Department of Veterans Affairs

REPLACE AHU KITCHEN BLDG 1
VA OVERTON BROOKS MEDICAL CENTER
510 E. STONER AVE, SHREVEPORT, LA

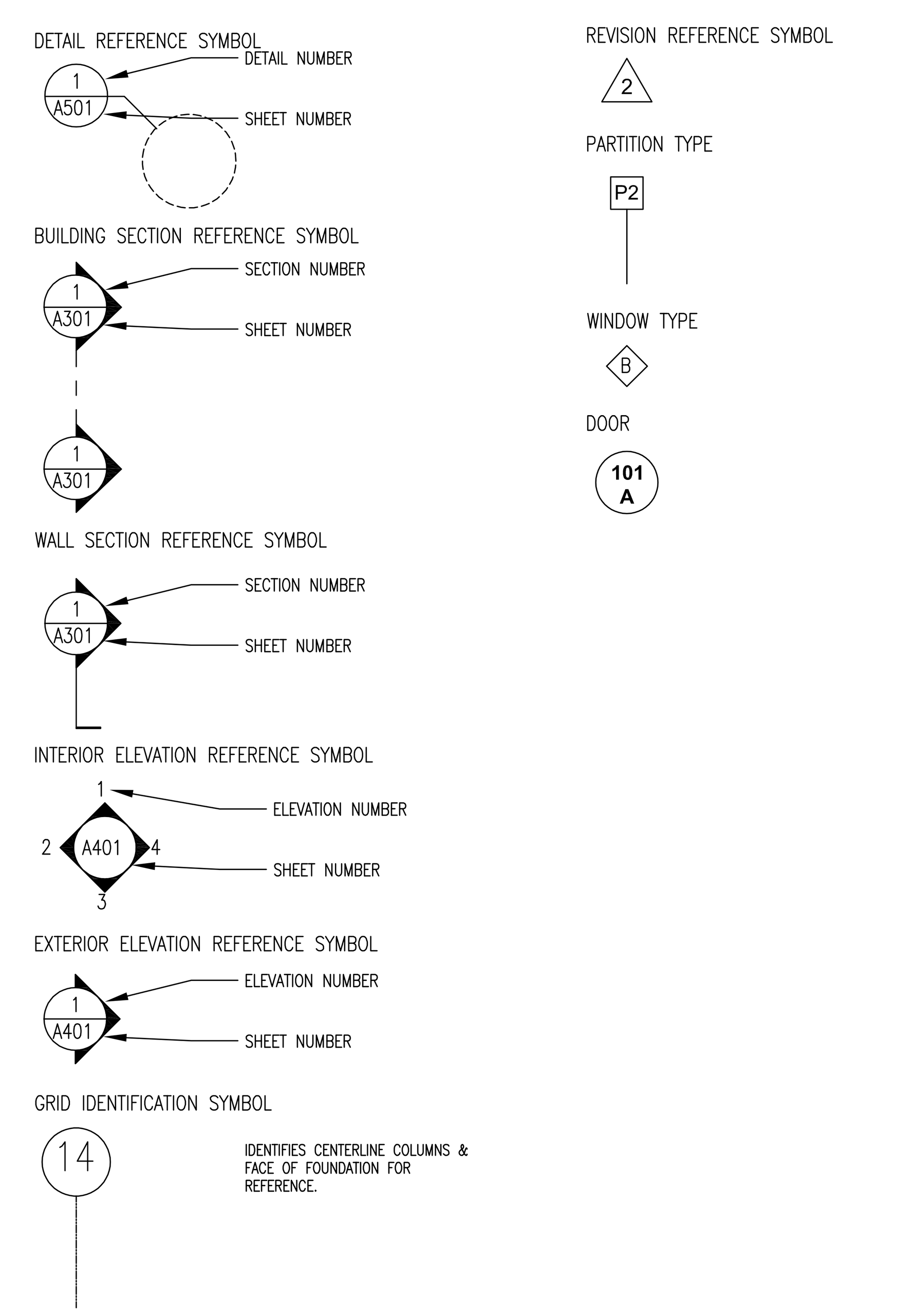
PROJECT NO: 667-16-102

ISSUED FOR CONSTRUCTION

ABBREVIATIONS LEGEND

AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
ACOUS	ACOUSTICAL
ADJ	ADJUSTABLE
ALUM	ALUMINUM
ANCH	ANCHOR
BM	BEAM
BD	BOARD
BLK	BLOCK
BLDG	BUILDING
BOT	BOTTOM
CB	CATCH BASIN
CAB	CABINET
CIP	CAST IN PLACE
CLG	CEILING
CTR	CENTER
CL	CENTERLINE
CO	CLEANOUT
CLR	CLEAR(ANCE)
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CSJ	CONSTRUCTION JOINT
CONT	CONTINUOUS
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CEM	CEMENT
CER	CERAMIC
DBL	DOUBLE
DEMO	DEMOLISH OR DEMOLITION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPENER
DWG	DRAWING
EA	EACH
EW	EACH WAY
ELEC	ELECTRIC(AL)
EWC	ELECTRIC WATER COOLER
ELEV	ELEVATION (DRAWING)
ELEV	ELEVATOR
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
EJ	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
FT	FEET, FOOT
FIN	FINISH(ED)
FF	FINISH FLOOR
FRPT	FIRE RETARDANT PRESSURE TREATED
FRT	FIRE RETARDANT TREATED
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FH	FIRE HYDRANT
FR	FIRE RESISTANT
FR	FIRE-RATED
FPL	FIREPLACE
FLR	FLOOR(ING)
FD	FLOOR DRAIN
FLUOR	FLUORESCENT
FTG	FOOTING
FDN	FOUNDATION
GALV	GALVANIZED
GA	GAUGE OR GAGE
GL	GLASS
GL	GLUE-LAMINATED
GB	GRAB BAR
GND	GROUND
GYP	GYPSUM
GYP BD	GYPSUM BOARD
HB	HOSE BIBB
HC	HOLLOW CORE (MATERIAL)
HDWR	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HT	HEIGHT
HDR	HEADER
IN	INCHES
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JAN	JANITOR
JT	JOINT
JST	JOIST
LAB	LABORATORY
LAM	LAMINATE (D)
LAV	LAVATORY
LT WT	LIGHTWEIGHT
MH	MANHOLE
MANUF	MANUFACTURER
MO	MASONRY OPENING
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER(S)
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OVHD	OVERHEAD
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PR	PAIR
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PL	PLATE
PLWD	PLYWOOD
PT	POINT
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
QT	QUARRY TILE
RAD	RADIUS (DIMENSION)
RE	REFERENCE
REINF	REINFORCE(D) (ING)
REQD	REQUIRED
REV	REVISE(D) (ION)
R	RISER (STAIRS)
RD	ROOF DRAIN
RDO	ROOF DRAIN OVERFLOW
RM	ROOM
RO	ROUGH OPENING
SCHD	SCHEDULE
SC	SEALED CONCRETE
SECT	SECTION
SHTG	SHEATHING
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
SC	SOLID CORE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPEND(ED)
THK	THICK(NESS)
T&G	TOUNGUE & GROOVE
T&B	TOP & BOTTOM
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
T	TREAD
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VTR	VENT TO ROOF
VERT	VERTICAL
VEST	VESTIBULE
VCT	VINYL COMPOSITION TILE
WC	WATER CLOSET
WH	WATER HEATER
WR	WATER RESISTANT
WP	WATERPROOF(ING)
WWF	WELDED WIRE FABRIC
WD	WOOD

SYMBOL LEGEND



SHEET INDEX

Scale: 1:50

Revisions:	Date
65%	01/13/17

CONSULTANTS:

MEP ASSOCIATES, LLC

CERTIFICATE OF AUTHORITY NO.

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17 MARCH 2017

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Drawing Title: COVER SHEET

Approved: Project Director

Project Title: REPLACE AHU KITCHEN BLDG 1

Location: SITE SHREVEPORT, LA

Date: 01/13/17 | Checked: GL | Drawn: MS

Project Number: 667-16-102

Building Number: 1

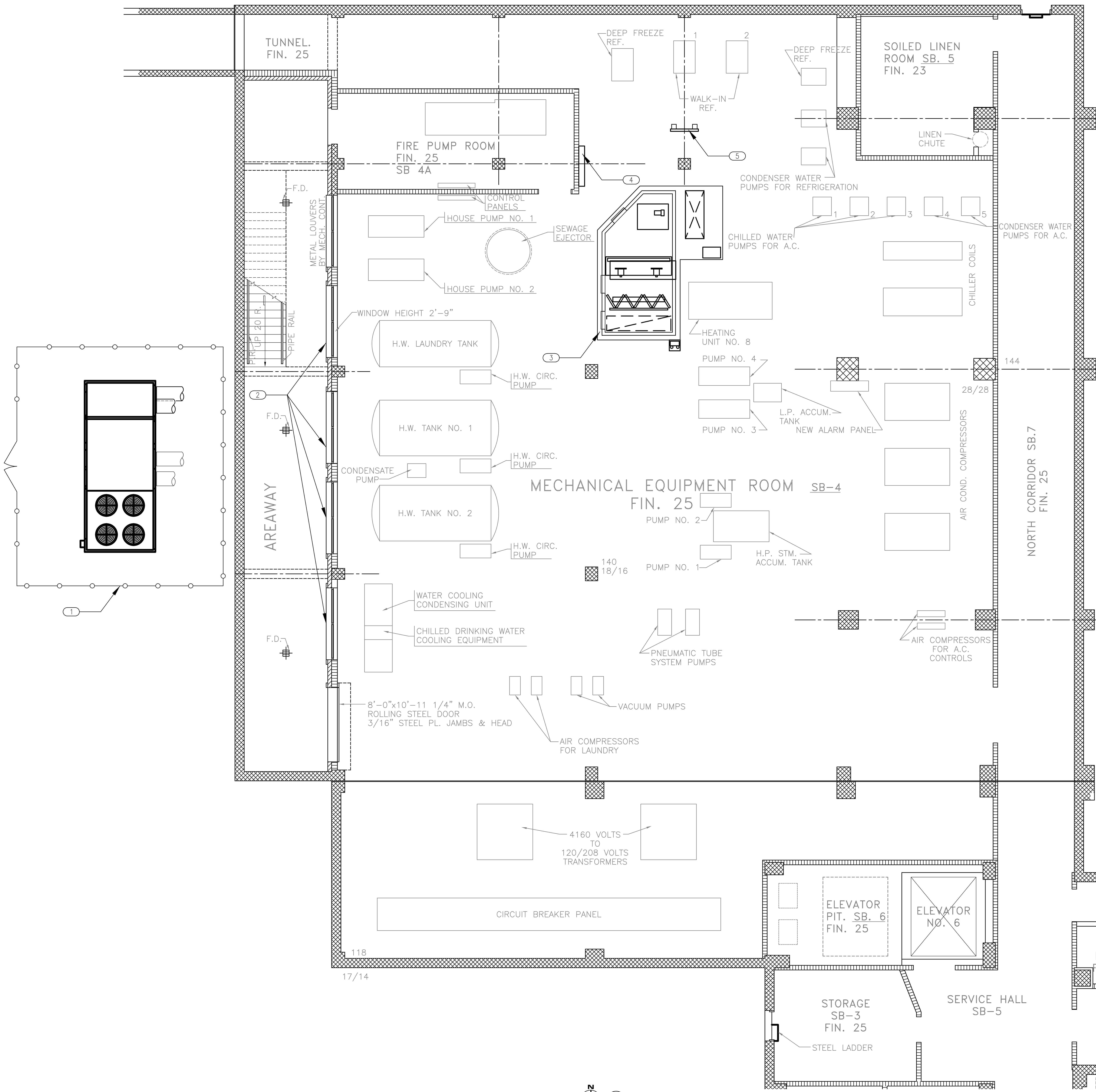
Drawing Number: G000

Dwg.1 of 5

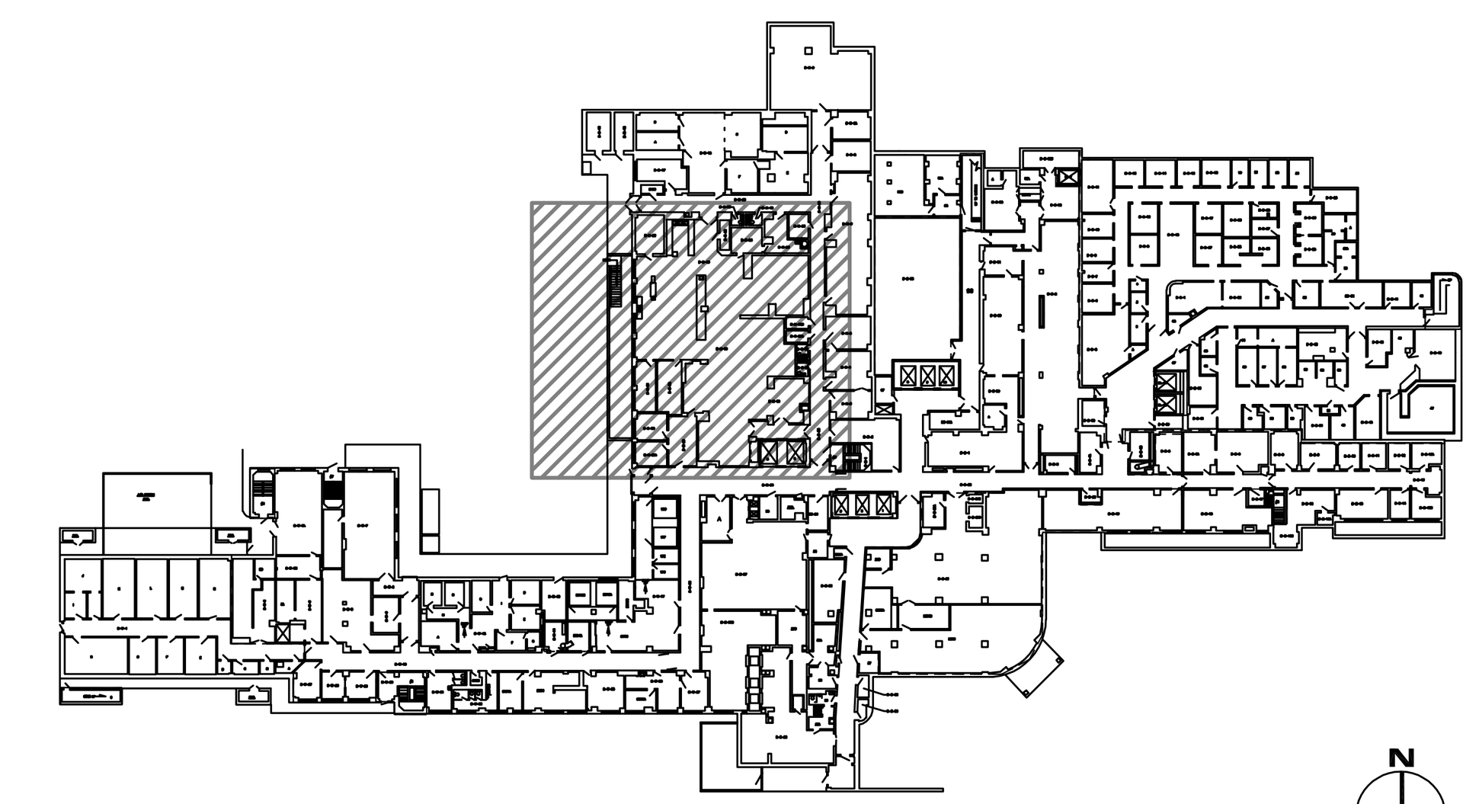
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231



PARTIAL SITE PLAN
SCALE: 3/16" = 1'-0"



KEY PLAN

GENERAL NOTES:

1. DIMENSIONS FOR DOOR AND WINDOW OPENINGS ARE NOMINAL, CONTRACTOR TO COORDINATE ACTUAL OPENING SIZES, AS REQUIRED TO ACCOMMODATE SHIM SPACE.

(1) SHEET NOTES:

1. LOCATION OF THE TEMPORARY AHU W/ FENCED ENCLOSURE. CONTRACTOR TO VERIFY AND COORDINATE ELECTRICAL CONNECTION REQUIREMENTS.
2. THE CONTRACTOR SHALL UTILIZE EXISTING WINDOWS TO ROUTE TEMPORARY AHU SUPPLY AND RETURN DUCTS. THE CONTRACTOR SHALL REPLACE THE WINDOW ASSEMBLIES AFTER USE.
3. AHU AH-1-SB4-1. REFERENCE MECHANICAL DRAWINGS.
4. JOHNSON CONTROL.
5. ELECTRICAL PANEL PM.

TEMPORARY AIR HANDLING UNIT (AHU) SPECIFICATIONS:

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY (TEMP) AIR HANDLING UNIT (AHU) TO PROVIDE TEMPERATURE CONTROL TO THE KITCHEN THROUGHOUT THE PROJECT WHILE THE EXISTING KITCHEN AHU IS BEING REPLACED AND OUT OF SERVICE.
2. COORDINATE OUTAGE WITH COR FOR CHANGE OVER TO TEMP UNIT AFTER HOURS OR ON WEEKENDS.
3. INSTALL TEMPORARY CONSTRUCTION FENCE WITH SECURED GATE AROUND TEMPORARY AHU. THE AHU SHALL BE A TRAILER-MOUNTED, ELECTRICAL COOLING, ELECTRICAL HEAT UNIT CAPABLE OF DE-HUMIDIFICATION, PROVIDING MINIMUM OF 15,000 CFM, 54.4 DEGREE F DRY BULB / 53.9 DEGREE F WET BULB DISCHARGE AIR FROM AN ENTERING AIR CONDITION OF 78.3 DEGREE F DRY BULG / 64.8 DEG. F WET BULB, 491,000 BTU/H TOTAL CAPACITY, 390,000 BTU/H SENSIBLE CAPACITY, AT 2.0 ESP, FILTRATION TO MERV 11, 460V/3PH/60HZ WITH SINGLE POWER FEED, 160 MCA OR AS REQUIRED.
4. PROVIDE AND INSTALL 200 AMP, 460V, 3 PH FUSED DISCONNECT FOR CONNECTION TO TEMP AHU. ROUTE FEEDER FROM SUB BASEMENT EQUIPMENT ROOM SB-4, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND POWER IN SB-4. SUBMIT ELECTRICAL PLAN AND COORDINATE WITH COR FOR APPROVAL. IF CONTRACTOR SELECTS LARGER TEMP AHU, ALL MECHANICAL AND ELECTRICAL CHANGES FOR INCREASED SIZING IS THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE VAMC.
5. CONTRACTOR SHALL PROVIDE AND INSTALL ALL TEMPORARY INSULATED DUCTWORK AND DAMPERS NECESSARY TO TIE IN TO EXISTING SYSTEM. SUBMIT MECHANICAL PLAN TO BE SUBMITTED TO THE COR FOR APPROVAL.
6. TEMP AHU SHALL BE CONNECTED TO VAMC'S ECC VIA COMPATIBLE CONTROLS FOR THE ENTIRE TEMPORARY USE.
7. COORDINATE ALL ALARMS WITH COR PRIOR TO TIE-IN TO ECC.
8. CONTRACTOR TO PERFORM A PRE-TEST (TAB) PRIOR TO DEMOLITION FOR AIRFLOW, CHILLED WATER AND STEAM TO ESTABLISH A BASELINE. THE AIRFLOW SHALL BE TOTAL SUPPLY AIRFLOW AND PRESSURES SO THAT THE TEMP AHU MEETS THE EXISTING CONDITIONS AS MINIMUM.
9. SUPPLY FAN SHALL BE CONTROLLED BY A VFD AND SET AT A MANUAL SET POINT BASED ON THE CONTRACTORS PRE-AIR TEST BASELINE. LABEL SET POINT ON DEVICE.
10. TEMP AHU SHALL PROVE A 3 DAY, 24 HOUR PER DAY OPERATION PRIOR TO DEMOLITION OF EXISTING AHU.
11. DAILY AHU MAINTENANCE SHALL BE CONDUCTED AND LOGGED BY THE GENERAL CONTRACTOR. PROVIDE COPY TO COR.
12. ROUTE CONDENSATE DRAIN FROM TEMP AHU TO NEAREST DRAIN IN SB-4.
13. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES, SITE DIMENSIONS, ETC PRIOR TO ORDERING TEMP AHU.

INFECTION PREVENTION NOTES:

1. ALL CONTRACTORS, CONSTRUCTION WORKERS, AND CORS MUST ATTEND THE INFECTION PREVENTION TRAINING ANNUALLY.
2. THE INFECTION PREVENTION OFFICE SHALL BE NOTIFIED OF ALL PRE-CONSTRUCTION MEETING.
3. THE ICRA (INFECTION CONTROL RISK ASSESSMENT) SHALL BE WRITTEN INTO THE CONTRACT AND SPECIFICATIONS FOR ALL CONTRACTORS AND SUBCONTRACTORS.
4. THE CONTRACTOR SHALL CLEAN THE WHEELS AND OUTSIDE OF ALL CARTS AND EQUIPMENT BROUGHT INTO AND OUT OF THE MAIN HOSPITAL OR POLYTRAUMA FACILITIES.
5. INFECTION PREVENTION OFFICE MUST BE NOTIFIED OF ALL WATER SHUT-OFF OR INTERRUPTIONS.
6. THE CONTRACTOR SHALL WET MOP HEAVY TRAFFIC AREAS AT LEAST TWO (2) TIME A DAY OR MORE IF SITE HAS AN ICRA LEVEL OF 3 OR 4 AND/OR IF THE AREA HAS HIGH VOLUME OF DUST. WATER SHALL BE CHANGED DAILY. DO NOT LEAVE STANDING WATER OVER NIGHT.
7. CONSTRUCTION WORKERS SHALL WEAR DUPONT TYVEK COVERALLS OR EQUIVALENT OVER CLOTHES AND SHOE COVERS IN MODERATE TO HIGH DUST AREAS IN MAIN HOSPITAL OR POLYTRAUMA FACILITIES TO PREVENT CONTAMINATION OF EMPLOYEE CLOTHES AND TRACKING DUST AND DIRT INTO THESE FACILITIES. CONSTRUCTION WORKERS SHALL REMOVE COVERALLS BEFORE LEAVING THE AREA.
8. THE INFECTION PREVENTION OFFICE NEEDS TO BE NOTIFIED IF THE HVAC MUST BE INTERRUPTED IN AREA THAT AFFECT PATIENT CARE.
9. THE INFECTION PREVENTION OFFICE SHALL BE NOTIFIED OF ANY ANTICIPATED ALTERATIONS TO THE ACCESS ROUTES USED DURING CONSTRUCTION ACTIVITIES.
10. ALL ICRA LEVEL 4 PROJECTS SITES MUST HAVE AM ANTE-ROOM TO MAINTAIN NEGATIVE AIRFLOW AND BE LARGE ENOUGH TO REMOVED COVERALLS AND HAVE A TRASH CONTAINER. THE ANTE-ROOM MUST BE CLEARLY IDENTIFIED ON THE DRAWINGS.
11. AIR FILTRATION DEVICES WITH HEPA FILTERS SHALL BE USED ON SITE FOR SMALL CLEAN-UPS IN PATIENT CARE AREAS THAT HAVE AN ICRA LEVEL OF 1 OR 2.
12. THE CONTRACTOR SHALL PROVIDE A DAILY LOG FOR THE VA STAFF LOCATED ON SITE THAT CONTAINS UPDATES NOTING THE READING ON THE PRESSURE SENSOR, CERTIFYING THAT THE SITE HAS BEEN CONTINUALLY MAINTAINING NEGATIVE AIR PRESSURE DURING CONSTRUCTION.
13. THE PRIME CONTRACTOR WILL ENSURE THAT CONTRACTORS IMPLEMENT THE REQUIREMENTS OR VAMC'S INFECTION RISK ASSESSMENT (ICRA) TEAM. ICRA GROUP MAY MONITOR DUST IN THE VICINITY OF THE CONSTRUCTION WORK AND REQUIRE THE CONTRACTOR TO TAKE CORRECTIVE ACTION IMMEDIATELY IF THE SAFE LEVELS ARE EXCEEDED.
14. THE PRIME CONTRACTOR WILL ENSURE THAT THE CONTRACTOR ESTABLISHES AND MAINTAINS A DUST CONTROL PROGRAM AS PART OF THE CONTRACTOR'S INFECTION PREVENTION MEASURES IN ACCORDANCE WITH THE GUIDELINES PROVIDED BY THE PRIME CONTRACTOR PRIOR TO START OF WORK, PREPARE A PLAN DETAILING.
15. PROJECT-SPECIFIC DUST PROTECTION MEASURES, INCLUDE PERIODIC STATUS REPORTS, AND SUBMIT TO RESIDENT ENGINEER AND FACILITY ICRA TEAM FOR REVIEW FOR COMPLIANCE WITH CONTRACT REQUIREMENTS IN ACCORDANCE WITH SECTION 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLE ALL PERSONNEL INVOLVED IN THE CONSTRUCTION OR RENOVATION ACTIVITY SHALL BE EDUCATED AND TRAINED IN INFECTION PREVENTION MEASURES ESTABLISHED BY THE MEDICAL CENTER.
16. THE FOLLOWING PREVENTION MEASURES SHALL BE ADOPTED DURING CONSTRUCTION TO KEEP DOWN DUST AND PREVENT MOLD.
17. DAMPEN DEBRIS TO KEEP DOWN DUST IN EXISTING STRUCTURES WHERE DIRECTION BY RESIDENT ENGINEER. DO NOT PERFORM DUST PRODUCING TASKS WITHIN OCCUPIED AREAS WITHOUT THE APPROVAL OF THE RESIDENT ENGINEER.
18. THE CONTRACTOR SHALL INSTALL CONSTRUCTION BARRIERS PER OSHA REQUIREMENTS.
19. CONTRACTOR TO MAINTAIN NEGATIVE PRESSURE THROUGHOUT ENTIRE CONSTRUCTION AREA WITH HEPA FILTER.
20. WORK THAT IS DISRUPTIVE TO THE VA (SUCH AS EXTREME NOISE, DUST, VIBRATION, ETC.) SHALL BE DONE AFTER NORMAL WORK HOURS.

