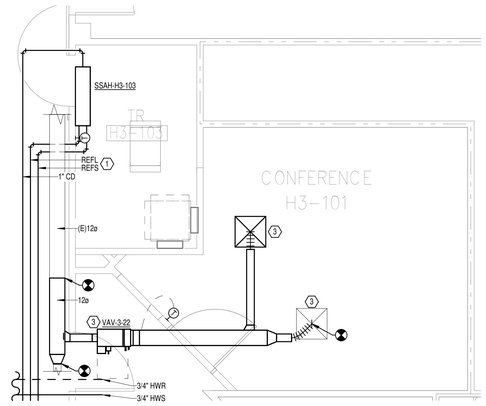


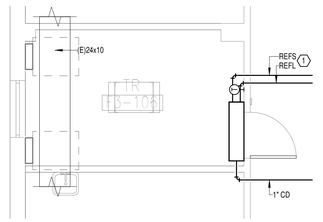
AREA C - FLOOR PLAN
LEVEL 03 - MECHANICAL

1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
03 ROOM 1 -
MECHANICAL

2 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
03 ROOM 2 -
MECHANICAL

3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO LEVEL 4. SEE SHEET M-137.4C FOR CONTINUATION.
3. INSTALL NEW VAV WITH INLET CONNECTED TO EXISTING SUPPLY DUCT AND HEATING WATER SUPPLY AND RETURN PIPES IN CORRIDOR. REBALANCE CONNECTED DIFFUSERS TO ORIGINAL AIRFLOWS AND BALANCE HEATING WATER FLOW TO MATCH PRE-TAB VALUES.
4. BALANCE DIFFUSER TO PRE-TAB VALUE.

N
PLAN

N
TRUE

Revisions:	Date:

CONSULTANT

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NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 03 - AREA C - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES			Project Number: 679-20-104
			Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.			Drawing Number: M-137.3C
Issue Date: 03/08/2024	Checked: JKK	Drawn: PCM	

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

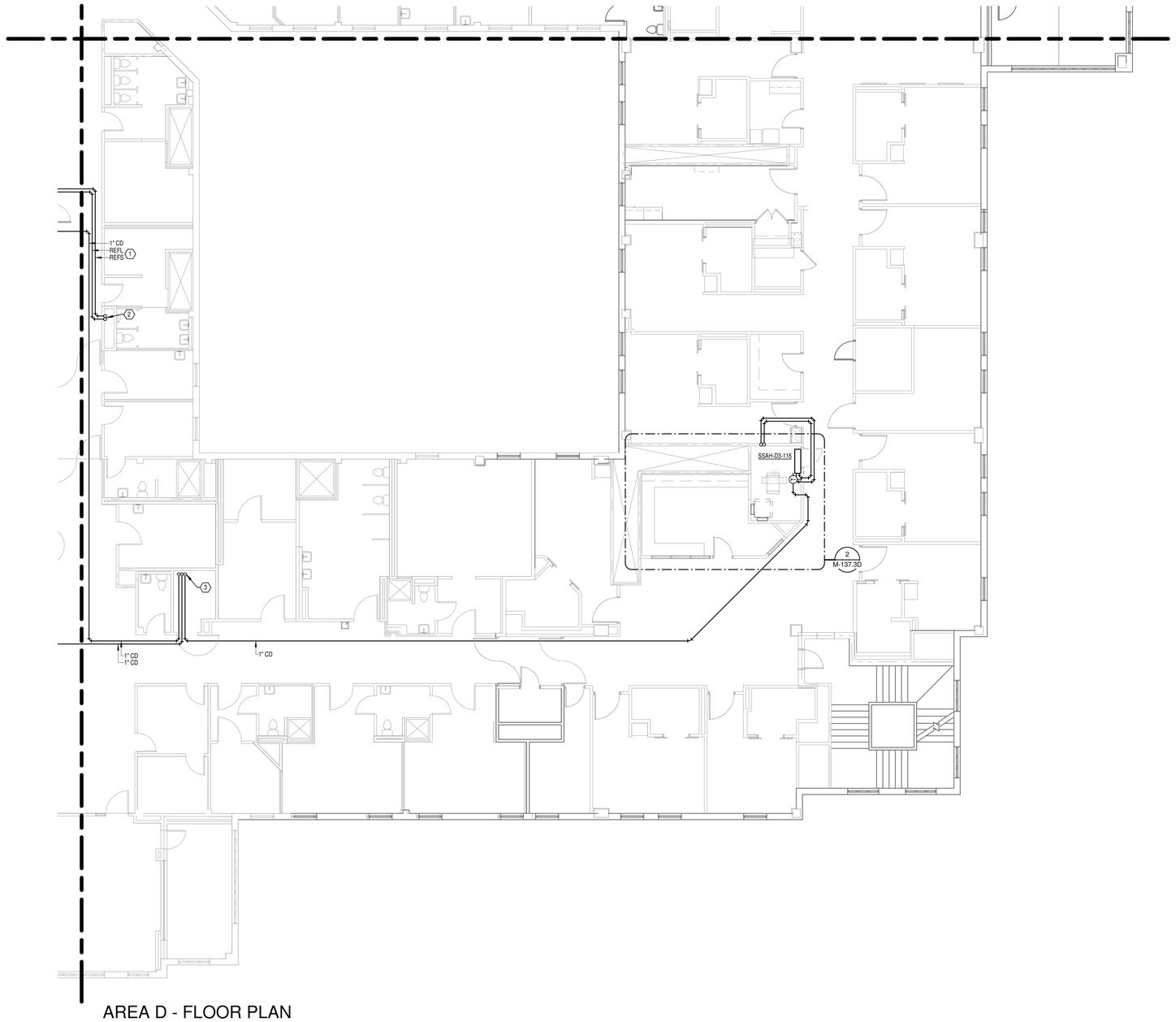
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

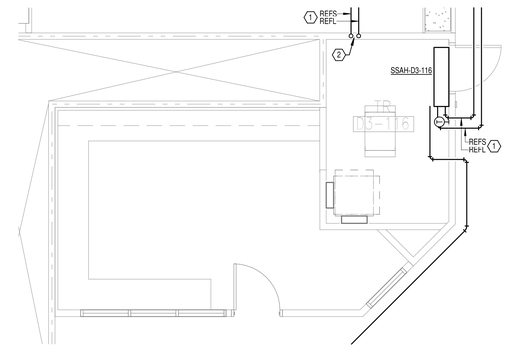
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO LEVEL 4. SEE SHEET M-137.4D FOR CONTINUATION.
3. 1" CONDENSATE PIPES SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.



AREA D - FLOOR PLAN
LEVEL 03 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
03 ROOM 3 -
MECHANICAL
2 1/4" = 1'-0"

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 03 - AREA D - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.3D

N PLAN

N TRUE

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VA FORM 08 - 6231



OVERALL FLOOR PLAN
LEVEL 04 - MECHANICAL
- OVERALL

1 3/32" = 1'-0"

N PLAN

N TRUE

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	OVERALL FLOOR PLAN LEVEL 04 - MECHANICAL - OVERALL
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	137
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	M-137.4

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

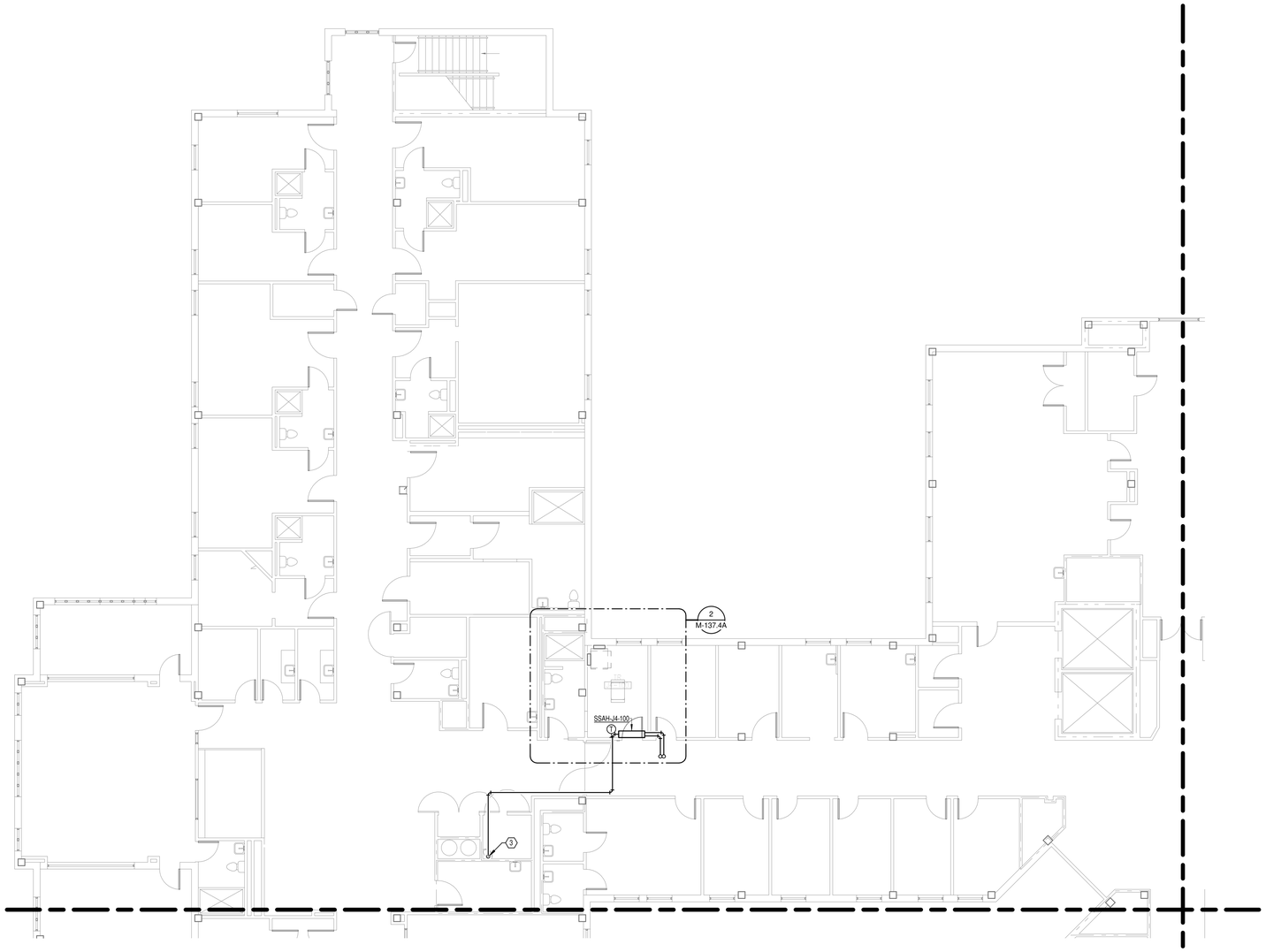
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

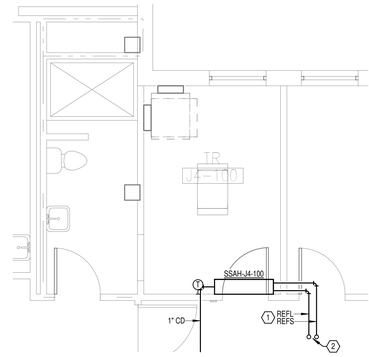
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO ROOF. SEE SHEET M-137.RA FOR CONTINUATION.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.



AREA A - FLOOR PLAN
LEVEL 04 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
04 ROOM 1 -
MECHANICAL
2 1/4" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 04 - AREA A - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Building Number: 137
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	Drawing Number: M-137.4A

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VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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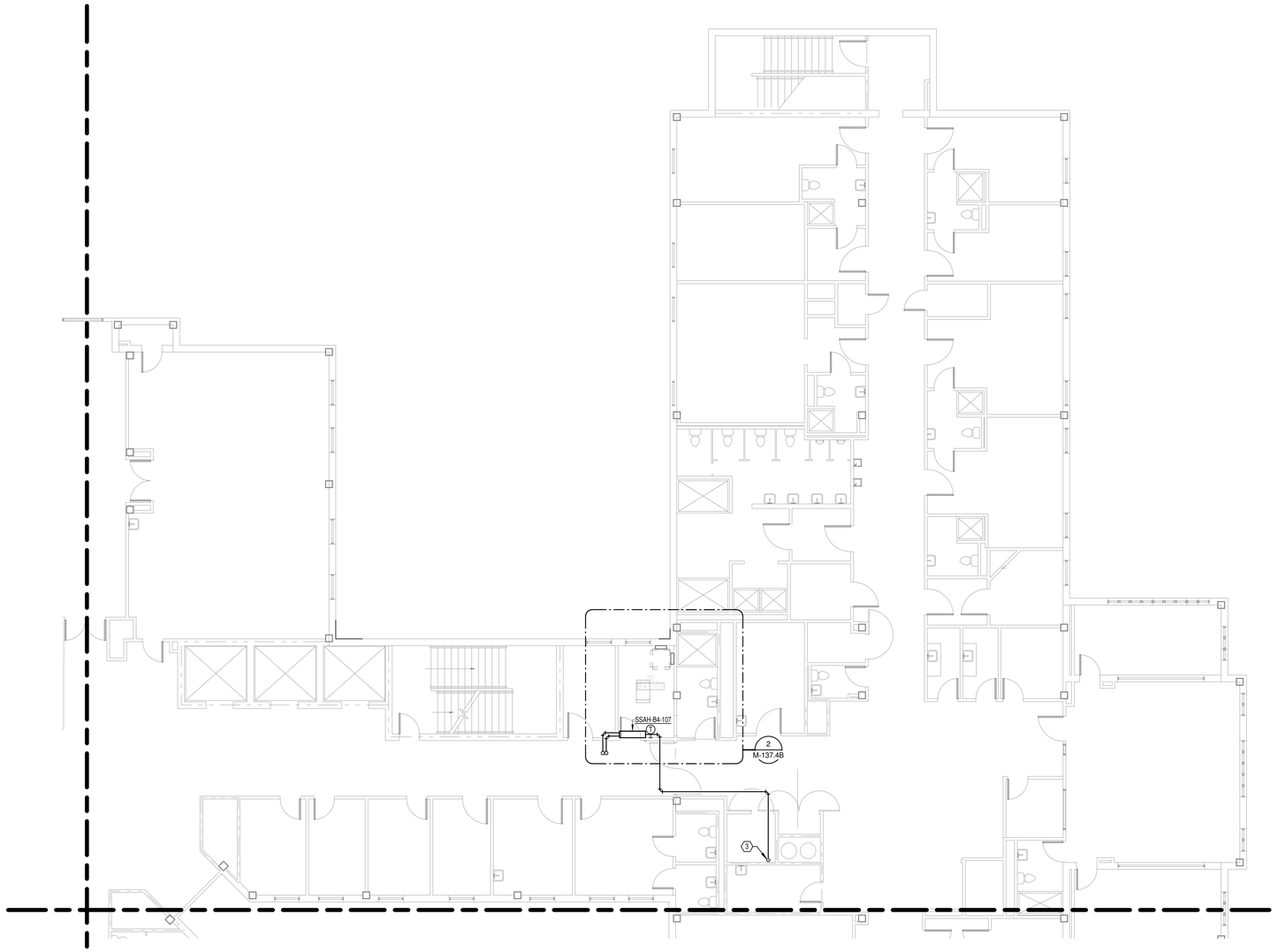
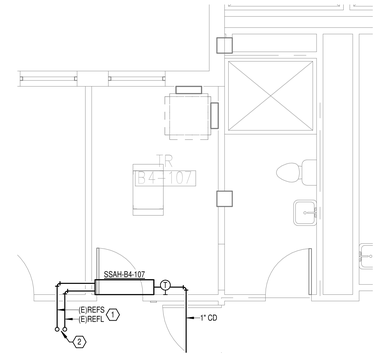
SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO ROOF. SEE SHEET M-137.RB FOR CONTINUATION.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.



AREA B - FLOOR PLAN
LEVEL 04 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
04 ROOM 3 -
MECHANICAL
2 1/4" = 1'-0"

N
PLAN

N
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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 LEVEL 04 - AREA B - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.4B

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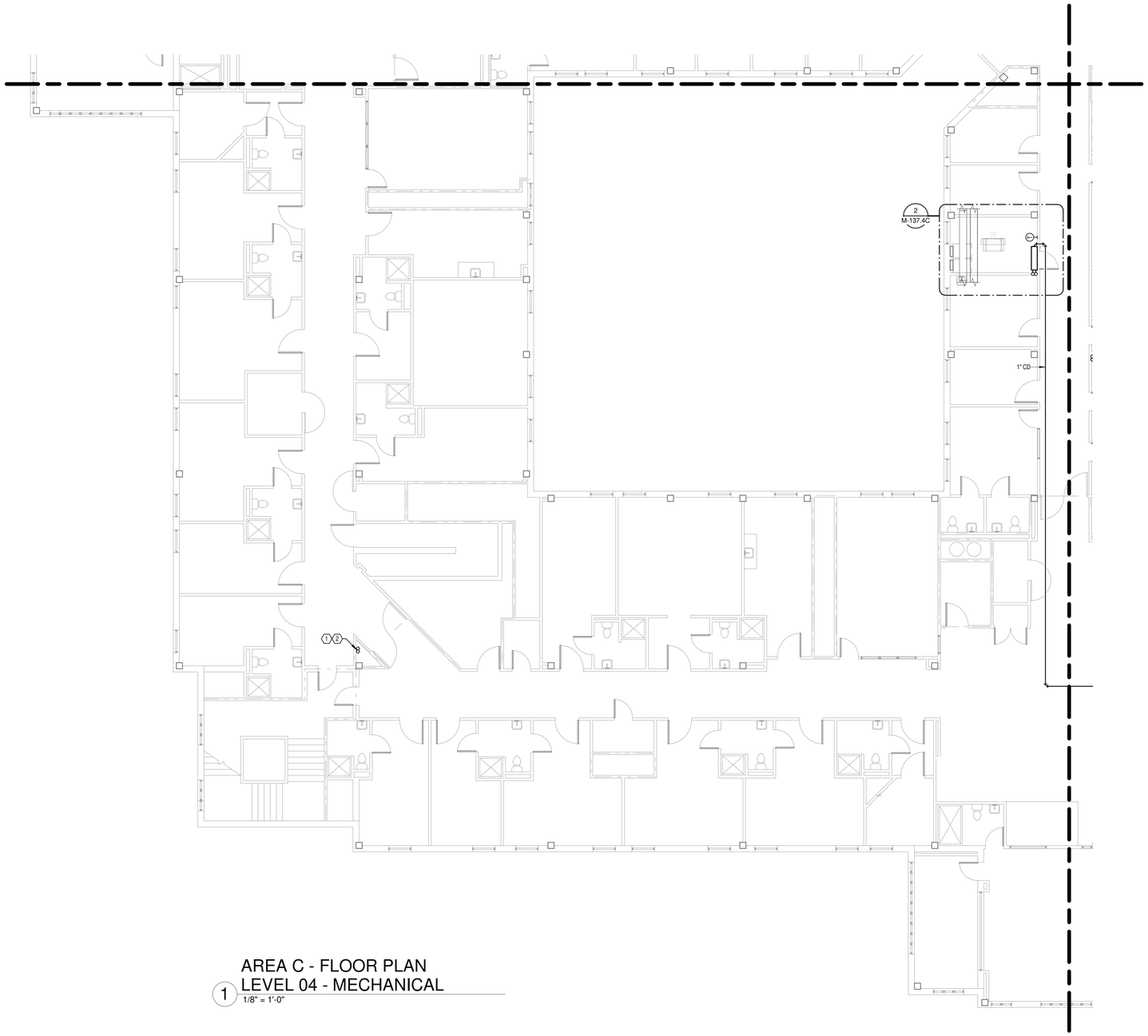
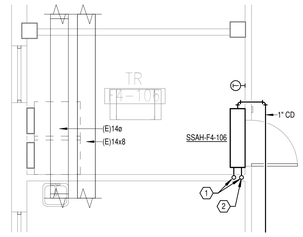


AREA C - FLOOR PLAN
LEVEL 04 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
04 ROOM 2 -
MECHANICAL
2 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO ROOF. SEE SHEET M-137.RC FOR CONTINUATION.

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 04 - AREA C - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Building Number: 137
		Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	Drawing Number: M-137.4C

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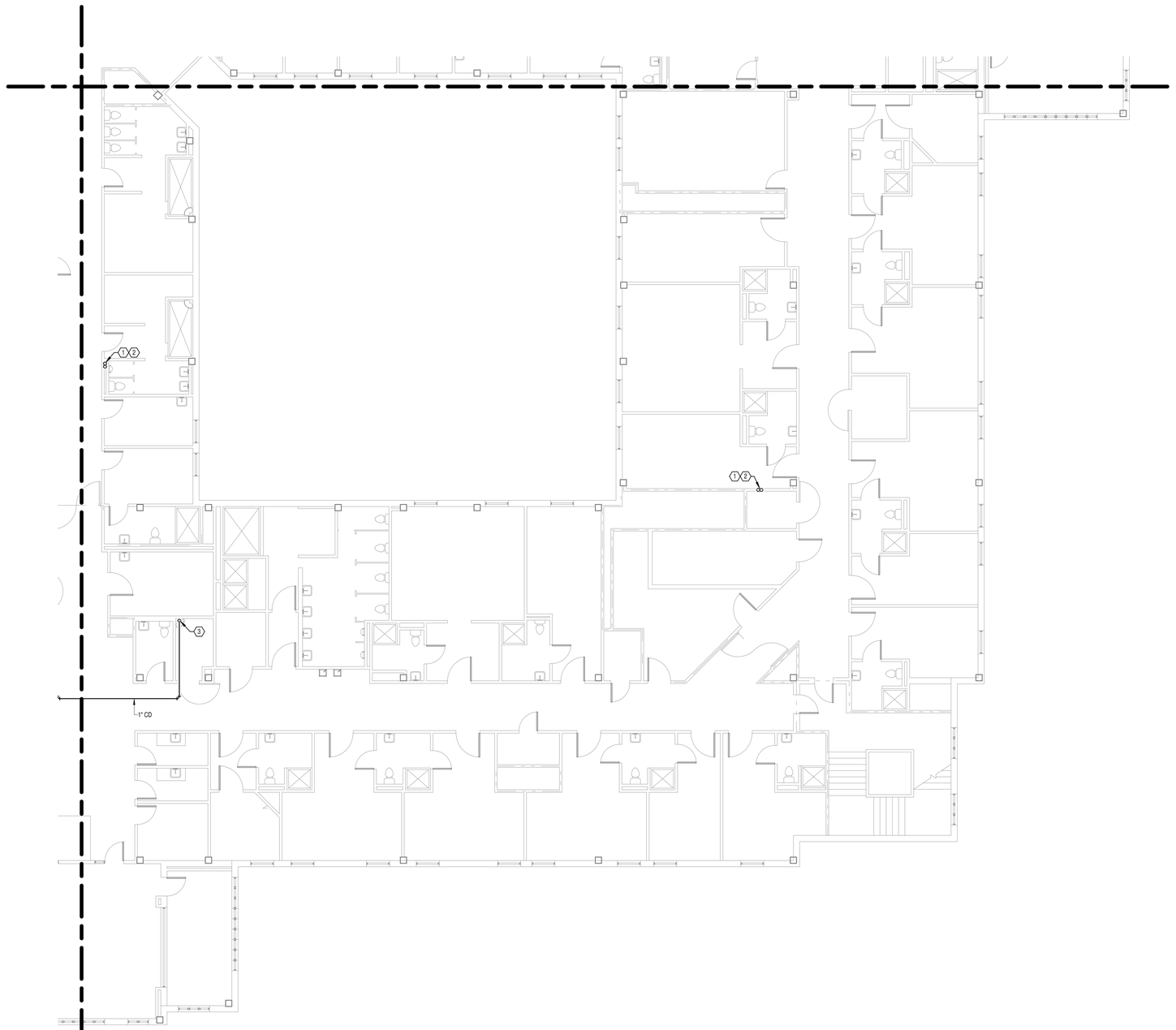

AREA D - FLOOR PLAN
LEVEL 04 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING UP TO ROOF AND DOWN TO LEVEL 3. SEE SHEET M-137.RD AND SHEET M-137.3D FOR CONTINUATION.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE OVER MOP BASIN 2" ABOVE RIM OF MOP BASIN.