Scale: 1:50

-	-
-	-
Revisions	Date

CONSULTANTS:

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Drawing Title: PARTIAL SITE PLAN

Approved: Project Director

Project Title: REPLACE AHU KITCHEN BLDG 1

Location: SITE SHREVEPORT, LA

Date	Checked	Drawn
OCTOBER 25, 2016	GL	MS

Project Number: 667-16-102

Building Number: ----

Drawing Number: AS101

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Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

CONTROLS SYMBOLS

Symbol	Description
T	ROOM THERMOSTAT/TRANSMITTER – WALL MOUNT
M	ROOM HUMIDISTAT (MOISTURE)/TRANSMITTER – WALL MOUNT
TT	TEMPERATURE TRANSMITTER
TT	TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
MT	MOISTURE (HUMIDITY) TRANSMITTER
PT	PRESSURE TRANSMITTER
SPS	STATIC PRESSURE SENSOR
FT	FLOW TRANSMITTER
IT	CURRENT TRANSMITTER
CT	CONDUCTIVITY TRANSMITTER
SD	SMOKE DETECTOR
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PDS	PRESSURE DIFFERENTIAL SWITCH
HS	HAND SWITCH (HAND-OFF-AUTO SWITCH)
ZC	VALVE OR DAMPER POSITION CONTROLLER
ZC FB	VALVE OR DAMPER POSITION CONTROLLER WITH FEEDBACK
ZC FB	VALVE OR DAMPER POSITION CONTROLLER WITH POSITION SWITCHES
KR	LOCAL RECORDING TIME CLOCK (RUNTIME)
TSL	TEMPERATURE SWITCH, LOW (FREEZESTAT)
TSH	TEMPERATURE SWITCH, HIGH (FREEZESTAT)
LC	LEVEL CONTROLLER
LT	LEVEL TRANSMITTER
ES	END/POSITION/LIMIT SWITCH
DI	DIGITAL INPUT
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
EPT	ELECTRONIC TO PNEUMATIC TRANSDUCER
AT CO2	CARBON DIOXIDE TRANSMITTER
AT CO	CARBON MONOXIDE TRANSMITTER
AT OC	OCCUPANCY SENSOR
LTCP	LOCAL TEMPERATURE CONTROL PANEL
HVAC	HVAC CONTROL PANEL
VSMC	VARIABLE SPEED MOTOR CONTROLLER
ECC	INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
TC	TEMPERATURE CONTROLLER. SEE SEQUENCE OF OPERATION
PC	PRESSURE CONTROLLER. SEE SEQUENCE OF OPERATION
SC	SPEED CONTROLLER. SEE SEQUENCE OF OPERATION
FC	FLOW CONTROLLER. SEE SEQUENCE OF OPERATION
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
KC	TIME CLOCK CONTROLLING EQUIPMENT ON A SCHEDULE
SST	START/STOP

DUCTWORK SYMBOLS

Symbol	Description
FC	FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW (LONG RADIUS)
10x8	NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
	FLEXIBLE DUCTWORK (INSULATED)
	DUCT WITH SOUND LINING
VD	MANUAL VOLUME DAMPER
FD	FIRE DAMPER
BDD	BACK DRAFT DAMPER
UP / DN	SUPPLY DUCT (UP & DOWN)
UP / DN	EXHAUST DUCT (UP & DOWN)
UP / DN	RETURN DUCT (UP & DOWN)
	ROUND AND SQUARE 4–WAY CEILING DIFFUSERS
	SQUARE 3–WAY CEILING DIFFUSERS
	SQUARE 2–WAY CEILING DIFFUSERS
	SQUARE 1–WAY CEILING DIFFUSERS
	LINEAR SLOT DIFFUSER
	SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN CEILING REGISTER OR GRILLE
	EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
	EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
	VANED ELBOW & AIR SPLIT TYPE DUCT TAKE–OFF
	CONNECT NEW DUCT TO EXISTING DUCT
R	INCLINED RISE, IN DIRECTION OF AIR FLOW
D	INCLINED DROP, IN DIRECTION OF AIR FLOW
	LIMIT OF DEMOLITION

PIPING SYMBOLS

Symbol	Description
	GATE VALVE – THREADED/FLANGED
	GLOBE VALVE – THREADED/FLANGED
	GATE VALVE WITH 3/4" HOSE ADAPTER
	CHECK VALVE
	WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
	WYE STRAINER WITH VALVED DRAIN AND QUICK–COUPLE HOSE CONNECTOR
	FLEXIBLE CONNECTION
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING CONTROL VALVE
	MODULATING CONTROL BUTTERFLY VALVE
	TWO POSITION CONTROL VALVE
	THREE–WAY MODULATING CONTROL VALVE
	THREE–WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
	PRESSURE SAFETY VALVE
	AUTOMATIC BALANCING CONTROL VALVE
	WATER BALANCE DEVICE
	CIRCUIT SETTER VALVE
	GATE VALVE WITH GLOBE–VALVED BYPASS
	PLUG VALVE
	CONTROL VALVE (CV) – FLOAT–OPERATED
	PRESSURE REDUCING VALVE (PRV)
LC	WATER LEVEL CONTROLLER
M	FLOW METER

DRAWING SYMBOLS

Symbol	Description
2	DETAIL NUMBER
H4	DRAWING NUMBER WHERE DRAWN
A	SECTION LETTER
H7	DRAWING NUMBER WHERE SHOWN
26–SF 3	BUILDING NO. WHERE EQUIPMENT IS LOCATED.
	EQUIPMENT ABBREVIATION (SUPPLY FAN)
	SUPPLY FAN NO. 3 IN BUILDING NO. 26
	TYPICAL UNIT NO.
26–TU–I–I	BUILDING NO. WHERE EQUIPMENT IS LOCATED
	ITEM (TERMINAL UNIT SHOWN)
	ITEM NUMBER (TERMINAL UNIT NO. 1)
	SERVED BY AIR HANDLER UNIT NO. 1

CONTROLS SYMBOLS

Symbol	Description
	TEMPERATURE SENSING ELEMENT FOR TRANSMITTING TEMPERATURE TO EMCS (PROVIDE 12 INCHES [200mm] MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS.)
A	SENSOR WITH AVERAGING ELEMENT TO TRANSMIT TEMPERATURE TO EMCS
	MOTOR STARTER
M	ELECTRIC OPERATED CONTROL DAMPER/OR VALVE
P	PNEUMATIC OPERATED CONTROL DAMPER/OR VALVE
SD	SMOKE DAMPER
FSD	FIRE SMOKE DAMPER
	SWITCH

ABBREVIATIONS

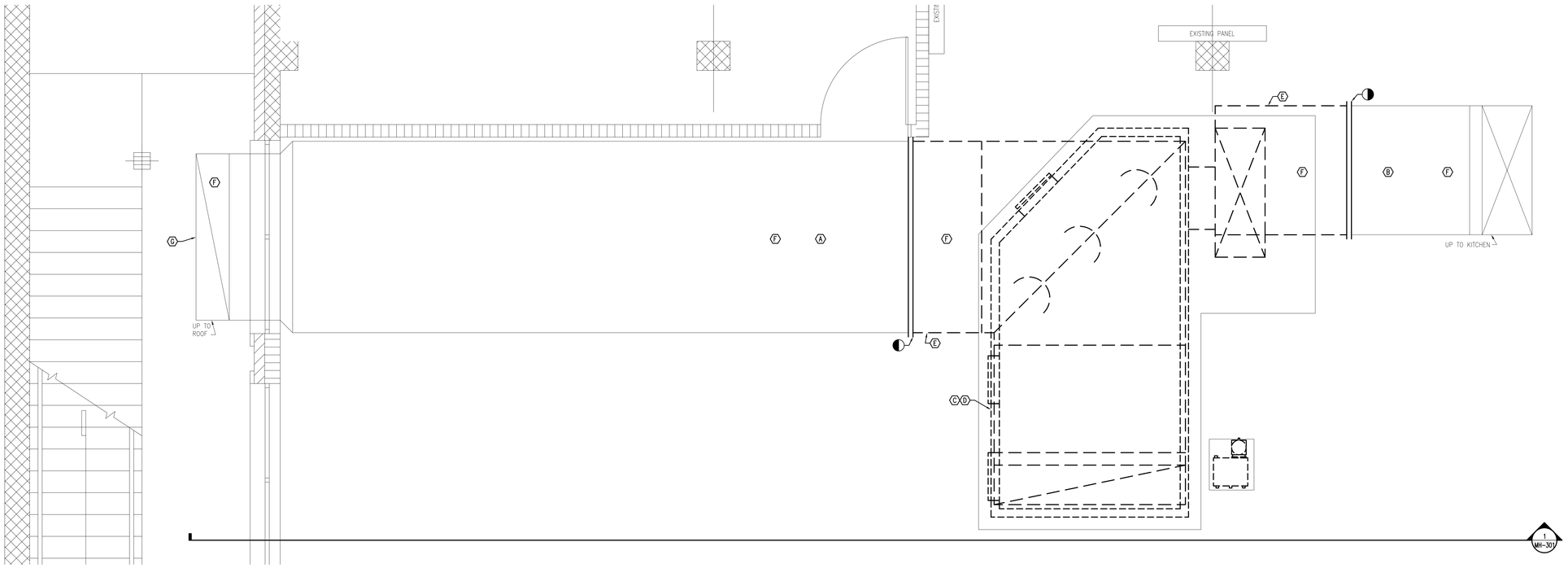
A/E	ARCHITECT / ENGINEER
AAHX	AIR TO AIR HEAT EXCHANGER
AB	AIR BLENDER
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCH	AIR COOLED CHILLER
ACCU	AIR–COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
ACD	AUTOMATIC CONTROL DAMPER,MODULATING
ACD–TP	AUTOMATIC CONTROL DAMPER,TWO POSITION
AD	ACCESS DOOR
AF	AFTER FILTER
AFCV	AIR FLOW CONTROL VALVE
AFF	ABOVE FINISHED FLOOR
AFMD	AIR FLOW MEASURING DEVICE
AFW	AIR FOIL WHEEL (FAN)
AHU	AIR–HANDLING UNIT
AMP	AMPERGE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AW	AIR WASHER
AXF	AXIAL FLOW
B	BOILER
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BDR	BASE BOARD RADIATOR
BFP	BACKFLOW PREVENTER
BFT	BOILER PLANT FIRE TUBE
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BHW	HOT WATER HEATING BOILER
BHX	BOILER BLOWDOWN HEAT EXCHANGER
BIW	BACKWARD INCLINED WHEEL (FAN)
BMT	BONE MARROW TRANSPLANT
BR	BOTTOM REGISTER
BSC	BIOLOGICAL SAFETY CABINETS
BT	BLOWOFF TANK
BTC	BLOWOFF TANK CONTROL VALVE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWT	BOILER PLANT WATER TUBE
CC	COOLING COIL
CCD	COOLING COIL CONDENSATE DRAIN
CD	CEILING DIFFUSER
CD–1	CONSTRUCTION DOCUMENTS (SUBMISSION1)
CD–2	CONSTRUCTION DOCUMENTS (SUBMISSION2)
CENT	CENTRIFICAL
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFT	CUBIC FEET
CFP	CHEMICAL FEED PUMP
CG	CEILING GRILLE
CH	CHILLER
CHP	CHILLED WATER PUMP
CHW	CHILLER WATER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CI	CAST IRON
CM	CARBON MONOXIDE
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COMP	COMPRESSOR UNIT
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CS	CONDENSATE STORAGE TANK
CSG	CLEAN STEAM GENERATOR
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER (POTABLE)
CWCC	CHILLED WATER COOLING COIL
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN (TO COOLING TOWER)
CWS	CONDENSER WATER SUPPLY (FROM COOLING TOWER)
D	DAMPER – AUTOMATIC
D–1	OUTDOOR AIR DAMPER
D–2	RETURN AIR DAMPER
D–3	RELIEF AIR DAMPER
DB	DECIBELS
Db	DRY–BULB TEMPERATURE
DD–1	DESIGN DEVELOPMENT (SUBMISSION1)
DD–2	DESIGN DEVELOPMENT (SUBMISSION2)
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DF	DIFFUSER
DIA	DIAMETER
DIW	DEIONIZED WATER
DP	DEW POINT TEMPERATURE
DP	DIFFUSER PLATE
DPA	DIFFERENTIAL PRESSURE ASSEMBLY
DPS	DIFFERENTIAL PRESSURE SENSOR
DX	DIRECT EXPANSION
DXCC	DIRECT EXPANSION COOLING COIL
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EVAPORATIVE COOLER
ECC	ENGINEERING CONTROL CENTER
ECU	EVAPORATIVE CONDENSER UNIT
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EGS	EMERGENCY GAS SHUTOFF
EGT	ENTERING GLYCOL TEMPERATURE
EH	EXHAUST HOOD
EMD	END OF MAIN DRIP (STEAM)
ENT	ENTERING
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERP	ELECTRIC RADIANT PANEL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETO	ETHYLENE OXIDE
EUH	ELECTRIC UNIT HEATER
EWC	EVAPORATIVE WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC
F/SDPR	COMBINATION FIRE SMOKE DAMPER
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FCW	FORWARD CURVED WHEEL (FAN)
FD	FLOOR DRAIN
FD	FIRE DAMPER
FF	FINAL FILTER
FM	FLOW METER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBER REINFORCED POLYESTER
FS	FLOW SWITCH
FSTAT	FREEZESTAT
FT	FEET
FT–LB	FOOT–POUND
FTR	FIN TUBE RADIATION
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLONS
GH	GRAVITY HOOD
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GS	GALVANIZED STEEL
H	HUMIDIFER
H&CW	HOT & COLD WATER
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HD	HOOD
HOA	HAND/OFF/AUTOMATIC
HP	HEAT PUMP
HP	HORSEPOWER
HPDT	HIGH PRESSURE DRIP TRAP
HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS	HIGH PRESSURE SUPPLY (STEAM)
HRD	HEAT RECOVERY DEVICE
HRP	HYDRONIC RADIANT (CEILING) PANEL
HSTAT	HUMIDISTAT
HUM	HUMIDIFIER UNIT MOUNTED
HVU	HEATING AND VENTILATING UNIT
HW	HOT WATER
HWC	HOT WATER COIL
HWHC	HOT WATER HEATING COIL
HWP	HEATING HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HWUH	HOT WATER UNIT HEATER
HX	HEAT EXCHANGER
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IBT	INVERTED BUCKET TRAP
ID	INSIDE DIAMETER
IFB	INTEGRAL FACE AND BYPASS
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN–LB	INCH–POUND
IPLV	INTERGRATED PART LOAD VALUE
IS	INSECT SCREEN
IU	INDUCTION UNIT
IV	INLET VANES
J	INTENTIONALLY LEFT BLANK
kW	KILOWATT
kWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LGT	LEAVING GLYCOL TEMPERATURE
LH	LATENT HEAT
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC	LOW PRESSURE STEAM RETURN (CLEAN)
LPS	LOW PRESSURE STEAM
LPSC	LOW PRESSURE STEAM (CLEAN)
LSD	LINEAR SLOT DIFFUSER
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LVG	LEAVING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
MM	MILLIMETER
MOV	MOTOR OPERATED VALVE
MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS	MEDIUM PRESSURE STEAM
MRI	MAGNETIC RESONANCE IMAGING
MTD	MEAN TEMPERATURE DIFFERENCE
MVD	MANUAL VOLUME DAMPER
MZ	MULTI–ZONE
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NG	NATURAL GAS
NGFM	NATURAL GAS FLOWMETER
NO	NORMALLY OPEN
NOM	NOMINAL
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
P	PUMP
PC	PUMPED CONDENSATE
PCF	POUNDS PER CUBIC FOOT (FEET)
PD	PRESSURE DROP
PF	PRE–FILTER
PG	PRESSURE GAGE
PGW	PROPYLENE GLYCOL–WATER (SOLUTION)
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PRS	PRESSURE REGULATING (VALVE) STATION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAGE
PSV	PRESSURE SAFETY VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RDS	ROOM DATA SHEETS
REA	RELIEF AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RLA	RUN LOAD AMPERE
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SD	SMOKE DETECTOR
SD	SUPPLY AIR DIFFUSER
SDPR	SMOKE DAMPER
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
SG	SUPPLY AIR GRILLE
SHC	STEAM HEATING COIL
SI	SQUARE INCHES
SP	STATIC PRESSURE
SP GR	SPECIFIC GRAVITY
SPRV	STEAM PRESSURE REDUCING VALVE
SPS	STATIC PRESSURE SENSOR
SQ FT	SQUARE FOOT (FEET)
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
SSR	SOLID SEPARATOR
ST	STEAM TRAP
SV	STEAM PRESSURE REDUCING VALVE
SVS	STEAM VENT SILENCER
T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
TAB	TESTING, ADJUSTING, BALANCE
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TDS	TOTAL DISSOLVED SOLIDS
TG	TRANSFER GRILLE
TP	TRAP
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
UC	UNDER CUT
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
V	VALVE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
VHA	VETERANS HEALTH ADMINISTRATION
VI	VIBRATION ISOLATOR
VP	VACUUM PUMP
VPS	VARIABLE PRIMARY SYSTEM
VR	VACUUM (STEAM CONDENSATE) RETURN
VSD	VARIABLE SPEED DRIVE
W	WATTS
Wb	WET–BULB (TEMPERATURE)
WC	WATER COOLED
WCCH	WATER COOLED CHILLER
WCCU	WATER COOLED CONDENSING UNIT
WCPU	WATER COOLED PACKAGED UNIT
WEF	WALL EXHAUST FAN
WF	WATER FILTER
WFCV	WATER FLOW CONTROL VALVE
WFM	WATER FLOWMETER
WFMD	WATER FLOW MEASURING DEVICE
WPD	WATER SIDE PRESSURE DROP
YR	YEAR