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 LEVEL 04 - AREA D - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date / Checked / Drawn	03/08/2024 / JKK / PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.4D

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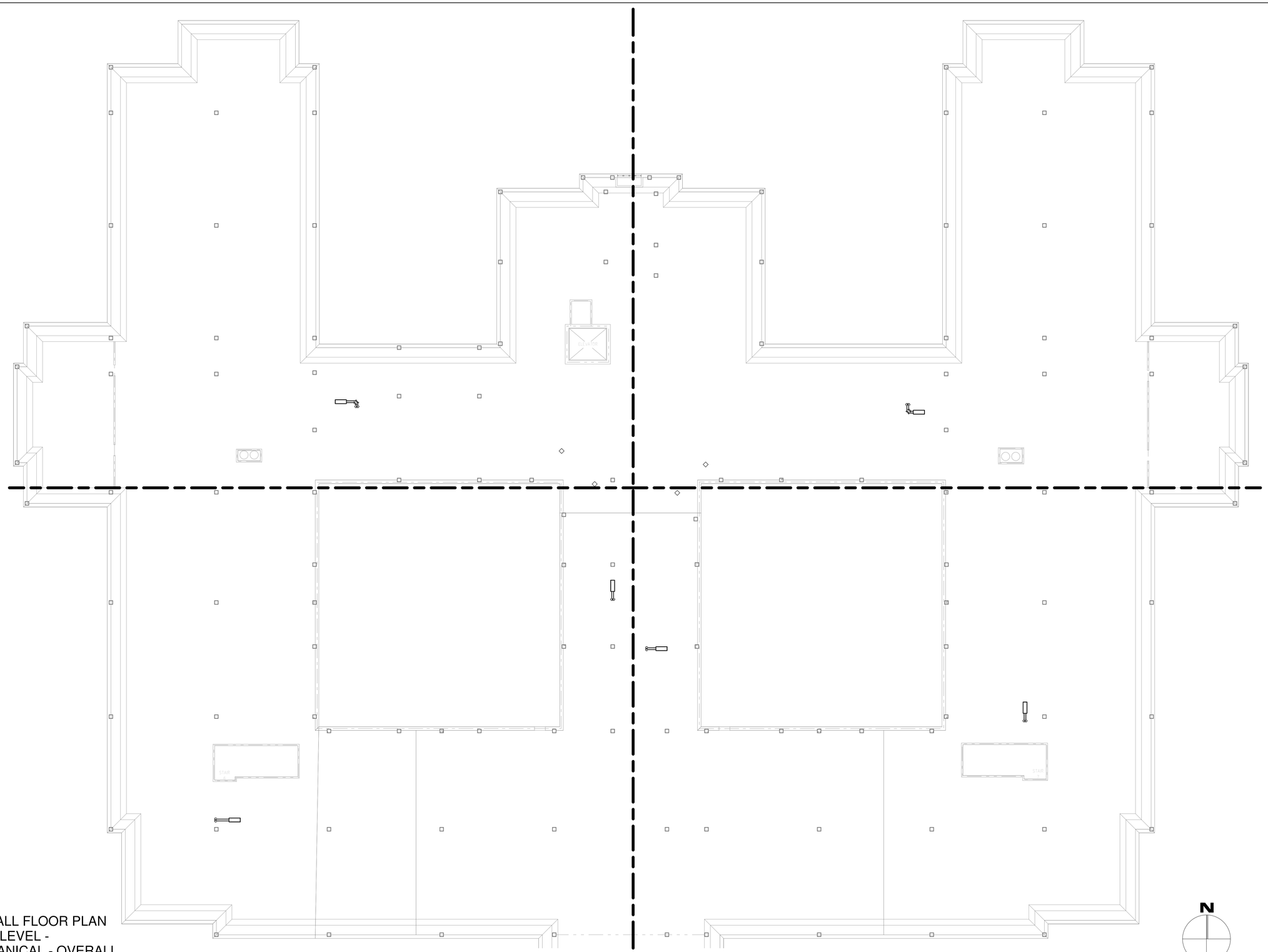

OVERALL FLOOR PLAN
ROOF LEVEL -
MECHANICAL - OVERALL

1 3/32" = 1'-0"

N
PLAN

N
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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	OVERALL FLOOR PLAN ROOF LEVEL - MECHANICAL - OVERALL
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.R

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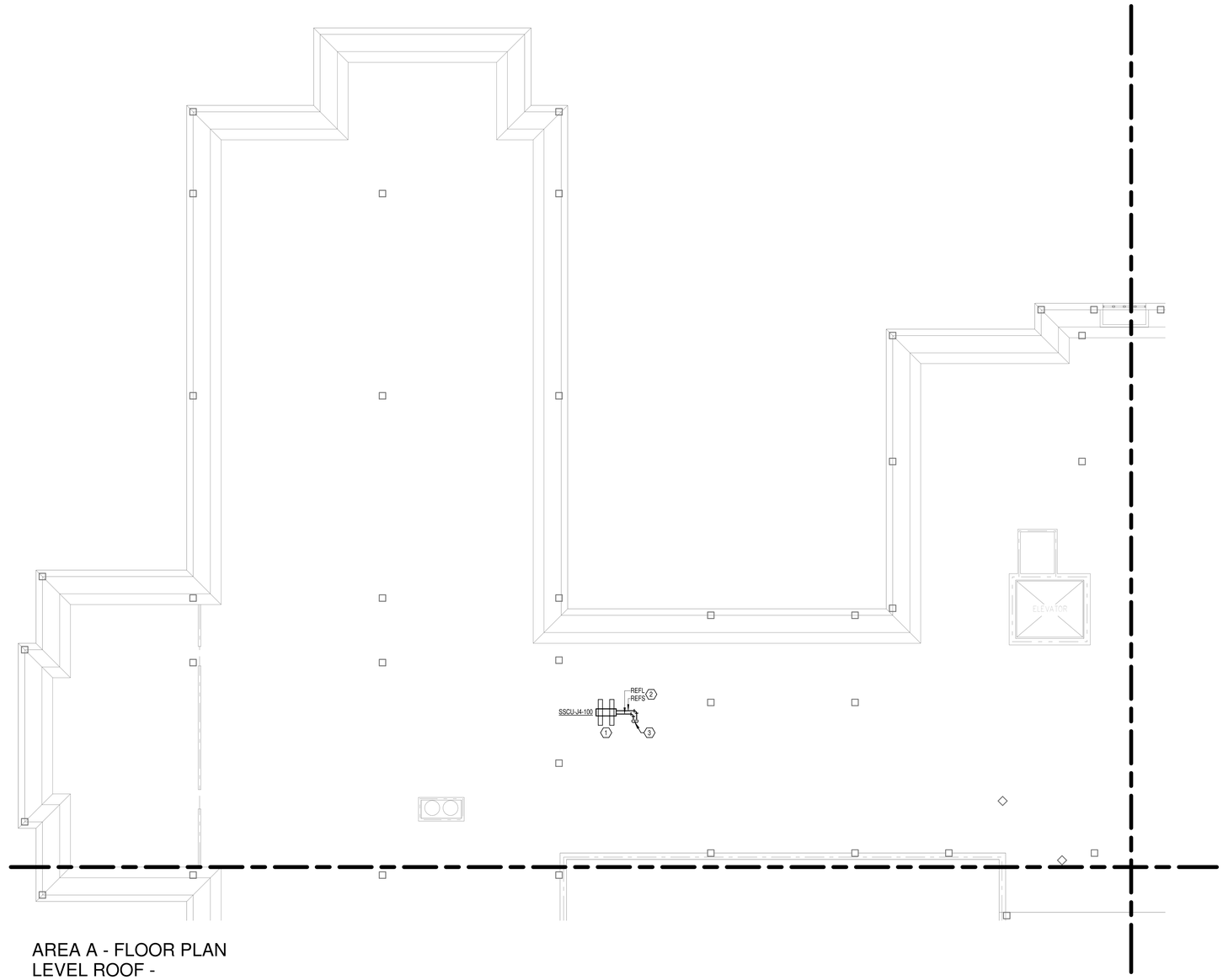

AREA A - FLOOR PLAN
LEVEL ROOF -
MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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SHEET NOTES:

1. PROVIDE EQUIPMENT RAILS AT ROOF MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - ROOF MOUNTED" ON SHEET M-001.
2. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. REFRIGERANT PIPING DOWN TO LEVEL 4. SEE SHEET M-137.4A FOR CONTINUATION.

N

PLAN

TRUE N

Revisions:	Date:

CONSULTANT

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 ROOF LEVEL - AREA A - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.RA

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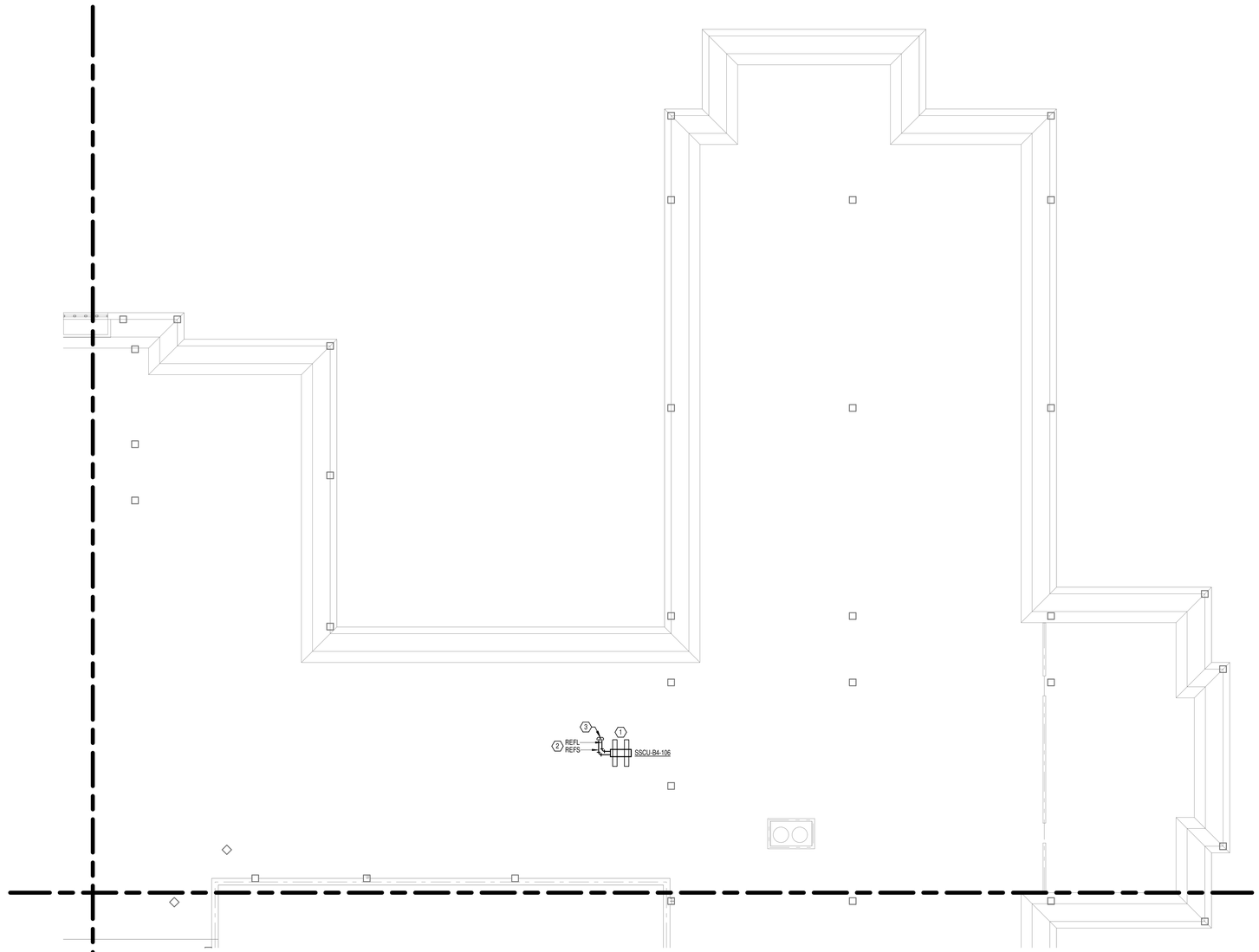

AREA B - FLOOR PLAN
LEVEL ROOF -
MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. PROVIDE EQUIPMENT RAILS AT ROOF MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - ROOF MOUNTED" ON SHEET M-001.
2. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. REFRIGERANT PIPING DOWN TO LEVEL 4. SEE SHEET M-137.4B FOR CONTINUATION.

N

PLAN

N

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Revisions:	Date:

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 ROOF LEVEL - AREA B - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.RB

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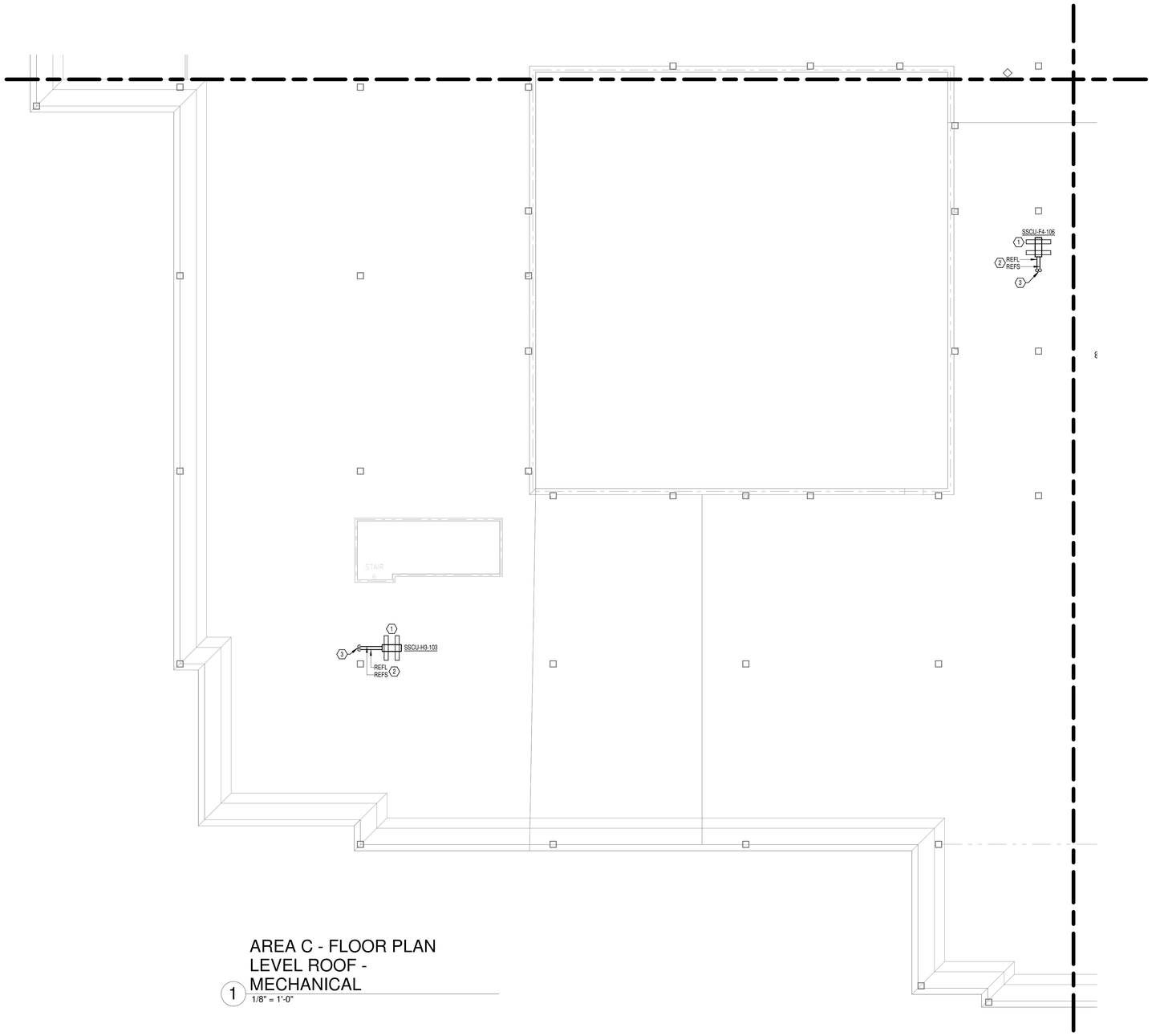

AREA C - FLOOR PLAN
LEVEL ROOF -
MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

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3. REFRIGERANT PIPING DOWN TO LEVEL 4. SEE SHEET M-137.4C FOR CONTINUATION.

N

PLAN

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Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 137 ROOF LEVEL - AREA C - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 137
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-137.RC
Issue Date: 03/08/2024	Checked: JKK
	Drawn: PCM

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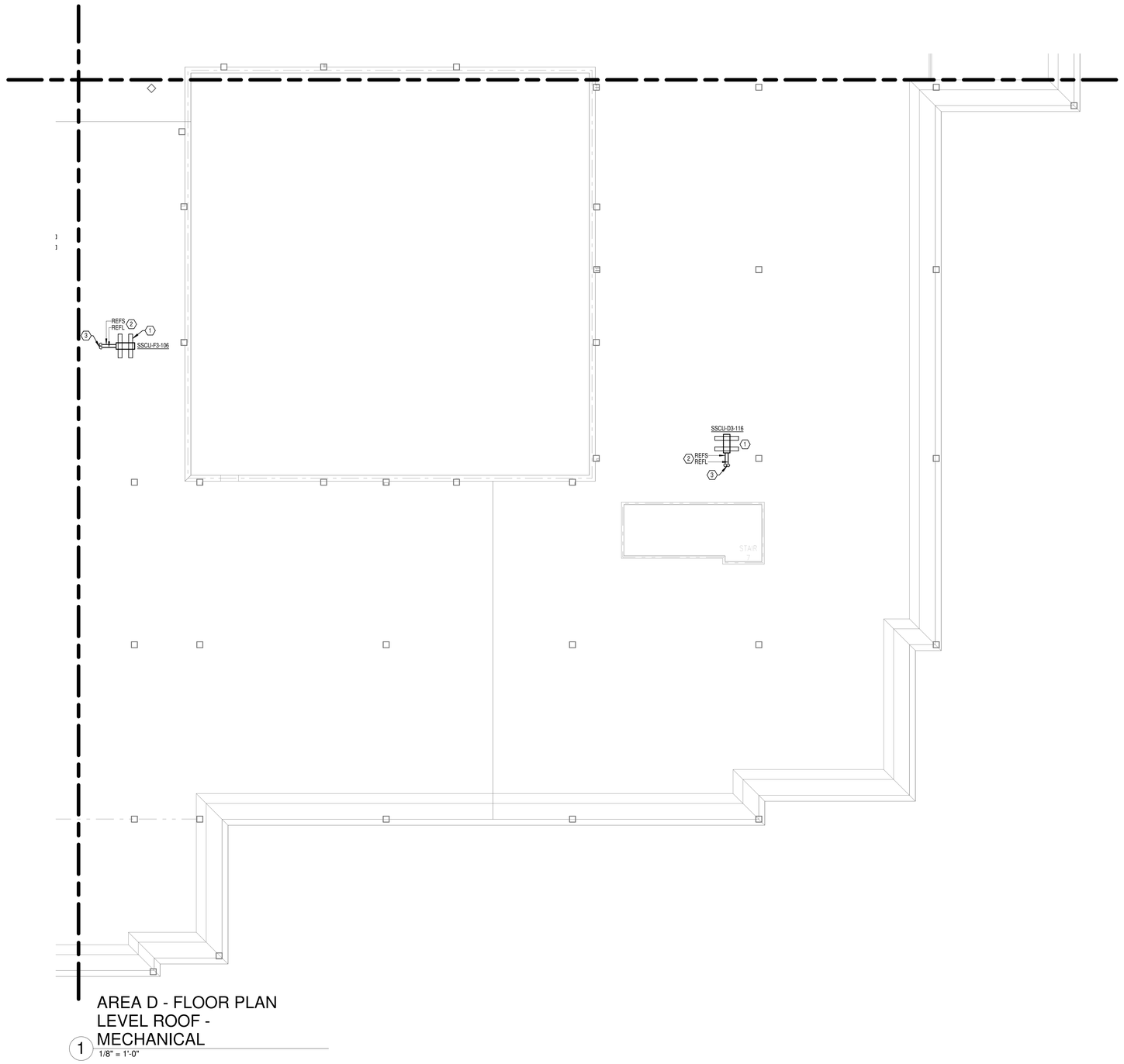

AREA D - FLOOR PLAN
LEVEL ROOF - MECHANICAL

1 1/8" = 1'-0"

GENERAL NOTES:

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3. REFRIGERANT PIPING DOWN TO LEVEL 4. SEE SHEET M-137.4D FOR CONTINUATION.

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 137 ROOF LEVEL - AREA D - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.RD

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SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-B4-107	B4-107	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-D1-107	D1-107	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-D2-114	D2-114	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-D3-116	D3-116	2.0	24	1"	46 3/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-F1-104	F1-104	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-F2-106	F2-106	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-F3-106	F3-106	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-F4-106	F4-106	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-H1-101C	H1-101C	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-H2-103	H2-103	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-H3-103	H3-103	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSAH-J4-100	J4-100	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(5)(7)
SSCU-B4-106	SSAH-B4-106	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)
SSCU-D1-107	SSAH-D1-107	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-D2-114	SSAH-D2-114	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-D3-116	SSAH-D3-116	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)
SSCU-F1-104	SSAH-F1-104	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-F2-106	SSAH-F2-106	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-F3-106	SSAH-F3-106A	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)
SSCU-F4-106	SSAH-F4-106	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)
SSCU-H1-101C	SSAH-H1-101C	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-H2-103	SSAH-H2-103	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(4)(6)
SSCU-H3-103	SSAH-H3-103	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)
SSCU-J4-100	SSAH-J4-100	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(3)(4)(6)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE CURB RAILS AND ROOF SUPPORTS FOR OUTDOOR UNIT.
4. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
5. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
6. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
7. PROVIDE WITH HARD WIRED THERMOSTAT.

VARIABLE VOLUME BOX - HOT WATER

MARK	AIRFLOW [CFM]		BOX INLET [IN]	LEAVING AIR TEMP		COIL CAPACITY [MBH]	COIL FLOW [GPM]	REMARKS
	MAXIMUM	MINIMUM		COOLING [°F]	HEATING [°F]			
VAV-1C-5	560	230	6	55	90	13.1	0.9 GPM	(1)(2)(3)(4)(5)(6)
VAV-2-22	300	150	6	55	90	13.1	0.9 GPM	(1)(2)(3)(4)(5)(6)
VAV-2B-22	200	100	8	55	90	13.1	0.9 GPM	(1)(2)(3)(4)(5)(6)
VAV-3-22	200	100	6	55	90	13.1	0.9 GPM	(1)(2)(3)(4)(5)(6)

REMARKS:
1. MAXIMUM FULL FLOW AIR PRESSURE DROP ACROSS THE BOX ASSEMBLY INCLUDING HEATING COIL SHALL BE 0.75 IN W.C.
2. MAXIMUM FULL FLOW WATER PRESSURE DROP THROUGH THE COIL SHALL BE 5 FEET.
3. MAXIMUM RADIATED SOUND LEVEL BASED ON ARI 880-98 AT 1.0 IN W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 30.
4. MAXIMUM DISCHARGE SOUND LEVEL BASED ON ARI 880-98 AT 1.0 IN W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 25.
5. REGARDLESS OF CURRENT SYSTEM HEATING HOT WATER SYSTEM DESIGN TEMPERATURE, HEATING HOT WATER COIL PERFORMANCE IS BASED ON ENTERING WATER TEMPERATURE OF 140 DEG F. COIL AIRFLOW IS SELECTED BASED ON THE MAXIMUM AIRFLOW COLUMN.
6. EXISTING VAV SEQUENCE OF CONTROL SHALL BE USED. UNOCCUPIED MINIMUM SETTINGS PER VARIABLE VOLUME BOX CONTROL SEQUENCE. IF CONTROL SEQUENCE DOES NOT NOTE A MINIMUM SETTING, THEN MINIMUM SETTING DEFAULTS TO THIS SCHEDULE.

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SCHEDULES
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	137
Drawing Number	M-137.600

VA FORM 08 - 6231

GENERAL NOTES:

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SHEET NOTES:⬡

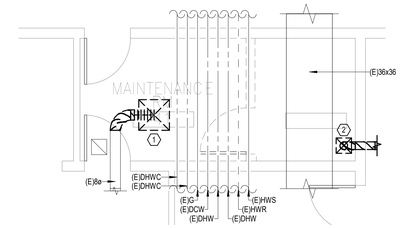
1. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK TO POINTS INDICATED. NOTE COLOR AND STYLE OF SUPPLY DIFFUSER.

2. DEMOLISH SUPPLY DIFFUSER AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
- DEMOLITION

1 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL

3 1/4" = 1'-0"

N PLAN TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC C. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 143 LEVEL 01 - MECHANICAL - DEMOLITION
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	143
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	MD-143.1

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GENERAL NOTES:

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SHEET NOTES:

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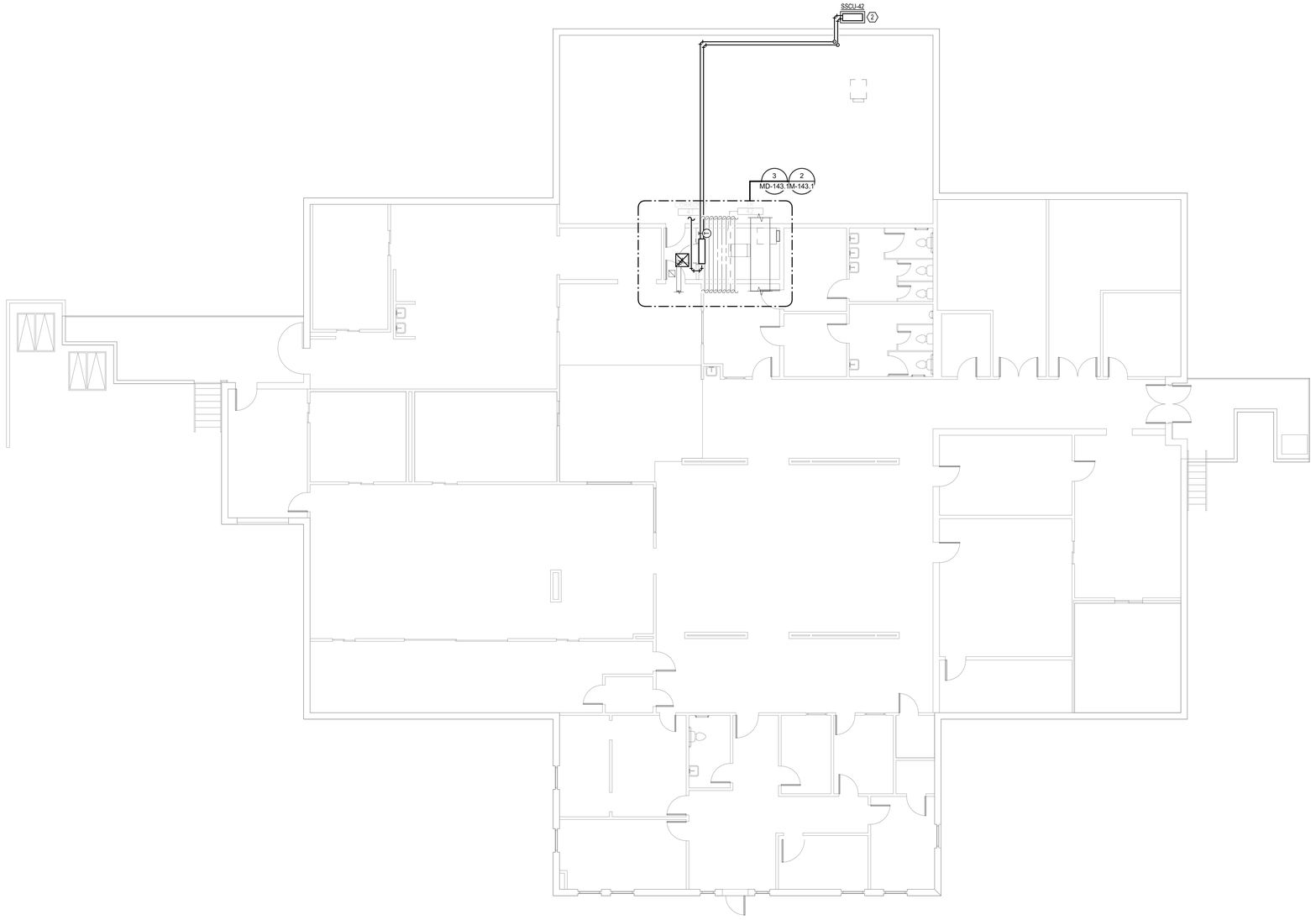
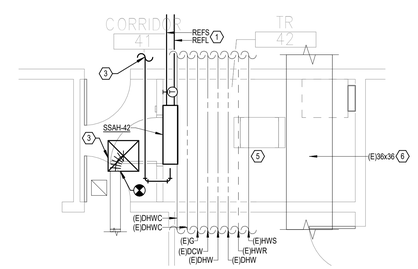
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE ROUTED TO NEAREST FLOOR DRAIN.
4. INSTALL NEW SUPPLY DIFFUSER AND CONNECT TO NEW SUPPLY DUCTWORK. SUPPLY DIFFUSER SHALL MATCH DEMOLISHED DIFFUSER IN COLOR AND STYLE. DUCT SIZE AND INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING DUCT AND INSULATION. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.
5. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES IN TR 42. UPON DETECTION OF MOISTURE, ALARM TO BAS.
6. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING DUCT IN TR 42. UPON DETECTION OF MOISTURE, ALARM TO BAS.



OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL
2 1/4" = 1'-0"

N PLAN

N TRUE

Revisions:	Date:

CONSULTANT

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 143 LEVEL 01 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA AL.
Issue Date	03/08/2024
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Drawing Number	M-143.1

Autodesk Docs://20375.003 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.608_VA EHRM Tuscaloosa_R20_B143.rvt
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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA						REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY		
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT										
SSAH-42	42	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]			(1)(4)(6)
SSCU-42	SSAH-42	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC		(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT

Revisions: | Date:

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NC Architectural License No.: 51254

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 143
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-143.600

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_P20_B143.rvt
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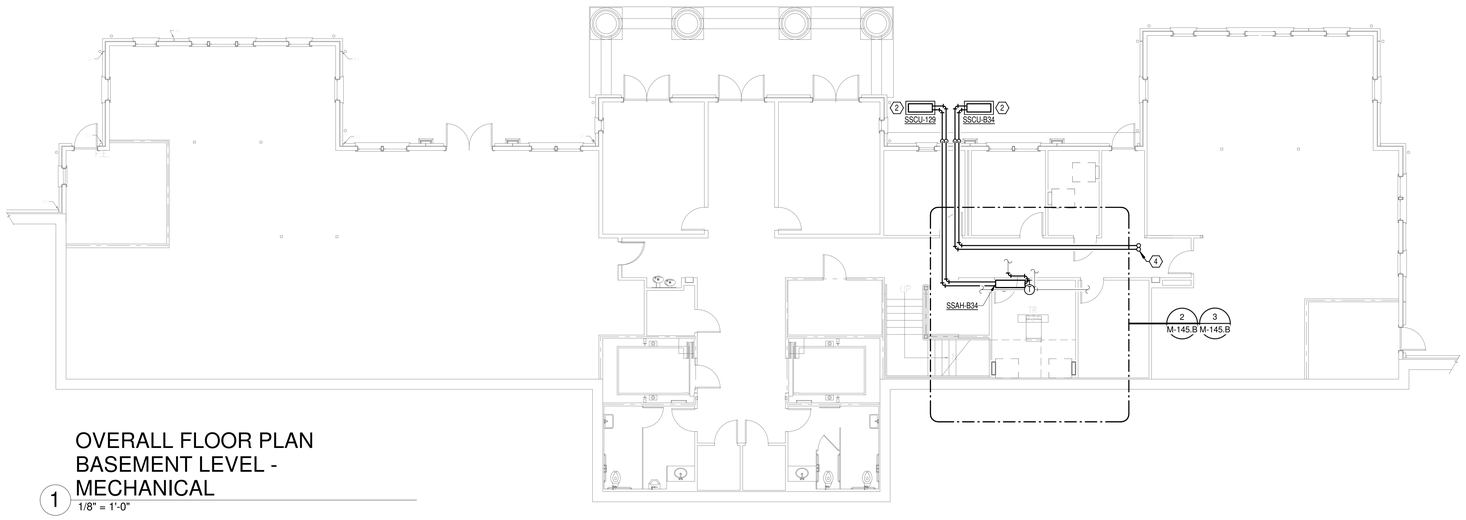
VA FORM 08 - 6231



OVERALL FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

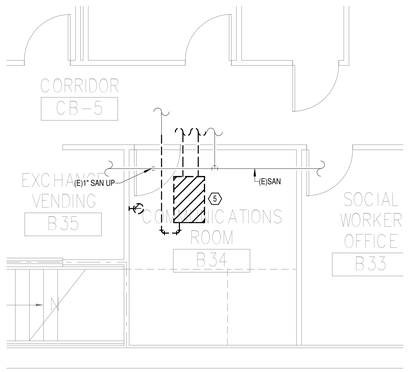
1 1/8" = 1'-0"

GENERAL NOTES:

1. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
2. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
3. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
4. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

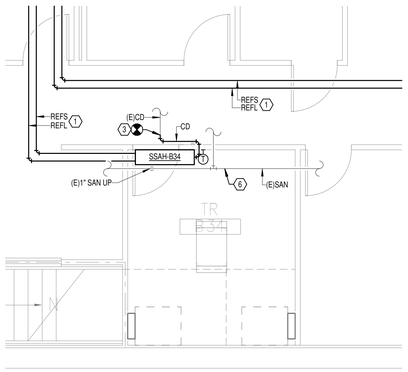
SHEET NOTES:⬡

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL TIE INTO EXISTING 1" CONDENSATE DRAIN.
4. REFRIGERANT PIPING UP TO LEVEL 1.. SEE SHEET M-145.1 FOR CONTINUATION.
5. DEMOLISH FAN COIL UNIT, ASSOCIATED CHILLED WATER PIPING BACK TO MAINS, THERMOSTAT, AND CONTROLS. CAP PIPES AND INSULATE. DEMOLISH CONDENSATE DRAIN TO POINT INDICATED.
6. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW EXISTING PIPES IN TR B34. UPON DETECTION OF MOISTURE, ALARM TO BAS.



DEMOLITION FLOOR
PLAN BASEMENT LEVEL -
MECHANICAL

2 1/4" = 1'-0"



NEW FLOOR PLAN
BASEMENT LEVEL -
MECHANICAL

3 1/4" = 1'-0"

N

PLAN

TRUE N

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 3/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 145 BASEMENT LEVEL - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	145
Drawing Number	M-145.B

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B145.rvt
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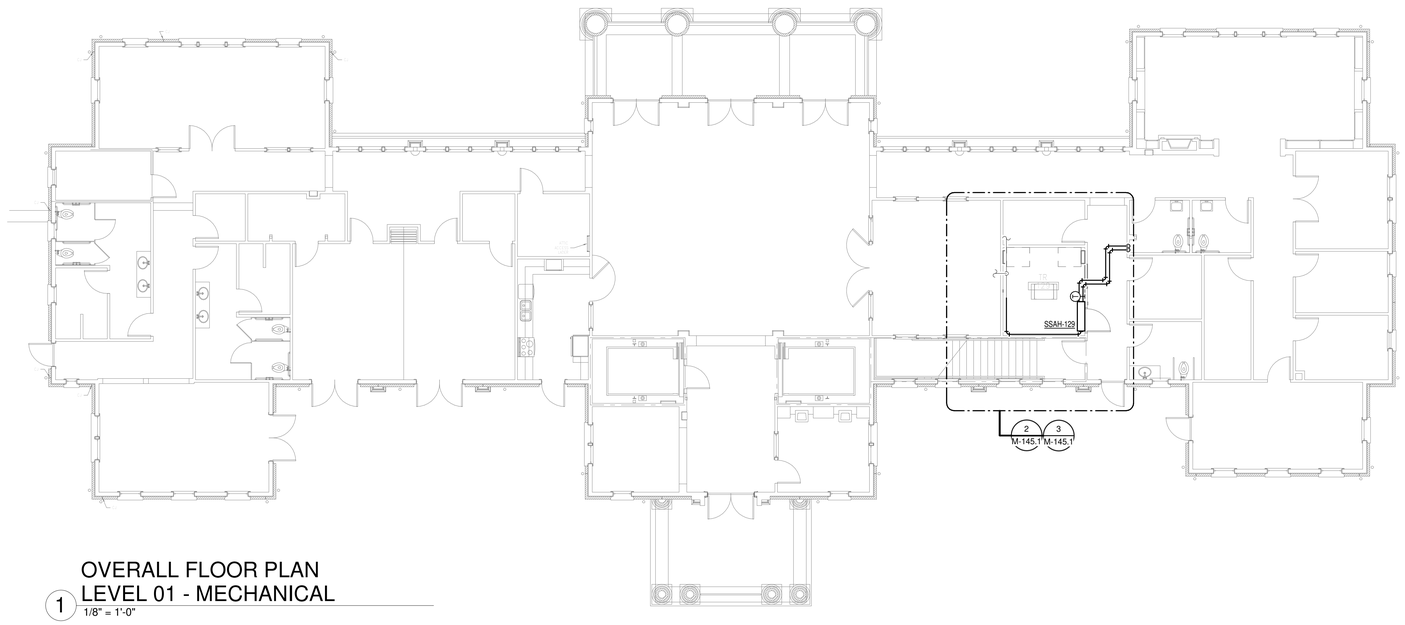
VA FORM 08 - 6231



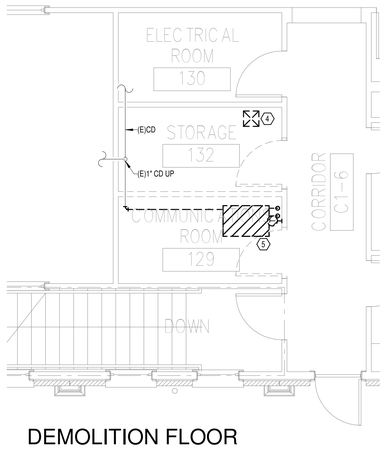
OVERALL FLOOR PLAN
LEVEL 01 - MECHANICAL
1 1/8" = 1'-0"

GENERAL NOTES:

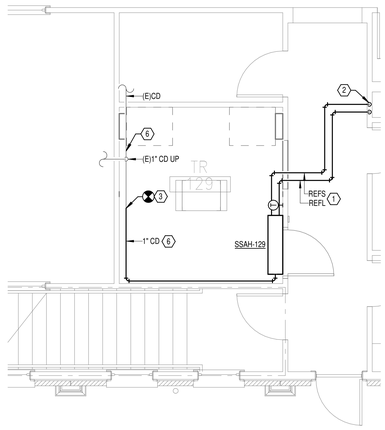
1. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
2. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
3. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
4. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFRIGERANT PIPING DOWN TO BASEMENT. SEE SHEET M-145.B FOR CONTINUATION.
3. 1" CONDENSATE PIPE SHALL TIE INTO EXISTING 1" CONDENSATE DRAIN.
4. DEMOLISH SUPPLY GRILLE AND ASSOCIATED DUCTWORK BACK TO MAIN. CAP AND INSULATE DUCTWORK. NEW INSULATION SHALL BE THE SAME TYPE, DENSITY AND THICKNESS AS EXISTING INSULATION.
5. DEMOLISH FAN COIL UNIT, ASSOCIATED CHILLED PIPING BACK TO MAINS, THERMOSTAT, AND CONTROLS. CAP CHILLED WATER PIPES AND INSULATE. DEMOLISH CONDENSATE PIPING BACK TO POINT INDICATED.
6. INSTALL DRAIN PANS WITH LEAK DETECTION BELOW NEW AND EXISTING PIPES IN TR 129. UPON DETECTION OF MOISTURE, ALARM TO BAS.



DEMOLITION FLOOR
PLAN LEVEL 01 -
MECHANICAL
2 1/4" = 1'-0"



NEW FLOOR PLAN LEVEL
01 - MECHANICAL
3 1/4" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 3/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 145 LEVEL 01 - MECHANICAL
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	145
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Drawing Number	M-145.1

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B145.rvt
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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-129	129	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	[redacted]	[redacted]	[redacted]		(1)(4)(6)
SSAH-B34	B34	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V					(1)(4)(6)
SSCU-129	SSAH-129	2.0	24	0"				80/67	37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)
SSCU-B34	SSAH-B34	2.0	24	0"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP, CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 3/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 145
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-145.600

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_P2D_B145.rvt
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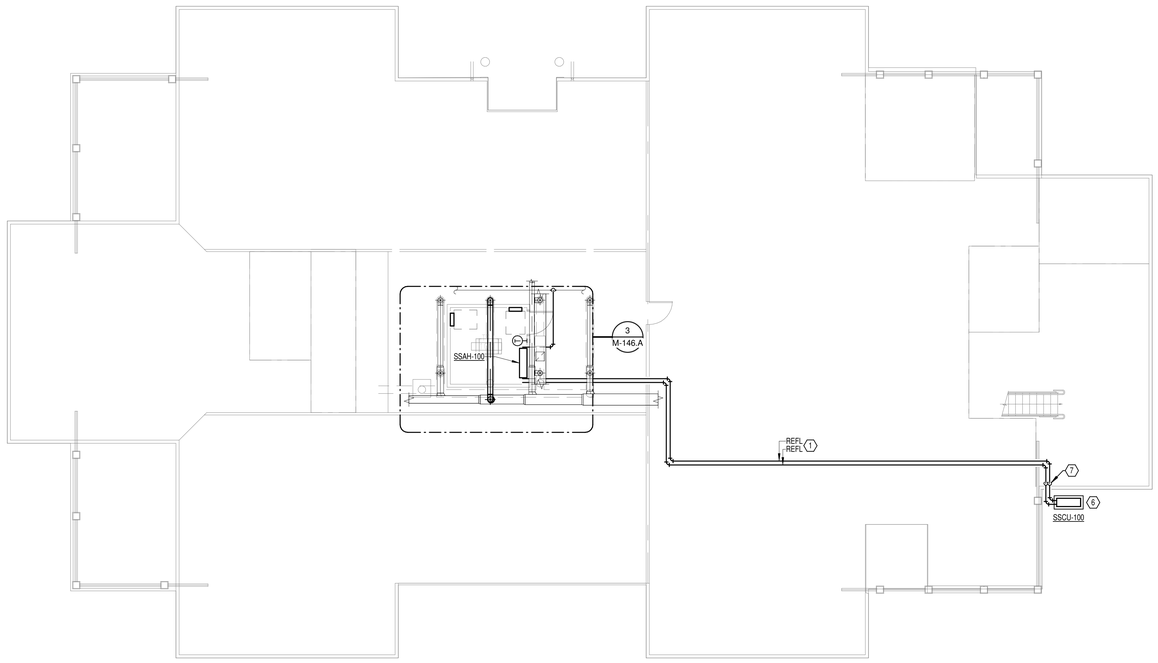
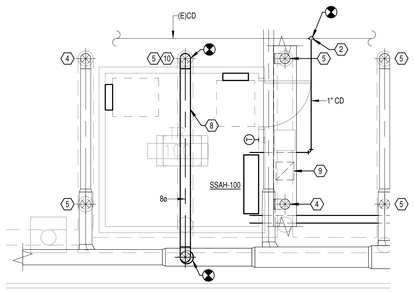
VA FORM 08 - 6231



OVERALL FLOOR PLAN
ATTIC - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN ATTIC
- MECHANICAL
3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

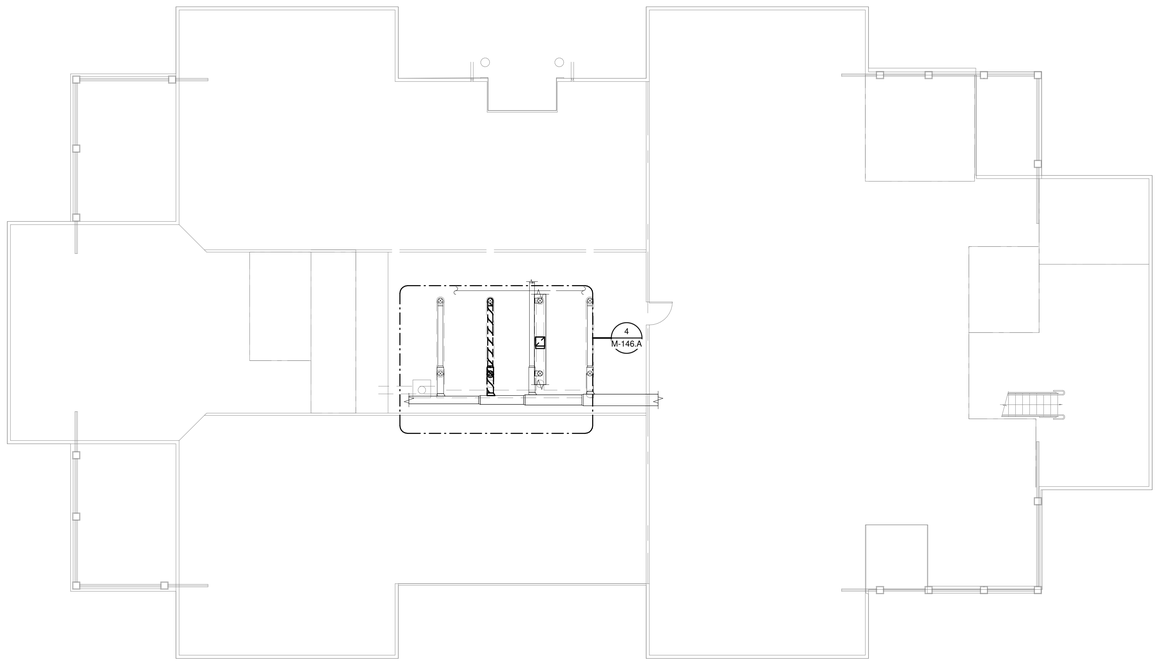
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

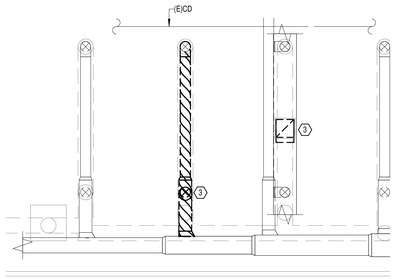
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. 1" CONDENSATE PIPE SHALL TIE INTO EXISTING CONDENSATE DRAIN.
3. DEMOLISH DUCTWORK AND ASSOCIATED DIFFUSER OR GRILLE.
4. BALANCE EXISTING DIFFUSER BELOW TO 135 CFM.
5. BALANCE EXISTING DIFFUSER BELOW TO 140 CFM.
6. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
7. REFRIGERANT PIPING SHALL BE ROUTED DOWN TO GROUND LEVEL ALONG WALL IN MECHANICAL ROOM.
8. DUCT SHALL BE ABOVE ARCHITECTURAL LID. REFER TO ARCHITECTURE SHEETS.
9. PROVIDE 12"x12" DUCT DOWN TO NEW RETURN GRILLE, SIZE AND TYPE SHALL MATCH DEMOLISHED RETURN GRILLE. CONNECT DUCT TO EXISTING RETURN MAIN.
10. PROVIDE 8" DUCT DOWN TO NEW SUPPLY DIFFUSER, SIZE AND TYPE SHALL MATCH DEMOLISHED DIFFUSER.



OVERALL FLOOR PLAN
ATTIC - MECHANICAL -
DEMOLITION
2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN ATTIC -
MECHANICAL
4 1/4" = 1'-0"

N
PLAN

N
TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 146 ATTIC - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
			Building Number: 146
Approved:	FULLY SPRINKLERED	Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-146.A
		Issue Date: 03/08/2024 / Checked: AGT / Drawn: PCM	

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B146.rvt
08/03/2024 14:14:22

VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-100	100	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(4)(6)
SSCU-100	SSAH-100	2.0	24	1"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
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3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
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5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_P2D_B146.rvt
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Revisions:	Date:

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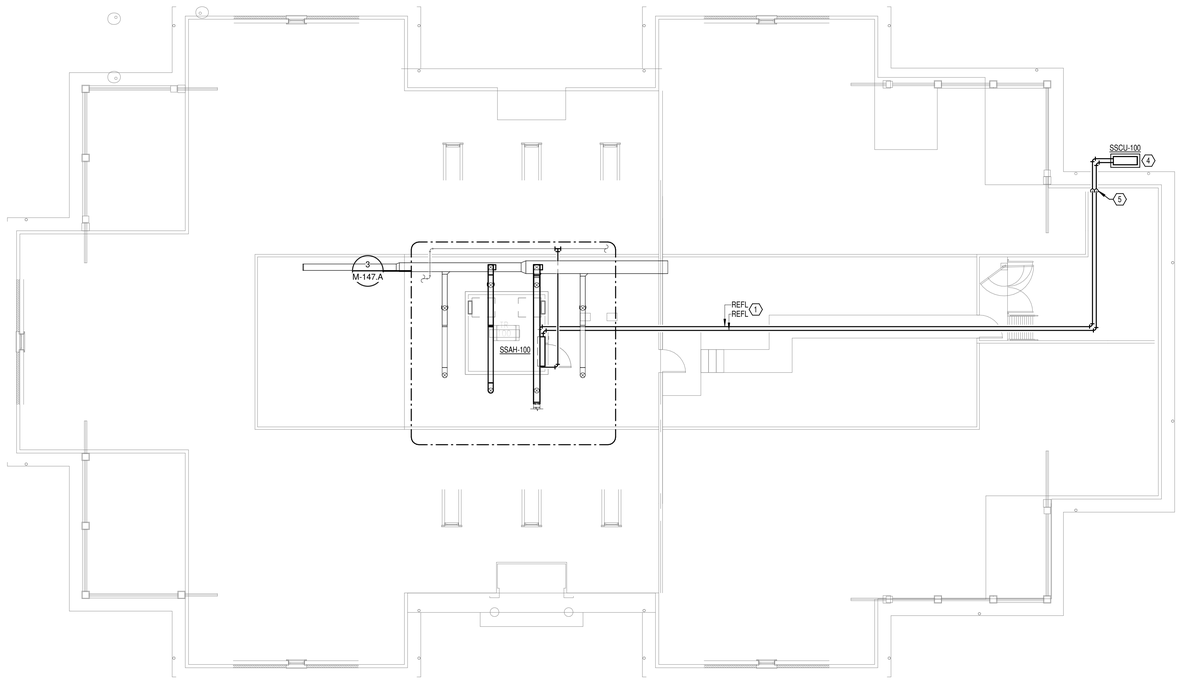
NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

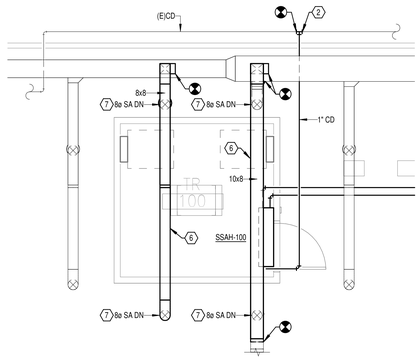
VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
Project Title: EHRM INFRASTRUCTURE UPGRADES
Project Number: 679-20-104
Building Number: 146
Approved:
FULLY SPRINKLERED
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: JKK
Drawn: PCM
Drawing Number: M-146.600

VA FORM 08 - 6231



OVERALL FLOOR PLAN
ATTIC - MECHANICAL
1 1/8" = 1'-0"



NEW FLOOR PLAN ATTIC
- MECHANICAL
3 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

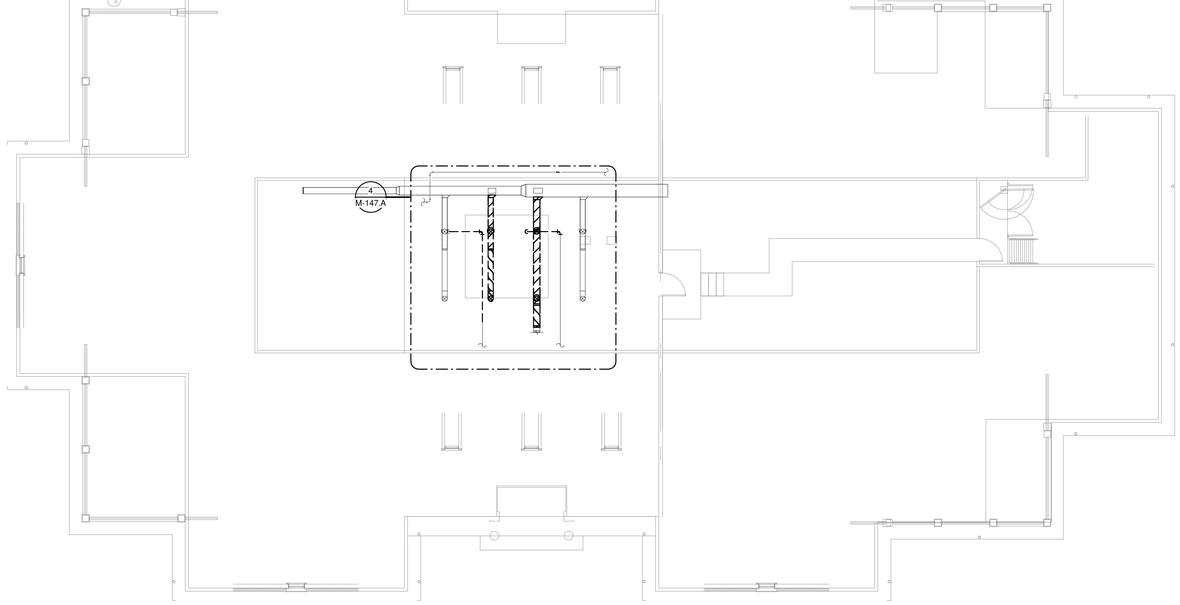
B. ON DEMOLITION PLANS; EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

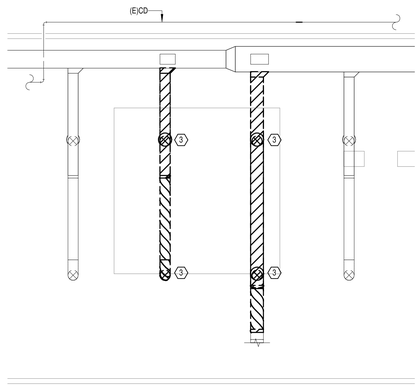
D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. 1" CONDENSATE PIPE SHALL TIE INTO EXISTING CONDENSATE DRAIN.
3. PERFORM PRE-TAB ON EXISTING DIFFUSER. DEMOLISH DUCTWORK DOWN AND ASSOCIATED DIFFUSER.
4. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
5. REFRIGERANT PIPING SHALL BE ROUTED DOWN TO GROUND LEVEL ALONG WALL IN MECHANICAL ROOM.
6. DUCT SHALL BE ABOVE ARCHITECTURAL LID. REFER TO ARCHITECTURE SHEETS.
7. PROVIDE 8" DUCT DOWN TO NEW SUPPLY DIFFUSER, SIZE AND TYPE SHALL MATCH DEMOLISHED DIFFUSER. BALANCE NEW DIFFUSER TO MATCH PRE-TAB VALUES.