GENERAL MECHANICAL NOTES

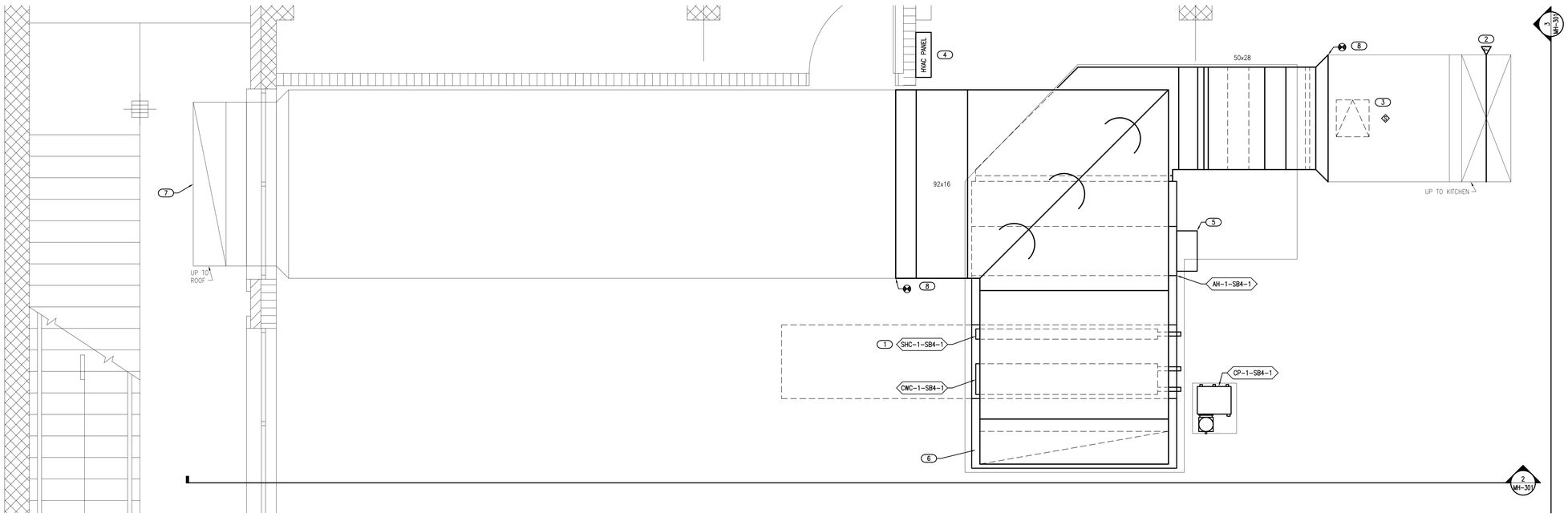
1. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.
2. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.
3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. VERIFY ALL EXISTING CONDITIONS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN CONTRACT DRAWINGS AND ACTUAL CONDITIONS.
5. EXISTING UTILITIES TO BE ABANDONED SHALL BE PROPERLY DISCONNECTED AND CAPPED AS REQUIRED BY CODE OR LOCAL ORDINANCE.
6. THESE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. ADDITIONAL DATA SHALL BE FROM THE ENGINEER THROUGH WRITTEN CLARIFICATION ONLY. VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS BEFORE PROCEEDING WITH ANY PORTION OF ANY WORK. THE CONTRACTOR SHALL PROVIDE ALL OFFSETS AND TRANSITIONS REQUIRED TO MEET EXISTING CONDITIONS.
7. THE CONTRACTOR SHALL PERFORM WORK IN A SKILLED AND PROFESSIONAL MANNER.
8. ALL CONTRACTORS ARE RESPONSIBLE TO FIELD COORDINATE WORK SCHEDULE WITH OWNER REPRESENTATIVE.
9. THE CONTRACTOR SHALL WORK AND COORDINATE WITH THE OTHER TRADES.
10. ALL EQUIPMENT SHALL BE NEW AND IN UNDAMAGED CONDITION. ANY EQUIPMENT FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED FROM THE PROJECT.
11. CONTRACTOR SHALL SUBMIT A CERTIFIED REPORT INDICATING SYSTEM PERFORMANCE INCLUDING, BUT NOT LIMITED TO, VOLTAGE AND AMPERAGE MEASUREMENTS OF ALL EQUIPMENT GREATER THAN 1/3 H.P. WATER BALANCE MEASUREMENTS OF EACH COIL AND PUMP. AIR BALANCE MEASUREMENTS OF OUTSIDE AIR DELIVERY, AIR HANDLING UNIT SUPPLY, SUPPLY DIFFUSERS, EXHAUST AND RETURN GRILLES. BALANCE SYSTEM PER SPECIFICATION ALLOWABLE TOLERANCES.
12. DUCT MATERIAL SHALL BE GALVANIZED OR ALUMINUM CONSTRUCTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD 2005 AND SMACNA HVAC AIR DUCT LEAKAGE MANUAL 2012 FOR THE PRESSURE AND SEAL CLASS LISTED IN THE PROJECT DUCTWORK/INSULATION SCHEDULE.
13. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INTERIOR DIMENSIONS.
14. SUPPLY AND RETURN BRANCH DUCTS MAY BE INSULATED FLEX DUCT IF THE RUN IS LESS THAN 5 FEET IN LENGTH. ANY LENGTHS OVER 5 FEET SHALL BE RIGID DUCTWORK, DUCT SHALL BE THE SAME SIZE AS THE LISTED DIFFUSER THROAT UNLESS NOTED OTHERWISE.
15. PROVIDE VOLUME CONTROL DAMPERS WHERE INDICATED AND AT ALL TAKEOFFS, BOTH SUPPLY AND RETURN SYSTEMS, AND MAJOR DUCT RUNS. DAMPERS SHALL BE FACTORY–FABRICATED WITH ZINC–PLATED, DIE–CAST CONTROL HARDWARE. CONTROL HARDWARE SHALL INCLUDE HEAVY GAUGE DIAL AND HANDLE WITH ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
16. PROVIDE TURNING VANES IN ALL RECTANGULAR ELBOWS CONFORMING TO SMACNA HVAC DUCT CONSTRUCTION STANDARD 2005 FIG. 4–2 TYPE RE–3 WITH STANDARD RADIUS. WHERE SPACE PERMITS, PROVIDE RADIUSED ELBOWS IN ACCORDANCE WITH FIGURES 4–2, TYPE RE–1.
17. ALL RECTANGULAR MAIN TO RECTANGULAR BRANCH CONNECTIONS, BOTH CONVERGING AND DIVERGING CONFIGURATIONS, SHALL HAVE A 45 DEG. ENTRY TAP CONSTRUCTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD 2005 FIG. 4–6.
18. DIFFUSER PATTERN 4–WAY UNLESS OTHERWISE INDICATED. PROVIDE FIBERGLASS DUCT INSULATION WITH VAPOR BARRIER AS SCHEDULED UNLESS NOTED OTHERWISE.
19. MECHANICAL CONTRACTOR TO REPAIR ANY DAMAGE DONE TO THE FIRE PROOFING WHILE INSTALLING THE MECHANICAL TRADES. SEAL ALL PENETRATIONS THROUGH RATED STRUCTURES WITH UL LISTED FIRE SEAL DESIGNED FOR THE SPECIFIED APPLICATION.
20. EXHAUST FLUE PIPE AND FITTINGS MATERIAL SHALL BE 24 GA AL 294C HEAT FAB CHIMNEY AND FLUE CONNECTIONS.
21. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
22. THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR AS OTHERWISE REQUIRED IN THE SPECIFICATIONS.
23. MECHANICAL CONTRACTOR TO INSTALL ON THE BOILERS WATER LINE FLEX CONNECTORS, MUFFLERS AND VIBRATION PADS. FLEX CONNECTORS, MUFFLERS AND VIBRATION ARE PADS PROVIDED BY THE BOILER MANUFACTURER.
24. MECHANICAL CONTRACTOR TO INCLUDE THE TEST AND BALANCE, AND ANY PERMIT FEES IN THEIR BID.
25. MECHANICAL CONTRACTOR SHALL VERIFY ALL ROOFTOP EQUIPMENT WEIGHTS, SIZES, LOCATIONS AND OPENINGS REQUIRED AND SHALL COORDINATE ANY CHANGES WITH THE ARCHITECT.

MECHANICAL SHEET INDEX

three inches = one foot; one and one half inches = one foot; one inch = one foot; three quarters inch = one foot; one half inch = one foot; three eighths inch = one foot; one quarter inch = one foot; one eighth inch = one foot



1 MECHANICAL SUB BASEMENT EQUIPMENT ROOM SB-4 DUCTWORK DEMOLITION PLAN
1/2" = 1'-0"



2 MECHANICAL SUB BASEMENT EQUIPMENT ROOM SB-4 NEW WORK PLAN
1/2" = 1'-0"

GENERAL NOTES - DEMOLITION

1. PRIOR TO DEMOLITION MEASURE EXISTING KITCHEN AIR HANDLING UNIT AND CLOSELY CONSIDER SPACE AVAILABLE FOR NEW AIR HANDLER. DETERMINE EXISTING INSTALLATIONS THAT WILL NEED TO BE RELOCATED OR REROUTED IN ORDER TO ACCOUNT FOR THE NEW INSTALLATIONS AND FUTURE MAINTENANCE ACCESS REQUIREMENTS.
2. REMOVE AND DISPOSE OF ALL EXISTING CONTROLS FOR THE KITCHEN AIR HANDLING UNIT.
3. AS REQUIRED FOR REMOVAL OF EXISTING AHU AND DUCTWORK, REMOVE EXISTING FIRE PROTECTION SPRINKLER LINES.
4. AS REQUIRED FOR REMOVAL OF EXISTING AHU AND INSTALLATION OF NEW REWORK EXISTING SYSTEMS THAT WILL REMAIN TO PROVIDE FOR INSTLLATION AND MAINTENANCE OF NEW EQUIPMENT.
5. MEASURE EXISTING DUCTWORK WHERE INDICATED AND AT LOCATIONS WHERE EXISTING DUCTWORK WILL BE CONNECTED TO NEW. INCLUDE MEASUREMENTS OF EXISTING DUCTWORK AS PART OF RECORD DOCUMENT SUBMITTAL.

GENERAL NOTES - NEW WORK

1. PRIOR TO PREPARING SUBMITTAL FOR NEW AIR HANDLING UNIT CONFIRM AVAILABLE SPACE. MEASURE EXISTING HOUSEKEEPING PAD. VERIFY AVAILABLE ELECTRICAL POWER FOR AHU AND STEAM CONDENSATE RECEIVER PUMP PRIOR TO PREPARING SUBMITTAL. SHOULD FINDINGS DIFFER FROM INFORMATION ON PLAN DOCUMENTS INCORPORATE FINDINGS IN SUBMITTAL. CONTRACTOR TO VERIFY PATH FROM OUTDOORS TO AHU FINAL LOCATION AND PROVIDE REQUIRED SHIPPING SPLITS.
2. PROVIDE ALL NEW DIGITAL HVAC CONTROLS.
3. REARRANGE AND PROVIDE NEW FIRE PROTECTION SPRINKLERS AS REQUIRED FOR NEW INSTALLATION.
4. AS REQUIRED FOR INSTALLATION OF NEW AHU REWORK EXISTING SYSTEMS THAT WILL REMAIN TO PROVIDE FOR INSTALLATION AND MAINTENANCE OF NEW EQUIPMENT.
5. BASED ON MEASUREMENT OF EXISTING DUCTWORK PROVIDE NECESSARY TRANSITIONS TO CONNECT EXISTING WITH NEW.

KEYED NOTES - DEMOLITION

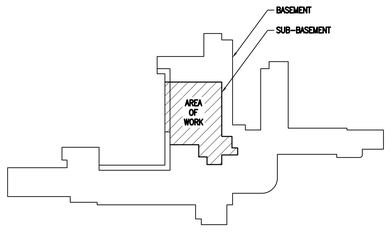
- (A) PRIOR TO DEMOLITION MEASURE DUCT AIRFLOW AND STATIC PRESSURE. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW AND WITH FINAL TEST AND BALANCE REPORT.
- (B) PRIOR TO DEMOLITION MEASURE DUCT STATIC PRESSURE. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW AND WITH FINAL TEST AND BALANCE REPORT.
- (C) PRIOR TO DEMOLITION DOCUMENT EXISTING FAN AND MOTOR NAMEPLATE INFORMATION AND MEASURE FAN PERFORMANCE INCLUDING: AIR TEMPERATURE AT TIME OF TEST, FAN STATIC PRESSURE, FAN RPM, MOTOR VOLTS, MOTOR AMPS, MOTOR RPM, ETC. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW IMMEDIATELY AFTER TEST AND WITH FINAL TEST AND BALANCE REPORT.
- (D) REMOVE AND DISPOSE OF AIR HANDLER WHERE INDICATED DASHED. DISASSEMBLE INTO SECTIONS OF SIZE THAT PERMITS REMOVAL FROM BUILDING WITHOUT HAVING TO MOVE EXISTING EQUIPMENT OR UTILITIES. REFER TO AS101 FOR SITE PLAN SHOWING BASEMENT. FIELD SURVEY TO UNDERSTAND EXISTING INSTALLATIONS THROUGHOUT THE AFFECTED BASEMENT SPACE.
- (E) REMOVE AND DISPOSE OF DUCTWORK WHERE INDICATED DASHED AND AS REQUIRED TO ALLOW FOR NEW INSTALLATIONS.
- (F) VERIFY EXISTING DUCT SIZE.
- (G) REFER TO 1/MH301 SECTION FOR DUCTWORK DEMOLITION IN RISE.

KEYED NOTES - NEW WORK

- (1) PROVIDE NEW AIR HANDLING UNIT.
- (2) PROVIDE NEW FIRE DAMPER WITH ACCESS DOOR AT FLOOR.
- (3) WORK WITH ELECTRICAL CONTRACTOR TO INSTALL SMOKE DETECTOR. PROVIDE ACCESS DOOR.
- (4) PROVIDE NEW HVAC CONTROL ENCLOSURE FOR KITCHEN DDC CONTROLS.
- (5) AHU CONTROL CABINET.
- (6) MINIMUM AHU INLET SIZE 96X16.
- (7) REFER TO 2/MH301 SECTION FOR NEW DUCTWORK IN RISE.
- (8) BASED ON MEASUREMENT OF EXISTING DUCTWORK PROVIDE NECESSARY TRANSITIONS TO CONNECT EXISTING WITH NEW.

CONSTRUCTION PERIOD TEMPORARY AHU

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY (TEMP) AIR HANDLING UNIT (AHU) TO PROVIDE TEMPERATURE CONTROL TO THE KITCHEN THROUGHOUT THE PROJECT WHILE THE EXISTING KITCHEN AHU IS BEING REPLACED AND OUT OF SERVICE.
2. REFER TO SHEET MH102 FOR ADDITIONAL INFORMATION REGARDING THE TEMPORARY AIR HANDLER INSTALLATION.



KEYPLAN
NO SCLAE

Revisions:	Date

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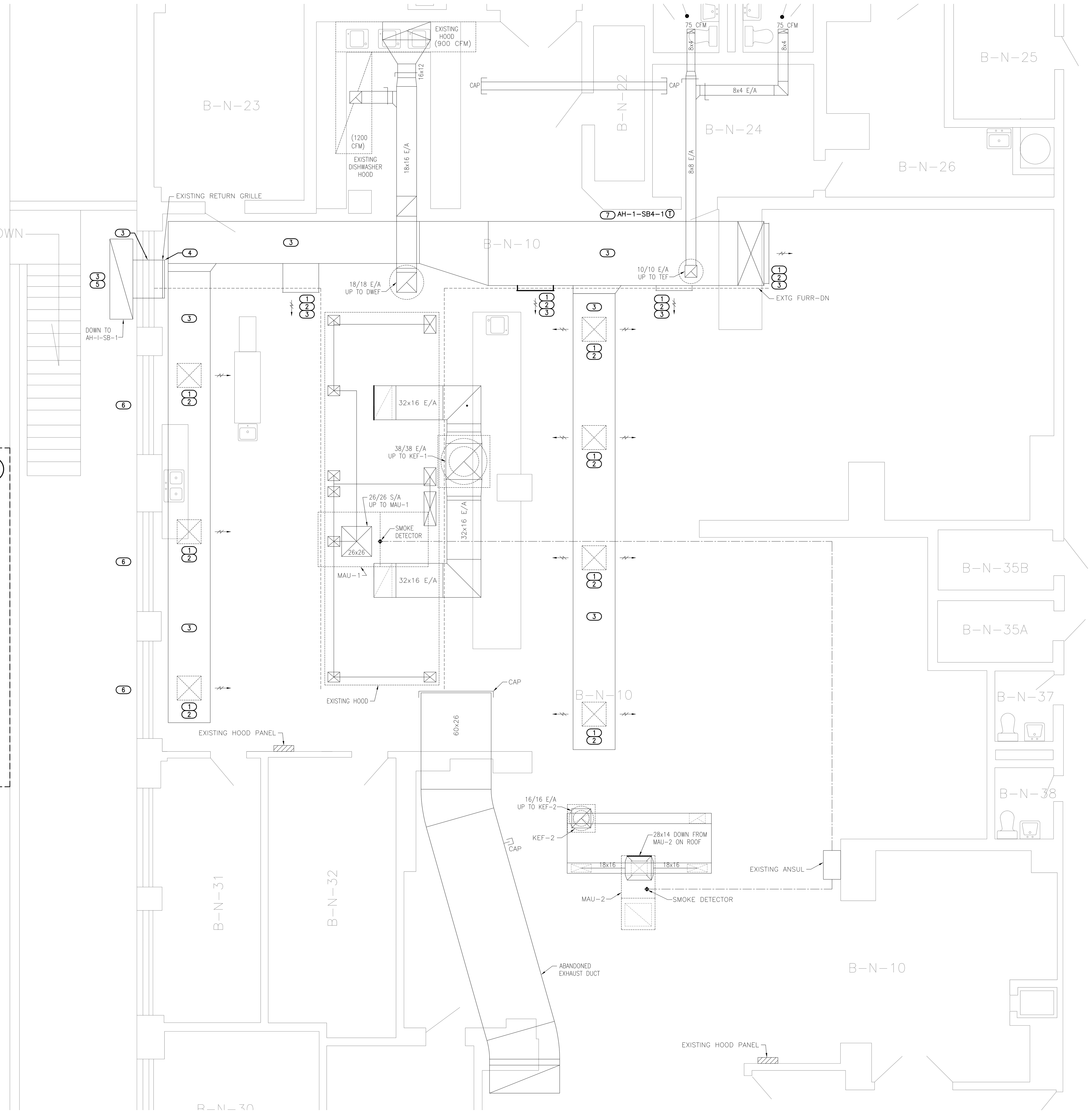
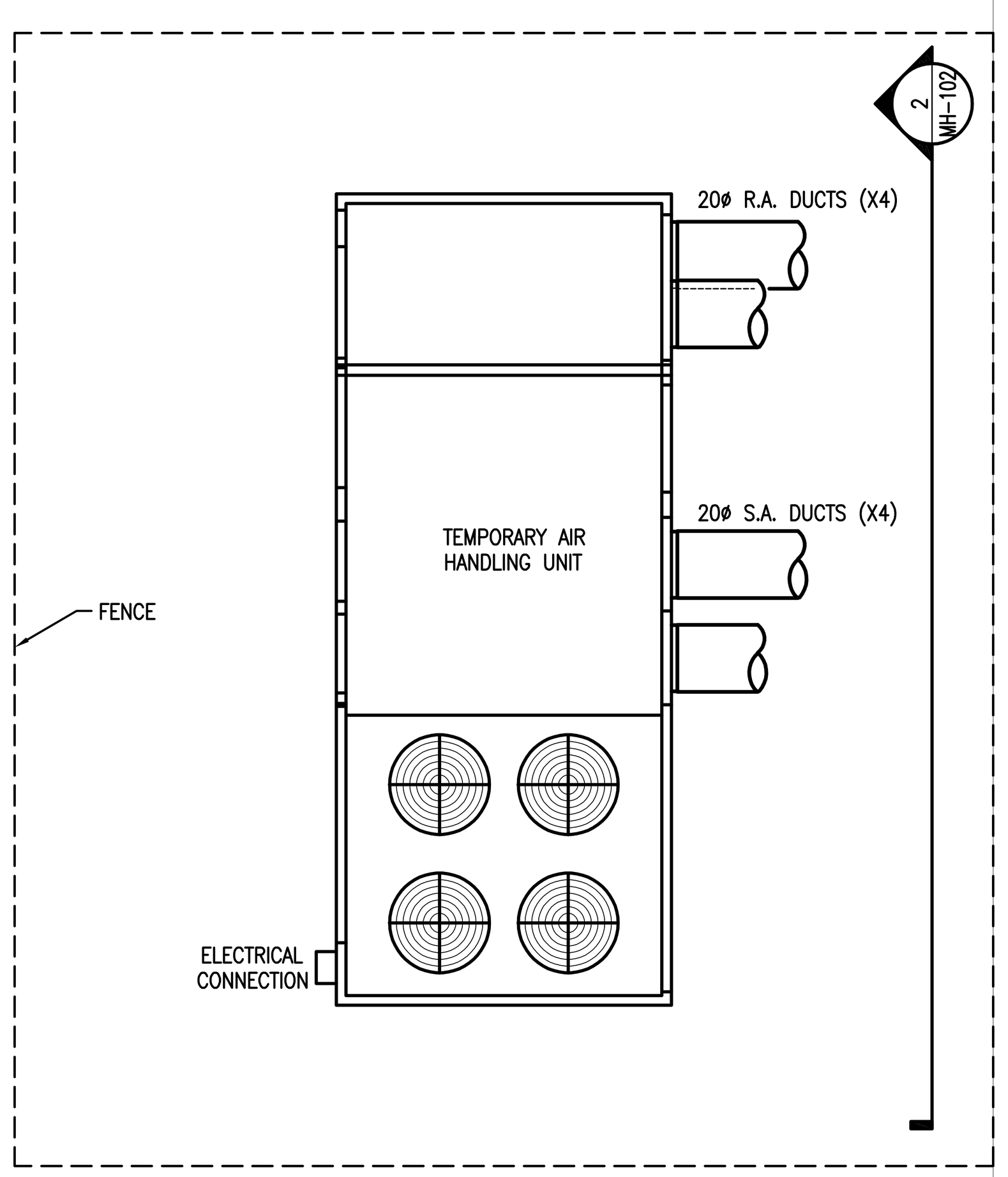
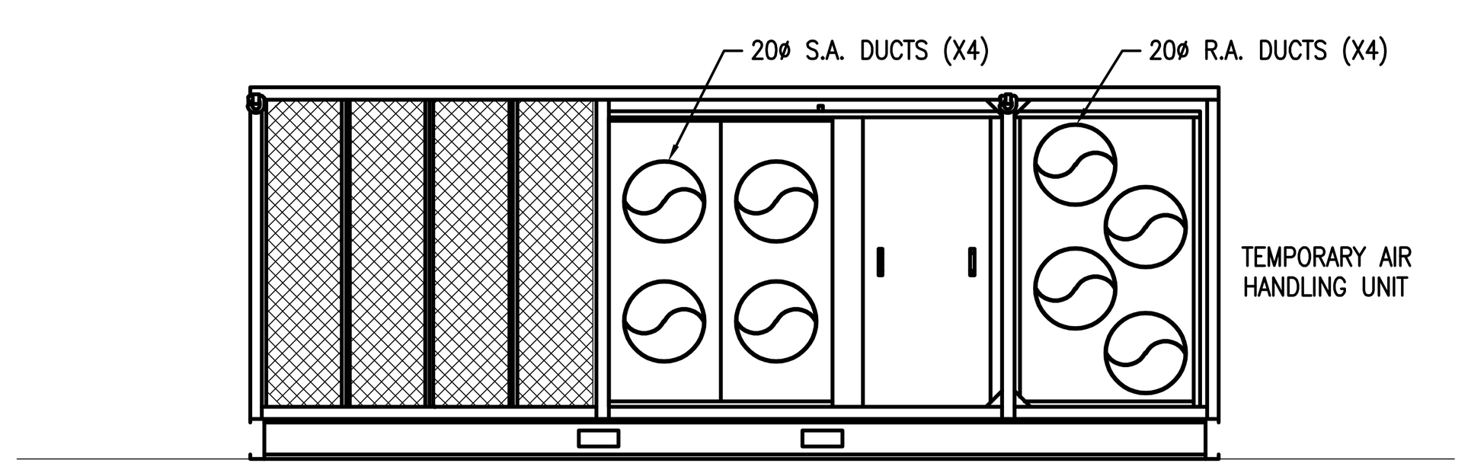
Drawing Title	MECHANICAL - SUB BASEMENT EQUIP RM SB-4 DUCTWORK DEMO AND NEW WORK PLANS
Approved: Project Director	---- ---- ----
Project Title	REPLACE AHU KITCHEN BLDG 1
Location	SHREVEPORT, LA
Date	03/17/2017
Checked	JAM
Drawn	APS
Project Number	667-16-102
Building Number	1
Drawing Number	MH-101
Dwg. # of 12	

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231







2 TEMPORARY AHU ELEVATION

1/4" = 1'-0"