OVERALL FLOOR PLAN
ATTIC - MECHANICAL -
DEMOLITION
2 1/8" = 1'-0"



DEMOLITION FLOOR
PLAN ATTIC -
MECHANICAL
4 1/4" = 1'-0"

N
PLAN

TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: BUILDING 147 ATTIC - MECHANICAL	Phase: 100% CONSTRUCTION DOCUMENTS
Approved:	FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES	Project Number: 679-20-104
	Building Number: 147
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.	Drawing Number: M-147.A
Issue Date: 03/08/2024 / Checked: JKK / Drawn: PCM	

Autodesk Docs://20375.008- VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B147.rvt
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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-100	100	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(4)(6)
SSCU-100	SSAH-100	2.0	24	1"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B147.rvt

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES

Phase: 100% CONSTRUCTION DOCUMENTS

Approved:

FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES

Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date: 03/08/2024

Checked: JKK

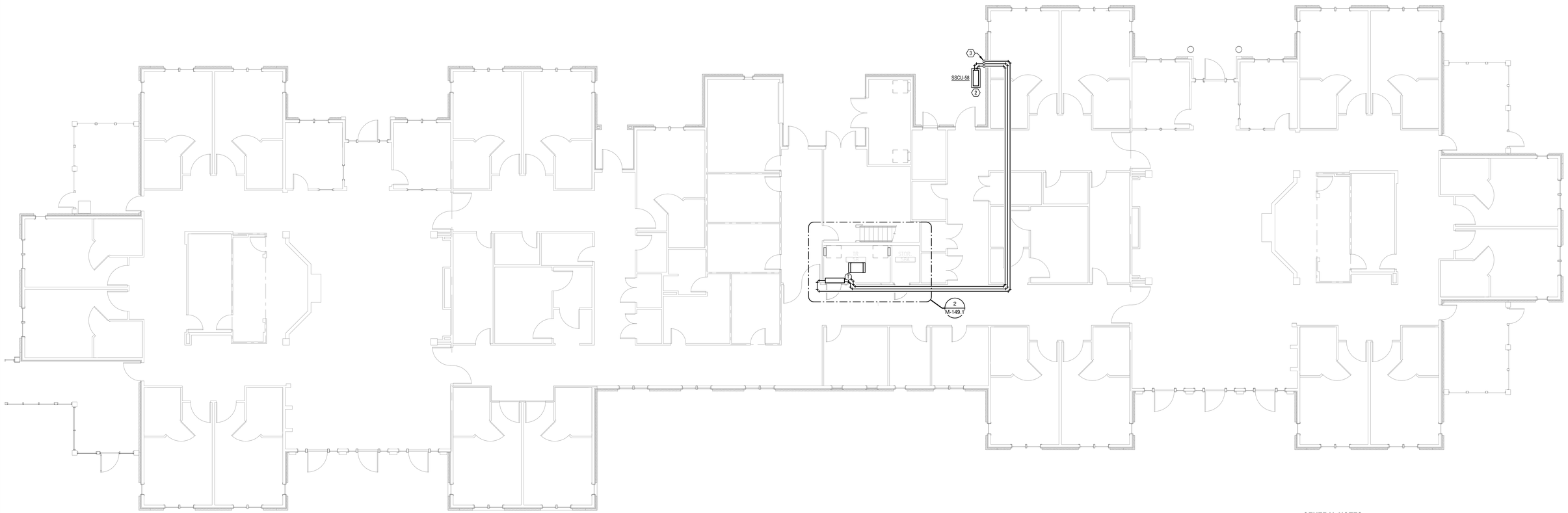
Drawn: PCM

Project Number: 679-20-104

Building Number: 147

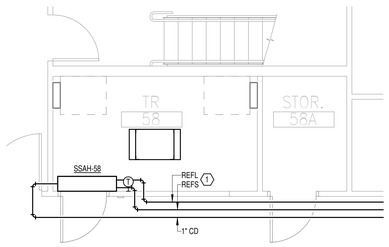
Drawing Number: M-147.600

VA FORM 08 - 6231



OVERALL FLOOR PLAN LEVEL 01 - MECHANICAL

1 — 1/8" = 1'-0"



1

NEW FLOOR PLAN LEVEL 01 - MECHANICAL

2 — 1/4" = 1'-0"

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:⬡

1. REFRIGERANT PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE CONCRETE EQUIPMENT CURB AT GRADE MOUNTED CONDENSING UNIT. REFER TO DETAIL "AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE" ON SHEET M-001.
3. 1" CONDENSATE PIPE SHALL BE RUN DOWN ALONG WALL. TERMINATE 12" ABOVE GRADE.

N PLAN

N TRUE

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 ENGINEER ERIC G. SHERMAN 03/08/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING 149 LEVEL 01 - MECHANICAL
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	JKK
Drawn	PCM
Project Number	679-20-104
Building Number	149
Drawing Number	M-149.1

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VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	CONDENSATE DRAIN SIZE	INDOOR UNIT				OUTDOOR UNIT						ELECTRICAL DATA					REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	
					LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT									
SSAH-58	58	2.0	24	1"	46 1/16"	11 5/8"	14 3/8"	80/67						46						(1)(4)(6)
SSCU-58	SSAH-58	2.0	24	1"					37 7/16"	13"	37 1/8"	95	20	151	208 V	1	19	26	EC	(1)(2)(3)(5)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.
6. PROVIDE WITH HARD WIRED THERMOSTAT.

Autodesk Docs://20375.008 VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA EHRM Tuscaloosa_R20_B149.rvt

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES

Phase: 100% CONSTRUCTION DOCUMENTS

Approved:

FULLY SPRINKLERED

Project Title: EHRM INFRASTRUCTURE UPGRADES

Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date: 03/08/2024

Checked: JKK

Drawn: PCM

Project Number: 679-20-104

Building Number: 149

Drawing Number: M-149.600

VA FORM 08 - 6231

GENERAL NOTES:

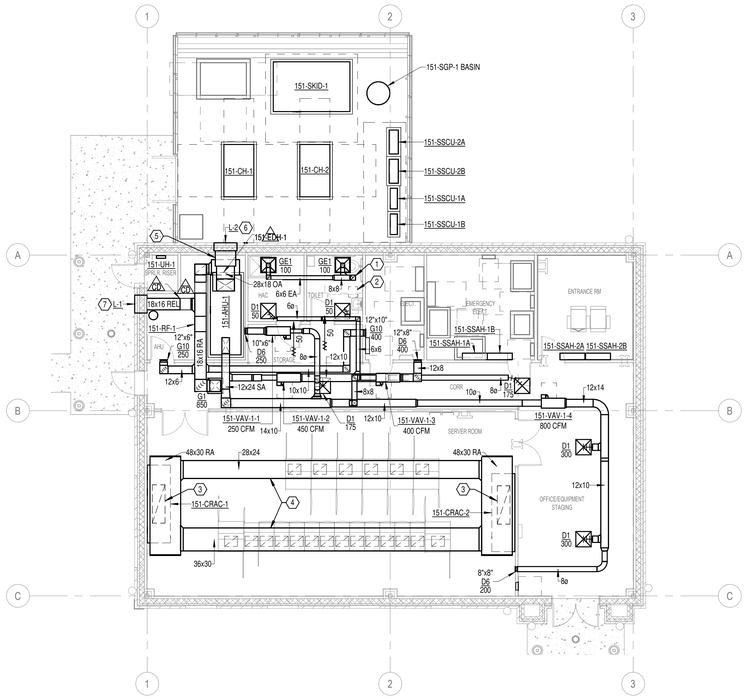
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

C. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:⬡

1. 8"x8" EXHAUST DUCT UP TO ATTIC.
2. 151-EF-1 INSTALLED IN ATTIC AND DUCTED TO ROOF JACK ON ROOF, GREENHECK MODEL RJ-6X9.
3. PROVIDE RETURN ISOLATION CONTROL DAMPER IN DUCT. DUCT SIZE SHALL MATCH CRAC UNIT DUCT CONNECTION SIZE.
4. ROUTE RETURN DUCT OVER VERTICAL EXHAUST CHIMNEYS. DIRECTLY CONNECT VERTICAL EXHAUST CHIMNEYS TO RETURN DUCT.
5. PROVIDE 2' DEEP PLENUM BOX ON INTERIOR SIDE OF LOUVER, L-2. CONNECT OUTSIDE AIR DUCT AS CLOSE TO CENTER OF PLENUM BOX AS POSSIBLE. PROVIDE ACCESS PANEL FOR VISUAL REVIEW OF LOUVER. SLOPE THE BOTTOM OF THE PLENUM BOX TO A SINGLE POINT AND INSTALL A 3/4" DRAIN CONNECTION. ROUTE THE DRAIN PIPE TO THE NEAREST FLOOR DRAIN AND TERMINATE WITH AN INDIRECT CONNECTION.
6. BOTTOM OF LOUVER SHALL BE 6'-0" ABOVE GRADE.
7. BOTTOM OF LOUVER SHALL BE 9'-0" ABOVE GRADE.



1 FLOOR PLAN - DUCTWORK
1/8" = 1'-0"

1/8" = 1'-0" SCALE 5 0 5 10 15 20 FEET

PLAN NORTH

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER ERIC G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FLOOR PLAN - DUCTWORK
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	AGT
Drawn	PCM
Project Number	679-20-104
Building Number	B151
Drawing Number	M-151.1

VA FORM 08 - 6231

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GENERAL NOTES:

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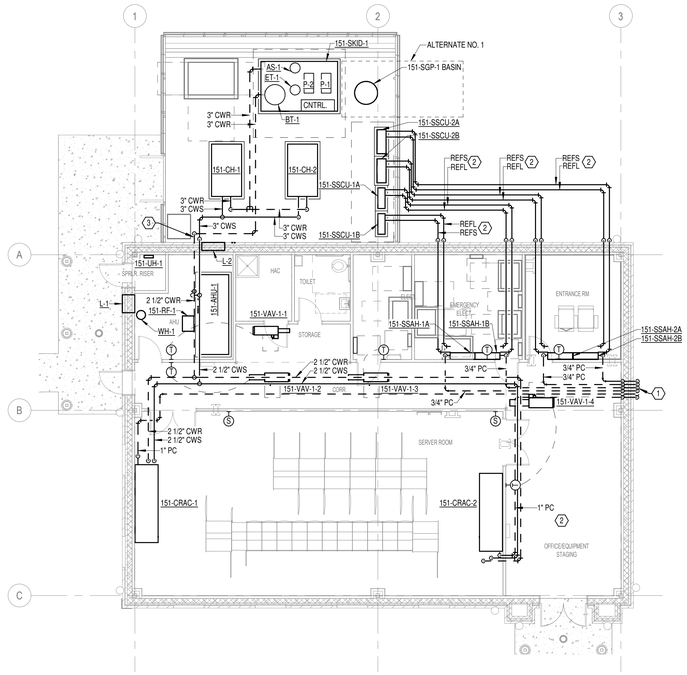
D. HOT WATER CONNECTIONS ON THE CHILLERS WILL BE UNUSED.

SHEET NOTES:⬡

1. 1" CONDENSATE PIPES SHALL BE ROUTED DOWN OUTSIDE OF EXTERIOR WALL. TERMINATE 12" ABOVE GRADE ON CONCRETE SPLASH PAD.
2. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE REFRIGERANT PIPING TIGHT TO EXTERIOR WALLS FROM BUILDING PENETRATION TO CONDENSING UNIT.
3. PROVIDE PIPE SUPPORT FROM GROUND TO SUPPORT OVERHEAD PIPES. REFER TO DETAIL "EXTERIOR VERTICAL PIPE SUPPORT ON FACE OF BUILDING" ON SHEET M-001 AND SPECIFICATIONS.



1 FLOOR PLAN - PIPING
1/8" = 1'-0"

PLAN NORTH

1/8" = 1'-0" SCALE 5 0 5 10 15 20 FEET

Revisions:	Date:

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NORTH CAROLINA PROFESSIONAL SEAL 045127 03/08/2024 ENGINEER CRIG G. SHERMAN

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title FLOOR PLAN - PIPING	**Phase** 100% CONSTRUCTION DOCUMENTS	**Project Title** EHRM INFRASTRUCTURE UPGRADES	**Project Number** 679-20-104
			Building Number B151
Approved:	FULLY SPRINKLERED	**Location** TUSCALOOSA VAMC, TUSCALOOSA, AL.	**Drawing Number** M-151.2
		Issue Date 03/08/2024 / **Checked** AGT / **Drawn** PCM	

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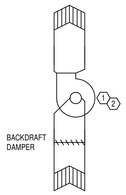
VA FORM 08 - 6231



DIRECT DIGITAL CONTROL POINTS LIST - EXHAUST FAN

POINT ID	POINT DESCRIPTION	SOURCE (1)	TYPE (2)	I/O (3)	SETPOINT ADJUSTMENT	ALARMS (4)	APPLICATIONS (5)	UNITS
1	EXHAUST FAN STATUS	E	B	I	NO	G, F	E, A, G	ON / OFF
2	EXHAUST FAN START/STOP	E	B	O	NO	-	-	-

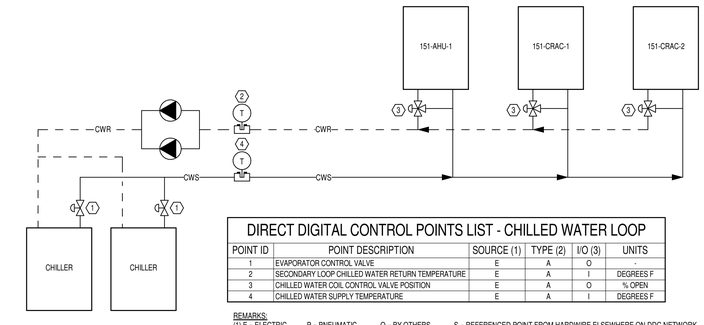
REMARKS:
(1) E = ELECTRIC; P = PNEUMATIC; O = BY OTHERS; S = REFERENCED POINT FROM HARDWIRE ELSEWHERE ON DDC NETWORK
(2) A = ANALOG; B = BINARY
(3) I = INPUT; O = OUTPUT
(4) G = GENERAL; C = CRITICAL; H = HIGH LIMIT; L = LOW LIMIT; F = FAILURE
(5) T = TRENDING; E = EVENT HISTORY; A = ARCHIVE; TT = TOTALIZATION; G = GRAPHICAL POINT

SEQUENCE OF OPERATION

THE FAN HAS A CURRENT STATUS SWITCH TO PROVE FAN OPERATION. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, SEND AN ALARM TO THE OPERATOR INTERFACE.

FAN SHALL RUN CONTINUOUSLY.

4 EXHAUST FAN
NO SCALE



DIRECT DIGITAL CONTROL POINTS LIST - CHILLED WATER LOOP

POINT ID	POINT DESCRIPTION	SOURCE (1)	TYPE (2)	I/O (3)	UNITS
1	EVAPORATOR CONTROL VALVE	E	A	O	-
2	SECONDARY LOOP CHILLED WATER RETURN TEMPERATURE	E	A	I	DEGREES F
3	CHILLED WATER COIL CONTROL VALVE POSITION	E	A	O	% OPEN
4	CHILLED WATER SUPPLY TEMPERATURE	E	A	I	DEGREES F

REMARKS:
(1) E = ELECTRIC; P = PNEUMATIC; O = BY OTHERS; S = REFERENCED POINT FROM HARDWIRE ELSEWHERE ON DDC NETWORK
(2) A = ANALOG; B = BINARY
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(5) T = TRENDING; E = EVENT HISTORY; A = ARCHIVE; TT = TOTALIZATION; G = GRAPHICAL POINT

SEQUENCE OF OPERATION

DESCRIPTION: THE CHILLED WATER SYSTEM CONSISTS OF TWO AIR-COOLED CHILLERS, EACH SIZED FOR 100% OF THE LOAD, AND TWO CONSTANT SPEED PRIMARY PUMPS, EACH SIZED FOR 100% OF THE LOAD.

CHILLER CONTROL:

- SENSE CHILLED WATER SUPPLY TEMPERATURE IN THE COMMON SUPPLY PIPING BETWEEN THE CHILLERS AND THE BYPASS CONTROL VALVE. SENSE THE CHILLED WATER RETURN TEMPERATURE IN THE COMMON RETURN PIPING. TEMPERATURE SENSORS IN THE COMMON PIPING SHALL BE INDEPENDENT OF THE CHILLER CONTROLS.
- THE CHILLERS SHALL BE INITIALIZED AS FOLLOWS THROUGH THE DDC SYSTEM:
  1. WHEN ANY ONE OF THE CONNECTED CHILLED WATER COIL CONTROL VALVES IS GREATER THAN 5% OPEN, THE LEAD CHILLER SHALL BE ENABLED.
  2. ONLY ONE CHILLER SHALL BE ENABLED AT ANY TIME.
  3. IF A CHILLER IS CALLED TO OPERATE BUT IS NOT PROVEN ON AS SENSED BY THE CURRENT STATUS SWITCH, THE STANDBY CHILLER SHALL BE ENABLED.
  4. LEAD AND STANDBY STATUS OF THE CHILLERS SHALL ROTATE ON A WEEKLY (ADJUSTABLE) BASIS. MONITOR RUNTIME OF EACH CHILLER AND DISPLAY ON THE OPERATOR INTERFACE.
- WHEN A CHILLER IS ENABLED REMOTELY OR MANUALLY, ITS ASSOCIATED CONTROL VALVE SHALL BE OPEN. WHEN A CHILLER IS DISABLED, ITS ASSOCIATED CONTROL VALVE SHALL BE CLOSED. EACH CONTROL VALVE SHALL BE A LINE SIZE VALVE WITH A MODULATING ACTUATOR WITH END SWITCHES. UTILIZING MODULATING ACTUATORS ALLOWS THE BALANCING CONTRACTOR TO FIX CONTROL VALVE POSITIONS WHEN MORE THAN ONE CHILLER IS OPERATING TO ENSURE EQUAL FLOW THROUGH EACH CHILLER. CONTROL VALVE END SWITCHES SHALL BE DIRECTLY INTERLOCKED WITH ITS CORRESPONDING CHILLER CONTROL PANEL AS DICTATED BY THE CHILLER MANUFACTURER.
- CHILLER SHALL NOT BE ALLOWED TO START UNTIL FLOW IS PROVEN THROUGH THE EVAPORATOR AS SENSED BY THE FLOW SWITCH FURNISHED BY THE CHILLER MANUFACTURER. FLOW SWITCH SHALL BE WIRED DIRECTLY TO THE CHILLER CONTROL PANEL INDEPENDENT OF THE BMS AS DICTATED BY THE CHILLER MANUFACTURER.
- THE CHILLED WATER TEMPERATURE SETPOINT SHALL BE RESET WITHIN THE RANGE OF 42°F (ADJUSTABLE) AND 50°F (ADJUSTABLE), ON A DECREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL COOLING COIL CONTROL VALVES TO RESET AND INCREASE THE CHILLED WATER SUPPLY TEMPERATURE UNTIL ONE CONTROL VALVE IS 90% OPEN. ON AN INCREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL COOLING COIL CONTROL VALVES TO RESET AND DECREASE THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT UNTIL ONE CONTROL VALVE IS 90% OPEN. RESET OF THE CHILLED WATER SUPPLY TEMPERATURE SHALL UTILIZE TRIM AND RESPOND LOGIC.

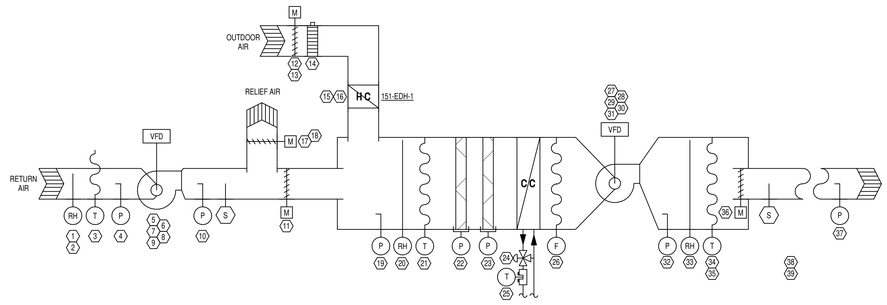
CHILLED WATER PUMP CONTROL:

- THE DDC SYSTEM SHALL START THE LEAD PUMP VIA THE STARTER AND SHALL RUN CONTINUOUSLY WHEN THE CHILLER PLANT IS ENABLED. THE STANDBY PUMP SHALL REMAIN OFF.
- INSTALL A CURRENT STATUS SWITCH TO PROVE LEAD AND STANDBY PUMP OPERATION. IF THE LEAD PUMP CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE AND THE DDC SYSTEM SHALL START THE STANDBY PUMP VIA THE STARTER. IF THE STANDBY PUMP CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, A SECOND ALARM SHALL BE SENT TO THE OPERATOR INTERFACE. THE SEQUENCE SHALL BE REPEATED TWICE. IF SYSTEM DOES NOT PROVE OPERATION, THE LAG PUMP SHALL REMAIN ON.
- THE OPERATING PUMP SHALL OPERATE AT A CONSTANT SPEED.
- THE DDC SYSTEM SHALL ALTERNATE THE LEAD/STANDBY STATUS OF THE PUMPS ON A WEEKLY (ADJUSTABLE) BASIS.

GENERAL NOTES

1. SERVICE DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR SHALL BE LOCATED WITHIN 6 FEET OF CONTROLLER.
2. CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 36 INCHES.
3. WIRE ALL SENSORS AND CONTROL DEVICES BACK TO CONTROLLER.
4. ALL SENSORS SHALL BE INSTALLED IN TEES OR THREAD-O-LETS. P/T PLUGS ARE NOT ACCEPTABLE.

1 CHILLED WATER LOOP CONTROL - AIR-COOLED CHILLERS
NO SCALE



GENERAL NOTES

1. SERVICE DISCONNECT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR SHALL BE LOCATED WITHIN 6 FEET OF CONTROLLER.
2. CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 36 INCHES.
3. WIRE ALL SENSORS AND CONTROL DEVICES BACK TO CONTROLLER.
4. COORDINATE ALL CASING AND DUCT PENETRATIONS WITH FURNISHING CONTRACTOR. ENSURE ALL PENETRATIONS ARE PROPERLY SEALED.
5. DUCT STATIC PRESSURE SENSORS SHALL BE LOCATED APPROXIMATELY 2/3 OF THE DUCT RUN AWAY FROM THE AIR HANDLING EQUIPMENT. REFER TO FLOOR PLANS FOR LOCATIONS.

SEQUENCE OF OPERATION

DESCRIPTION:
THE AIR HANDLING UNIT IS A VARIABLE AIR VOLUME UNIT. AHU SYSTEM SHALL CONSIST OF A SUPPLY FAN WITH VFD, RETURN FAN WITH VFD, OUTDOOR AIR DAMPER, DUCT MOUNTED OUTDOOR AIR HEATER, RETURN AIR DAMPER, RELIEF AIR DAMPER, PRE-FILTER BANK, CHILLED WATER COOLING COIL, AND UNIT ISOLATION DAMPERS.

SUPPLY FAN CONTROL:

START/STOP: THE DDC SYSTEM SHALL START THE SUPPLY FANS VIA THE VFD. THE SUPPLY FAN SHALL RUN CONTINUOUSLY.

VFD RESET: IN CASE OF VFD FAULT DETECTION, THE DDC SYSTEM SHALL WAIT 30 SECONDS (ADJUSTABLE) AND THEN CALL THE VFD TO START. IF THE VFD DOES NOT START, THE DDC SYSTEM SHALL CALL A SECOND TIME. IF THE VFD STILL HAS NOT STARTED, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE.

CURRENT STATUS SWITCH: INSTALL A CURRENT STATUS SWITCH FOR THE SUPPLY FAN AND REPORT STATUS TO BMS. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION OF THR FAN IN VFD OR BYPASS MODE, THE UNIT SHALL SHUT DOWN AND SEND AN ALARM TO THE OPERATOR INTERFACE.

SPEED CONTROL: THE PURPOSE OF THE SUPPLY FAN CONTROL IS TO MAINTAIN A MINIMUM STATIC PRESSURE IN THE SUPPLY DUCTWORK TO ENSURE PROPER TERMINAL AIR BOX OPERATION. THE DDC SYSTEM SHALL CONTROL THE SUPPLY FAN VFD FROM THE SUPPLY DUCT DIFFERENTIAL PRESSURE TRANSMITTER SIGNAL. INITIAL SETPOINT SHALL BE +1.0" W.C. (ADJUSTABLE). FINAL SETPOINT SHALL BE OPTIMIZED BY THE BALANCING CONTRACTOR.

STATIC PRESSURE RESET: ON A DECREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL TERMINAL AIR BOX POSITIONS TO RESET AND REDUCE THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE UNTIL ONE TERMINAL AIR BOX DAMPER IS 95% OPEN. ON AN INCREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL TERMINAL AIR BOX POSITIONS TO INCREASE THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE (NOT-TO-EXCEED THE FINAL SETPOINT) UNTIL ONE TERMINAL AIR BOX DAMPER IS 95% OPEN. STATIC PRESSURE RESET SHALL UTILIZE TRIM AND RESPOND LOGIC.

HIGH PRESSURE LIMIT: DIFFERENTIAL PRESSURE SWITCH SHALL BE A MANUAL RESET TYPE AND WIRED IN SERIES WITH THE START/STOP CONTROL OF THE SUPPLY FAN. THE DDC SYSTEM SHALL MONITOR THE STATUS OF THE DIFFERENTIAL PRESSURE SWITCH. INITIAL SETPOINT SHALL BE +4.0" W.C. (ADJUSTABLE).

HIGH SUCTION PRESSURE LIMIT: DIFFERENTIAL PRESSURE SWITCH SHALL BE A MANUAL RESET TYPE AND WIRED IN SERIES WITH THE START/STOP CONTROL OF THE SUPPLY FAN. THE DDC SYSTEM SHALL MONITOR THE STATUS OF THE DIFFERENTIAL PRESSURE SWITCH. INITIAL SETPOINT SHALL BE -4.0" W.C. (ADJUSTABLE).

RETURN FAN CONTROL:

START/STOP: THE DDC SYSTEM SHALL START THE RETURN FAN VIA THE VFD. THE RETURN FAN SHALL RUN CONTINUOUSLY.

VFD RESET: IN CASE OF VFD FAULT DETECTION, THE DDC SYSTEM SHALL WAIT 30 SECONDS (ADJUSTABLE), AND THEN CALL THE VFD TO START. IF THE VFD DOES NOT START, THE DDC SYSTEM SHALL CALL A SECOND TIME. IF THE VFD STILL HAS NOT STARTED, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE.

CURRENT STATUS SWITCH: INSTALL A CURRENT STATUS SWITCH FOR THE RETURN FAN AND REPORT STATUS TO BMS. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION OF THE FAN IN VFD OR BYPASS MODE, THE UNIT SHALL SHUT DOWN AND SEND AN ALARM TO THE OPERATOR INTERFACE.

SPEED CONTROL: THE PURPOSE OF THE RETURN FAN CONTROL IS TO MAINTAIN A SLIGHTLY POSITIVE BUILDING PRESSURE, +0.05" W.C. (ADJUSTABLE). THE RETURN FAN VFD SHALL MODULATE TO MAINTAIN A CONSTANT CFM OFFSET FROM THE SUPPLY FAN TO ACCOUNT FOR TOTAL EXHAUST FROM THE BUILDING WHILE MAINTAINING A SLIGHTLY POSITIVE PRESSURE. PROVIDE AN ADJUSTABLE FREQUENCY OFFSET ALGORITHM FOR THE RETURN FAN RELATIVE TO THE SUPPLY FAN. WORK WITH THE BALANCER TO ESTABLISH THE CORRECT RETURN FAN VFD SPEED RELATIVE TO THE SUPPLY FAN SPEED TO ACHIEVE CORRECT AIRFLOW BALANCE AT 100% OF THE MAXIMUM SUPPLY CFM AND AT 50% OF THE MAXIMUM SUPPLY CFM. A LINEAR EQUATION SHALL THEN BE DEVELOPED FOR THE RETURN FAN SPEED.

LOW PRESSURE LIMIT: DIFFERENTIAL PRESSURE SWITCH SHALL BE A MANUAL RESET TYPE AND WIRED IN SERIES WITH THE START/STOP CONTROL OF THE RETURN FANS. INITIAL SETPOINT SHALL BE -2.0" W.C. (ADJUSTABLE).

DISCHARGE AIR CONTROL: DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET BETWEEN 55°F (ADJUSTABLE) AND 60°F (ADJUSTABLE). ON A DECREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL SUPPLY TERMINAL AIR BOX POSITIONS TO RESET AND INCREASE THE DISCHARGE AIR TEMPERATURE UNTIL ONE TERMINAL AIR BOX DAMPER IS 95% OPEN. ON AN INCREASE IN SYSTEM LOAD, THE DDC SYSTEM SHALL UTILIZE FEEDBACK FROM ALL SUPPLY TERMINAL AIR BOX POSITIONS TO DECREASE THE DISCHARGE AIR TEMPERATURE SETPOINT UNTIL ONE TERMINAL AIR BOX DAMPER IS 95% OPEN. IF, WHILE IN RESET MODE, THE RETURN AIR RELATIVE HUMIDITY EXCEEDS 65% (ADJUSTABLE), THE DISCHARGE AIR TEMPERATURE SHALL BE RESET IN REVERSE FASHION UNTIL THE RETURN AIR RELATIVE HUMIDITY IS BELOW 55% (ADJUSTABLE). DISCHARGE AIR TEMPERATURE RESET SHALL UTILIZE TRIM AND RESPOND LOGIC.

DISCHARGE AIR CONTROL: DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET BETWEEN 55°F (ADJUSTABLE) AND 60°F (ADJUSTABLE) BASED ON OUTSIDE AIR TEMPERATURE. SETPOINT SHALL CORRESPOND LINEARLY BASED ON THE FOLLOWING CORRESPONDING POINTS. ALL SETPOINTS SHALL BE ADJUSTABLE AT THE OPERATOR INTERFACE.

- WHEN OAT < 50°F, DAT = 60°F.
- WHEN OAT > 70°F, DAT = 55°F

IF, WHILE IN RESET MODE, THE RETURN AIR RELATIVE HUMIDITY EXCEEDS 60% (ADJUSTABLE), THE DISCHARGE AIR TEMPERATURE SEQUENCE SHALL BE OVERRIDDEN AND DISCHARGE AIR TEMPERATURE SET AT 55°F FOR A MINIMUM OF 2 HOURS (ADJUSTABLE) BEFORE RETURNING TO RESET SEQUENCE.

SEQUENCE OF OPERATION CONTINUED

WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
1. IF THE OUTSIDE AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY, THE OUTSIDE AIR DAMPER SHALL MODULATE OPEN AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED. THIS SHALL CONTINUE UNTIL THE SETPOINT IS ACHIEVED OR THE OUTSIDE AIR DAMPER IS IN THE 100% OUTSIDE AIR POSITION.
2. IF THE OUTSIDE AIR ENTHALPY IS ABOVE THE RETURN AIR ENTHALPY, THE OUTSIDE AIR DAMPER SHALL CLOSE AND RETURN AIR DAMPER SHALL OPEN TO THEIR MINIMUM OUTSIDE AIR DAMPER POSITIONS.
3. IF THE SETPOINT CANNOT BE ACHIEVED BY DAMPER MODULATION, THE DDC SYSTEM SHALL MODULATE THE CHILLED WATER CONTROL VALVE(S) OPEN.
4. IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 10°F (ADJUSTABLE) ABOVE THE SETPOINT, SEND AN ALARM TO THE OPERATOR INTERFACE.

WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW THE SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
1. THE CHILLED WATER CONTROL VALVE(S) SHALL MODULATE CLOSED.
2. IF THE OUTSIDE AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY, THE OUTSIDE AIR DAMPER SHALL MODULATE CLOSED AND RETURN AIR DAMPER SHALL OPEN. THIS SHALL CONTINUE UNTIL SETPOINT IS ACHIEVED OR THE DAMPERS ARE IN THE MINIMUM OUTSIDE AIR POSITION.
3. IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 10°F (ADJUSTABLE) BELOW THE SETPOINT, SEND AN ALARM TO THE OPERATOR INTERFACE. IF THE SETPOINT CANNOT BE ACHIEVED WITH OUTSIDE DAMPER AT MINIMUM POSITION, THE DDC SHALL MODULATE THE ELECTRIC DUCT MOUNTED HEATER.

VENTILATION AIR CONTROL:

VENTILATION: WHENEVER THE AIR HANDLING UNIT IS ENABLED AND IN OCCUPIED MODE, THE OUTSIDE AIR DAMPER SHALL BE OPEN TO AT LEAST ITS MINIMUM POSITION. WHEN THE AIR HANDLING UNIT IS DISABLED OR IN UNOCCUPIED MODE, THE OUTSIDE AIR DAMPER SHALL BE CLOSED.

RELIEF AIR DAMPER: THE RELIEF AIR DAMPER SHALL MODULATE TO MAINTAIN A POSITIVE PRESSURE OF 0.2" W.C. (ADJUSTABLE) AT THE DISCHARGE OF THE RETURN FAN RELATIVE TO THE EXTERIOR. EXTERIOR REFERENCE POINT SHALL BE IN THE SAME WALL AS THE RELIEF LOUVER OR OPENING.

MIXED AIR TEMPERATURE AND HUMIDITY: MONITOR THE MIXED AIR TEMPERATURE.

AIRFLOW STATION: MONITOR OUTSIDE AIRFLOW.

UNIT SHUTDOWN:

THE DUCT MOUNTED OUTSIDE AIR HEATING COIL SHALL BE DISABLED.
THE SUPPLY AND RETURN FANS SHALL STOP.
THE OUTSIDE AIR DAMPERS AND RELIEF AIR DAMPERS SHALL CLOSE AND THE RETURN DAMPERS SHALL OPEN.
THE CHILLED WATER CONTROL VALVE(S) SHALL CLOSE. THE ASSOCIATED CONDENSING UNIT SHALL BE DISABLED.

FILTER MONITORING:

FOR EACH FILTER BANK WITH RATING OF MERV 8 AND BELOW, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 0.6" W.C. (ADJUSTABLE).
FOR EACH FILTER BANK WITH RATING OF MERV 9 TO MERV 16, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 1.0" W.C. (ADJUSTABLE).

ALARM MONITORING:

FREEZE PROTECTION: INSTALL AN ELECTRIC FREEZESTAT DOWNSTREAM OF THE HEATING COIL PER MANUFACTURER'S RECOMMENDATION. PROVIDE A STAGED FREEZE PROTECTION APPROACH AS INDICATED BELOW.
1. IF THE FREEZESTAT SENSES A TEMPERATURE AT OR BELOW 32ºF (ADJUSTABLE), SHUT DOWN THE SUPPLY AND RETURN FANS, CLOSE THE OUTDOOR AIR DAMPER, OPEN THE COOLING COIL CONTROL VALVE TO 100% AND ENABLE ITS ASSOCIATED CHILLED WATER SYSTEM PUMP. THE FREEZESTAT SHALL SHUT DOWN THE UNIT INDEPENDENTLY OF THE DDC SYSTEM VIA RELAYS. A SECOND SET OF CONTACTS SHALL NOTIFY THE DDC SYSTEM THAT SHALL SEND AN ALARM TO THE OPERATOR INTERFACE (MANUAL RESET TYPE).

FIRE ALARM INTERFACE: UPON ACTUATION OF THE FIRE ALARM SYSTEM, THE UNIT SHALL BE SHUT DOWN. THE FIRE ALARM SYSTEM SHALL NOTIFY THE OPERATOR INTERFACE WHENEVER AN ALARM CONDITION IS EXPERIENCED.

2 151-AHU-1 CONTROL SEQUENCE
NO SCALE

DIRECT DIGITAL CONTROL POINTS LIST - AHU - VAV

POINT ID	POINT DESCRIPTION	SOURCE (1)	TYPE (2)	I/O (3)	SETPOINT ADJUSTMENT	ALARMS (4)	APPLICATIONS (5)	UNITS
1	RETURN AIR HUMIDITY	E	A	I	NO	-	T, A, G	% RELATIVE HUMIDITY
2	RETURN AIR HUMIDITY SETPOINT	E	A	O	YES	-	T, A, G	% RELATIVE HUMIDITY
3	RETURN AIR TEMPERATURE	E	A	I	NO	-	T, A, G	DEGREES F
4	RETURN FAN SUCTION STATIC PRESSURE SWITCH	E	B	I	YES	C, H	E, A, G	INCHES W.C.
5	RETURN FAN VFD STATUS	E	B	I	NO	G, F	E, A	-
6	RETURN FAN VFD START/STOP	E	B	O	NO	-	-	-
7	RETURN FAN VFD SPEED CONTROL	E	A	O	YES	-	T, A, G	% SPEED
8	RETURN FAN CURRENT STATUS SWITCH	E	B	I	NO	G, F	E, A, G	ON / OFF
9	RETURN FAN AIRFLOW VOLUME	E	A	I	NO	-	T, A, G	CFM
10	RETURN FAN DISCHARGE STATIC PRESSURE SWITCH	E	B	I	YES	C, H	E, A, G	INCHES W.C.
11	AHU RETURN AIR ISOLATION DAMPER POSITION	E	B	I	NO	-	E, A, G	OPEN / CLOSED
12	OUTDOOR AIR DAMPER ACTUATOR	E	A	O	NO	-	-	-
13	OUTDOOR AIR DAMPER POSITION	E	A	I	NO	-	T, A, G	% OPEN
14	OUTDOOR AIRFLOW	E	A	I	NO	-	T, A, G	CFM
15	OUTSIDE AIR ELECTRIC HEATER STAGE 2 COMMAND	E	B	O	NO	-	T, A, G	ON/OFF
16	OUTSIDE AIR ELECTRIC HEATER STAGE 1 COMMAND	E	B	O	NO	-	T, A, G	ON/OFF
17	RELIEF AIR DAMPER ACTUATOR	E	A	O	NO	-	-	-
18	RELIEF AIR DAMPER POSITION	E	A	I	NO	-	T, A, G	% OPEN
19	SUPPLY FAN SUCTION STATIC PRESSURE SWITCH	E	B	I	YES	C, H	E, A, G	INCHES W.C.
20	MIXED AIR HUMIDITY	E	A	I	NO	-	T, A, G	% RELATIVE HUMIDITY
21	MIXED AIR TEMPERATURE	E	A	I	NO	-	T, A, G	DEGREES F
22	PRE-FILTER DIFFERENTIAL PRESSURE	E	A	I	YES	C, H	T, E, A, G	DEGREES F
23	PRE-FILTER DIFFERENTIAL PRESSURE	E	A	I	YES	C, H	T, E, A, G	DEGREES F
24	CHILLED WATER COIL CONTROL VALVE	E	A	O	NO	-	-	-
25	CHILLED WATER TEMPERATURE - RETURN	E	A	I	NO	-	T, A, G	DEGREES F
26	FREEZESTAT ALARM	E	B	I	NO	F	E, A, G	NORMAL / ALARM
27	SUPPLY FAN VFD STATUS	E	B	I	NO	G, F	E, A	-
28	SUPPLY FAN VFD START/STOP	E	B	O	NO	-	-	-
29	SUPPLY FAN VFD SPEED CONTROL	E	A	O	YES	-	T, A, G	% SPEED
30	SUPPLY FAN CURRENT STATUS SWITCH	E	B	I	NO	G, F	E, A	ON / OFF
31	SUPPLY FAN AIRFLOR VOLUME	E	A	I	NO	-	T, A, G	CFM
32	SUPPLY FAN DISCHARGE STATIC PRESSURE SWITCH	E	B	I	YES	C, H	E, A, G	INCHES W.C.
33	SUPPLY AIR HUMIDITY	E	A	I	NO	-	T, A, G	% RELATIVE HUMIDITY
34	SUPPLY AIR TEMPERATURE	E	A	I	NO	-	T, A, G	DEGREES F
35	SUPPLY AIR TEMPERATURE SETPOINT	E	A	O	YES	-	T, A, G	DEGREES F
36	AHU SUPPLY AIR ISOLATION DAMPER POSITION	E	B	I	NO	-	E, A, G	OPEN / CLOSED
37	SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE	E	A	I	YES	-	T, A, G	INCHES W.C.
38	OUTDOOR AIR REFERENCE TEMPERATURE - EXISTING	S	A	I	NO	-	T, A, G	DEGREES F
39	CHILLED WATER TEMPERATURE - SUPPLY	S	A	I	NO	-	T, A, G	DEGREES F

REMARKS:
(1) E = ELECTRIC; P = PNEUMATIC; O = BY OTHERS; S = REFERENCED POINT FROM HARDWIRE ELSEWHERE ON DDC NETWORK
(2) A = ANALOG; B = BINARY
(3) I = INPUT; O = OUTPUT
(4) G = GENERAL; C = CRITICAL; H = HIGH LIMIT; L = LOW LIMIT; F = FAILURE
(5) T = TRENDING; E = EVENT HISTORY; A = ARCHIVE; TT = TOTALIZATION; G = GRAPHICAL POINT

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL CONTROLS
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	B151
Approved:	
	FULLY SPRINKLERED
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	AGT
Drawn	CDW
Drawing Number	M-151.500

VA FORM 08 - 6231

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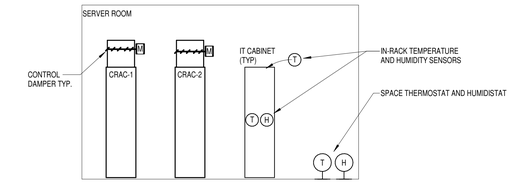
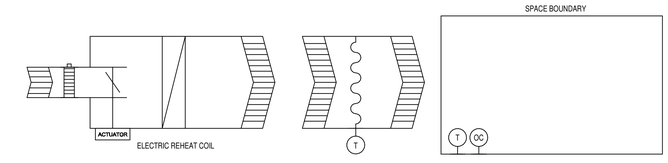


COMPUTER ROOM AIR:

- CONSISTS OF FLOOR MOUNTED COMPUTER ROOM AIR CONDITIONERS WITH COMMERCIAL-OFF-THE-SHELF MICROPROCESSOR MONITORING PANEL, MANUFACTURER PROVIDED INTEGRATED UNITY NETWORK INTERFACE FOR BACNET COMMUNICATIONS, CHILLED WATER COILS, AND DUCT MOUNTED ISOLATION DAMPERS.
- BOTH CRAC UNITS SHALL BE INTERLOCKED WITH EMERGENCY POWER OFF SWITCHES. BOTH CRAC UNITS SHALL BE INTERLOCKED WITH CLEAN AGENT SYSTEM TO SHUT DOWN CRAC UNIT SYSTEM UPON ACTIVATION OF CLEAN AGENT SYSTEM.
- THERMOSTAT PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR.
- INDOOR UNIT INTEGRATED UNITY NETWORK INTERFACE SHALL ACCESS THE FOLLOWING:
  1. AUTOMATIC RESTART WITH PROGRAMMABLE DELAY
  2. SENSOR CALIBRATION
  3. SEQUENTIAL LOAD ACTIVATION
  4. CURRENT TEMPERATURE SET POINT AND LOCATION OF SET POINT
  5. CURRENT SUPPLY AND RETURN TEMPERATURE AND HUMIDITY
  6. UNIT DIAGNOSTICS
  7. ALARM HISTORY
  8. RUNTIME LOG
  9. AUDIBLE/VISUAL ALARM.
- THE COMMERCIAL-OFF-THE-SHELF MICROPROCESSOR MONITORING PANEL SHALL BE MONITORED BY THE EXISTING JCI METASYS BAS. THE COMMERCIAL-OFF-THE-SHELF MICROPROCESSOR MONITORING PANEL SHALL MONITOR THE TEMPERATURE AND HUMIDITY SENSORS AT THE EQUIPMENT RACKS AND COMMUNICATE THROUGH BACNET INTERFACE TO THE CRAC UNIT CONTROLLER TO CONTROL COOLING, HUMIDIFICATION AND DEHUMIDIFICATION AS REQUIRED TO MAINTAIN THE TEMPERATURE AND HUMIDITY SETPOINTS AT ALL THE EQUIPMENT. RACK INLET SETPOINTS ARE BETWEEN 72°F AND 81°F AND BETWEEN 30 AND 60% RELATIVE HUMIDITY (ALL SETPOINTS ADJUSTABLE).
  1. NORMAL OPERATION MODE:
     A. BOTH CRAC UNITS OPERATE AND MODULATE AT PART LOAD TO MAINTAIN SETPOINT.
  2. MAINTENANCE/REPAIR OPERATIONS MODE (ONE UNIT DOWN):
     A. ONE CRAC UNIT OPERATE AND MODULATE TO MAINTAIN SETPOINT.
- ALL UNITS SHALL BE CAPABLE OF BEING ISOLATED FOR MAINTENANCE PURPOSES WHILE NOT IMPACTING DATA CENTER COOLING CAPACITY.
- UNIT OPERATION SHALL BE INTERLOCKED WITH AN ISOLATION DAMPER LOCATED IN THE RETURN DUCT SERVING EACH UNIT TO PREVENT RETURN AIR FROM CIRCULATING THROUGH A CRAC UNIT WHILE DOWN FOR MAINTENANCE. ACTIVATE AUDIBLE AND VISUAL ALARMS AT THE UNIT AND TO THE EXISTING JCI METASYS BAS ON ANY OF THE FOLLOWING SENSOR CONDITIONS:
  1. HIGH TEMPERATURE
  2. LOW TEMPERATURE
  3. HIGH HUMIDITY
  4. LOW HUMIDITY
- THE EXISTING JCI METASYS BAS SHALL HAVE THE CAPABILITY OF DISABLING ALARMS THROUGH THE COMMERCIAL-OFF-THE-SHELF MICROPROCESSOR MONITORING PANEL AS REQUIRED.
- PROVIDE TEMPERATURE AND HUMIDITY SENSORS IN THE FOLLOWING LOCATIONS FOR IT EQUIPMENT CABINETS. WIRELESS SENSORS ARE NOT ACCEPTABLE.
  1. MINIMUM 2 SENSORS PER MONITORED CABINET.
  2. SENSORS SHALL BE LOCATED IN CABINETS AT THE ENDS OF CONTIGUOUS ROWS, AND IN EVERY THIRD CABINET IN THE MIDDLE OF A CONTIGUOUS ROW.
  3. TEMPERATURE SENSORS SHALL BE PROVIDED IN THE FRONT MIDDLE AND REAR TOP OF MONITORED CABINETS.
     A. FRONT MIDDLE (FM): CENTERED HORIZONTALLY, INSIDE THE FRONT DOOR, 4 FT +/-6 IN. FROM THE FINISHED FLOOR SURFACE.
     B. REAR TOP (RT): CENTERED HORIZONTALLY, INSIDE THE REAR DOOR. NO MORE THAN 1 FT FROM THE TOP OF THE CABINET.
  4. HUMIDITY SENSORS SHALL BE PROVIDED IN THE FRONT MIDDLE OF MONITORED CABINETS.
     A. FRONT MIDDLE (FM): CENTERED HORIZONTALLY, INSIDE THE FRONT DOOR, 4 FT +/-6 IN. FROM THE FINISHED FLOOR SURFACE. SUPPLIED TEMPERATURE CONTROLLER.
- MONITOR ROOM TEMPERATURE, EQUIPMENT STATUS AND CONDENSATE ALARM OUTPUTS FROM EQUIPMENT SUPPLIED CONTROLS THROUGH EXISTING JCI METASYS BAS. SEND AN ALARM TO THE OPERATOR INTERFACE IF THE SPACE TEMPERATURE EXCEEDS 90°F (ADJUSTABLE) OR SPACE RELATIVE HUMIDITY IS BELOW 20% (ADJUSTABLE) OR ABOVE 70% (ADJUSTABLE) INTEGRATE ALL MONITORED PARAMETERS INTO EXISTING JCI METASYS BAS.
  1. UNIT OPERATION SHALL BE INTERLOCKED WITH AN ISOLATION DAMPER LOCATED IN THE RETURN DUCT SERVING EACH UNIT TO PREVENT RETURN AIR FROM CIRCULATING THROUGH A CRAC UNIT WHILE DOWN FOR MAINTENANCE OR CYCLED OFF BY CONTROLS.

1 COMPUTER ROOM AIR CONDITIONER CONTROL SEQUENCE
1/8" = 1'-0"



SEQUENCE OF OPERATION

EACH ZONE HAS A TERMINAL AIR BOX WITH AN ELECTRIC REHEAT COIL WITH SCR CONTROLLER. INSTALL A SINGLE POINT TEMPERATURE SENSOR 5'-0" DOWNSTREAM OF THE TERMINAL BOX OR BEFORE THE FIRST TAKEOFF DOWNSTREAM OF THE TERMINAL BOX. INSTALL A WALL MOUNTED THERMOSTAT TO MAINTAIN A SPACE TEMPERATURE OF 72°F (ADJUSTABLE) WITH A DEAD BAND RANGE OF 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS REDUCED TO A MINIMUM. SEE DRAWINGS FOR SENSOR REQUIREMENTS.

ON A CALL FOR COOLING, THE TERMINAL AIR BOX DAMPER SHALL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM AIRFLOWS TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. THE REHEAT COIL SHALL BE DE-ENERGIZED.

ON A CALL FOR HEATING, THE TERMINAL AIR BOX DAMPER AND REHEAT COIL CONTROL VALVE SHALL MODULATE OPEN IN UNISON UNTIL THE SPACE TEMPERATURE SETPOINT IS MAINTAINED OR UNTIL THE MAXIMUM HEATING CFM IS REACHED.

GENERAL NOTES
1. TERMINAL BOX CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 48 INCHES AND MUST BE WITHIN 3 FEET OF CEILING.
2. MOUNT ALL ROOM SENSORS AT 48" ABOVE FINISHED FLOOR. COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.

2 VAV BOX - ELECTRIC REHEAT
NO SCALE

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title MECHANICAL CONTROLS	**Phase** 100% CONSTRUCTION DOCUMENTS	**Project Title** EHRM INFRASTRUCTURE UPGRADES	**Project Number** 679-20-104
			Building Number B151
Approved:	FULLY SPRINKLERED	**Location** TUSCALOOSA VAMC, TUSCALOOSA, AL.	**Drawing Number** M-151.501
		Issue Date 03/08/2024 / **Checked** AGT / **Drawn** CDW	

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AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	OVERALL SIZE [LxWxH]	MIN OA	SUPPLY FAN MARK	COOLING COIL MARK	PRE FILTER MARK	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS
							FLA	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY			
151-AHU-1	AHU ROOM	125"x47"x32.5"	350	SF-1	CC-1	FIL-1	3.62	460 V	3	4.47	15	MANUFACTURER	TRANE	UCCAG09C	(1)(2)(3)(4)

REMARKS:
1. PROVIDE WITH INTEGRAL VFD WITH SINGLE POINT POWER CONNECTION.
2. MOUNT ON 6" HOUSEKEEPING PAD. PROVIDE STAINLESS STEEL DRAIN PAN UNDER UNIT WITH FLOAT SWITCH AS SHOWN ON TELECOM ROOM CONTROLS ON M-001.
3. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
4. PROVIDE WITH MANUFACTURER'S EXTENDED 5-YEAR PARTS AND LABOR WARRANTY.

AHU FAN SCHEDULE

MARK	SERVES	NO. OF FANS	AIRFLOW [CFM]	TOTAL S.P. [IN W.C.]	EXTERNAL S.P. [IN W.C.]	FAN RPM	FAN BHP	ELECTRICAL DATA			DRIVE
								HP	VOLTAGE	PHASE	
SF-1	151-AHU-1	1	1700	3.047	1.5	2239	1.410	1.5	460 V	3	VFD

FILTER SCHEDULE

MARK	ASSOCIATED EQUIPMENT	FUNCTION	TYPE	DEPTH [IN]	MAX FACE VELOCITY [FPM]	MERV RATING	INITIAL PRESSURE DROP [IN W.C.]	REMARKS
FIL-1	151-AHU-1	PRE-FILTER	COMBINATION	2" / 4"	309 FPM	8 / 13	0.25 / 1.241	(1)
FIL-2	151-CRAC-1	PRE-FILTER	PLEATED	4"	450 FPM	8	0.25	(1)
FIL-3	151-CRAC-2	PRE-FILTER	PLEATED	4"	450 FPM	8	0.25	(1)

REMARKS:
1. PROVIDE MAGNAHELIC GAUGE ACROSS HOUSING FILTER.