1 MECHANICAL BASEMENT KITCHEN DUCTWORK PLAN

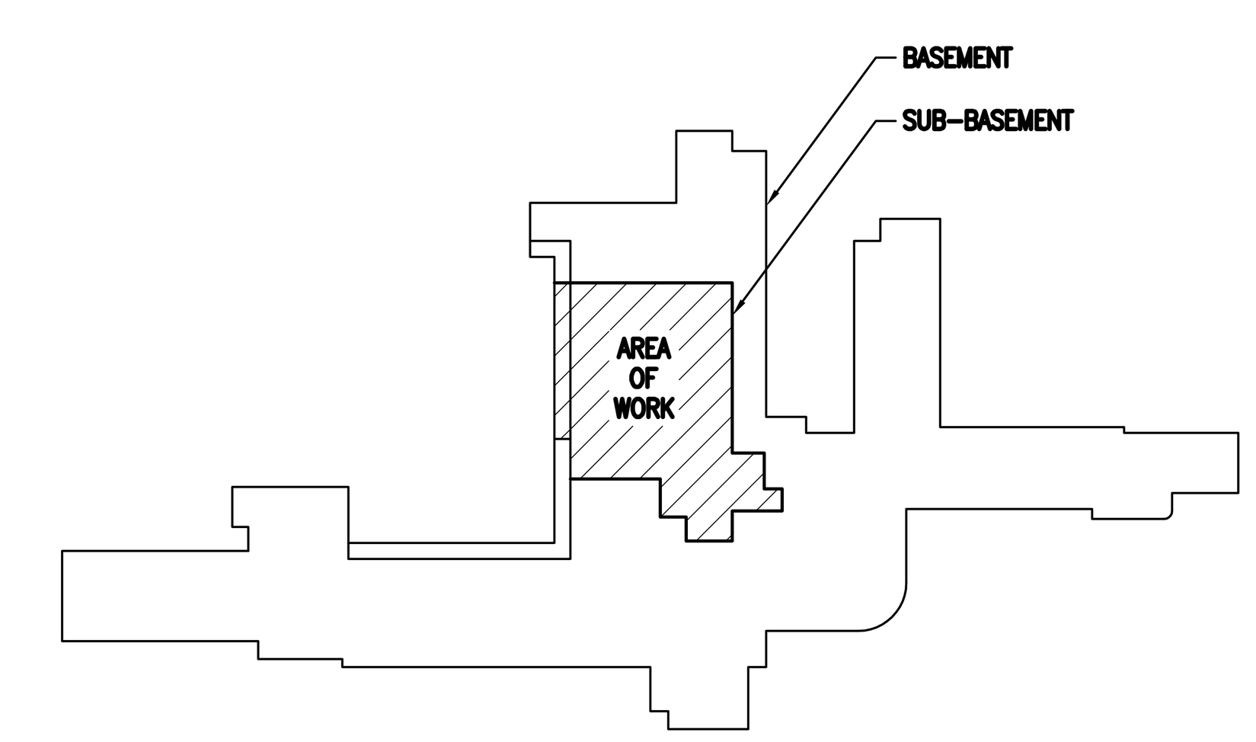
1/4" = 1'-0"

KEYED NOTES

1. PRIOR TO DEMOLITION MEASURE EXISTING GRILLE, REGISTER, OR DIFFUSER AIRFLOW. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW AND WITH FINAL TEST AND BALANCE REPORT.
2. PROVIDE TEST AND ADJUST OF EXISTING GRILLE, REGISTER OR DIFFUSER WITH NEW AIR HANDLER, INCLUDE WITH TAB REPORT. SET TO AIRFLOW DETERMINED AS A RESULT OF REVIEW OF PRECONSTRUCTION TESTING.
3. MEASURE DUCT AND GRILLE SIZE, PROVIDE MEASUREMENTS WITH PREDEMOLITION REPORT.
4. PRIOR TO PRELIMINARY TEST, REMOVE EXISTING GRILLE, THOROUGHLY CLEAN AND REINSTALL.
5. TEMPORARY AIR HANDLER RETURN AIR TO CONNECT TO MIXED AIR DUCT. TEMPORARILY DISCONNECT AND CAP DUCT TO AH-1-SB4-1.
6. REMOVE WINDOW, SALVAGE FOR REINSTALLATION, REPLACE WITH TEMPORARY SUPPLY AIR GRILL FOR KITCHEN AIR FROM TEMPORARY AIR HANDLING UNIT. REINSTALL WINDOW WHEN TEMPORARY AIR HANDLING UNIT IS NO LONGER REQUIRED.
7. PROVIDE KITCHEN TEMPERATURE SENSOR.

TEMPORARY AIR HANDLING UNIT SPECIFICATIONS

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY (TEMP) AIR HANDLING UNIT (AHU) TO PROVIDE TEMPERATURE CONTROL TO THE KITCHEN THROUGHOUT THE PROJECT WHILE THE EXISTING KITCHEN AHU IS BEING REPLACED AND OUT OF SERVICE.
2. COORDINATE OUTAGE WITH COR FOR CHANGE OVER TO TEMP UNIT AFTER HOURS OR ON WEEKENDS.
3. INSTALL TEMPORARY CONSTRUCTION FENCE WITH SECURED GATE AROUND TEMPORARY AHU. THE AHU SHALL BE A TRAILER-MOUNTED, ELECTRICAL COOLING, ELECTRICAL HEAT UNIT CAPABLE OF DE-HUMIDIFICATION, PROVIDING MINIMUM OF 15,000 CFM, 54.4 DEGREE F DRY BULB / 53.9 DEGREE F WET BULB DISCHARGE AIR FROM AN ENTERING AIR CONDITION OF 78.3 DEGREE F DRY BULG / 64.8 DEG. F WET BULB, 491,000 BTU/H TOTAL CAPACITY, 390,000 BTU/H SENSIBLE CAPACITY, AT 2.0 ESP, FILTRATION TO MERV 11, 460V/3PH/60HZ WITH SINGLE POWER FEED, 160 MCA OR AS REQUIRED.
4. PROVIDE AND INSTALL TEMPORARY ELECTRICAL SERVICE, APPROXIMATE 200 AMP, 460V, 3 PH WITH FUSED DISCONNECT FOR CONNECTION TO TEMP AHU. CONFIRM ACTUAL REQUIREMENTS WITH TEMPORARY AIR HANDLING UNIT SUPPLIER. ROUTE FEEDER FROM SUB BASEMENT EQUIPMENT ROOM SB-4, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND POWER IN SB-4. SUBMIT ELECTRICAL PLAN AND COORDINATE WITH COR FOR APPROVAL. ALSO SEE SHEET E101 AND AS101.
5. CONTRACTOR SHALL PROVIDE AND INSTALL ALL TEMPORARY INSULATED DUCTWORK AND DAMPERS NECESSARY TO TIE IN TO EXISTING SYSTEM. SUBMIT MECHANICAL PLAN TO BE SUBMITTED TO THE COR FOR APPROVAL.
6. TEMP AHU SHALL BE CONNECTED TO VAMC'S ECC VIA COMPATIBLE CONTROLS FOR THE ENTIRE TEMPORARY USE.
7. COORDINATE ALL ALARMS WITH COR PRIOR TO TIE-IN TO ECC.
8. CONTRACTOR TO PERFORM A PRE-TEST (TAB) PRIOR TO DEMOLITION FOR AIRFLOW, CHILLED WATER AND STEAM TO ESTABLISH A BASELINE. THE AIRFLOW SHALL BE TOTAL SUPPLY AIRFLOW AND PRESSURES SO THAT THE TEMP AHU MEETS THE EXISTING CONDITIONS AS MINIMUM.
9. SUPPLY FAN SHALL BE CONTROLLED BY A VFD AND SET AT A MANUAL SET POINT BASED ON THE CONTRACTORS PRE-AIR TEST BASELINE. LABEL SET POINT ON DEVICE.
10. TEMP AHU SHALL PROVE A 3 DAY, 24 HOUR PER DAY OPERATION PRIOR TO DEMOLITION OF EXISTING AHU.
11. DAILY AHU MAINTENANCE SHALL BE CONDUCTED AND LOGGED BY THE GENERAL CONTRACTOR. PROVIDE COPY TO COR.
12. ROUTE CONDENSATE DRAIN FROM TEMP AHU TO NEAREST DRAIN IN SB-4.
13. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES, SITE DIMENSIONS, ETC PRIOR TO ORDERING TEMP AHU.



NORTH

KEYPLAN

NO SCLAE

NORTH

Revisions | Date

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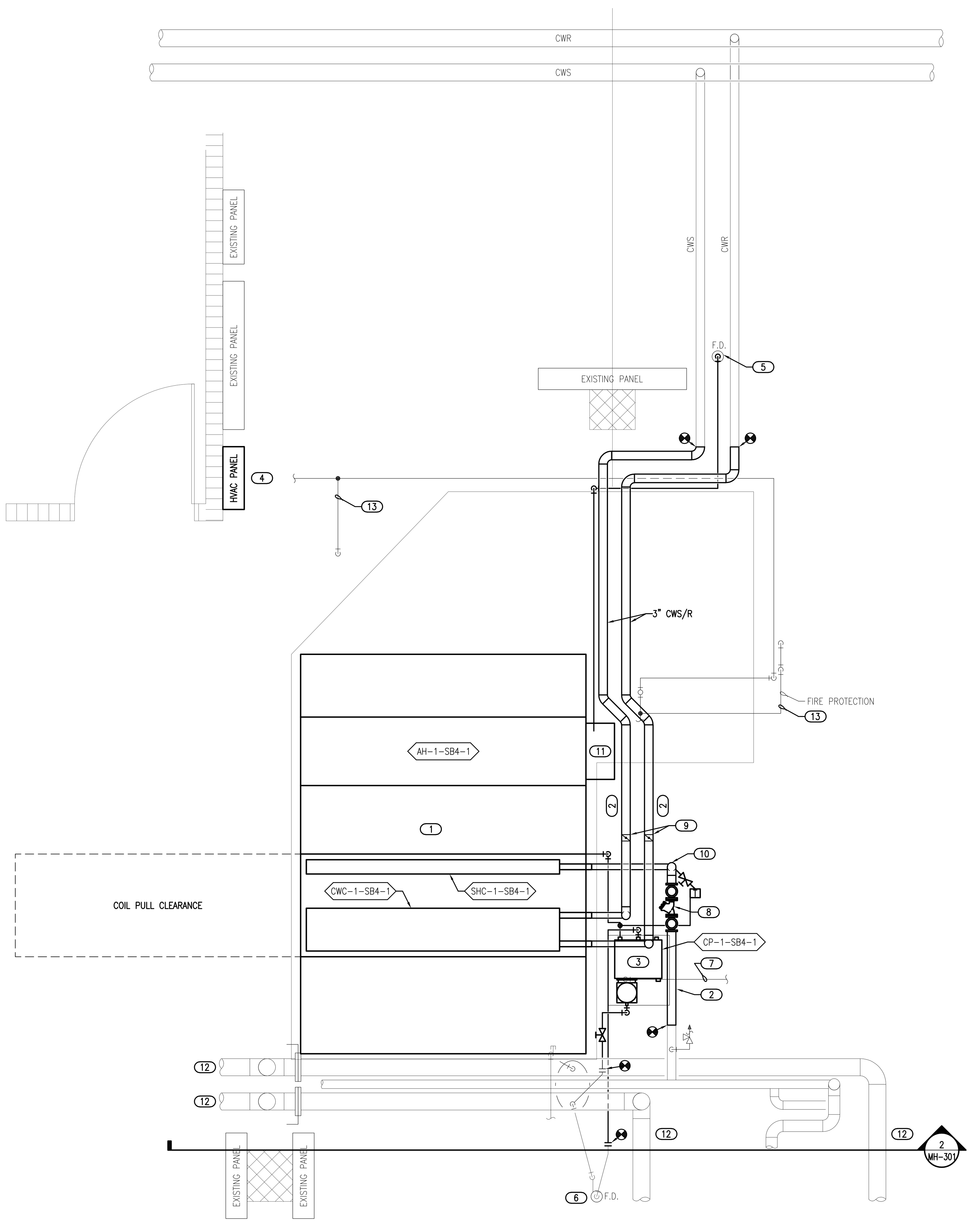
Drawing Title	MECHANICAL - BASEMENT KITCHEN DUCTWORK PLAN
Approved: Project Director	---- ---- ----
Project Title	REPLACE AHU KITCHEN BLDG 1
Location	SHREVEPORT, LA
Date	03/17/2017
Checked	JAM
Drawn	APS
Project Number	667-16-102
Building Number	1
Drawing Number	MH-102
Dwg. #	of 12

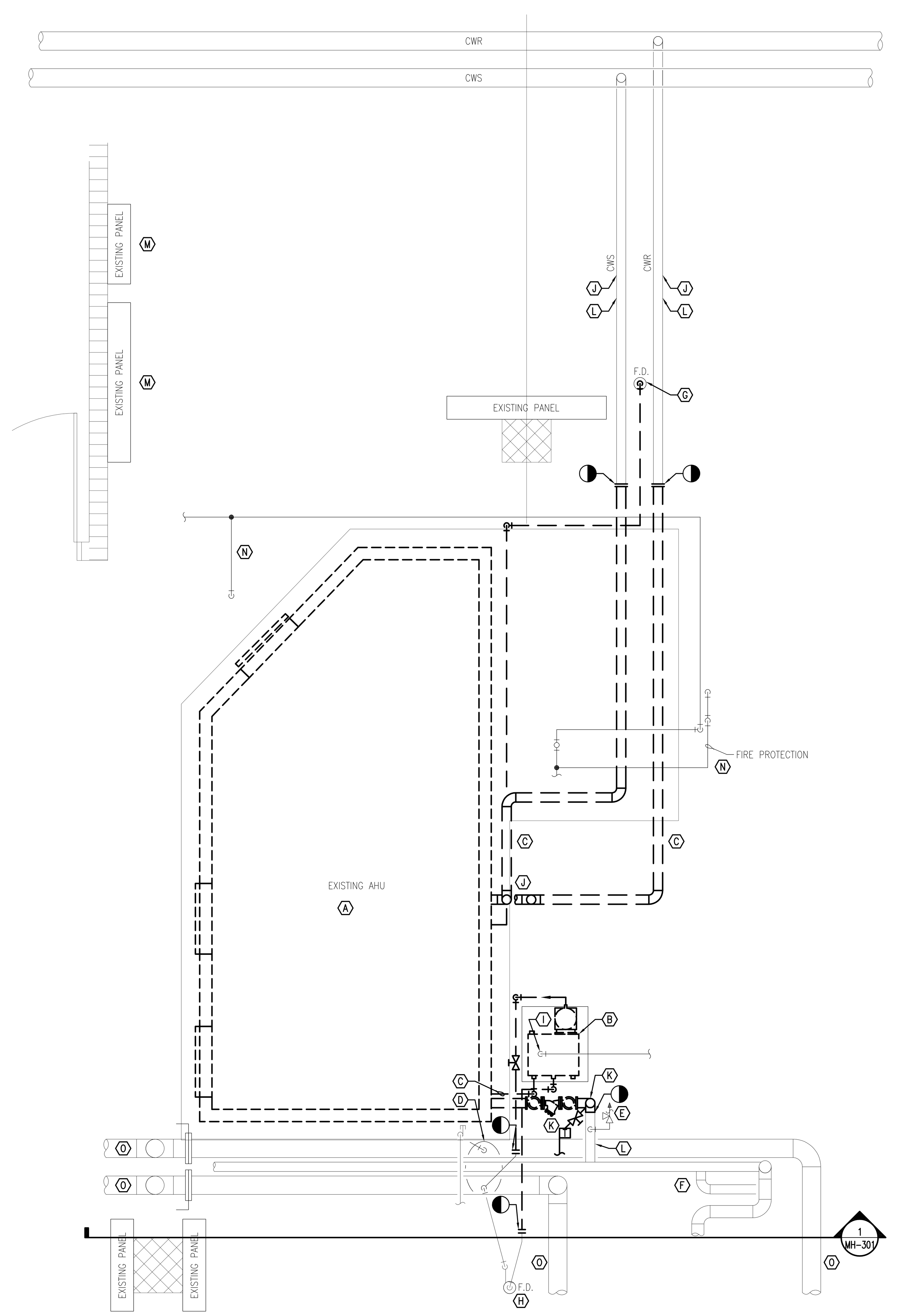
Office of Construction and Facilities Management

Department of Veterans Affairs



2 MECHANICAL SUB BASEMENT EQUIPMENT ROOM SB-4 PIPING NEW WORK PLAN

1/2" = 1'-0"



1 MECHANICAL SUB BASEMENT EQUIPMENT ROOM SB-4 PIPING DEMOLITION PLAN

1/2" = 1'-0"

CONSTRUCTION PERIOD TEMPORARY AHU

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY (TEMP) AIR HANDLING UNIT (AHU) TO PROVIDE TEMPERATURE CONTROL TO THE KITCHEN THROUGHOUT THE PROJECT WHILE THE EXISTING KITCHEN AHU IS BEING REPLACED AND OUT OF SERVICE.
2. REFER TO SHEET MH102 FOR ADDITIONAL INFORMATION REGARDING THE TEMPORARY AIR HANDLER INSTALLATION.

KEYED NOTES - DEMOLITION

- A. REMOVE AND DISPOSE OF AIR HANDLER WHERE INDICATED DASHED. DISASSEMBLE INTO SECTIONS OF SIZE THAT PERMITS REMOVAL FROM BUILDING WITHOUT HAVING TO MOVE EXISTING EQUIPMENT OR UTILITIES. REFER TO AS101 FOR SITE PLAN SHOWING BASEMENT. FIELD SURVEY TO UNDERSTAND EXISTING INSTALLATIONS THROUGHOUT THE AFFECTED BASEMENT SPACE.
- B. REMOVE AND DISPOSE OF EXISTING STEAM CONDENSATE RECEIVER/PUMP.
- C. REMOVE AND DISPOSE OF STEAM, CONDENSATE, CHILLED WATER, AND OTHER PIPING WHERE INDICATED DASHED AND AS REQUIRED TO ALLOW FOR NEW INSTALLATIONS.
- D. AS MIGHT BE REQUIRED FOR INSTALLATION AND MAINTENANCE OF NEW AIR HANDLER, RELOCATE PUMPING TRAP AND REWORK ASSOCIATED PIPING.
- E. EXISTING RELIEF VALVE TO REMAIN.
- F. EXISTING STEAM PRESSURE REDUCING STATION (45 TO 20 PSIG, CONTRACTOR TO VERIFY) WITH BYPASS TO REMAIN; PROVIDES STEAM FOR KITCHEN AIR HANDLING UNIT. USE VERIFIED STEAM PRESSURE FOR SIZING NEW STEAM CONTROL VALVE BASED ON NO MORE THAN 5 PSIG TO THE NEW STEAM HEAT COIL.
- G. FLOOR DRAIN USED FOR COOLING COIL CONDENSATE.
- H. FLOOR DRAIN USED FOR STEAM CONDENSATE RECEIVER OVERFLOW AND VENT.
- I. EXISTING PIPING, NOT RELATED TO KITCHEN AHU, REWORK AS REQUIRED FOR NEW INSTALLATIONS AND ACCOUNTING FOR MAINTENANCE ACCESS.
- J. VERIFY WITH COR CHILLED WATER DIFFERENTIAL PRESSURE SETTINGS BETWEEN SUPPLY AND RETURN MAIN PRIOR TO SIZING CHILLED WATER CONTROL VALVE
- K. REMOVE AND DISPOSE OF STEAM MAIN TAKE OFF WITH DRIP LEG AND TRAP TO STEAM CONTROL VALVE FOR AHU STEAM HEAT COIL. REMOVE CONDENSATE RETURN AND PREPARE FOR CONNECTION TO RETURN FROM TRAP AT NEW STEAM COIL. PROVIDE TEMPORARY CAP FOR CONDENSATE RETURN.
- L. VERIFY EXISTING PIPE SIZE.
- M. REMOVE AND DISPOSE OF ALL CONTROLS RELATED TO EXISTING KITCHEN AIR HANDLING UNIT.
- N. AS REQUIRED FOR REMOVAL OF EXISTING AHU AND DUCTWORK, REMOVE EXISTING FIRE PROTECTION SPRINKLER LINES.
- O. EXISTING PIPING AND EQUIPMENT NOTED FOR REFERENCE, CONTRACTOR TO VERIFY ACTUAL LOCATIONS.

KEYED NOTES - NEW WORK

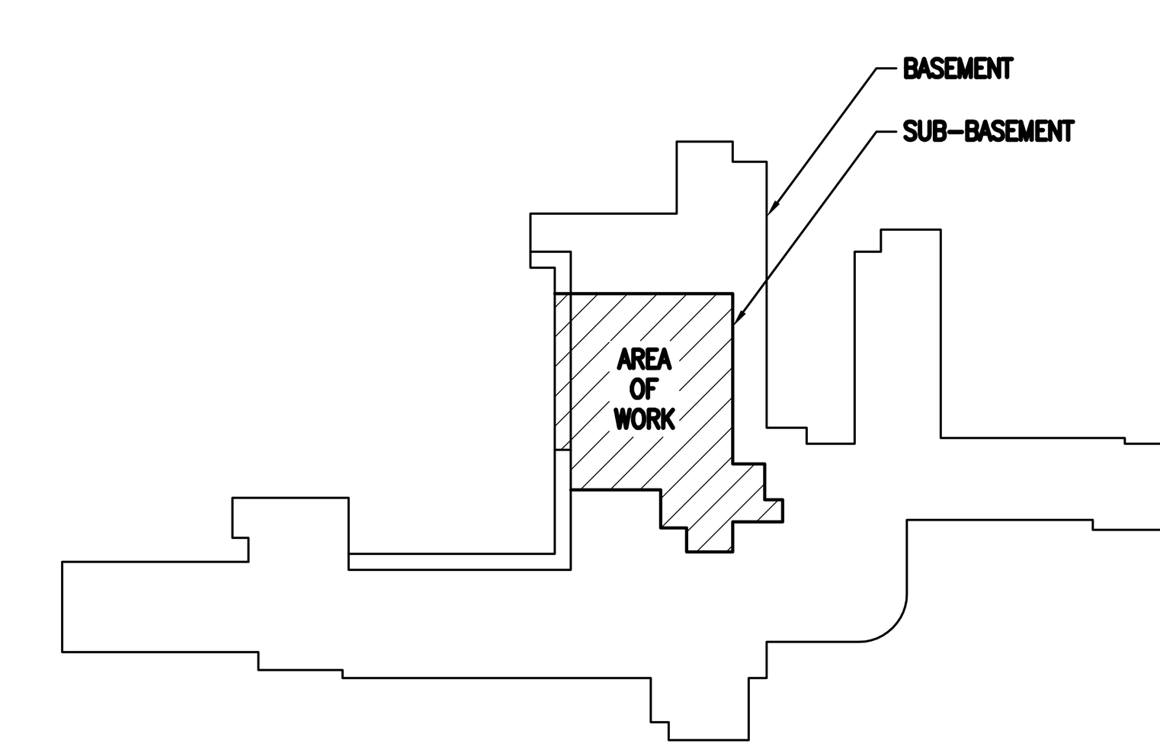
1. PROVIDE NEW AIR HANDLING UNIT.
2. PROVIDE NEW STEAM, CONDENSATE AND CHILLED WATER PIPING FOR NEW AIR HANDLING UNIT.
3. PROVIDE NEW STEAM CONDENSATE RECEIVER / PUMP.
4. PROVIDE NEW HVAC CONTROL ENCLOSURE FOR KITCHEN DDC CONTROLS.
5. FLOOR DRAIN USED FOR COOLING COIL CONDENSATE.
6. FLOOR DRAIN USED FOR CONDENSATE RECEIVER OVERFLOW AND VENT.
7. EXISTING PIPING, NOT RELATED TO KITCHEN AHU, REWORK AS REQUIRED FOR NEW INSTALLATIONS AND ACCOUNTING FOR MAINTENANCE ACCESS.
8. PROVIDE NEW STEAM ISOLATION VALVES, STRAINER, CONTROL VALVE, TRAPS, ETC AS IDENTIFIED ON DETAILS. USE VERIFIED STEAM PRESSURE FOR SIZING NEW STEAM CONTROL VALVE BASED ON NO MORE THAN 5 PSIG TO THE NEW STEAM HEAT COIL. INSTALL STEAM STRAINERS WITH BASKET ABOVE HORIZONTAL SO CONDENSATE WILL NOT ACCUMULATE. INCLUDE BLOWDOWN VALVE WITH CAPPED OUTLET ORIENTED TO DISCHARGE TOWARD FLOOR.
9. PROVIDE CHILLED WATER ISOLATION VALVES, STRAINER WITH BLOWDOWN, CONTROL VALVE, ETC AS IDENTIFIED ON DETAILS. USE VERIFIED MINIMUM CHILLED WATER DIFFERENTIAL PRESSURE SETTINGS BETWEEN SUPPLY AND RETURN MAIN WITH ALLOWANCE FOR PIPING AND APPURTENANCES FOR SIZING CHILLED WATER CONTROL VALVE.
10. PROVIDE FULL LINE SIZE STEAM DRIP LEG WITH TRAP AND SCALE POCKET. PROVIDE NEW TRAP AND ASSOCIATED VALVES AND PIPE SPECIALTIES. FIELD ROUTE CONDENSATE DISCHARGE PIPE FROM TRAP TO CONNECT WITH CAPPED RETURN LEFT DURING DEMO WORK.
11. AHU CONTROL CABINET.
12. EXISTING PIPING AND EQUIPMENT NOTED FOR REFERENCE, CONTRACTOR TO VERIFY ACTUAL LOCATIONS.
13. REARRANGE AND PROVIDE NEW FIRE PROTECTION SPRINKLERS AS REQUIRED FOR NEW INSTALLATION.

GENERAL NOTES - NEW WORK

1. PRIOR TO PREPARING SUBMITTAL FOR NEW AIR HANDLING UNIT CONFIRM AVAILABLE SPACE. MEASURE EXISTING HOUSEKEEPING PAD. VERIFY AVAILABLE ELECTRICAL POWER FOR AHU AND CONDENSATE RECEIVER PUMP. SHOULD FINDINGS DIFFER FROM INFORMATION ON PLAN DOCUMENTS INCORPORATE FINDINGS IN SUBMITTAL. CONTRACTOR TO VERIFY PATH FROM OUTDOORS TO AHU FINAL LOCATION AND PROVIDE REQUIRED SHIPPING SPLITS.
2. REARRANGE AND PROVIDE NEW FIRE PROTECTION SPRINKLERS AS REQUIRED FOR NEW INSTALLATIONS.
3. AS REQUIRED FOR INSTALLATION OF NEW AHU REWORK EXISTING SYSTEMS THAT WILL REMAIN TO PROVIDE FOR INSTALLATION AND MAINTENANCE OF NEW EQUIPMENT.
4. BASED ON VERIFICATION OF EXISTING PIPE SIZE PROVIDE NECESSARY REDUCERS TO CONNECT EXISTING WITH NEW, SEE SPECS AND DETAILS AS TO USE OF ECCENTRIC REDUCERS.
5. PROVIDE ALL NEW DIGITAL HVAC CONTROLS.

GENERAL NOTES - DEMOLITION

1. PRIOR TO DEMOLITION MEASURE EXISTING KITCHEN AIR HANDLING UNIT, CHILLED WATER FLOW, COIL ENTERING AND LEAVING WATER PRESSURE, AND CHILLED WATER DIFFERENTIAL PRESSURE (OPERATING, MAXIMUM, AND MINIMUM) AT TAKE OFF FROM MAIN TO KITCHEN AIR HANDLING UNIT. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW AND WITH FINAL TEST AND BALANCE REPORT.
2. AS REQUIRED FOR REMOVAL OF EXISTING AHU AND DUCTWORK, REMOVE EXISTING FIRE PROTECTION SPRINKLER LINES.
3. AS REQUIRED FOR REMOVAL OF EXISTING AHU AND INSTALLATION OF NEW REWORK EXISTING SYSTEMS THAT WILL REMAIN TO PROVIDE FOR INSTALLATION AND MAINTENANCE OF NEW EQUIPMENT.
4. REMOVE AND DISPOSE OF ALL CONTROLS RELATED TO EXISTING KITCHEN AIR HANDLING UNIT.
5. MEASURE EXISTING PIPE WHERE INDICATED AND AT LOCATIONS WHERE EXISTING PIPING WILL BE CONNECTED TO NEW. INCLUDE EXISTING PIPE SIZE AS PART OF RECORD DOCUMENT SUBMITTAL.



KEYPLAN

NO SCLAE

Revisions	Date

CONSULTANTS:

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MEP PROJECT NO.: P14.15.01

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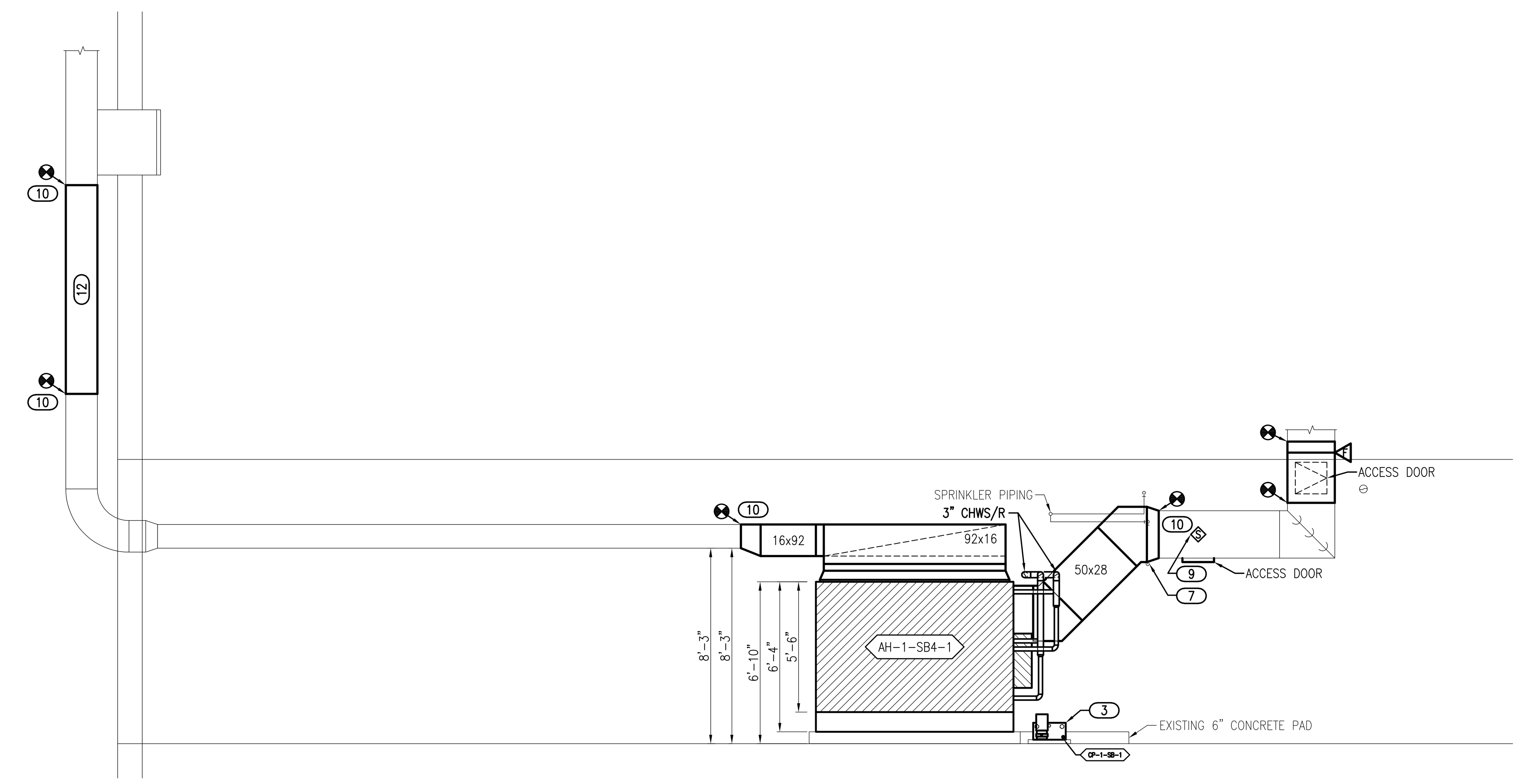
Drawing Title	MECHANICAL - SUB BASEMENT EQUIP RM SB-4 PIPING DEMO AND NEW WORK PLANS
Approved: Project Director	----
Project Title	REPLACE AHU KITCHEN BLDG 1
Location	SHREVEPORT, LA
Date	03/17/2017
Checked	JAM
Drawn	APS
Project Number	667-16-102
Building Number	1
Drawing Number	MP-101
Dwg. #	of 12

Office of Construction and Facilities Management

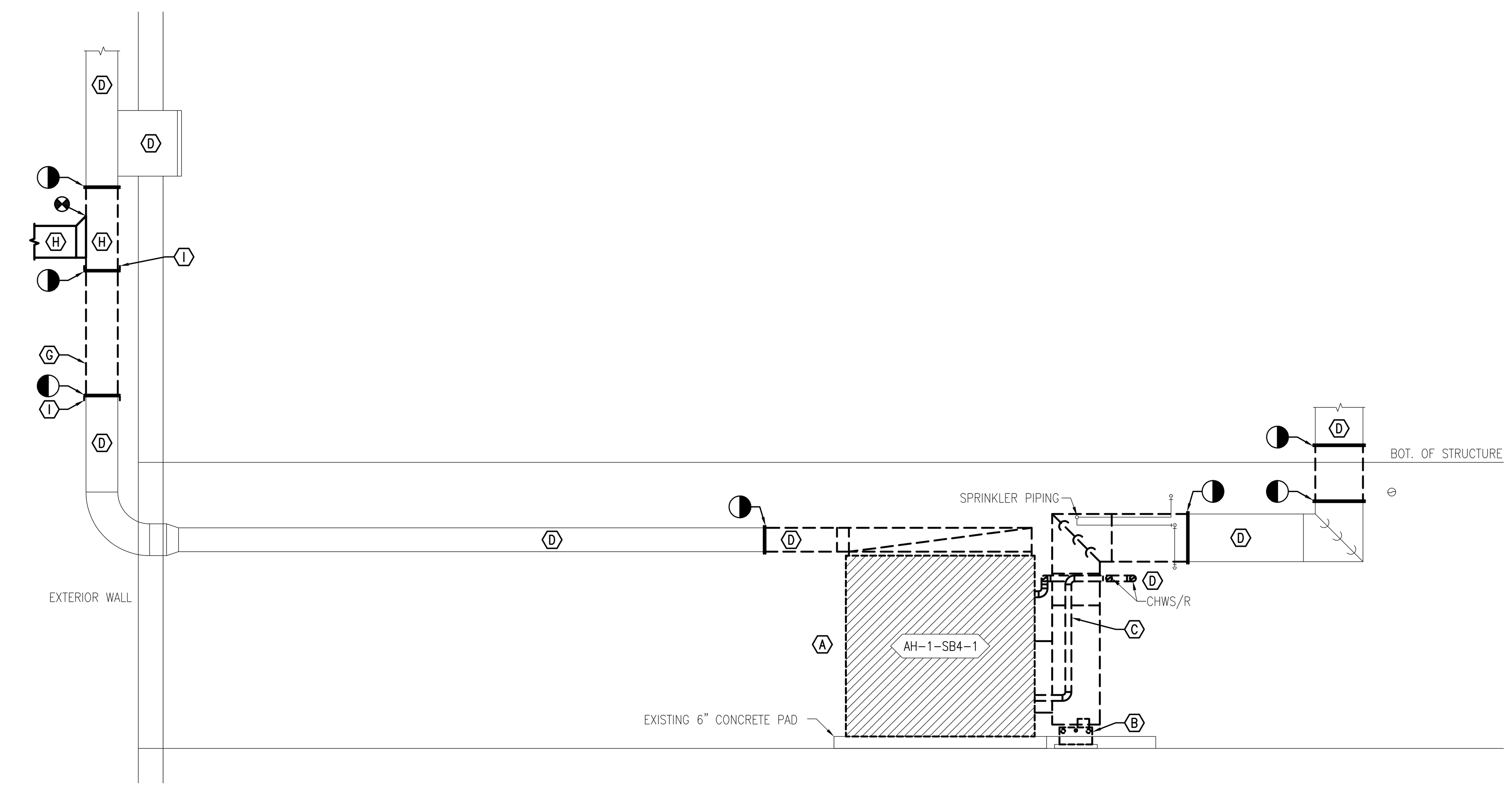
Department of Veterans Affairs

VA FORM 08-6231



2 AHU NEW WORK SECTION

1/4" = 1'-0"



1 AHU DEMOLITION SECTION

1/4" = 1'-0"

KEYED NOTES - DUCTWORK DEMOLITION

- (A) REMOVE AND DISPOSE OF AIR HANDLER WHERE INDICATED DASHED. DISASSEMBLE INTO SECTIONS OF SIZE THAT PERMITS REMOVAL FROM BUILDING WITHOUT HAVING TO MOVE EXISTING EQUIPMENT OR UTILITIES. REFER TO AS101 FOR SITE PLAN SHOWING BASEMENT. FIELD SURVEY TO UNDERSTAND EXISTING INSTALLATIONS THROUGHOUT THE AFFECTED BASEMENT SPACE.
- (B) REMOVE AND DISPOSE OF EXISTING STEAM CONDENSATE RECEIVER / PUMP.
- (C) REMOVE AND DISPOSE OF STEAM, CONDENSATE, CHILLED WATER, AND OTHER PIPING WHERE INDICATED DASHED AND AS REQUIRED TO ALLOW FOR NEW INSTALLATIONS.
- (D) VERIFY EXISTING DUCTWORK AND PIPE SIZES.
- (E) AS REQUIRED FOR REMOVAL OF EXISTING AHU AND DUCTWORK, REMOVE EXISTING FIRE PROTECTION SPRINKLER LINES.
- (F) REMOVE AND DISPOSE OF DUCTWORK WHERE INDICATED DASHED AND AS REQUIRED TO ALLOW FOR NEW INSTALLATIONS.
- (G) COORDINATE WITH ELECTRICAL FOR REMOVAL OF SECTION OF DUCT WHERE ELECTRICAL CONDUIT PASSING THROUGH THE DUCT WILL BE REROUTED AND REMOVE ADDITIONAL DUCT WHEN TEMPORARY KITCHEN AIR HANDLING UNIT IS REMOVED.
- (H) PROVIDE TEMPORARY DUCT CONNECTION FOR MIXED AIR RETURN TO TEMPORARY AIR HANDLING UNIT.
- (I) PROVIDE TEMPORARY DUCT CAPS FOR USE WHEN USING TEMPORARY KITCHEN AIR HANDLING UNIT.

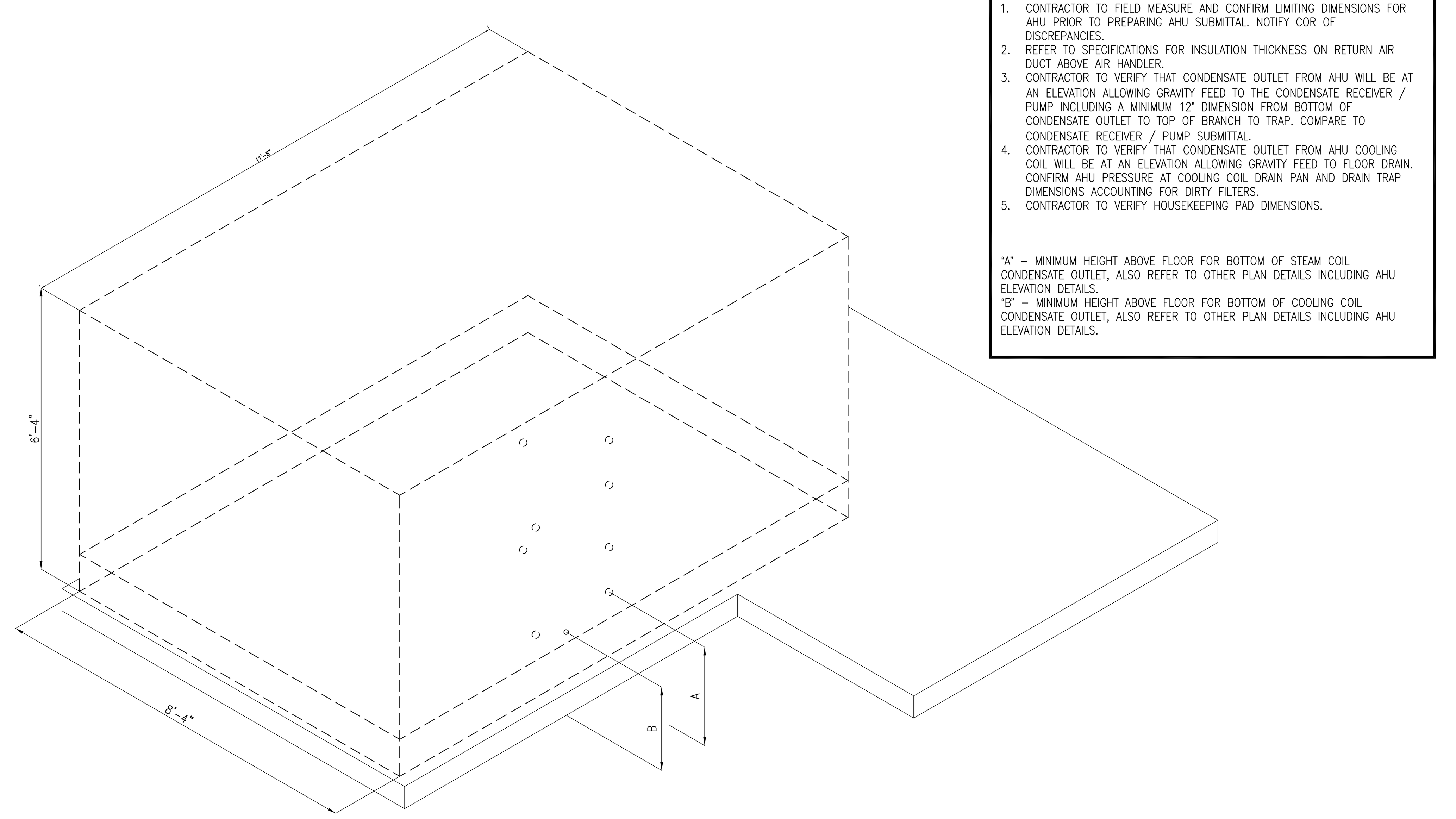
KEYED NOTES - DUCTWORK NEW WORK

1. PROVIDE NEW AIR HANDLING UNIT.
2. PROVIDE NEW STEAM, CONDENSATE AND CHILLED WATER PIPING FOR NEW AIR HANDLING UNIT.
3. PROVIDE NEW STEAM CONDENSATE RECEIVER / PUMP.
4. PROVIDE NEW STEAM ISOLATION VALVES, STRAINER, CONTROL VALVE, TRAPS, ETC AS IDENTIFIED ON DETAILS. USE VERIFIED STEAM PRESSURE FOR SIZING NEW STEAM CONTROL VALVE BASED ON NO MORE THAN 5 PSIG TO THE NEW STEAM HEAT COIL. INSTALL STEAM STRAINERS WITH BASKET ABOVE HORIZONTAL SO CONDENSATE WILL NOT ACCUMULATE. INCLUDE BLOWDOWN VALVE WITH CAPPED OUTLET ORIENTED TO DISCHARGE TOWARD FLOOR.
5. PROVIDE CHILLED WATER ISOLATION VALVES, STRAINER WITH BLOWDOWN, CONTROL VALVE, ETC AS IDENTIFIED ON DETAILS. USE VERIFIED MINIMUM CHILLED WATER DIFFERENTIAL PRESSURE SETTINGS BETWEEN SUPPLY AND RETURN MAIN WITH ALLOWANCE FOR PIPING AND APPURTENANCES FOR SIZING CHILLED WATER CONTROL VALVE.
6. AHU CONTROL CABINET.
7. REARRANGE AND PROVIDE NEW FIRE PROTECTION SPRINKLERS AS REQUIRED FOR NEW INSTALLTION.
8. PROVIDE NEW FIRE DAMPER WITH ACCESS DOOR AT DUCT FLOOR PENETRATION.
9. WORK WITH ELECTRICAL CONTRACTOR TO INSTALL SMOKE DETECTOR. PROVIDE ACCESS DOOR.
10. BASED ON MEASUREMENT OF EXISTING DUCTWORK PROVIDE NECESSARY TRANSITIONS TO CONNECT EXISTING WITH NEW.
11. BASED ON VERIFICATION OF EXISTING PIPE SIZE PROVIDE NECESSARY REDUCERS TO CONNECT EXISTING WITH NEW, SEE SPECS AND DETAILS AS TO USE OF ECCENTRIC REDUCERS.
12. PROVIDE NEW DUCT SECTION TO REPLACE SECTION REMOVED WHERE ELECTRICAL CONDUIT PASSING THROUGH THE DUCT IS REROUTED AND TO REPLACE SECTION OF DUCTWORK MODIFIED FOR TEMPORARY AHU RETURN DUCT CONNECTION. PAINT NEW DUCT TO MATCH EXISTING.
13. PROVIDE NEW STEAM TRAPS.