HYDRONIC COIL SCHEDULE

MARK	SERVES	FLUID TYPE	AIRFLOW [CFM]	MIN ROWS	MAX FINS PER INCH	MAX VELOCITY [FPM]	MAX AIR P.D. [IN W.C.]	ENTERING DB / WB [°F]	LEAVING DB / WB [°F]	TOTAL CAPACITY [MBH]	SENS. CAPACITY [MBH]	FLUID DATA			REMARKS
												FLOW [GPM]	EWT / LWT [°F]	MAX P.D. [FT]	
CC-1	151-AHU-1	WATER	1700	4	9	302	0.208	80 / 65	55.0 / 54.02	55.97	46.73	20.34	45.0 / 50.5	2.01	(1)(2)(3)

REMARKS:
1. MAINTAIN COIL PULL SPACE ON INSTALLATION.
2. PROVIDE DOUBLE SLOPED DRAIN PAN.
3. CONTRACTOR TO PIPE UNIT AS INDICATED FROM FACTORY.

DUCT AND PLENUM INSULATION SCHEDULE

DUCT SYSTEM TYPE	INSULATION			JACKET TYPE (2)	NCIIS PLATE NUMBER (1)	REMARKS
	TYPE	INSTALLED R VALUE	MINIMUM DENSITY LB/SF			
SUPPLY AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100	(5)(6)
RETURN AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100	(5)(6)
SUPPLY AIR RECTANGULAR (EXPOSED)	MF BOARD	6	3.0	FSK	3-120	(5)(6)
OUTSIDE AIR RECTANGULAR	MF BOARD	6	3.0	FSK	3-120	(3)(5)(6)
RELIEF/EXHAUST AIR (NON HEAT RECOVER APPLICATIONS) (EXPOSED)	MF BOARD	6	3.0	FSK	3-100	(4)(5)(6)

ABBREVIATIONS: MF=MINERAL FIBER(FIBERGLASS), E= ELASTOMERIC, PI = POLYISOCYANURATE

REMARKS:
1. NCIIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. FOR OUTSIDE AIR DUCTWORK DOWNSTREAM OF AN AIR HANDLING UNIT THAT HEATS OR COOLS THE OUTSIDE AIR, INSULATE AS SPECIFIED FOR SUPPLY AIR.
4. INSULATE FROM EXTERIOR LOUVER OR OPENING TO 20 FEET AWAY OR TO 5 FEET PAST CONTROL OR BACKDRAFT DAMPER, WHICHEVER IS LESS.
5. INSULATE FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS AS RECOMMENDED BY THE SMACNA FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC.
6. REFER TO NCIIS PLATE 3-600 FOR INSULATION OF TRAPEZE OR ANGLE IRON DUCT SUPPORTS.

LOUVER SCHEDULE

MARK	SERVICE	AIRFLOW [CFM]	FREE AREA VELOCITY [FPM]	APPROX SIZE (WxH)	MANUFACTURER	MODEL	REMARKS
L-1	RELIEF AIR	1300	525 FT/MIN	28"x28"	RUSKIN	ELF4450X	(1)(2)(4)
L-2	OUTSIDE AIR	1700	445 FT/MIN	36"x32"	RUSKIN	ELF4450X	(1)(3)(4)

REMARKS:
1. COLOR SELECTED BY ARCHITECT FROM MANUFACTURER STANDARD COLORS OR FIELD PAINT.
2. PROVIDE THE FOLLOWING ACCESSORIES: BIRD SCREEN, BACKDRAFT DAMPER.
3. PROVIDE THE FOLLOWING ACCESSORIES: BIRD SCREEN.
4. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATIONS, DIMENSIONS AND ADDITIONAL REQUIREMENTS.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

MARK	IMAGE	DESCRIPTION	MAX S.P.	MATERIAL	FINISH	FACE SIZE		NECK SIZE	AIRFLOW	MANUFACTURER	MODEL	REMARKS
						LENGTH	WIDTH					
D1		PLAQUE FACE STYLE SUPPLY DIFFUSER	0.10 in-wg	STEEL	PAINT, WHITE	24"	24"	6" 8" 10" 12" 14"	0 - 120 121 - 210 211 - 320 321 - 470 471 - 640	TITUS	OMNI	(1)(2)(3)(5)
D6		DOUBLE DEFLECTION SUPPLY GRILLE	0.10 in-wg	STEEL	PAINT, WHITE	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	TITUS	300RL/SL	(1)(2)(3)(5)(6)
G1		PERFORATED RETURN GRILLE	0.10 in-wg	STEEL	PAINT, WHITE	24"	24"	6" 8" 10" 12" 14" 16"	0 - 100 101 - 170 171 - 270 271 - 360 361 - 430 431 - 500	TITUS	PAR	(1)(2)(3)(5)
G10		SINGLE DEFLECTION RETURN GRILLE	0.10 in-wg	STEEL	PAINT, WHITE	<varies>	<varies>	<varies>	<varies>	TITUS	350RL/SL	(1)(2)(3)(5)(6)
GE1		PERFORATED EXHAUST GRILLE	0.10 in-wg	STEEL	PAINT, WHITE	24"	24"	6" 8" 10" 12" 14" 16"	0 - 100 101 - 170 171 - 270 271 - 360 361 - 430 431 - 500	TITUS	PAR	(1)(2)(3)(5)

REMARKS:
1. COORDINATE EXACT MODEL AND FRAME WITH CEILING / WALL TYPE.
2. PROVIDE REMOTE DAMPER ACTUATION IN HARD CEILINGS.
3. COORDINATE LOCATION OF GRILLES WITH ARCHITECTURAL CEILING PLANS AND ELEVATIONS.
4. DIFFUSER / GRILLE CONSTRUCTION SHALL BE ALUMINUM CONSTRUCTION IN ALL RESTROOMS, TOILETS, RECEIVING AREAS, AND VESTIBULES.
5. WHEN INSTALLED IN A WALL, THE BLADES FOR THESE GRILLES SHALL BE SUCH THAT THE FRONT BLADES ARE HORIZONTAL (PARALLEL TO THE FLOOR). WHEN INSTALLED IN A CEILING, THE BLADES FOR THESE GRILLES SHALL BE SUCH THAT THE FRONT BLADES ARE PARALLEL TO THE LONG DIMENSION OF THE GRILLE.

UNIT HEATER SCHEDULE

MARK	MAX SIZE			CAPACITY [MBH]	AIRFLOW [CFM]	ELECTRIC HEAT						MANUFACTURER	MODEL	REMARKS
	LENGTH	WIDTH	HEIGHT			KW	FLA	VOLTAGE	PHASE	DISCONNECT BY	SCCR			
151-UH-1	14 1/2"	4"	19 1/2"	13.6	175	4	19.2	208 V	1	MANUFACTURER		MARKEL	F3326TD-PR	(1)(2)(3)(4)(5)

REMARKS:
1. COLOR / FINISH TO BE SELECTED BY ARCHITECT.
2. PROVIDE WITH INTEGRAL THERMOSTAT AND DISCONNECT.
3. SCHEDULED FLOWS ARE APPROXIMATE AND SHALL BE CONFIRMED BY CONTRACTOR TO INCLUDE ALL REQUIRED ADJUSTMENTS BASED ON ACTUAL OPERATING CONDITIONS PRIOR TO SUBMITTAL.
4. MAINTAIN REQUIRED CLEARANCES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND NEC REQUIREMENTS.
5. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

VARIABLE VOLUME BOX - ELECTRIC

MARK	ROOM NUMBER	ROOM NAME	AIRFLOW [CFM]		BOX INLET [IN]	LEAVING AIR TEMP		ELECTRICAL DATA			MANUFACTURER	MODEL	REMARKS
			MAXIMUM	MINIMUM		COOLING [°F]	HEATING [°F]	KW	VOLTAGE	PHASE			
151-VAV-1-1	109	STORAGE	250	250	6	75	95	3.5	208 V	3	TRANE	VCEF	(1)(2)(3)
151-VAV-1-2	C-101	CORR	450	450	8	75	95	6	208 V	3	TRANE	VCEF	(1)(2)(3)
151-VAV-1-3	C-101	CORR	400	400	8	75	95	5.5	208 V	3	TRANE	VCEF	(1)(2)(3)
151-VAV-1-4	100	OFFICE/EQUIPMENT STAGING	800	400	10	75	95	5.5	208 V	3	TRANE	VCEF	(1)(2)(3)

REMARKS:
1. MAXIMUM FULL FLOW AIR PRESSURE DROP ACROSS THE BOX ASSEMBLY INCLUDING HEATING COIL SHALL BE 0.75 IN W.C..
2. MAXIMUM RADIATED SOUND LEVEL BASED ON ARI 880-98 AT 1.0 IN W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 30.
3. MAXIMUM DISCHARGE SOUND LEVEL BASED ON ARI 880-98 AT 1.0 IN W.C. DIFFERENTIAL PRESSURE SHALL NOT EXCEED NC 25.

FAN SCHEDULE

MARK	TYPE	WEIGHT [LBS]	AIRFLOW [CFM]	TOTAL S.P. [IN W.C.]	MAX FAN RPM	FAN BHP	ELECTRICAL DATA							MANUFACTURER	MODEL	REMARKS
							HP	KW	FLA	VOLTAGE	PHASE	DISCONNECT BY	SCCR			
151-RF-1	INLINE	67	1500	0.5	1725	0.47	0.5			115 V	1	MECHANICAL CONTRACTOR	5	GREENHECK	SQ-120-VSX-QD	(1)(4)(5)
151-EF-1	INLINE	25	200	0.25	789	-		0.117	0.46	115 V	1	MANUFACTURER	5	GREENHECK	CSP-A200	(1)(2)(3)(5)

REMARKS:
1. PROVIDE WITH DISCONNECT, MOTOR GUARD, AND VIBRATION ISOLATORS.
2. PROVIDE WITH BACKDRAFT DAMPER INTERLOCKED WITH MOTOR.
3. PROVIDE WITH MANUFACTURED ROOF JACK HAVING STEEL CONSTRUCTION, BLACK ENAMEL FINISH, INTEGRAL FLASHING FLANGE, AND BUILT IN BIRDSCREEN.
4. PROVIDE WITH VFD WITH INTEGRAL DISCONNECT.
5. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	SENSIBLE COOLING CAPACITY [MBH]	INDOOR UNIT							OUTDOOR UNIT							ELECTRICAL DATA					MANUFACTURER	REMARKS
					DIMENSIONS [IN]			EAT (DB / WB) [°F]	AIRFLOW [CFM]	E.S.P. [IN W.C.]	MODEL	DIMENSIONS [IN]			SUMMER AMBIENT AIR [°F]	WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	MODEL	FLA	VOLTAGE	PHASE	DISCONNECT BY	SCCR		
					LENGTH	WIDTH	HEIGHT					LENGTH	WIDTH	HEIGHT											
151-SSAH-1A	ELECT.	1.0	12	9.7	39"	10 3/8"	12 11/16"	80/67	320 / 370 / 425	-	TPKA0A012IHA70A						77	-						MITSUBISHI	(1)(4)(5)
151-SSAH-1B	ELECT.	1.0	12	9.7	39"	10 3/8"	12 11/16"	80/67	320 / 370 / 425	-	TPKA0A012IHA70A						77	-						MITSUBISHI	(1)(4)(5)
151-SSAH-2A	ENTRANCE RM	2.0	24	18.5	39"	10 3/8"	12 11/16"	80/67	635 / 705 / 775	-	TPKA0A024IKA70A						119	-						MITSUBISHI	(1)(4)(5)
151-SSAH-2B	ENTRANCE RM	2.0	24	18.5	39"	10 3/8"	12 11/16"	80/67	635 / 705 / 775	-	TPKA0A024IKA70A						119	-						MITSUBISHI	(1)(4)(5)
151-SSCU-1A	151-SSAH-1A	1.0										32 1/4"	11 1/4"	24 3/4"	95	17	77	TRUYA012IKA70NA	0.5	208 V	1	ELECTRICAL		MITSUBISHI	(1)(2)(3)
151-SSCU-1B	151-SSAH-1B	1.0										32 1/4"	11 1/4"	24 3/4"	95	17	77	TRUYA012IKA70NA	0.5	208 V	1	ELECTRICAL		MITSUBISHI	(1)(2)(3)
151-SSCU-2A	151-SSAH-2B	2.0										37 1/2"	14 1/4"	37 1/4"	95	17	119	TRUYA024IHA70NA	0.4	208 V	1	ELECTRICAL		MITSUBISHI	(1)(2)(3)
151-SSCU-2B	151-SSAH-2A	2.0										37 1/2"	14 1/4"	37 1/4"	95	17	119	TRUYA024IHA70NA	0.4	208 V	1	ELECTRICAL		MITSUBISHI	(1)(2)(3)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE CONCRETE PAD AND ANCHOR EXTERIOR UNIT TO PAD.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, LOW AMBIENT KIT, WIND BAFFLES.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. PROVIDE WITH HARDWIRED THERMOSTAT.

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Phase: 100% CONSTRUCTION DOCUMENTS
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COMPUTER ROOM AIR CONDITIONER SCHEDULE

MARK	SERVES	TOTAL COOLING CAPACITY [MBH]	SENSIBLE COOLING CAPACITY [MBH]	DIMENSIONS [IN]			EAT (DB / WB) [°F]	AIRFLOW [CFM]	E.S.P. [IN W.C.]	EWT [°F]	LWT [°F]	FLUID FLOW [GPM]	ELECTRICAL DATA							MODEL	MANUFACTURER	REMARKS
				LENGTH	WIDTH	HEIGHT							HP	KW	FLA	VOLTAGE	PHASE	DISCONNECT BY	SCCR			
151-CRAC-1	SERVER ROOM	301	280	122"	36"	76"	72 / 56.7	17,050	0.2	45	55	66.2	12	30	63.9	480 V	3	MANUFACTURER	65	CW106DC1A2	LIEBERT	(1)(2)(3)(4)(5)(6)
151-CRAC-2	SERVER ROOM	301	280	122"	36"	76"	72 / 56.7	17,050	0.2	45	55	66.2	12	30	63.9	480 V	3	MANUFACTURER	65	CW106DC1A2	LIEBERT	(1)(2)(3)(4)(5)(6)

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE STAINLESS STEEL DRAIN PAN UNDER UNIT WITH FLOAT SWITCH AS SHOWN ON TELECOM ROOM CONTROLS ON M-001.
3. PROVIDE THE FOLLOWING: LOCKING DISCONNECT SWITCH, SMOKE DETECTOR, INTEGRAL CONDENSATE PUMP, 24" PLENUM WITH FRONT GRILLE, 7" COLOR TOUCHSCREEN DISPLAY, INTEGRATED UNITY NETWORK INTERFACE FOR BACNET COMMUNICATIONS, UNIT TO UNIT NETWORK, 4" MERV 8 FILTER, QTY. THREE (3) 4 HP ELECTRONICALLY COMMUTED FANS, 30 KW 3-STEP ELECTRIC REHEAT, AND UNIT MOUNTED TEMPERATURE AND HUMIDITY SENSORS.
4. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
5. PROVIDE WITH MANUFACTURER'S EXTENDED 5-YEAR PARTS AND LABOR WARRANTY.
6. EQUIPMENT SHALL FULLY COMMUNICATE WITH EXISTING METASYS SYSTEM. REFER TO CONTROLS SCHEMATIC AND SEQUENCE FOR FURTHER INFORMATION.

ELECTRIC DUCT HEATER SCHEDULE

MARK	SERVES	AIRFLOW [CFM]	DUCT CONNECTION SIZE	ELECTRICAL DATA					MANUFACTURER	MODEL	REMARKS
				KW	FLA	VOLTAGE	PHASE	DISCONNECT BY			
151-EDH-1	151-AHU-1	350	28x18	8	22.21	208 V	3	MANUFACTURER	WARREN TECHNOLOGY	CBK	(1)

REMARKS:
1. PROVIDE WITH FOLLOWING ACCESSORIES: DISCONNECTING CONTACTORS, AIRFLOW PRESSURE SWITCH INTERLOCK, TRANSFORMER WITH PRIMARY FUSING, UL AND NEC RATINGS, NON-FUSED DOOR-INTERLOCK DISCONNECT SWITCH, SCR CONTROL, DERATED ELEMENTS (15%), HINGED LID.

AIR COOLED CHILLER SCHEDULE

MARK	SERVES	REFRIGERANT	AMBIENT TEMP [°F]	MIN OPERATING AMBIENT [°F]	MAX SOUND PRESSURE [dBA]	CAPACITY / PERFORMANCE						EVAPORATOR PERFORMANCE							ELECTRICAL DATA								MANUFACTURER	MODEL	REMARKS
						NOMINAL / NET [TONS]	NUMBER OF STAGES	MIN EER AT % LOAD				IPLV	EWT [°F]	LWT [°F]	FLOW [GPM]	PIPE CONNECTION SIZE	FOULING FACTOR	MAX PRESSURE DROP [FT]	FLUID	KW	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	SCCR			
								100	75	50	25																	
151-CH-1	151-CRAC-1 / 151-CRAC-2 / 151-AHU-1	R454B	95	-14	79	35	2	10.20	15.26	22.68	27.47	20.01	54	44	79.54	2 1/2"	0.0001	12.6	WATER	38.69	460 V	3	74	100	MANUFACTURER	65000	YORK	YMAE0035	(1)(2)(3)(4)(5)(6)(7)
151-CH-2	151-CRAC-1 / 151-CRAC-2 / 151-AHU-1	R454B	95	-14	79	35	2	10.20	15.26	22.68	27.47	20.01	54	44	79.54	2 1/2"	0.0001	12.6	WATER	38.69	460 V	3	74	100	MANUFACTURER	65000	YORK	YMAE0035	(1)(2)(3)(4)(5)(6)(7)

REMARKS:
1. CHILLER PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE STRUCTURAL CONCRETE PAD. ANCHOR CHILLER TO PAD. SEE CIVIL.
3. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, INTEGRAL DISCONNECT, HOT GAS BYPASS, HAIL GUARDS, COMPRESSOR SOUND PACKAGE, CONDENSER FAN SOUND PACKAGE, BACNET INTERFACE.
4. PROVIDE FAULT RATING FOR UNIT EXCEEDING 120% OF SHORT CIRCUIT CURRENT AVAILABLE AT UNIT (72 KA).
5. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
6. PROVIDE WITH MANUFACTURER'S EXTENDED 5-YEAR PARTS AND LABOR WARRANTY.
7. EQUIPMENT SHALL FULLY COMMUNICATE WITH EXISTING METASYS SYSTEM

COMBINATION AIR AND DIRT SEPARATOR SCHEDULE

MARK	SERVES	CONFIGURATION	FLOW [GPM]	MANUFACTURER	MODEL	REMARKS
AS-1	CW	INLINE	84	TACO COMFORT SOLUTIONS	AC025-125	(1)(2)(3)(4)

REMARKS:
1. PROVIDE WITH VESSEL INSULATION, AUTOMATIC AIR VENT, BLOWDOWN DRAIN VALVE WITH HOSE CONNECTION. SEE DETAILS.
2. COORDINATE INSTALLATION WITH OTHER EQUIPMENT. ENSURE PROPER CLEARANCE IS PROVIDED FOR MAINTENANCE AND PROPER OPERATION.
3. PROVIDE REMOVABLE END COVER FOR ACCESS TO SEPARATION CHAMBER.
4. VESSEL SHALL BE ASME CERTIFIED.

CHILLED WATER PUMP SKID SCHEDULE

MARK	LOCATION	OVERALL SIZE [LxWxH]	TOTAL SYSTEM FLOW [GPM]	TYPE OF FLUID	PUMP MARK	EXPANSION TANK MARK	BUFFER TANK MARK	AIR & DIRT SEPARATOR MARK	ELECTRICAL DATA							MANUFACTURER	MODEL	REMARKS
									FLA	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY	SCCR			
151-SKID-1	MECH. YARD	120"x78"x91"	119.1	WATER	P-1 & P-2	ET-1	BT-1	AS-1	8.65	480 V	3	8.7	12.05	MANUFACTURER	10000	TIGERFLOW	DESH-ZTA-S3-B2.5-CC-HVAC-VFD	(1)(2)

REMARKS:
1. PROVIDE WITH CHEMICAL FEEDER, UL LISTING, NEMA 4 POWER AND CONTROL PANEL WITH SINGLE POINT POWER CONNECTION CONTAINING PUMP VFDs AND ALL CONTROLS FOR MOUNTED EQUIPMENT, INSULATED PROCESS PIPING AND TANKS, EXTERIOR RATED SKID PACKAGE.
2. PROVIDE ALL MOUNTED PIECES OF EQUIPMENT WITH PIPING ACCESSORIES AND COMPONENTS SHOWN IN THE DETAILS.
3. PROVIDE ELECTRICAL HEAT TRACING CIRCUITS AND CONTROLLERS IN THE SKID MOUNTED CONTROL PANEL FOR SKID MOUNTED PIPE COMPONENTS.

CHILLED WATER PUMP SCHEDULE

MARK	FLOW [GPM]	TOTAL HEAD [FT]	SHUT-OFF HEAD [FT]	MIN EFFICIENCY [%]	TYPE OF FLUID	RPM	SUCTION / DISCHARGE SIZE [IN]	MAX IMPELLER DIAMETER [IN]	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS
									HP	VOLTAGE	PHASE	DISCONNECT BY	SCCR				
P-1	84	45	51	71	WATER	1760	2 1/2" / 2 1/2"	7.25	2	460 V	3	MECHANICAL CONTRACTOR	5		TACO COMFORT SOLUTIONS	CI1207D	(1)(2)(3)(4)(5)(6)
P-2	84	45	51	71	WATER	1760	2 1/2" / 2 1/2"	7.25	2	460 V	3	MECHANICAL CONTRACTOR	5		TACO COMFORT SOLUTIONS	CI1207D	(1)(2)(3)(4)(5)(6)

REMARKS:
1. PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE WITH THE FOLLOWING ACCESSORIES: LOCAL DISCONNECT, SUCTION DIFFUSER, CHECK VALVE, VENTURI FLOW MEASURING DEVICE, FLEXIBLE CONNECTORS, UNIONS, AND TEMPERATURE AND PRESSURE GAUGES ON EACH CONNECTION. SEE DETAILS.
3. MOUNT VFDs IN PUMP PACKAGE SKID CONTROL PANEL WITH INTEGRAL DISCONNECT.
4. MOUNT ON PUMP PACKAGE SKID 151-SKID-01.
5. PROVIDE BACNET INTERFACE.
6. "SCCR" - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCCR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR. REVIEW SCCR WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

BUFFER TANK SCHEDULE

MARK	SERVES	CONFIGURATION	VOLUME [GAL]	MAX SIZE (DxH/L) [IN]	GPM	MANUFACTURER	MODEL	REMARKS
BT-1	CW	FLOW THROUGH W/BAFFLE	300	36" x 72"	84	TACO COMFORT SOLUTIONS	BTL0300	(1)(2)(3)

REMARKS:
1. PROVIDE ASME RATED VESSEL.
2. PROVIDE WITH THREE VALVE BYPASS, DRAIN VALVE WITH HOSE CONNECTION, AND MANUAL AIR VENT. SEE DETAILS.
3. MOUNT ON PUMP PACKAGE SKID 151-SKID-01.

EXPANSION TANK SCHEDULE

MARK	SERVES	CONFIGURATION	MAX SIZE (ØxH) [IN]	ACCEPTANCE VOLUME [GAL]	MANUFACTURER	MODEL	REMARKS
ET-1	CW	BLADDER	20" x 29"	23	TACO COMFORT SOLUTIONS	CA90-125	(1)(2)

REMARKS:
1. PROVIDE WITH ASME RATED AND INSULATED VESSEL, REPLACEABLE BLADDER, SIGHT GLASS, MAKE-UP WATER CONNECTION WITH PRESSURE REDUCING VALVE, PRESSURE GAUGE, AND BYPASS. SEE DETAILS.
2. MOUNT ON PUMP PACKAGE SKID 151-SKID-01.

VENTILATION SCHEDULE

NUMBER	NAME	AREA	CEILING HEIGHT	SERVED BY	SUPPLY CFM		OUTSIDE AIR	RETURN CFM	EXHAUST CFM	VA HVAC DESIGN MANUAL (LATEST EDITION MARCH 1, 2022)										ACH VERIFICATION							
																				SUPPLY / EXHAUST				OUTSIDE AIR			
																				ACTUAL ACH		COMPLIANCE					
										ROOM NAME	INDOOR TEMPERATURE		INDOOR RELATIVE HUMIDITY		MIN REQ'D TOTAL ACH	MIN REQ'D OA ACH	ROOM AIR	MAX NOISE LEVEL	ROOM AIR BALANCE	INDIVIDUAL ROOM CONTROL							
											COOLING	HEATING	%RH	%RH			RETURN EXHAUST G			TEMP	FLOW					ACTUAL ACH	COMPLIES
				AHU	MAXIMUM	MINIMUM					F	F	MAX	MIN			EXHAUST S					MAXIMUM	MINIMUM	MAXIMUM	MINIMUM		
100	OFFICE/EQUIPMENT STAGING	456	9	150-AHU-1	600	400	150	600	0	Offices *(pg 6-173)*	75	70	60	30	4	2	Return	40	(o)	Yes	VAV	9	5	YES	YES	3	YES
102	ELECT.	143	9	150-AHU-1	400	400	50	400	0	Satellite and Main Electrical Rooms with Internal Heat Gain *(pg 6-176)*	86	40	NA	NA	NA	NA	Return	45	(o)	Yes	CV	NA	NA	NA	NA	NA	NA
105	TOILET	63	9	150-AHU-1	50	50	0	0	100	Toilets - Public (Exterior) *(pg 6-173)*	NA	68	NA	NA	10	NA	Exhaust (G)	40	(- -)	No	CV	11	9	YES	NA	NA	NA
106	HAC	63	9	150-AHU-1	50	50	0	0	100	Housekeeping Aid Closet (HAC) *(pg 6-178)*	NA	NA	NA	NA	10	NA	Exhaust (G)	40	(- -)	No	CV	11	9	YES	NA	NA	NA
107	AHU	155	12	150-AHU-1	250	250	70	250	0	Air Handling Equipment Rooms *(pg 6-179)*	84	50	NA	NA	6	2	Return	45	(o)	Yes	CV	8	7	YES	YES	3	YES
C-101	CORR	265	9	150-AHU-1	350	350	80	250	0	Corridors *(pg 6-170)*	75	70	60	30	4	2	Return	40	(+)	Yes	CV	9	8	YES	YES	3	YES

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES
Approved:
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: EHRM INFRASTRUCTURE UPGRADES
Location: TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date: 03/08/2024
Checked: AGT
Drawn: PCM
Project Number: 679-20-104
Building Number: B151
Drawing Number: M-151.601

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades_FY23_B150.rvt
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VA FORM 08 - 6231

PLUMBING GENERAL NOTES:

1. PLUMBING DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF WORK TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DIMENSIONS.
2. INSTALL ALL WORK IN ACCORDANCE WITH ALL STATE AND LOCAL PLUMBING CODES. WHERE CONFLICTS OCCUR BETWEEN CODES AND BETWEEN THE CONSTRUCTION DOCUMENTS AND CODES, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN.
3. PLUMBING CONTRACTOR SHALL PAY FOR ALL INSPECTION PERMITS, CERTIFICATES, CONNECTION FEES, SYSTEMS DEMAND CHARGES AND LICENSE FEES IN CONNECTION WITH THE SCOPE OF PLUMBING WORK TO BE PERFORMED.
4. PLUMBING CONTRACTOR SHALL MAINTAIN A CLEAN WORK AREA AT ALL TIMES AND SHALL CLEAN CONSTRUCTION SITE OF ALL PLUMBING DEBRIS AT THE END OF THE DAY AND BEFORE FINAL PAYMENT IS MADE.
5. ALL PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE.
6. BEFORE SUBMITTING PROPOSAL FOR THE WORK TO BE PERFORMED, PLUMBING CONTRACTOR SHALL VISIT AND EXAMINED THE PREMISES AND SATISFIED HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH THEY WILL BE OBLIGATED TO OPERATE THE WORK UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONNECTION ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OF NEGLIGENCE ON THEIR PART.
7. ALL MISCELLANEOUS EQUIPMENT TO BE FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATIONS THAT REQUIRE PIPING CONNECTIONS SHALL BE RECEIVED AND SET WITH ROUGH - IN AND FINAL CONNECTIONS MADE UNDER THESE SECTIONS.
8. ALL FLOOR DRAINS AND HUB DRAINS SHALL HAVE DEEP SEAL TRAPS AND TRAP PRIMERS UNLESS NOTED OTHERWISE. (MANUFACTURE: PRECISION PLUMBING PRODUCTS OR EQUAL)
9. GRAVITY FLOW SYSTEMS HAVE SPACE PRIORITY FOR SLOPING PIPES, HOWEVER SLOPE MUST BE STARTED AT HIGHEST POINT POSSIBLE. PLUMBING CONTRACTOR SHALL COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
10. FLOOR PENETRATIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
11. FLOOR/WALL PENETRATIONS THROUGH RATED SEPARATIONS SHALL BE SEALED WITH AN APPROVED FIRE RATED MATERIAL.
12. WALL PENETRATIONS THROUGH NON-RATED PARTITIONS SHALL BE SEALED WITH A NON-SHRINKNG GROUT OR CAULKING MATERIAL.
13. THE PLUMBING CONTRACTOR SHALL VERIFY PIPING INVERTS AND LOCATIONS PRIOR TO INSTALLATION.
14. REFER TO ARCHITECTURAL DOCUMENTS FOR THE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES.

GENERAL ABBREVIATIONS

NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AD	ACCESS DOOR/PANEL	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AMB	AMBIENT	MFR	MANUFACTURER
BOB	BOTTOM OF BEAM	MIN	MINIMUM
DIA	DIAMETER	NIC	NOT IN CONTRACT
DN	DOWN	NTS	NOT TO SCALE
E	EXISTING	PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR	PSIG	POUNDS PER SQUARE INCH GAUGE
EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE
FPM	FEET PER MINUTE	SHT	SHEET
FPS	FEET PER SECOND	TOB	TOP OF BEAM
GC	GENERAL CONTRACTOR	TOS	TOP OF STEEL
GPM	GALLONS PER MINUTE	VEL	VELOCITY
L	LENGTH	VFD	VARIABLE FREQUENCY DRIVE
LF	LINEAR FEET		

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	PIPING - SINGLE DASH INDICATES DOMESTIC COLD WATER - DOUBLE DASH INDICATES DOMESTIC HOT WATER - TRIPLE DASH INDICATES HOT WATER CIRCULATING - SOLID INDICATES SANITARY ABOVE FLOOR - CONTINUOUS DASHED INDICATES VENT - LONG DASHED LINES INDICATE SANITARY BELOW FLOOR	NUMBER INDICATES NOMINAL DIAMETER IN INCHES, LETTER(S) INDICATES SYSTEM. REFER TO ABBREVIATIONS FOR SYSTEM TYPE.
#"RD # SF	ROOF DRAIN TAG INDICATES DRAIN SIZE IN INCHES AND AREA OF ROOF DRAINED IN SQUARE FEET	REFER TO PLUMBING FIXTURE SCHEDULE FOR TYPE.
#"DSN # SF	WALL DISCHARGE (DOWNSPOUT NOZZLE) TAG INDICATES DRAIN SIZE IN INCHES AND AREA OF ROOF DRAINED IN SQUARE FEET	REFER TO PLUMBING FIXTURE SCHEDULE FOR TYPE.
FD#	FLOOR DRAIN	REFER TO PLUMBING FIXTURE SCHEDULE FOR TYPE.
C.O. C.O.	CLEANOUT	CIRCLE INDICATES UP TO FLOOR OR WALL CLEANOUT. LINE INDICATES END OF PIPE CLEANOUT LOCATED ABOVE A CEILING.
	DOUBLE GRADE CLEANOUT	REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.

GENERAL PLUMBING SYMBOLS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
#	SHEET NOTE	DENOTES SPECIFIC REQUIREMENT FOR THE SHEET ON WHICH THE NOTE APPEARS AND IS USED TO DESCRIBE WORK THAT IS TOO LENGTHY TO PLACE ON PLAN.
	PIPING - SOLID LINE INDICATES SYSTEM SUPPLY -- DASHED LINE INDICATES SYSTEM RETURN	NUMBER INDICATES NOMINAL DIAMETER IN INCHES, LETTER(S) INDICATES SYSTEM. REFER TO ABBREVIATIONS FOR SYSTEM TYPE.
Ø	DIAMETER	
	DENOTES CONNECTION OF NEW WORK TO EXISTING SYSTEM	PROTECT EXISTING SYSTEM FROM ENTRANCE OF FOREIGN DEBRIS DURING WORK.
	ARROW INDICATES DIRECTION OF FLOW IN PIPING	
##	ARROW INDICATES DOWNWARD PIPE SLOPE ## INDICATES SLOPE IN INCHES PER FOOT	WHERE PIPING IS NOT MARKED, REFER TO SPECIFICATIONS FOR REQUIREMENTS
	ISOLATION VALVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	CHECK VALVE ARROW INDICATES DIRECTION OF NORMAL FLOW	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	PIPE IN SLEEVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
#	BALANCING DEVICE # INDICATES FLOW TO BE BALANCED IN GPM	CIRCUIT SETTER, AUTOFLOW, ETC. REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	ELBOW UP ELBOW DOWN	
	TEE UP TEE DOWN TEE HORIZONTAL	
	PIPE REDUCER	INDICATES POINT WHERE PIPING CHANGES FROM ONE SIZE TO ANOTHER. SMALL POINT OF ARROW INDICATES SMALLER SIZE SIDE OF TRANSITION.
	UNION	
	STRAINER WITH BLOW-OFF VALVE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	PRESSURE GAUGE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	REQUIRED SERVICE CLEARANCE FOR EQUIPMENT	
	CONTINUATION SYMBOLS	FIRST SYMBOL APPLIES TO ROUND DUCT AND PIPING. SECOND SYMBOL APPLIES TO RECTANGULAR AND OVAL DUCT.

PLUMBING ABBREVIATIONS

NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
BF	BOTTLE/GLASS FILLER	HB	HOSE BIB
BFP	BACK FLOW PREVENTER	HD	HUB DRAIN
BT	BATH TUB	HP	HORSEPOWER
CA	COMPRESSED AIR (NON-MEDICAL)	L	LAVATORY
CD	CONDENSATE DRAIN	LPG	PROPANE
CO	CLEANOUT	LWT	LEAVING WATER TEMPERATURE
CP	CONDENSATE PUMP	MBH	BTU (1000'S)
CS	CLINICAL SINK	MS	MOP SINK
CV	CHEMICAL VENT	NC	NORMALLY CLOSED
CW	DOMESTIC COLD WATER	NO	NORMALLY OPEN
DF	DRINKING FOUNTAIN	NPW	NON-POTABLE WATER
DGCO	DOUBLE GRADE CLEANOUT	PIV	POST INDICATOR VALVE
HW	DOMESTIC HOT WATER	PRV	PRESSURE REDUCING VALVE
HWC	DOMESTIC HOT WATER CIRCULATION	RD	ROOF DRAIN
DI	DEIONIZED WATER	RO	REVERSE OSMOSIS WATER
DIC	DEIONIZED WATER CIRCULATING	RPZ	REDUCED PRESSURE ZONE (BACK FLOW PREVENTER)
DIH	DEIONIZED HOT WATER	S	SINK
DIHC	DEIONIZED HOT WATER CIRCULATING	SAN	SANITARY SEWER
DIS	DISTILLED WATER	SPD	SUMP PUMP DRAIN
DISC	DISTILLED WATER CIRCULATING	SE	SEWAGE EJECTOR
DR	DIALYSIS WATER RETURN	SH	SHOWER
DS	DIALYSIS WATER SUPPLY	SO	STORM OVERFLOW
DSN	DOWN SPOUT NOZZLE	SP	SUMP PUMP
DT	DRAIN TILE	SS	SERVICE SINK
EEW	EMERGENCY EYE WASH	ST	STORM SEWER
ES	EMERGENCY SHOWER	TEMP	TEMPERATURE
ESEW	EMERGENCY SHOWER AND EYE WASH COMBO	UR	URINAL
ET	EXPANSION TANK	V	VENT
EWC	ELECTRIC WATER COOLER	VTR	VENT THROUGH ROOF
EWT	ENTERING WATER TEMPERATURE	WB	WALL BOX
F	FILTER	WC	WATER CLOSET
FCO	FLOOR CLEANOUT	WCO	WALL CLEANOUT
FD	FLOOR DRAIN	WH	WATER HEATER
FS	FLOOR SINK	WS	WATER SOFTENER
G	NATURAL GAS	WPD	WATER PRESSURE DROP
GCO	GRADE CLEANOUT	YCO	YARD CLEANOUT
GV	GREASE VENT		
GW	GREASE WASTE		

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
PLUMBING SYMBOLS AND ABBREVIATIONS

Approved:

Phase
100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
EHRM INFRASTRUCTURE UPGRADES

Location
TUSCALOOSA VAMC, TUSCALOOSA, AL.

Issue Date 03/08/2024 | **Checked** AGT | **Drawn** PCM

Project Number 679-20-104

Building Number

Drawing Number P-000

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA Tuscaloosa EHRM Infr Upgrades_BXXX_SES_2020.rvt

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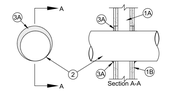
VA FORM 08 - 6231

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-7026**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 5.1 L/s/m2
	L Rating At 204 C - Less Than 5.1 L/s/m2

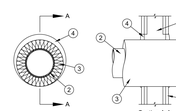


1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. When diam of opening exceeds width of stud cavity, additional lengths of steel stud installed to frame out opening around steel duct (item 2).
   B. **Gypsum Board** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Design in the UL Fire Resistance Directory. Max diam of opening is 25-1/2 in. (648 mm).
   The hourly F and FH Rating of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Steel Duct -** Max 24 in. (610 mm) diam No. 28 gauge (or heavier) galv steel vent duct or No. 26 gauge (or heavier) spiral wound galv steel duct. One steel duct to be installed either concentrically or eccentrically within the firestop system. Annular space between duct and periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). Duct to be rigidly supported on both sides of the wall assembly.
2A. **Coated Ducts*** - As an alternate to Item 2, max 24 in. (610 mm) diam (or smaller) steel duct coated with BW11 coating material. Duct sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements. One duct to be installed either concentrically or eccentrically within the firestop system. The annular space between the duct and the periphery of the opening shall be min 0 in. (point contact) to a max of 1-1/2 in. (38 mm). Duct to be rigidly supported on both sides of wall assembly.
   FIRESPRAY INTERNATIONAL LTD - FLAMEBAR BW11 fire rated ductwork

3. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material -** (Optional, Not Shown) - Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction fit into annular space for 2 hr rated wall assemblies only. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).
   B. **Fill, Void or Cavity Material* - Sealant -** Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct and the gypsum board. For 2 hr Rated walls when LC150 or LE600 Sealant is used, fill material thickness installed to full depth of gypsum board layers on each side of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, or SpecSeal LE600 Sealant
   *** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-5014**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 1 Hr	FT Rating - 1 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 1 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft

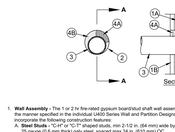


1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, V300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 18 in. (457 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
1A. **Metallic Sleeve -** (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

2. **Through Penetrants -** One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. **Steel Pipe** - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing -** Nom 4 in. (102 mm) diam (or smaller) Type M (or heavier) copper tube.
   D. **Copper Pipe -** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Pipe Coverings*** - One of the following types of pipe coverings shall be used:
   A. **Pipe and Equipment Covering Materials*** - Max 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap type. Transverse joints secured with metal fasteners or with butt type supplied with the product. Annular space between insulated penetrating item and the edge of the through-opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See **Pipe and Equipment Covering Materials*** - (SRSU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. **Pipe Covering Materials*** - Max 2 in. (51 mm) thick unfaced mineral fiber pipe insulation sized to the outside diameter of pipe. Pipe insulation secured with min 3/4 in. diam bead of sealant at the pipe/concrete interface. Min 1/4 in. (6 mm) of the annular space between insulated penetrating item and the edge of the through-opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   IG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermatec.
   C. **Sheathing Material*** - Used in conjunction with item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt laps.
   See **Sheathing Materials** (BVOV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location between insulated through penetrant and gypsum board, a min 3/8 in. (10 mm) bead of fill material shall be applied to the insulated through penetrant/gypsum board interface on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1251**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 0 Hr



1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Steel Studs -** "C"-H* or "C-T" shaped studs, min 2-1/2 in. (64 mm) wide by 1-1/2 in. (38 mm) deep, fabricated from min No. 25 gauge (0.5 mm thick) galv steel, spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** - 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner panels installed vertically. Max diam of circular cutout in gypsum liner panel is 10 in. (254 mm).
   C. **Gypsum Board*** - 1/2 in. or 5/8 in. (13 or 16 mm) thick, 48 in. (1.2 m) wide gypsum boards. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening in gypsum board is 10 in. (254 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Metallic Sleeve -** Cylindrical sleeve fabricated from min No. 30 gauge (0.3 mm thick) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of the sleeve to be equal to the thickness of the wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. The ends of the steel sleeve shall be flush with each surface of the wall.
3. **Through Penetrant —** One metallic pipe, tube or conduit installed concentrically or eccentrically within the firestop system. The annular space between the pipe, tube or conduit and the periphery of the sleeved opening to be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, tube or conduit to be rigidly supported on both sides of wall assembly. One of the following types and sizes of pipe, tube or conduit may be used:
   A. **Steel Pipe -** Nom 6 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 6 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit -** Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit, steel electrical metallic tubing (EMT) or flexible steel conduit.
   D. **Copper Pipe or Tube -** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe or Type L (or heavier) copper tube.

4. **Firestop System -** The firestop system shall consist of the following items:
   A. **Packing Material -** Min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into sleeved opening as a permanent form. Packing material to extend throughout thickness of wall except for a 1 in. (25 mm) deep recess on the finished side of wall to accommodate the fill material.
   B. **Fill Void or Cavity Materials* - Sealant or Putty** - Min 1 in. (25 mm) thickness of fill material applied within sleeve, flush with finished surface of wall. At the point contact location, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the penetrant/sleeve interface.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, or SpecSeal Putty
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1168**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)	FT Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 1/4, 3/4 and 1 Hr (See Items 2 and 4)
	L Rating At Ambient - Less Than 5.1 L/S/m2
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be min 4 in. (102 mm) wider and 4 in. (102 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 in. (51 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 38 in. (965 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrants -** Multiple pipes or conduits installed in single layer array within the firestop system. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (point contact) to max 3 in. (76 mm). The separation between pipes and conduits to be min 0 in. (0 mm) to max 3 in. (76 mm). Pipes and conduits to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipe or conduit may be used:
   A. **Steel Pipe -** Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Conduit -** Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT).
   When diam of pipe or conduit is greater than 2 in. (51 mm), T, FT and FTH Ratings are 1/4 hr. Otherwise, T, FT and FTH Ratings are 3/4 hr or 1 hr as detailed in Item 4.
3. **Forming Material** - (Optional, Not Shown) - Foam backer rod, mineral wool batt insulation or glass fiber insulation packed into opening and recessed min 5/8 in. (16 mm) from each surface of the wall to accommodate fill material.
4. **Fill Void or Cavity Materials* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material installed to completely fill annular space between pipes, conduits and gypsum wallboard flush with each surface of wall. Min 1/4 in. (6 mm) thickness of fill material applied to the pipe/wall interface at the point contact locations on both sides of the wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LC150 Sealant, SpecSeal Series SSS Sealant or SpecSeal LCI Sealant. **When SpecSeal LC150 Sealant is used with max 2 in. (51 mm) diam pipe or conduit, T, FT and FTH Ratings are 3/4 hr. When SpecSeal LCI Sealant or SpecSeal Series SSS Sealant is used with max 2 in. (51 mm) diam pipe or conduit, T, FT and FTH Ratings are 1 hr.**
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. W-L-1049**

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 5.1 L/S/m2
	L Rating at 204°C - Less Than 5.1 L/S/m2

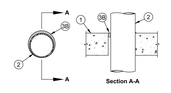


1. **Wall Assembly -** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U305, V305, U405, V405 or W405 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs -** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 38 in. (965 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
1A. **Metallic Sleeve -** (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) to max 0.105 in. (2.7 mm) thick sheet steel. Length of steel sleeve to be equal to the thickness of wall. Longitudinal seam of sleeve welded or overlapped min 1 in. (25 mm). The ends of the steel sleeve shall be flush or recessed max 1/4 in. (6 mm) from wall surfaces.

2. **Through Penetrant -** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** - Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.
   D. **Copper Tubing -** Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe -** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
2A. **Through Penetrating Product* - Flexible Metal Piping** - As an alternate to Item 2, one nom 2 in. (51 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.
   OMEGA FLEX INC
   GASTITE, DIV OF TITEFLEX
   WAND MFG L L C
3. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location between through penetrant and gypsum board, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/through penetrant interface on both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
   *** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Classified by
Underwriters Laboratories, Inc.
to ASTM/UL 1479 (ASTM E814)

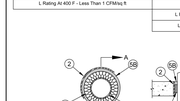
System No. C-BJ-1058
F Rating - 2 Hr
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft
W Rating - Class 1



1. **Floor or Wall Assembly -** Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 14 in. (356 mm).
   See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants -** One metallic pipe, conduit or tubing to be installed within the firestop system. The annular space shall range from min 0 in. (point contact) to max 1-1/8 in. (0 to 29 mm). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe -** Nom 12 in. (305 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit -** Nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) rigid galv steel conduit.
   D. **Copper Tubing -** Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe -** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material** - (Optional, Not Shown) - Mineral wool batt insulation, polyethylene backer rod or glass fiber batt insulation friction fitted into annular space. Packing material to be recessed from top surface of floor or both surfaces of wall as required to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Materials* - Caulk** - Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At point contact location, apply min 1/4 in. (6 mm) diam bead of sealant at the pipe/concrete interface on the top surface of the floor or both surfaces of wall.
   SPECIFIED TECHNOLOGIES INC - Pecora 301 Sealant or SpecSeal Series SILSO Sealant for floors or walls and Pecora 890 Sealant or SpecSeal Series SILSO Sealant for floors only.
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Classified by
Underwriters Laboratories, Inc.
to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115 **System No. C-AJ-5087**

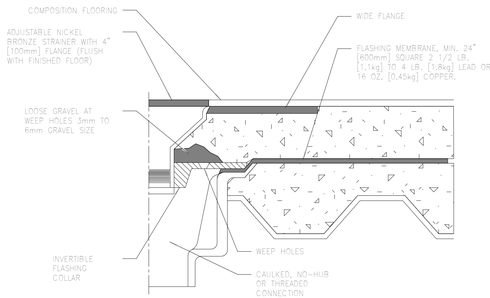
ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 1 Hr	FT Rating - 1 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 1 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



1. **Floor or Wall Assembly -** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Floor may also be constructed of any min 5 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units*.** Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 30 in. (762 mm). Max diam of opening in floor constructed of hollow-core precast concrete units is 7 in. (178 mm).
   See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve - (Optional) -** Nominal 30 in. (762 mm) diam (or smaller) Sch 10 (or heavier) steel pipe sleeve or No. 26 ga (0.022 in. or 0.56 mm thick) sheet steel sleeve with square anchor flange spot welded to the sleeve at approx mid-height. Sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. **Through Penetrants -** One metallic pipe to be installed either concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes may be used:
   A. **Steel Pipe -** Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe -** Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing -** Nom 6 in. (152 mm) diam (or smaller) Type M (or heavier) copper tubing.
   D. **Copper Pipe -** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

4. **Pipe Coverings -** One of the following types of pipe coverings shall be used:
   A. **Pipe and Equipment Covering Materials*** - Nom 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap type. Transverse joints secured with metal fasteners or with butt type supplied with the product. Annular space shall be min 1/2 in. (13 mm) thick to max 1-1/2 in. (38 mm). When the nom pipe diam is less than 2 in. (51 mm), annular space may be min 1/4 in. (6 mm).
   See **Pipe and Equipment Covering Materials** (BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. **Pipe Covering Materials*** - Nom 2 in. (51 mm) thick unfaced mineral fiber pipe insulation having a nom density of 3.5 pcf (56 kg/m3) (or heavier) and sized to the outside diam of pipe or tube. Pipe insulation secured with min No. 8 AWG steel wire spaced max 12 in. (305 mm) OC.
   IG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermatec
   C. **Sheathing Material*** - Used in conjunction with item 4B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 4B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt laps. Annular space shall be min 1/2 in. (13 mm) thick to max 1-1/2 in. (38 mm). When the nom pipe diam is less than 2 in. (51 mm), annular space may be min 1/4 in. (6 mm).
   See **Sheathing Materials*** - (BVOV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
5. **Firestop System -** The firestop system shall consist of the following:
   A. **Packing Material -** Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation compressed and firmly packed within annular space. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material (Item 5B).
   B. **Fill, Void or Cavity Material* - Sealant** - Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. When floor is constructed of hollow-core precast concrete units, fill material is to be installed symmetrically on both sides of floor, flush with floor surfaces. At the point contact location between penetrating item and concrete, a min 3/8 in. thick bead of fill material shall be applied at the concrete penetrating item interface on top surface of floor and both surfaces of wall or hollow-core precast concrete floor.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
   C. **Steel Cover Plate -** (Not Shown) - Min 0.014 in. (No. 28 gauge) galv steel cut to fit the contour of the through-penetrant (Item 2) and to lap min 1 in. (25 mm) onto the concrete floor surface around the perimeter of the through-opening. Seams of steel cover plate shall overlap a min 1/2 in. Steel cover plate secured to top surface of floor and both surfaces of wall assembly by means of 1/4 in. diam by 1-3/4 in. long steel concrete anchors in conjunction with 1/4 in. by 1-1/4 in. diam steel fender washers spaced a max 6 in. OC.
   The hourly F Rating of the firestop system is dependent upon the use of the steel cover plate. If the steel cover plate is used , the F Rating of the firestop system is 4 hr. If the steel cover plate is omitted, the F Rating of the firestop system is 3 hr.
   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

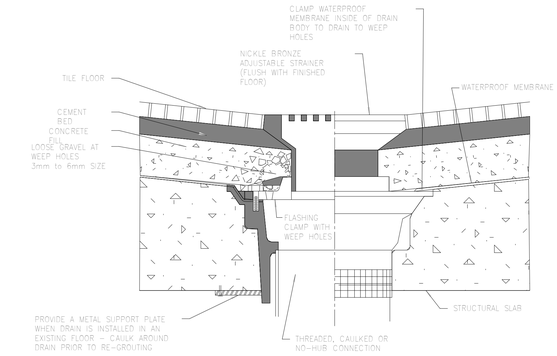
Specified Technolog



NOTES:

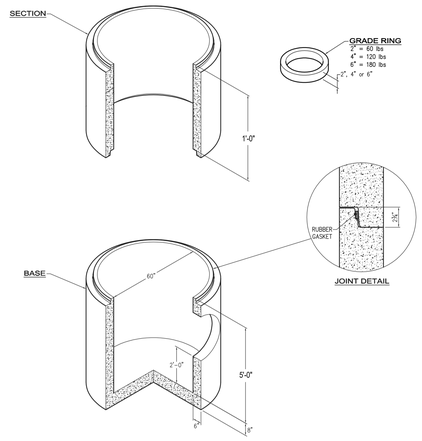
1. SLOPE MEMBRANE LINER 2% TO DRAIN.
2. PROVIDE FLASHING MEMBRANE WHEN DRAIN IS INSTALLED IN A NON-MEMBRANE FLOOR.

9 TYPE "D" FLOOR DRAIN DETAIL
NO SCALE



NOTE:
SLOPE MEMBRANE LINER 2% TO DRAIN.

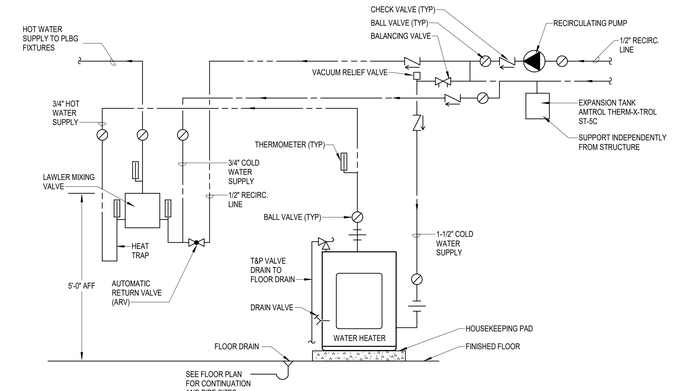
8 TYPE "C" FLOOR DRAIN DETAIL
NO SCALE



NOTES:

1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. COORDINATE GRADE RING HEIGHT FLUSH WITH FINISHED CONCRETE SLAB. TOP OF BASIN SHALL BE FLUSH WITH FINISHED CONCRETE SLAB. REFER TO CIVIL DRAWINGS.
3. CONTRACTOR SHALL VERIFY PIPING CONNECTIONS AND ELEVATIONS TO PUMP BASIN AND COORDINATE PIPE PENETRATIONS IN CONCRETE CATCH BASIN. CATCH BASIN PENETRATIONS MAY BE CORED IN FIELD OR ORDERED FROM CATCH BASIN MANUFACTURER IF APPLICABLE.
4. ALL PIPE CONNECTIONS TO PUMP BASIN SHALL BE WATER TIGHT.
5. ALL PIPE AND CONDUIT PENETRATIONS THROUGH CATCH BASIN SHALL BE WATER TIGHT TO PREVENT WATER INTRUSION INTO CATCH BASIN.
6. TOP OF PUMP BASIN AND CATCH BASIN SHALL BE WATER TIGHT TO PREVENT WATER INTRUSION INTO CATCH BASIN.