AHU SIZING NOTES

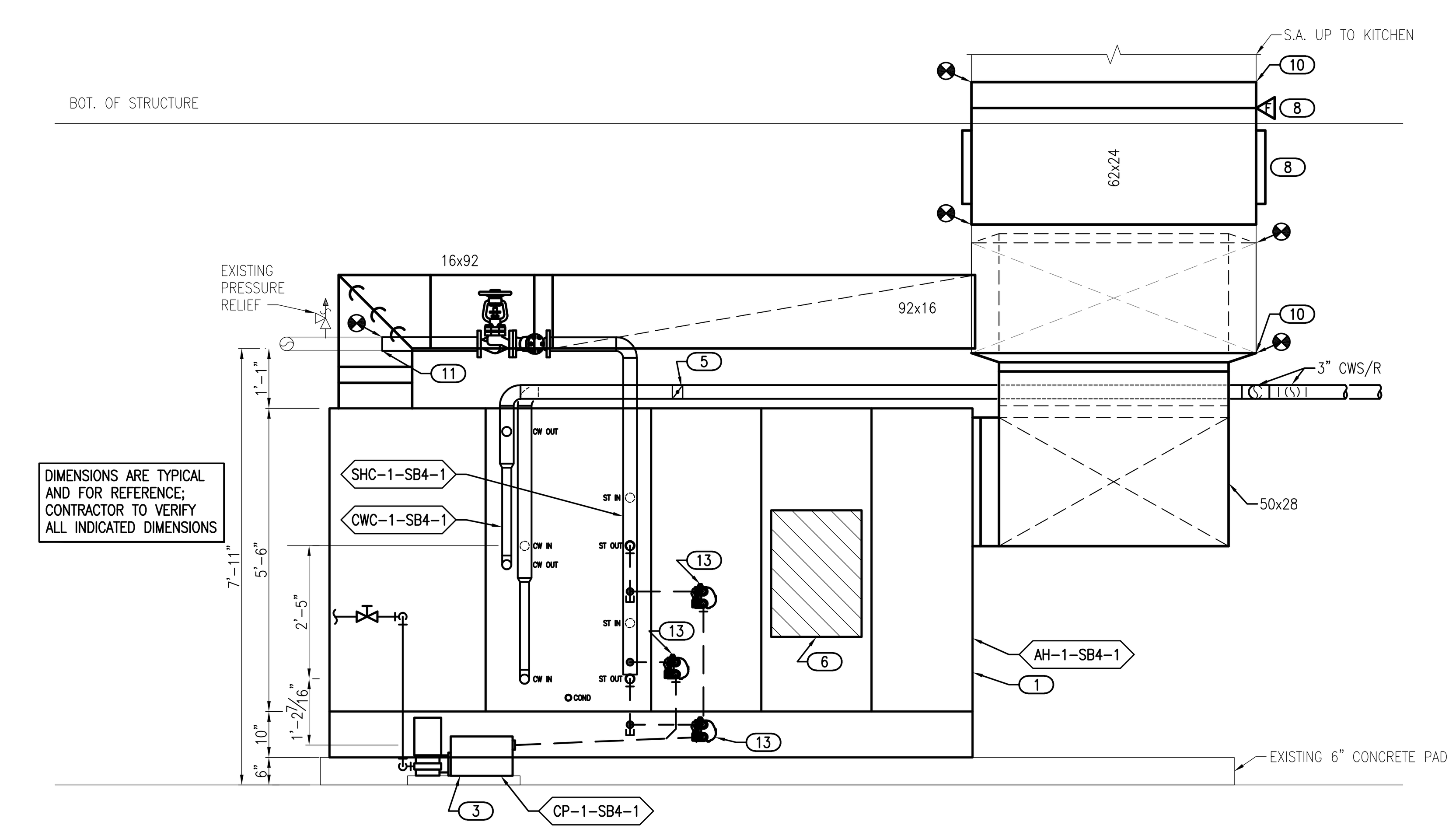
1. CONTRACTOR TO FIELD MEASURE AND CONFIRM LIMITING DIMENSIONS FOR AHU PRIOR TO PREPARING AHU SUBMITTAL. NOTIFY COR OF DISCREPANCIES.
2. REFER TO SPECIFICATIONS FOR INSULATION THICKNESS ON RETURN AIR DUCT ABOVE AIR HANDLER.
3. CONTRACTOR TO VERIFY THAT CONDENSATE OUTLET FROM AHU WILL BE AT AN ELEVATION ALLOWING GRAVITY FEED TO THE CONDENSATE RECEIVER / PUMP INCLUDING A MINIMUM 12" DIMENSION FROM BOTTOM OF CONDENSATE OUTLET TO TOP OF BRANCH TO TRAP. COMPARE TO CONDENSATE RECEIVER / PUMP SUBMITTAL.
4. CONTRACTOR TO VERIFY THAT CONDENSATE OUTLET FROM AHU COOLING COIL WILL BE AT AN ELEVATION ALLOWING GRAVITY FEED TO FLOOR DRAIN. CONFIRM AHU PRESSURE AT COOLING COIL DRAIN PAN AND DRAIN TRAP DIMENSIONS ACCOUNTING FOR DIRTY FILTERS.
5. CONTRACTOR TO VERIFY HOUSEKEEPING PAD DIMENSIONS.

"A" – MINIMUM HEIGHT ABOVE FLOOR FOR BOTTOM OF STEAM COIL CONDENSATE OUTLET, ALSO REFER TO OTHER PLAN DETAILS INCLUDING AHU ELEVATION DETAILS.
"B" – MINIMUM HEIGHT ABOVE FLOOR FOR BOTTOM OF COOLING COIL CONDENSATE OUTLET, ALSO REFER TO OTHER PLAN DETAILS INCLUDING AHU ELEVATION DETAILS.



4 AHU SPACE AVAILABLE AND CRITICAL DIMENSIONS

1/2" = 1'-0"



3 AHU NEW WORK SECTION

1/2" = 1'-0"

Revisions:	Date

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Drawing Title	MECHANICAL - SECTIONS
Approved: Project Director	---- ---- ----
Project Title	REPLACE AHU KITCHEN BLDG 1
Location	SHREVEPORT, LA
Date	03/17/2017
Checked	JAM
Drawn	APS
Project Number	667-16-102
Building Number	1
Drawing Number	MH-301
Dwg. #	7 of 12

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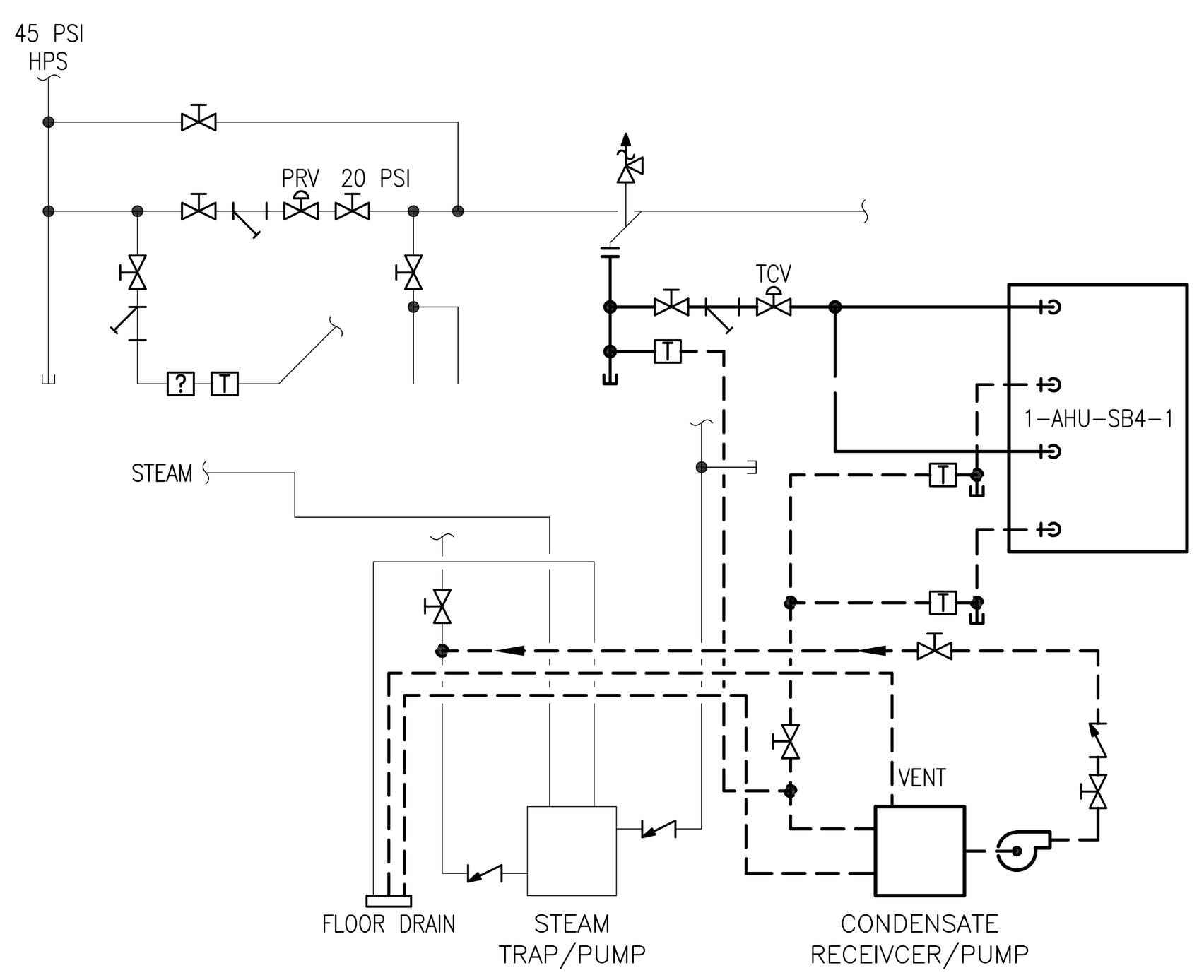
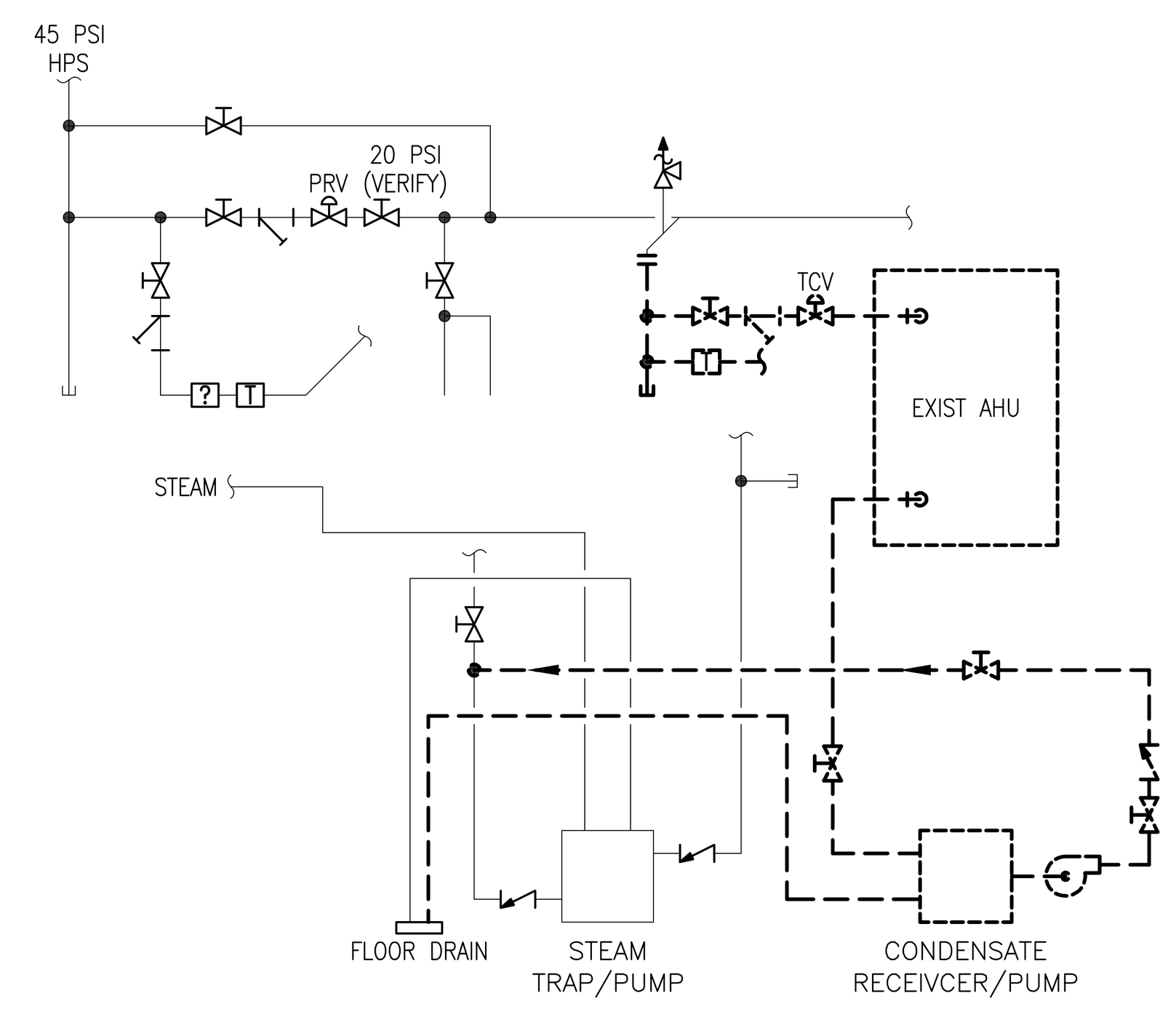
Department of Veterans Affairs

VA FORM 08-6231



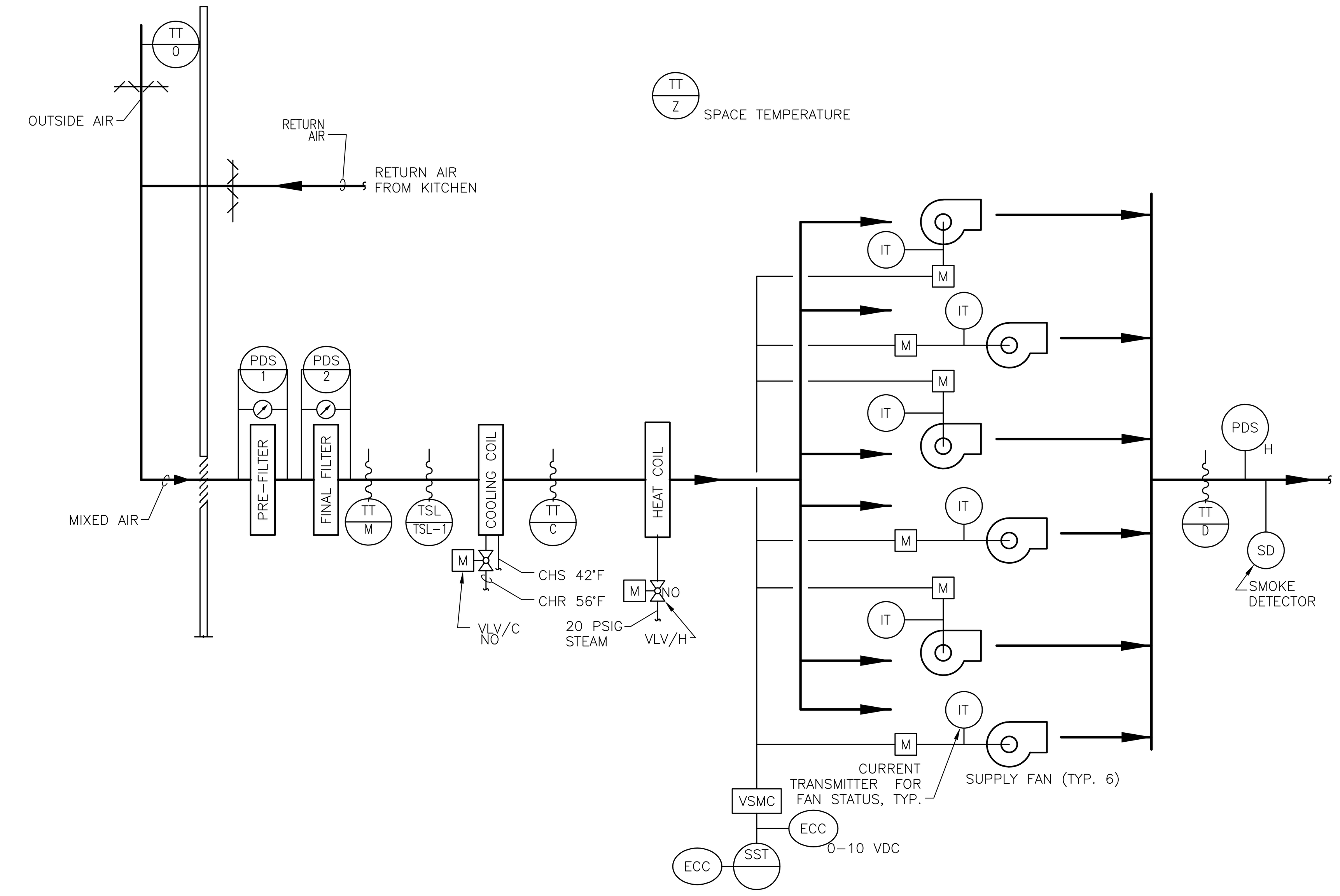
4 AIR HANDLING UNIT STEAM PIPING FLOW DIAGRAM - NEW WORK

NO SCALE



3 AIR HANDLING UNIT STEAM PIPING FLOW DIAGRAM - DEMOLITION

NO SCALE



2 AIR HANDLING UNIT CONTROL DIAGRAM (AH-1-SB4-1)

NO SCALE

CONTROLS NOTES

1. REMOVE AND DISPOSE OF ALL NO LONGER REQUIRED CONTROLS.
2. PROVIDE NEW DDC CONTROLS FOR KITCHEN AIR HANDLER (AH-1-SB4-1).
3. PROVIDE CONTROLS DESIGNED FOR BACNET IP PROTOCOL AND INTERFACE WITH BACNET ETHERNET, INCLUDING BACNET DEVICES, SENSORS, CONTROLLERS, ETC.
4. INVESTIGATE AND VERIFY EXISTING CAMPUS ECC AND FUTURE CONTROL UPGRADES TO BACNET IP. NEW INSTALLATION TO BE WORKING TOWARD BACNET IP / ETHERNET INTEGRATED WITH DDC CONTROLS.
5. COORDINATE WITH EQUIPMENT SUPPLIER FOR INTERFACE WITH AIR HANDLING UNIT FAN CONTROL 0-10 VDC AND STATUS / ALARMS.
6. VERIFY STEAM PRESSURE PRIOR TO SIZING STEAM CONTROL VALVE. USE VERIFIED STEAM PRESSURE FOR SIZING NEW STEAM CONTROL VALVE BASED ON NO MORE THAN 5 PSIG TO THE NEW STEAM HEAT COIL.
7. VERIFY CHILLED WATER DIFFERENTIAL PRESSURE PRIOR TO SIZING CHILLED WATER CONTROL VALVE. USE VERIFIED MINIMUM CHILLED WATER DIFFERENTIAL PRESSURE SETTINGS BETWEEN SUPPLY AND RETURN MAIN WITH ALLOWANCE FOR PIPING AND APPURTENANCES FOR SIZING CHILLED WATER CONTROL VALVE.
8. COORDINATE WITH ELECTRICAL FOR SMOKE DETECTOR AND FIRE ALARM INTERLOCK TO SHUTDOWN AHU UPON SMOKE DETECTION. DDC TO INDICATE REASON FOR AHU SHUTDOWN.
9. CONTROLS SHALL BE SCALABLE AND ALLOW FOR EXPANSION AND INCORPORATION OF CONTROLS FOR ADDITIONAL AHU AND OTHER SYSTEMS. CONTROL PANEL / ENCLOSURE SHALL PROVIDE SPACE BEYOND THAT REQUIRED FOR THIS PROJECT FOR USE WITH FUTURE INSTALLATIONS.

CONSTRUCTION PERIOD TEMPORARY AHU

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY (TEMP) AIR HANDLING UNIT (AHU) TO PROVIDE TEMPERATURE CONTROL TO THE KITCHEN THROUGHOUT THE PROJECT WHILE THE EXISTING KITCHEN AHU IS BEING REPLACED AND OUT OF SERVICE.
2. REFER TO SHEET MH102 FOR ADDITIONAL INFORMATION REGARDING THE TEMPORARY AIR HANDLER INSTALLATION.
3. TEMPORARY AHU SHALL BE CONNECTED TO VAMC'S ECC VIA COMPATIBLE CONTROLS FOR THE ENTIRE TEMPORARY USE.
4. COORDINATE ALL ALARMS WITH COR PRIOR TO TIE-IN TO ECC.
5. TEMPORARY AIR HANDLING UNIT SUPPLY FAN SHALL BE CONTROLLED BY A VFD AND SET AT A MANUAL SET POINT BASED ON THE CONTRACTORS PRE-AIR TEST BASELINE. LABEL SET POINT ON DEVICE.

SEQUENCE OF OPERATIONS

SINGLE ZONE VARIABLE VOLUME MIXED AIR HANDLING UNIT CONTROL (AH-1-SB4-1)

A. GENERAL:
1. THE AIR HANDLING UNIT IS VARIABLE AIR VOLUME, INDOOR AIR UNIT OPERATING AS A CONSTANT VOLUME UNIT.
2. THE AIR HANDLING UNIT IS CONTROLLED BY DIRECT DIGITAL CONTROLLER (DDC).
3. THE AIR HANDLING UNIT IS EQUIPPED WITH THE FOLLOWING:
   a. SUPPLY FAN ARRAY WITH ECMS OPERATING ON 0-10 VDC SIGNAL FROM DDC.
   b. CHILLED WATER COIL FOR COOLING.
   c. STEAM COIL FOR HEATING, LOCATED IN POSITION CAPABLE OF PROVIDING REHEAT.
   d. MINIMUM MERV 7 (2") FOLLOWED BY MINIMUM MERV 11 (4") FILTER BANK.

B. FAN CONTROL:
1. START/STOP: THE DDC SYSTEM SHALL START THE SUPPLY FAN(S).
2. CURRENT SENSOR: PROVIDE PER SPECS. INDIVIDUAL FAN STATUS TO BE MONITORED, DISPLAYED AND ALARMED AT ECC.
3. SUPPLY FAN SPEED CONTROL: THE PURPOSE OF THE SUPPLY FAN SPEED CONTROL FOR SYSTEM BALANCING

C. VENTILATION AIR CONTROL:
1. VENTILATION AIR FLOW SHALL BE CONSTANT, SET AT 15% OF AHU SUPPLY AIRFLOW USING MANUAL BALANCE DAMPERS. VENTILATION AIRFLOW SHALL BE 2250 CFM WITH 15,000 CFM SUPPLY AIRFLOW.

D. FILTERS:
1. INSTALL A DIFFERENTIAL STATIC PRESSURE SENSOR ACROSS EACH FILTER BANK. ENSURE THAT THE STATIC PROBES DO NOT IMPEDE FILTER REMOVAL.
2. FOR PRE-FILTER BANK, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 0.8" W.C. (ADJ.).
3. FOR PRE-FILTER BANK, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 1.3" W.C. (ADJ.).

E. RETURN AIR TEMPERATURE CONTROL:
1. SEQUENTIALLY MODULATE CHILLED WATER CONTROL VALVE AND STEAM CONTROL VALVE TO MAINTAIN RETURN AIR TEMPERATURE SETPOINT.
2. RETURN AIR TEMPERATURE SETPOINTS TO BE AS FOLLOWS:
   a. COOLING SETPOINT 78 DEG. F,
   b. HEATING SETPOINT 72 DEG. F.
3. HEATING AND COOLING SHALL NOT BE ALLOWED TO OPERATE AT THE SAME TIME, PROVIDE A MINIMUM 5 DEG. F. (ADJ.) DEADBAND BETWEEN CLOSING COOLING CONTROL VALVE AND STARTING TO OPEN THE HEATING CONTROL VALVE, SAME IN REVERSE.

F. CHILLED WATER COIL:
1. MONITOR AND DISPLAY CHILLED WATER SUPPLY TEMPERATURE TO KITCHEN AIR HANDLER COOLING COIL. ALARM SHOULD THERE BE A CALL FOR COOLING AND CHILLED WATER TEMPERATURE IS DETERMINED TO BE GREATER THAN OR EQUAL TO 50 DEG. F. (ADJ.)

G. SAFETIES:
1. GENERAL: ALL SAFETIES SHALL BE HARD WIRED TO THE SUPPLY FAN STARTERS OR VFD / ECM SAFETY CIRCUITS. STARTERS SHALL NOT FUNCTION IN THE "HAND" OR "AUTO" AND VFD'S SHALL BE DISABLED IF THEY ARE INDEXED TO THE "AUTO" OR "HAND" POSITION IN EITHER THE VFD OR BYPASS MODES.
2. FREEZESTAT: INSTALL AN ELECTRIC FREEZESTAT TO SHUT DOWN THE UNIT IF THE MIXED AIR TEMPERATURE AHEAD OF THE COOLING COIL DROPS BELOW 40 °F (ADJ.). THE ELECTRIC FREEZESTAT SHALL ACT INDEPENDENTLY OF THE DDC SYSTEM VIA HARDWIRE INTERLOCK AND SHALL OVERRIDE THE DDC SYSTEM CONTROL SIGNAL TO OPEN THE HEATING COIL AND COOLING CONTROL VALVE(S). A FREEZESTAT TRIP SHALL NOTIFY THE DDC SYSTEM THAT SHALL SEND AN ALARM TO THE OPERATOR INTERFACE.
3. SUPPLY FAN HIGH PRESSURE LIMIT: INSTALL A STATIC PRESSURE PROBE LOCATED IN THE AIR HANDLING UNIT MAIN DISCHARGE DUCT AT LEAST SIX FEET OR AS FAR AS PHYSICALLY POSSIBLE DOWNSTREAM OF THE FAN AND UPSTREAM OF ANY DAMPERS AND PIPE TO A DIFFERENTIAL PRESSURE SWITCH LOCATED IN THE TEMPERATURE CONTROL PANEL. WIRE IN SERIES WITH THE SAFETY CIRCUIT OF THE SUPPLY AND RETURN FAN. DIFFERENTIAL PRESSURE SWITCH SHALL BE A MANUAL RESET TYPE AND THE DDC SYSTEM SHALL MONITOR THE STATUS OF THE DIFFERENTIAL PRESSURE SWITCH. INITIAL SETPOINT SHALL BE +2.0" W.C. (ADJ.).
4. FIRE ALARM SHUTDOWN: UPON A FIRE ALARM SYSTEM ALARM, THE FIRE ALARM CONTROL MODULE PROVIDED BY THE ELECTRICAL CONTRACTOR AT THE TEMPERATURE CONTROL PANEL SHALL CHANGE STATE OF ITS CONTACTS. THIS SHALL CAUSE THE UNIT TO BE SHUT DOWN (SEE UNIT SHUTDOWN FOR ADDITIONAL INFORMATION) AND ALL FIRE/SMOKE AND SMOKE DAMPERS WITHIN THIS SYSTEM SHALL CLOSE. AN AUXILIARY CONTACT SHALL BE PROVIDED TO NOTIFY THE DDC SYSTEM OF A FIRE ALARM SHUTDOWN.

H. UNIT SHUTDOWN:
1. WHENEVER THE AIR HANDLING UNIT IS INDEXED OFF, THE SUPPLY FANS SHALL STOP. ON A FAILURE OF ANY SUPPLY FAN, AN ALARM WILL BE SENT THROUGH THE DDC SYSTEM. WHENEVER THE SUPPLY FANS ARE OFF FOR ANY REASON THE FOLLOWING SHALL OCCUR:
2. THE CHILLED WATER CONTROL VALVE(S) SHALL CLOSE.
3. THE HEATING COIL CONTROL VALVE(S) SHALL REMAIN UNDER CONTROL FROM THE MIXED AIR SENSOR TO MAINTAIN 55 °F (ADJ.). FREEZESTAT SHALL OVERRIDE HEATING CONTROL VALVE(S) OPEN.

I. UNOCCUPIED CONTROL:
1. GENERAL: OCCUPIED/UNOCCUPIED SCHEDULE SHALL BE SET AT THE DDC OPERATOR INTERFACE. WHEN INDEXED TO UNOCCUPIED THE UNIT SHALL SHUTDOWN. UNIT CYCLING TO MAINTAIN SETBACK/SETUP TEMPERATURES: CYCLE THE AIR HANDLING UNIT ON TO MAINTAIN THE SETBACK AND SETUP TEMPERATURE ZONE SETPOINTS TO MAINTAIN 58 °F AND 86 °F RESPECTIVELY.

PROJECT: REPLACE AHU KITCHEN BLDG 1
BUILDING: 1
SYSTEM: AH-1-SB-1
PAGE:

SYSTEM COMPONENT	ABBREVIATION	SYSTEM INPUTS DIGITAL	SYSTEM INPUTS ANALOG	SYSTEM OUTPUTS DIGITAL	SYSTEM OUTPUTS ANALOG	HIGH ANALOG	LOW ANALOG	HIGH DIGITAL	LOW DIGITAL	PROOF	ECC	LOCAL PANEL ALARM	AREA ALARM PANEL	-	REMARKS
OUTSIDE AIR TEMPERATURE	TT/O														
MIXED AIR TEMPERATURE	TT/M		X			X	X								
MIXED AIR LOW LIMIT	TSL-1	X									X				HARD WIRED SAFETY
COOLING COIL TEMPERATURE	TT/C		X			X	X				X				
DISCHARGE AIR TEMPERATURE	TT/D		X		X	X	X				X				
SPACE AIR TEMPERATURE	TT/Z		X			X	X				X				
STATIC PRESSURE HIGH LIMIT	PDS	X						X	X		X	X			HARD WIRED SAFETY
PREFILTER DIFFERENTIAL PRESSURE	PDS/1		X					X			X	X			
PREFILTER 2 DIFFERENTIAL PRESSURE	PDS/2		X					X			X	X			
SUPPLY FAN START/STOP (ENABLE)	SST/SF	X		X						X					MULTIPLE PLENUM FANS
SUPPLY FAN STATUS (COM)	STS/SF	X	X							X	X				MULTIPLE PLENUM FANS
SUPPLY FAN VSMC ALARM	AL/SF	X									X	X			MULTIPLE PLENUM FANS
SUPPLY FAN VSMC	SPD/SF		X		X	X	X			X	X	X			MULTIPLE PLENUM FANS
SUPPLY FAN CURRENT SENSOR	IT/SF		X	X					X	X	X	X			MULTIPLE PLENUM FANS
COOLING COIL VALVE	VLV/C		X		X	X	X			X	X				FEEDBACK
COOLING COIL SUPPLY WATER TEMPERATURE	TT/CS		X			X	X				X				
STEAM HEAT VALVE	VLV/H		X		X					X	X				FEEDBACK
SMOKE DETECTOR-SUPPLY AIR	SD/SA	X		X							X				HARD WIRED SAFETY

SYSTEM SOFTWARE/CONTROL — CONTROL SEQUENCE

SYSTEM COMPONENT	SCHEDULE START/STOP	OPTIMAL START/STOP	OCCUPANCY START/STOP	SHUTDOWN SEQUENCE	AHU INTERLOCK	OUTSIDE AIR TEMP. CONTROL	SPACE TEMPERATURE CONTROL	COIL DISCHARGE TEMPERATURE	DUCT TEMPERATURE CONTROL	MIXED AIR TEMP. CONTROL	SPACE HUMIDITY CONTROL	DUCT HUMIDITY CONTROL	SPACE PRESSURE CONTROL	DUCT PRESSURE CONTROL	ECONOMIZER-TEMPERATURE	ECONOMIZER-ENTHALPY	ALARM INSTRUCTIONS	SET POINT ADJ/RESET-TEMP.	SET POINT ADJ/RESET-HUMIDITY	SET POINT ADJ/RESET-PRESSURE	SET POINT ADJ/RESET-AIRFLOW	ZONE/AREA ISOLATION	AIRFLOW CONTROL	DEMAND LIMITING	OPEN/CLOSE	0-10 VDC	4-20 MA	-	MAINTENANCE WORK ORDER	FIRE ALARM INTERFACE	SMOKE CONTROL	-	-	FULL COMMUNICATION	TREND
OUTSIDE AIR TEMPERATURE																																			X
MIXED AIR TEMPERATURE																		X																	X
MIXED AIR LOW LIMIT					X												X												X						
COOLING COIL TEMPERATURE								X									X																		X
DISCHARGE AIR TEMPERATURE									X								X	X																	X
SPACE AIR TEMPERATURE																	X																		X
STATIC PRESSURE HIGH LIMIT					X												X												X						
PREFILTER DIFFERENTIAL PRESSURE																	X												X						
PREFILTER 2 DIFFERENTIAL PRESSURE																	X												X						
SUPPLY FAN START/STOP (ENABLE)	X	X	X	X	X												X																		
SUPPLY FAN STATUS (COM)																	X																	X	
SUPPLY FAN VSMC ALARM																	X																		
SUPPLY FAN VSMC																	X									X									X
SUPPLY FAN CURRENT SENSOR																	X																		
COOLING COIL VALVE							X	X									X	X								X									X
COOLING COIL SUPPLY WATER TEMPERATURE																	X																		X
STEAM HEAT VALVE																	X	X								X									
SMOKE DETECTOR-SUPPLY AIR					X												X													X					

1 AIR HANDLING UNIT MINIMUM POINTS LIST (AH-1-SB4-1)

NO SCALE

Revisions: | Date

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Drawing Title: MECHANICAL - CONTROL DIAGRAMS

Approved: Project Director

Project Title: REPLACE AHU KITCHEN BLDG 1

Location: SHREVEPORT, LA

Date: 03/17/2017 | Checked: JAM | Drawn: APS

Project Number: 667-16-102

Building Number: 1

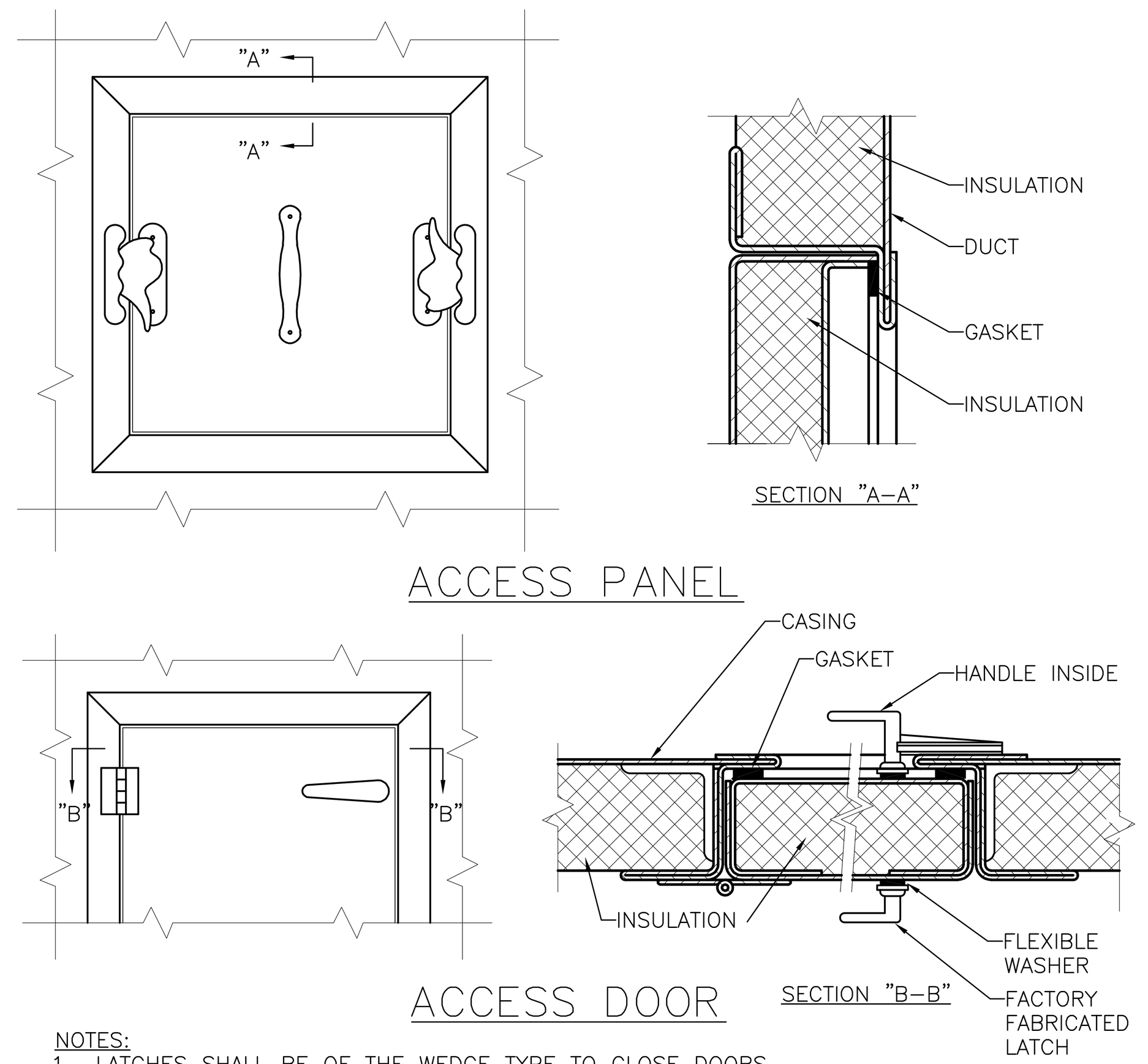
Drawing Number: MH-401

Dwg. # of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

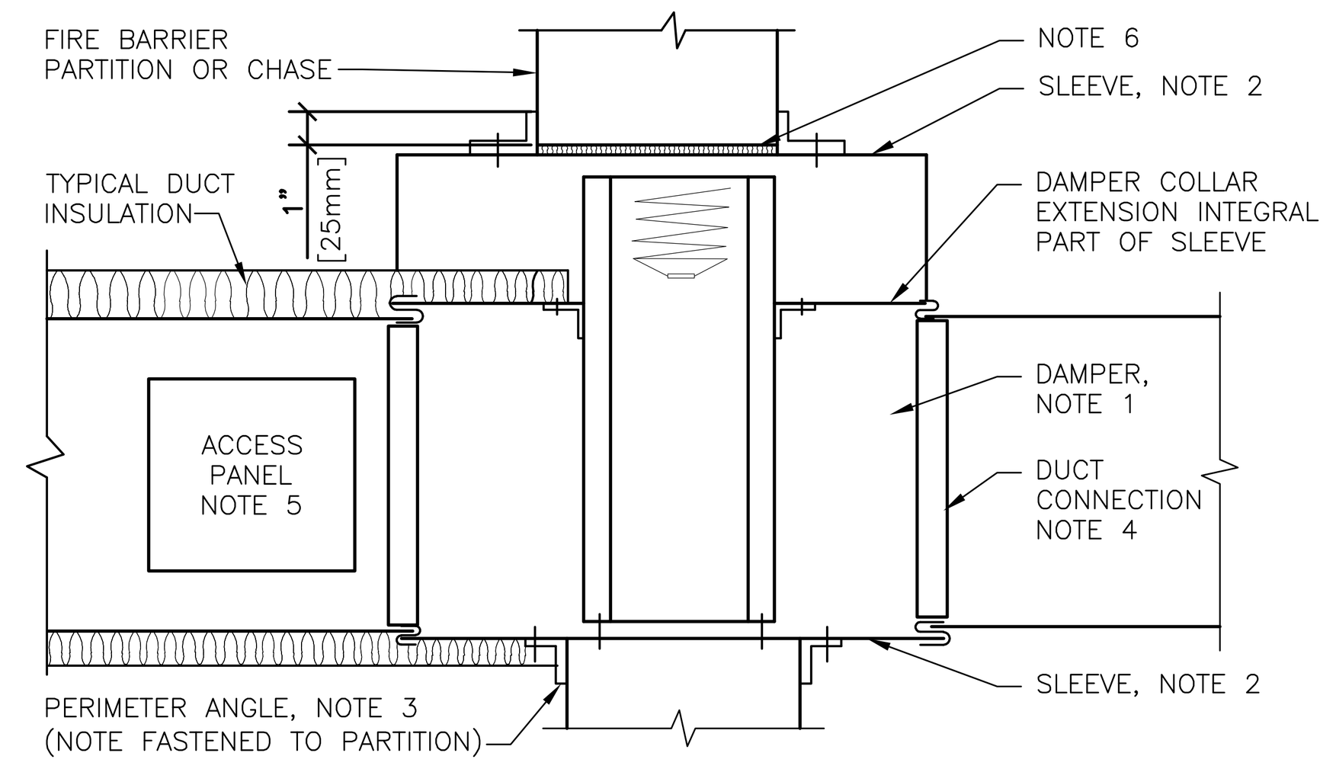


NOTES:

1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON–CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9–15

3 ACCESS PANEL AND DOOR DETAIL

NTS



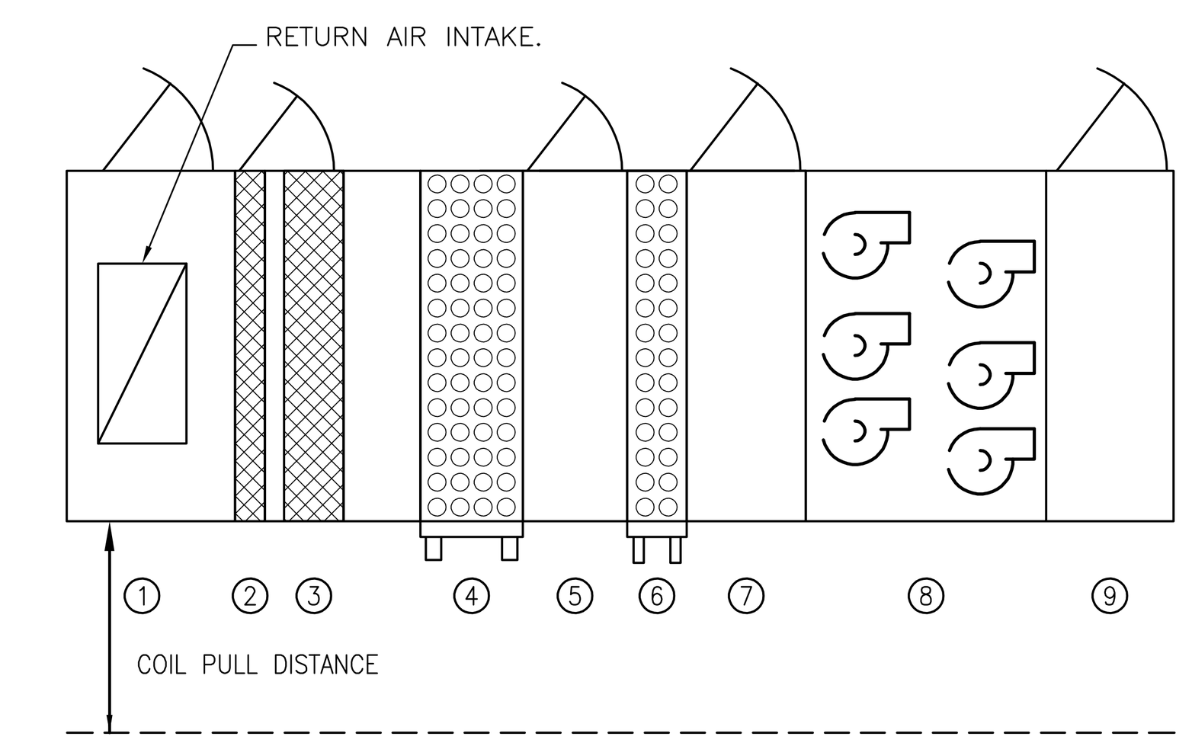
NOTE:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, 1S SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGELS: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" [40x40mm], 14 GAGE, TO PROVIDE 1" [25mm] MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
5. PROVIDE 1/4" TO 1/2" [6 TO 15mm] CLEARANCE ON HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.
6. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" [75mm] HIGH
7. CONCRETE CURB AROUND OPENING FOR DUCT.

2 SECTION THRU FIRE DAMPER INSTALLATION

NTS

AIR HANDLING UNIT	ITEM
INLET BOX	1
PRE–FILTER 1 (SIDE ACCESS)	2
PRE–FILTER 2 (SIDE ACCESS)	3
COOLING COIL	4
UVC LAMPS	5
HEATING COIL	6
INSPECTION SECTION (ACCESS OF FAN)	7
FAN	8
DISCHARGE PLENUM	9

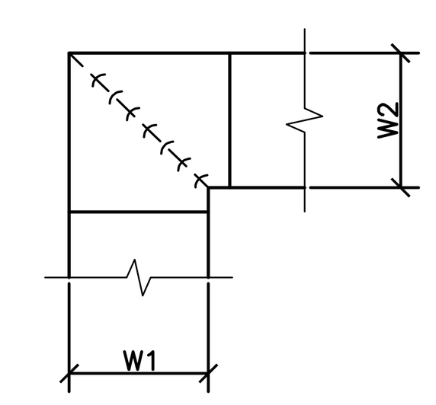


NOTE:

1. ACCESS DOORS SHALL BE GASKETED AND HINGED TO OPEN AGAINST FAN OPERATING PRESSURE TO PREVENT AIR LEAKAGE.
2. ACCESS DOORS SHALL BE MAXIMUM POSSIBLE WIDTH, MINIMUM ACCESS DOOR WIDTH SHALL BE 10" [254mm].
3. ACCESS DOOR HEIGHT SHALL BE DETERMINED BY UNIT CASING BUT NOT TO EXCEED 6'–0" [1800mm].
4. ACCESS DOORS ON FAN SUCTION SHALL OPEN OUTWARD.
5. ACCESS DOORS ON FAN DISCHARGE SIZE SHALL OPEN INWARD OR SHALL BE PROVIDED WITH RESTRAINTS TO PREVENT BLOWOUT OPEN.