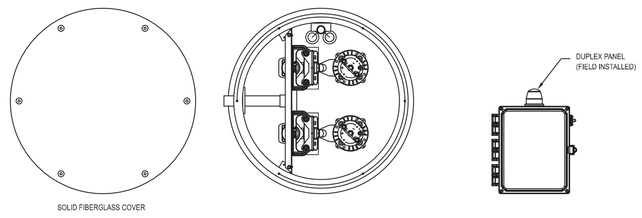
6 ALTERNATE NO. 1 - CATCH BASIN DETAIL
NO SCALE

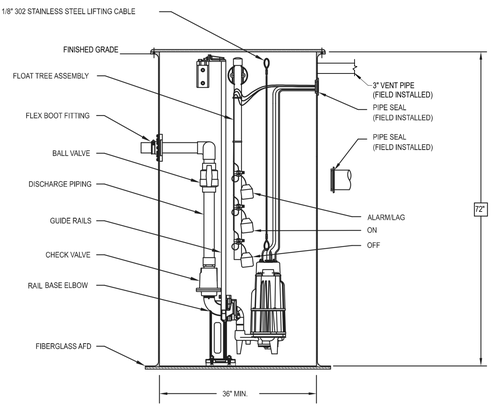


NOTES:

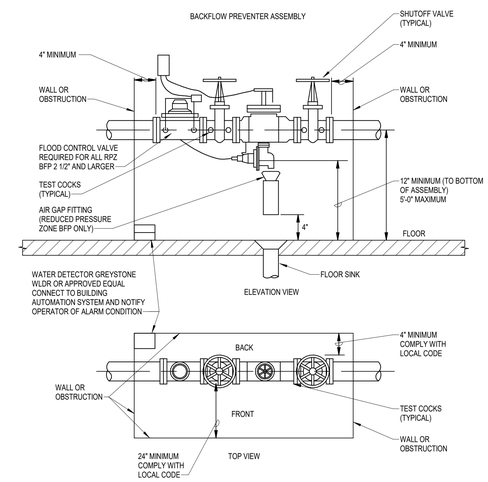
1. INSTALL WATER HEATER PER MANUFACTURES SPECIFICATIONS AND INSTRUCTIONS.
2. PLUMBING CONTRACTOR SHALL COORDINATE ELECTRICAL CONNECTIONS TO WATER HEATER WITH ELECTRICAL CONTRACTOR.
3. MIXING VALVE SHALL BE WALL MOUNTED. PROVIDE MOUNTING BRACKETS.
4. INSTALL MIXING VALVE PER MANUFACTURES SPECIFICATIONS AND INSTRUCTIONS.

4 WATER HEATER WITH RECIRCULATED LOOP AND MIXING VALVE
NO SCALE

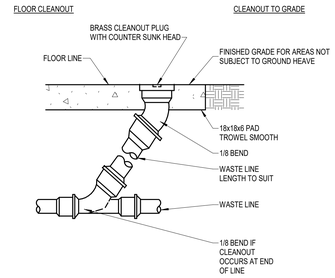




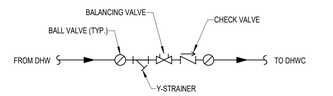
7 ALTERNATE NO. 1 - BELOW GRADE SEWER PUMP SYSTEM
NO SCALE



5 BACKFLOW PREVENTER
NO SCALE



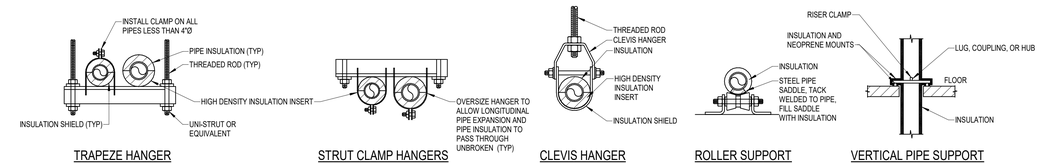
3 FLOOR OR GRADE CLEANOUT
NO SCALE



NOTES:

1. REFER TO DRAWINGS FOR AUTOMATIC FLOW CONTROL FLOW RATE AND PIPE SIZE.

2 DOMESTIC HOT WATER CIRCULATION CONNECTION
NO SCALE



1 PIPE SUPPORT - TYPICAL FOR ALL PIPING
NO SCALE

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	PLUMBING DETAILS
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Project Number	679-20-104
Building Number	B151
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Drawing Number	P-002
Issue Date	03/08/2024
Checked	SLC
Drawn	LMS

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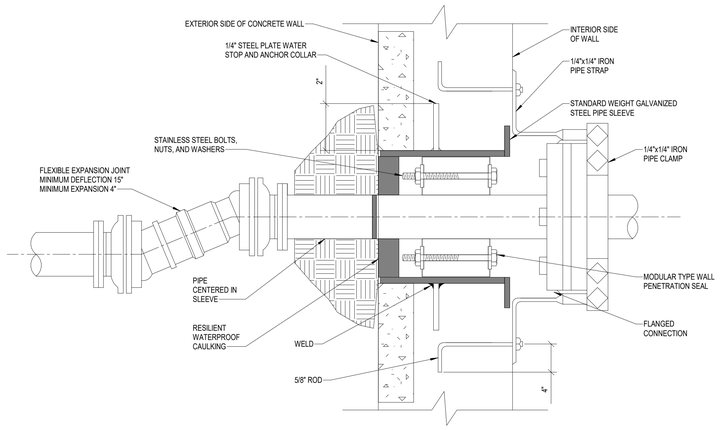
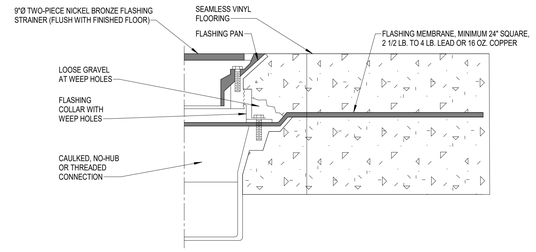


2 PIPE PENETRATION THROUGH WALLS BELOW GRADE
12" = 1'-0"



NOTES:

1. SLOPE MEMBRANE LINER 2% TO DRAIN.
2. PROVIDE FLASHING MEMBRANE WHEN DRAIN IS INSTALLED IN NON-MEMBRANE FLOOR.

1 TYPE "F" FLOOR DRAIN DETAIL
NO SCALE

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Drawing Title PLUMBING DETAILS	**Phase** 100% CONSTRUCTION DOCUMENTS	**Project Title** EHRM INFRASTRUCTURE UPGRADES	**Project Number** 679-20-104
			Building Number B151
Approved:	FULLY SPRINKLERED	**Location** TUSCALOOSA VAMC, TUSCALOOSA, AL.	**Drawing Number** P-003
		Issue Date 03/08/2024 / **Checked** SLC / **Drawn** LMS	

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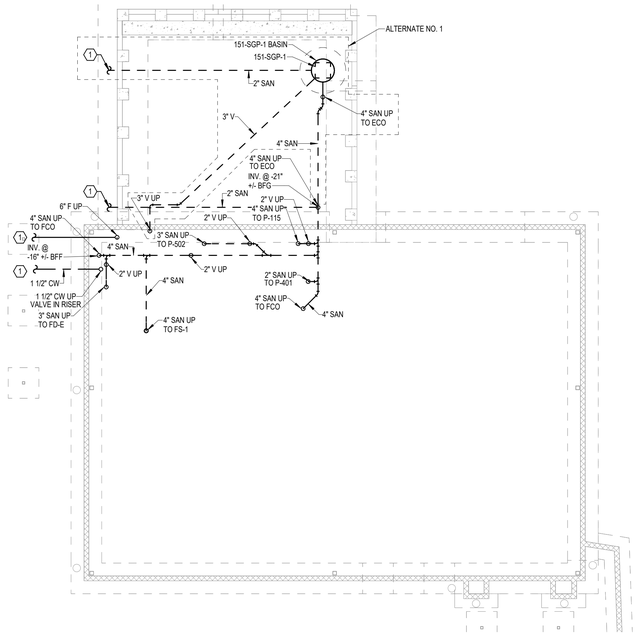
B. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS AND METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.
C. THE PLUMBING CONTRACTOR SHALL VERIFY SANITARY AND STORM PIPING INVERTS PRIOR TO THE START OF WORK.
D. THE PLUMBING CONTRACTOR SHALL BALANCE THE HOT WATER SYSTEM AFTER COMPLETION OF WORK.
E. PROVIDE WATER HAMMER ARRESTORS ON ALL QUICK CLOSING VALVES AND FLUSH VALVES.
F. PLUMBING CONTRACTOR SHALL ROUGH-IN AND MAKE FINAL CONNECTIONS TO EQUIPMENT AS REQUIRED.
G. PLUMBING CONTRACTOR SHALL COORDINATE PIPE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
H. PLUMBING CONTRACTOR SHALL SLEEVE PIPING ABOVE STRUCTURAL FOOTINGS. SLEEVE SHALL BE 2 PIPE SIZES LARGER THAN THE PIPE THE SLEEVE IS SERVING. SLEEVE SHALL BE SCHEDULE 40 STEEL.

SHEET NOTES:⬡

1. REFER TO CIVIL FOR CONTINUATION.



1 UNDERFLOOR LEVEL - PLUMBING
1/8" = 1'-0"

5 0 5 10 15 20
1/8" = 1'-0" SCALE FEET

PLAN NORTH

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VA U.S. Department of Veterans Affairs

Drawing Title	UNDERFLOOR LEVEL - PLUMBING
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	SLC
Drawn	LMS
Project Number	679-20-104
Building Number	B151
Drawing Number	P-151.1

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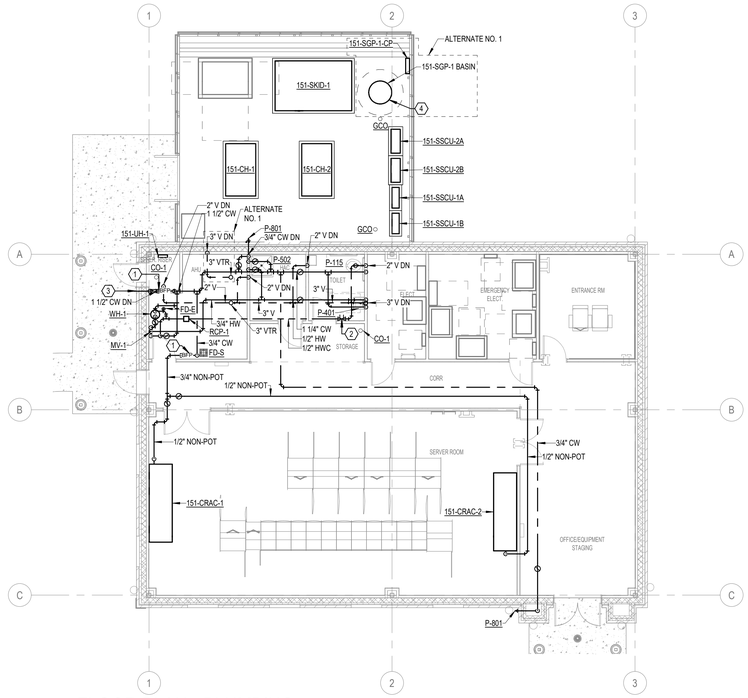
SHEET NOTES:⬡

1. INSTALL REDUCED PRESSURE BACKFLOW PREVENTER.
2. INSTALL HWC BALANCING VALVE. SET @ 0.25 GPM.
3. INSTALL EMERGENCY POTABLE WATER CONNECTION. CONNECTION SHALL BE A 2 1/2" HOSE CONNECTION.
4. ALTERNATE NO. 1: INSTALL FIBERGLASS BASIN IN CONCRETE CATCH BASIN. SEE DETAIL.



1 FLOOR PLAN - PLUMBING
1/8" = 1'-0"

PLAN NORTH

1/8" = 1'-0" SCALE 5 0 5 10 15 20 FEET

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Drawing Title	FLOOR PLAN - PLUMBING
Phase	100% CONSTRUCTION DOCUMENTS
Approved:	
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Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
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Project Number	679-20-104
Building Number	B151
Drawing Number	P-151.2

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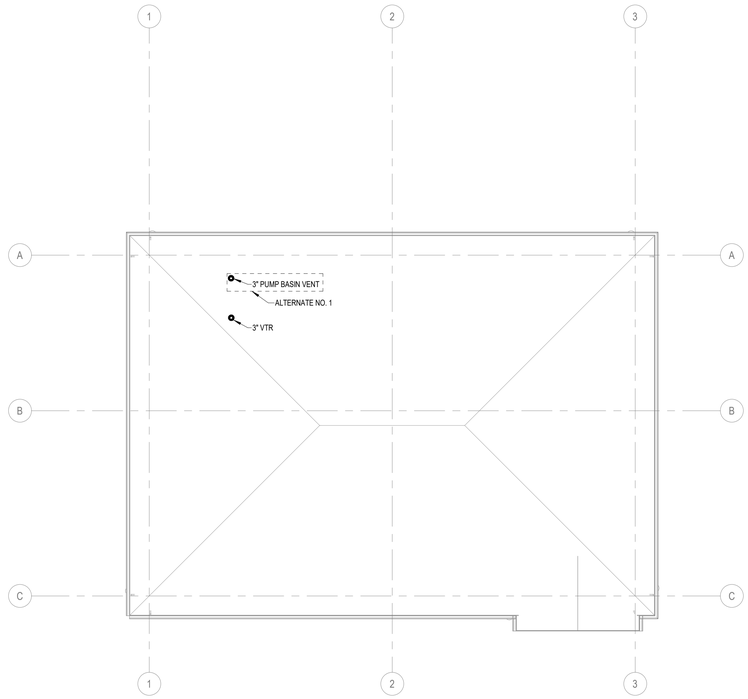

1 ROOF LEVEL - PLUMBING
1/8" = 1'-0"

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VA U.S. Department of Veterans Affairs

Drawing Title ROOF LEVEL - PLUMBING	**Phase** 100% CONSTRUCTION DOCUMENTS	**Project Title** EHRM INFRASTRUCTURE UPGRADES	**Project Number** 679-20-104
			Building Number B151
Approved:	FULLY SPRINKLERED	**Location** TUSCALOOSA VAMC, TUSCALOOSA, AL.	**Drawing Number** P-151.3
		Issue Date 03/08/2024 / **Checked** SLC / **Drawn** LMS	

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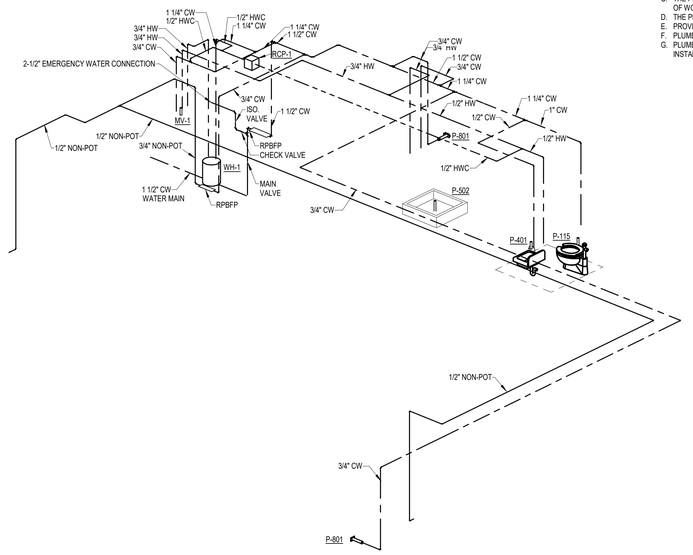
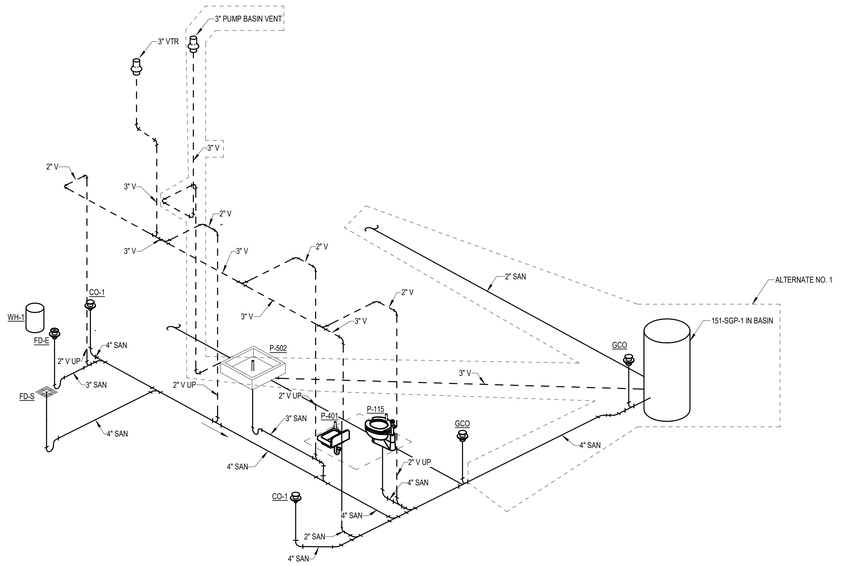


1 WATER RISER DIAGRAM



2 WASTE AND VENT RISER DIAGRAM

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VA U.S. Department of Veterans Affairs

Drawing Title PLUMBING RISERS	**Phase** 100% CONSTRUCTION DOCUMENTS	**Project Title** EHRM INFRASTRUCTURE UPGRADES	**Project Number** 679-20-104
			Building Number B151
Approved:	FULLY SPRINKLERED	**Location** TUSCALOOSA VAMC, TUSCALOOSA, AL.	**Drawing Number** P-151.400
		Issue Date 03/08/2024 / **Checked** SLC / **Drawn** LMS	

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PLUMBING PIPING INSULATION SCHEDULE

PIPING SYSTEM FLUID	TEMP. RANGE DEG. F.	THICKNESS IN INCHES FOR PIPE SIZES THROUGH SIZE LISTED					TYPE	JACKET TYPE (2)	NCIIS PLATE NUMBER (1)	REMARKS
		<1	1 - 1.25	1.5 - 3	4 - 6	>/= 8				
INDOOR HOT WATER AND HOT WATER RECIRC	105 - 140	1	1	1.5	1.5	1.5	MF	ASJ-SSL	1-100	
INDOOR COLD WATER	40 - 60	0.5	0.5	1	1	1	MF, E	ASJ-SSL	1-100, 1-200	
INDOOR CONDENSATE AND EQUIPMENT DRAINS	BELOW 60	0.5	0.5	0.5	0.5	0.5	MF, E	ASJ-SSL	1-100, 1-200	(3)

ABBREVIATIONS: MF = MINERAL FIBER/FIBERGLASS, E = ELASTOMERIC, CG = CELLULAR GLASS

REMARKS:
1. NCIIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. INCLUDES AIR CONDITIONING CONDENSATE, P-TRAPS FOR FLOOR DRAINS/SINKS RECEIVING AIR CONDITIONING CONDENSATE OR ICE MAKER DRAIN PIPING, AND SANITARY DRAINAGE PIPING FROM ELECTRIC WATER COOLERS TO MAIN.

PLUMBING FIXTURE SCHEDULE

MARK	TYPE	PIPING CONNECTIONS				WASTE FIXTURE UNITS	WATER FIXTURE UNITS	WRIST BLADE	ELECTRIC SENSOR
		COLD WATER	HOT WATER	WASTE	VENT				
CO-1	FLOOR CLEANOUT	0"	0"	4"	0"	N/A	N/A	N/A	N/A
FD-E	FLOOR DRAIN			3"	1 1/2"			N/A	N/A
FD-S	FLOOR SINK			3"	2"			N/A	N/A
GCO	GRADE CLEANOUT	0"	0"	4"	0"	N/A	N/A	N/A	N/A
MV-1	MIXING VALVE	3/4"	3/4"	0"	0"	N/A	N/A	N/A	N/A
P-115	WATER CLOSET, FLOOR MOUNTED	1"	0"	4"	2"	6	10	N/A	NO
P-401	LAVATORY	1/2"	1/2"	2"	1 1/2"	2	2	N/A	NO
P-502	SERVICE SINK, FLOOR MOUNTED	3/4"	3/4"	2"	1 1/2"	3	4	N/A	NO
P-801	HOSE BIBB	3/4"	0"	0"	0"	N/A	N/A	N/A	N/A

REMARKS:
1. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR ADDITIONAL REQUIREMENTS, ROUGH IN DIMENSIONS, AND COORDINATION OF ACCESSORIES. FIXTURE MOUNTING LOCATIONS AND OPERATION OF FIXTURE SHALL NOT INTERFERE WITH ADJACENT ACCESSORIES OR THEIR OPERATION.
2. CONTRACTOR SHALL COORDINATE ALL FIXTURES WITH OTHER TRADES. ANY CONFLICTS OR ADJUSTMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
3. COORDINATE SINK BASINS AND DRAIN OUTLETS WITH CASEWORK AND KNEE GUARDS. PROVIDE OFFSET TAILPIECES AS REQUIRED TO ACCOMMODATE INSTALLATION AND COMPLY WITH ADA REQUIREMENTS.
4. COORDINATE FLUSH VALVE INSTALLATION WITH GRAB BARS IN ALL LOCATIONS.
5. COORDINATE MOUNTING OF FAUCET SPOUTS WITH BASINS. FAUCET SHALL NOT DISCHARGE DIRECTLY INTO BASIN DRAIN AND SHALL PROVIDE SUFFICIENT CLEARANCE BETWEEN STREAM AND BASIN TO ALLOW FOR UNOBSTRUCTED HAND WASHING WITHOUT CONTACT WITH THE BASIN. CONTRACTOR SHALL OBTAIN AND COORDINATE WITH SHOP DRAWINGS FROM COUNTER AND CASEWORK MANUFACTURERS.
6. COORDINATE DRAIN GRATE WITH FLOOR SLOPING AND FLOORING PATTERN FOR ALL FLOOR DRAINS, FLOOR SINKS, AND TRENCH DRAINS. DRAIN SHALL BE SET SUCH THAT DRAIN GRATE IS FLUSH WITH FINISHED FLOOR SURFACE AND COORDINATED WITH PATTERN. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
7. PROVIDE AND INSTALL POINT OF USE THERMOSTATIC MIXING VALVES AT ALL PLUMBING FIXTURE LOCATIONS PER VHA DIRECTIVE 1061.

PUMP SCHEDULE

MARK	FLOW [GPM]	TOTAL HEAD [FT]	TYPE OF FLUID	SUCTION / DISCHARGE SIZE [IN]	ELECTRICAL DATA			REMARKS
					VOLTAGE	PHASE	DISCONNECT BY	
RCP-1	5.11	10.45	WATER	3/4"	120 V	1	ELECTRICAL	(1)(2)(3)

REMARKS:
1. PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE WITH THE FOLLOWING ACCESSORIES: DISCONNECT, CHECK VALVE, UNIONS, AND TEMPERATURE AND PRESSURE GAUGES ON EACH CONNECTION.
3. ALL WETTED COMPONENTS SHALL BE NSF 61 AND NSF 372 COMPLIANT.

ELECTRIC WATER HEATER SCHEDULE

MARK	STORAGE CAPACITY [GAL]	STORAGE WATER TEMPERATURE [°F]	RECOVERY (@ 75°F RISE) [GPH]	DISTRIBUTION WATER TEMPERATURE [°F]	ELECTRICAL DATA				BASIS OF DESIGN	MODEL	REMARKS
					KW	VOLTAGE	PHASE	DISCONNECT BY			
WH-1	10	140	8	120	1.5	208 V	1	ELECTRICAL	AO SMITH	DEL-6S-1.5	(1, 2, 3)

REMARKS:
1. PROVIDE WITH RELIEF VALVE, DIELECTRIC CONNECTIONS, THERMOMETERS ON INLET / OUTLET, AND EXPANSION TANK.
2. PROVIDE WITH HOT WATER CIRCULATION PUMP WITH TIMECLOCK / AQUASTAT.
3. MOUNT ON 4" HOUSEKEEPING PAD.

GRINDER PUMP SCHEDULE

MARK	FLOW [GPM]	TOTAL HEAD [FT]	SHUT-OFF HEAD [FT]	RPM	SYSTEM TYPE	ELECTRICAL DATA					BASIS OF DESIGN	MODEL	REMARKS
						HP	FLA	VOLTAGE	PHASE	DISCONNECT BY			
151-SGP-1	38	46	125	3450	DUPLEX	2	5.5	460 V	3	MANUFACTURER	ZOELLER	G840	(1, 2, 3, 4, 5, 6)

REMARKS:
1. PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE WITH THE FOLLOWING ACCESSORIES: DISCONNECT, 4-FLOAT SYSTEM, RAIL SYSTEM WITH STAINLESS STEEL LIFTING CABLE.
3. ALL WETTED COMPONENTS SHALL BE NSF 61 AND NSF 372 COMPLIANT.
4. PROVIDE BACNET INTERFACE.
5. PROVIDE 36" DIAMETER BY 72" DEEP FIBERGLASS BASIN. PROVIDE ALARM CONNECTIONS TO BUILDING AUTOMATION SYSTEM THROUGH DRY CONTACTS.
6. PROVIDE 60" MANHOLE TYPE 2 CATCH BASIN FOR FIBERGLASS SUMP BASIN INSTALLATION. CONTRACTOR SHALL COORDINATE FIBERGLASS BASIN INLET, OUTLET, AND VENT WITH PENETRATIONS THROUGH CATCH BASIN. CATCH BASIN PENETRATIONS MAY BE FIELD CORED OR PRE-MANUFACTURED KNOCKOUTS. COORDINATE PRE-MANUFACTURED KNOCKOUT LOCATIONS PRIOR TO PURCHASE. BASIS OF DESIGN: OLDCASTLE.

Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	PLUMBING SCHEDULES
Approved:	
Phase	100% CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	EHRM INFRASTRUCTURE UPGRADES
Location	TUSCALOOSA VAMC, TUSCALOOSA, AL.
Issue Date	03/08/2024
Checked	SLC
Drawn	LMS
Project Number	679-20-104
Building Number	B151
Drawing Number	P-151.600

Autodesk Docs://20375.008 - VA Tuscaloosa EHRM Infrastructure Upgrades/20375.008_VA Tuscaloosa EHRM Infrastructure Upgrades_R23_B150.rvt
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