1 ACCESS DOOR SWING DETAIL FOR AIR HANDLING UNITS

NTS

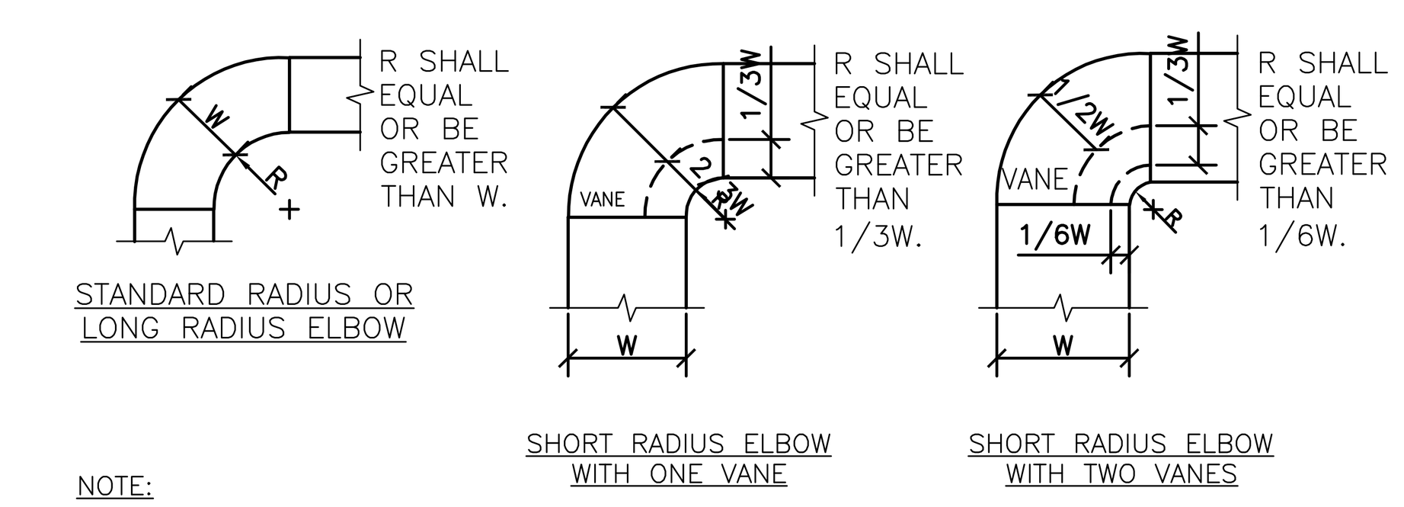


NOTE:

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

5 DUCTWORK SQUARE VANE ELBOWS

NTS



NOTE:

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

4 DUCTWORK RADIUS ELBOWS

NTS

Revisions: | Date

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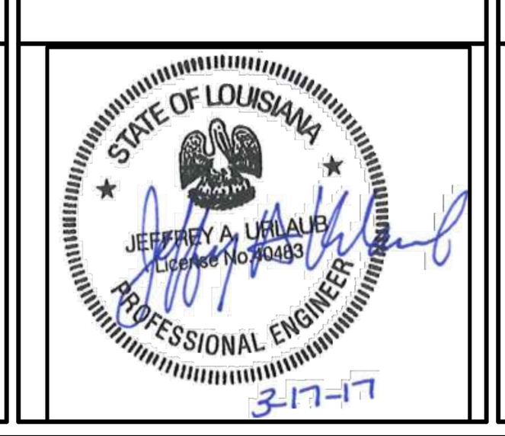

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Drawing Title: MECHANICAL - DETAILS

Approved: Project Director

Project Title: REPLACE AHU KITCHEN BLDG 1

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Project Number: 667-16-102

Building Number: 1

Drawing Number: MH-501

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Office of Construction and Facilities Management

Department of Veterans Affairs

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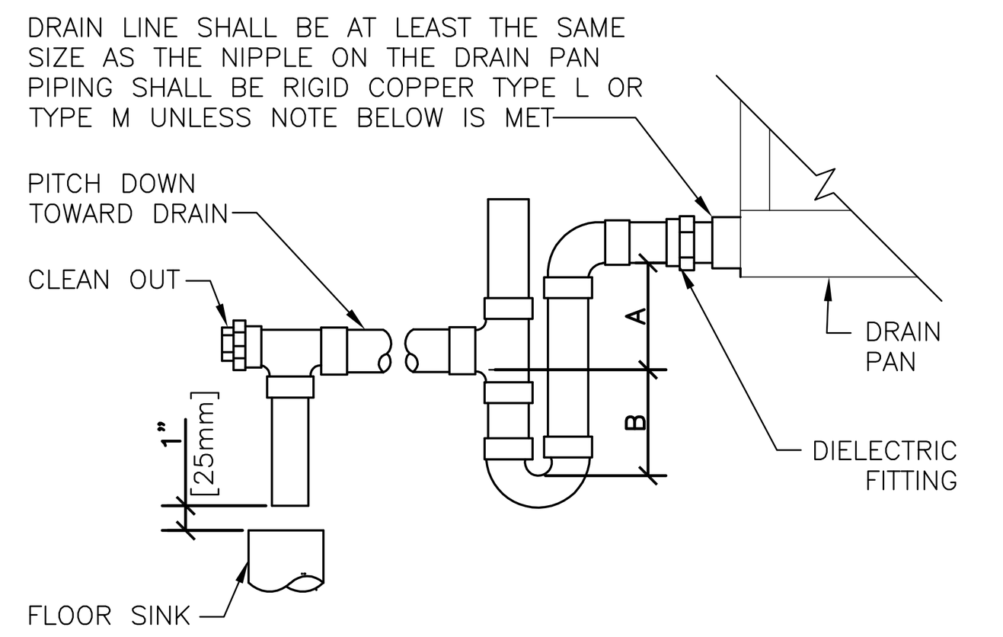
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

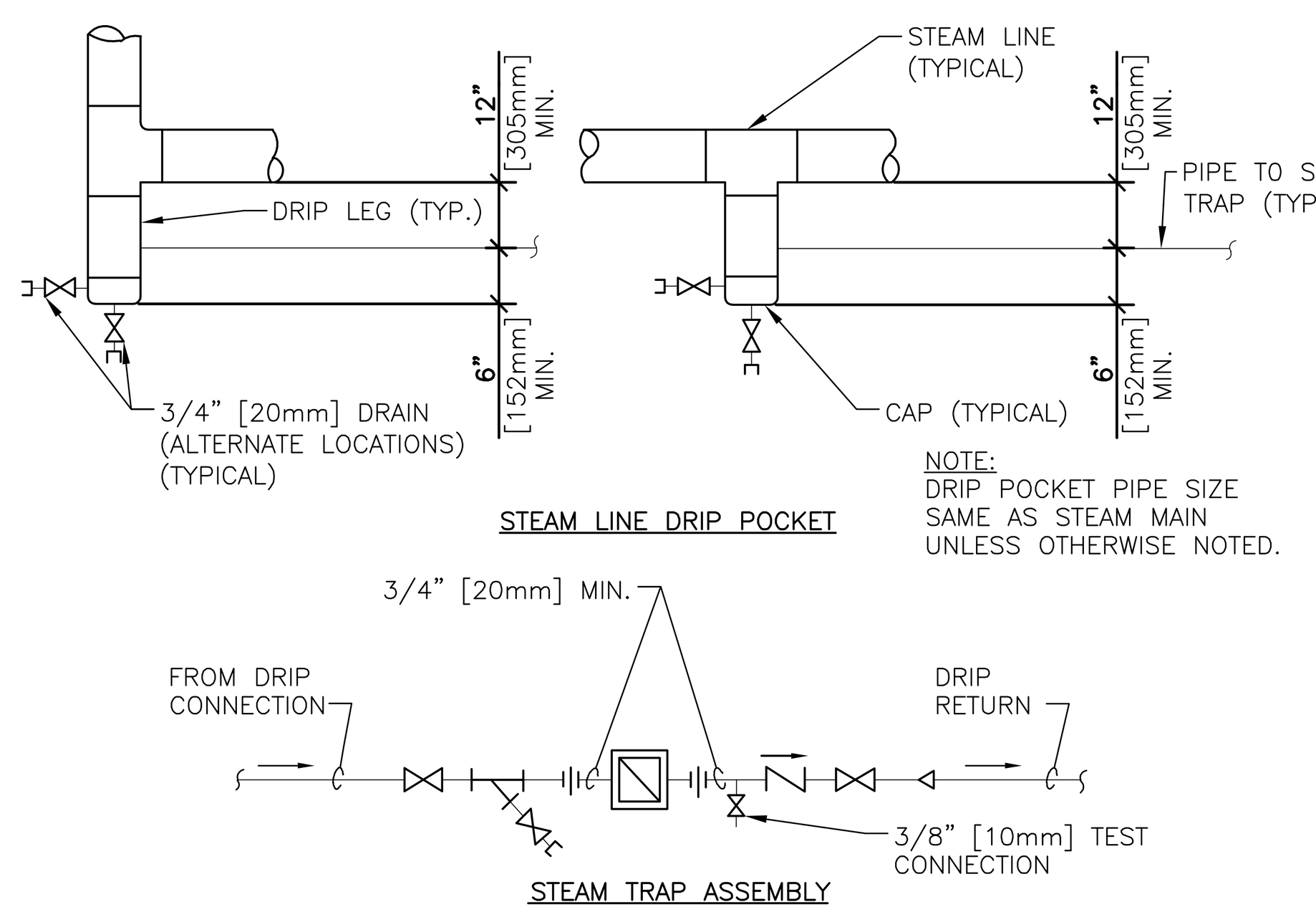


NOTE: 1. CPVC PIPE MAY BE USED ONLY IF APPROVED BY LOCAL VA AND IS INDOORS AND DOES NOT PASS THROUGH RATED BARRIERS.
2. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.
3. OBTAIN MAXIMUM STATIC PRESSURE IN PAN FROM AHU SUPPLIER ASSUMING DIRTY FILTERS.

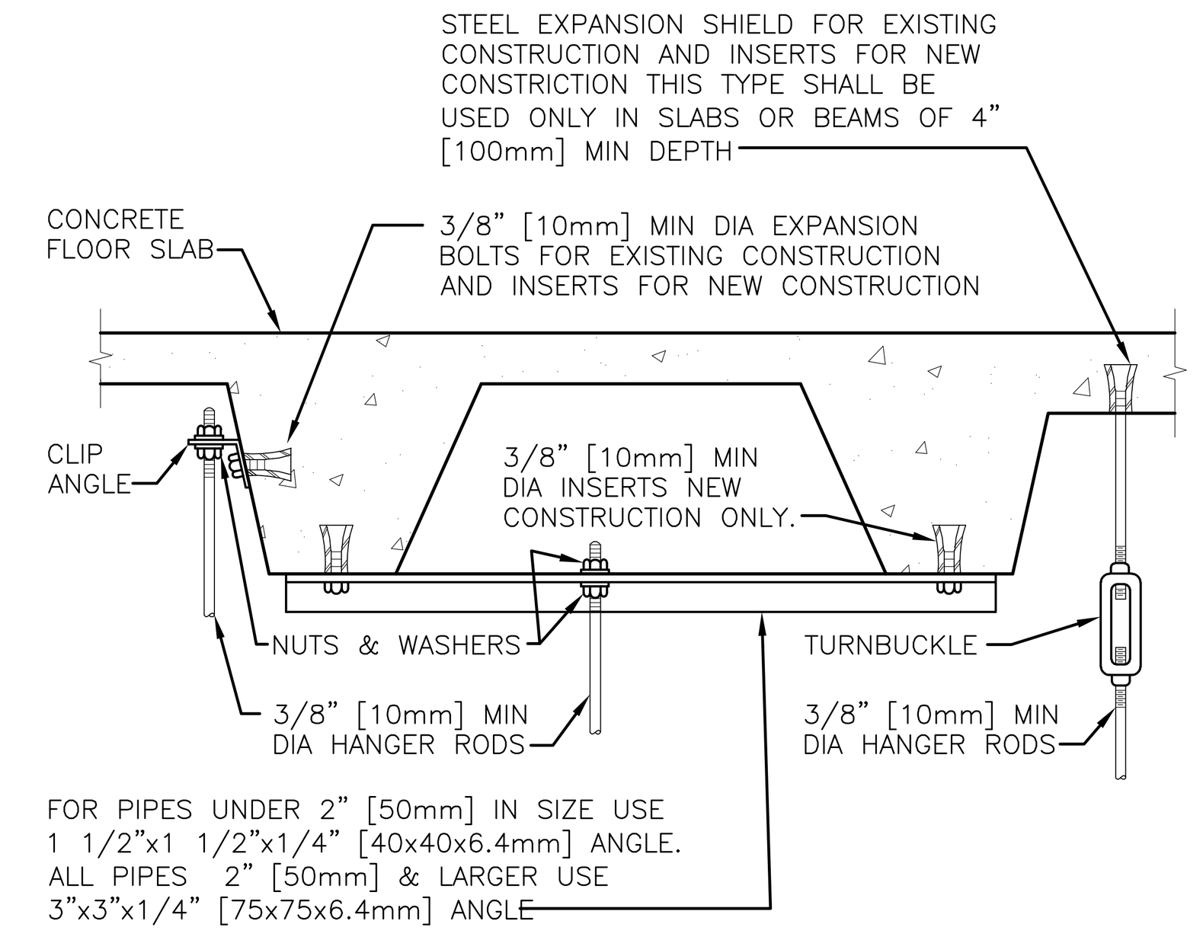
UNIT TYPE	A	B
DRAW THRU	2" [50mm] PLUS X	X
BLOW THRU	1" [25mm] MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

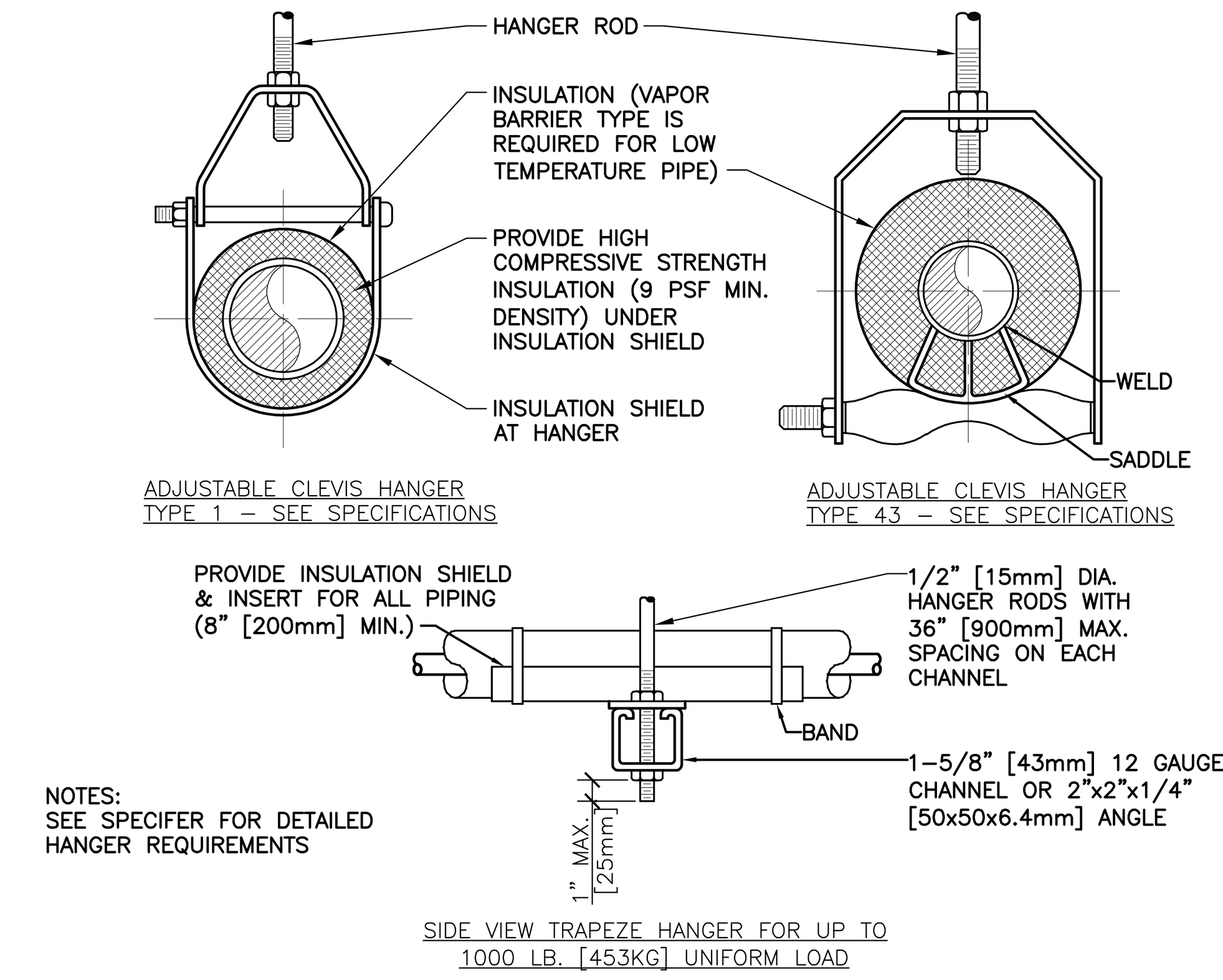
4 AIR HANDLING UNIT DRAIN TRAP DETAIL
NTS



3 STEAM LINE DRIP POCKET STEAM TRAP ASSEMBLY
NTS



2 SECURING HANGER RODS IN CONCRETE
NTS

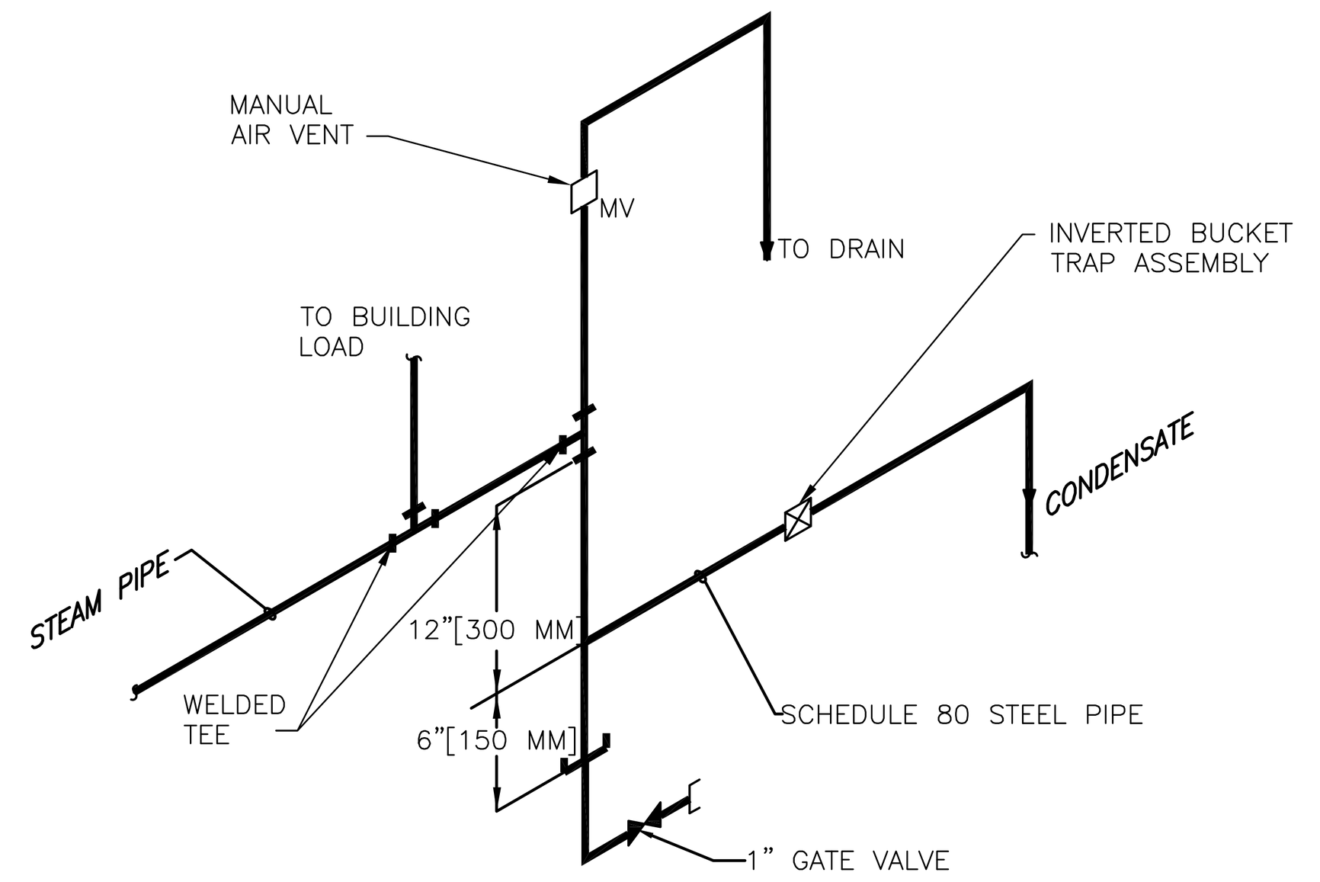


MAXIMUM PIPE/TUBING SUPPORT SPACING

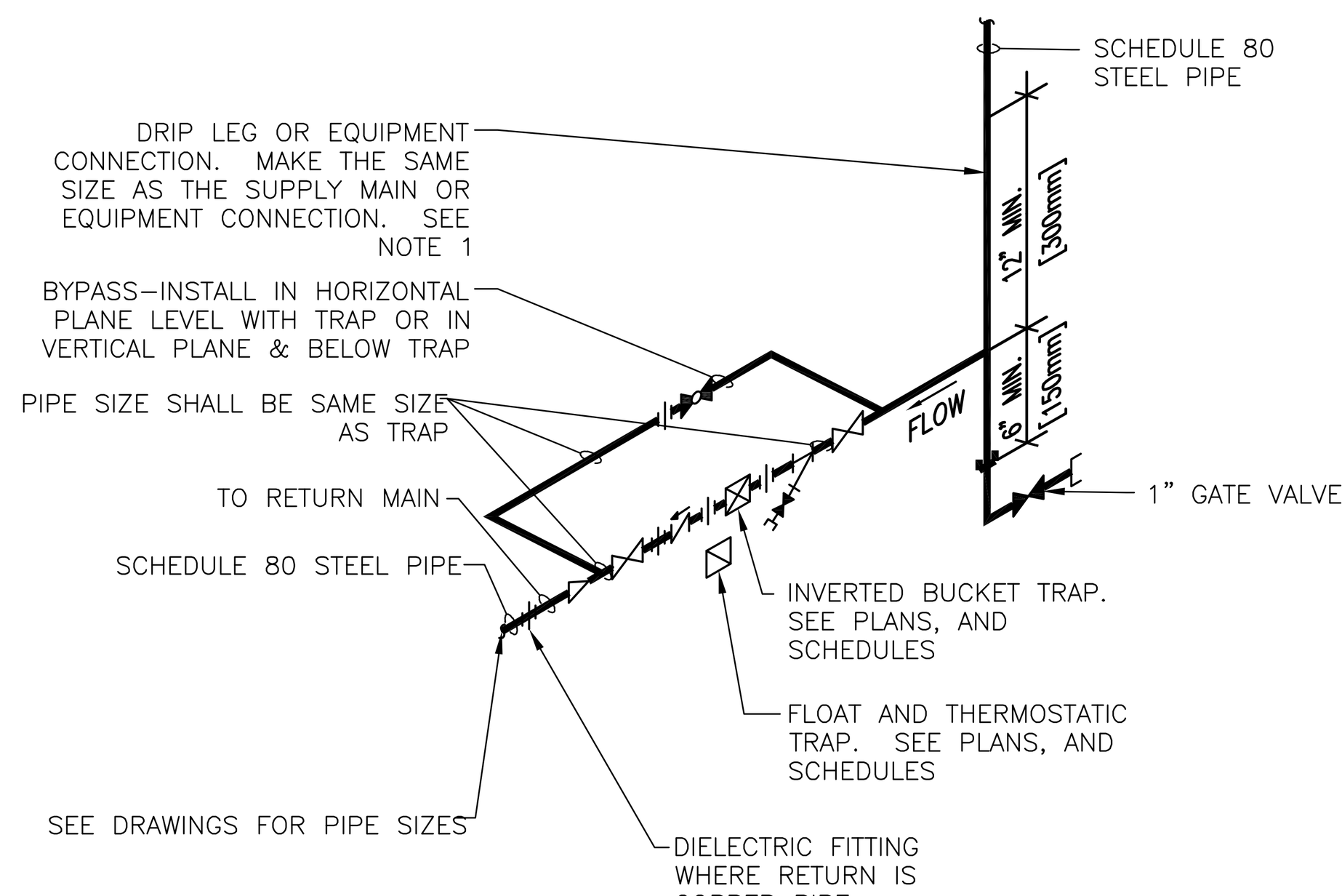
NOM. SIZE IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]	10 [250]	12 [300]	14 [350]	16 [400]	18 [450]	20 [500]	24 [600]
PIPE FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]	22 [6700]	23 [7000]	25 [7600]	27 [8200]	28 [8500]	30 [9100]	32 [9600]
TUBING FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]	–	–	–	–	–	–	–

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

1 PIPE HANGERS
NTS



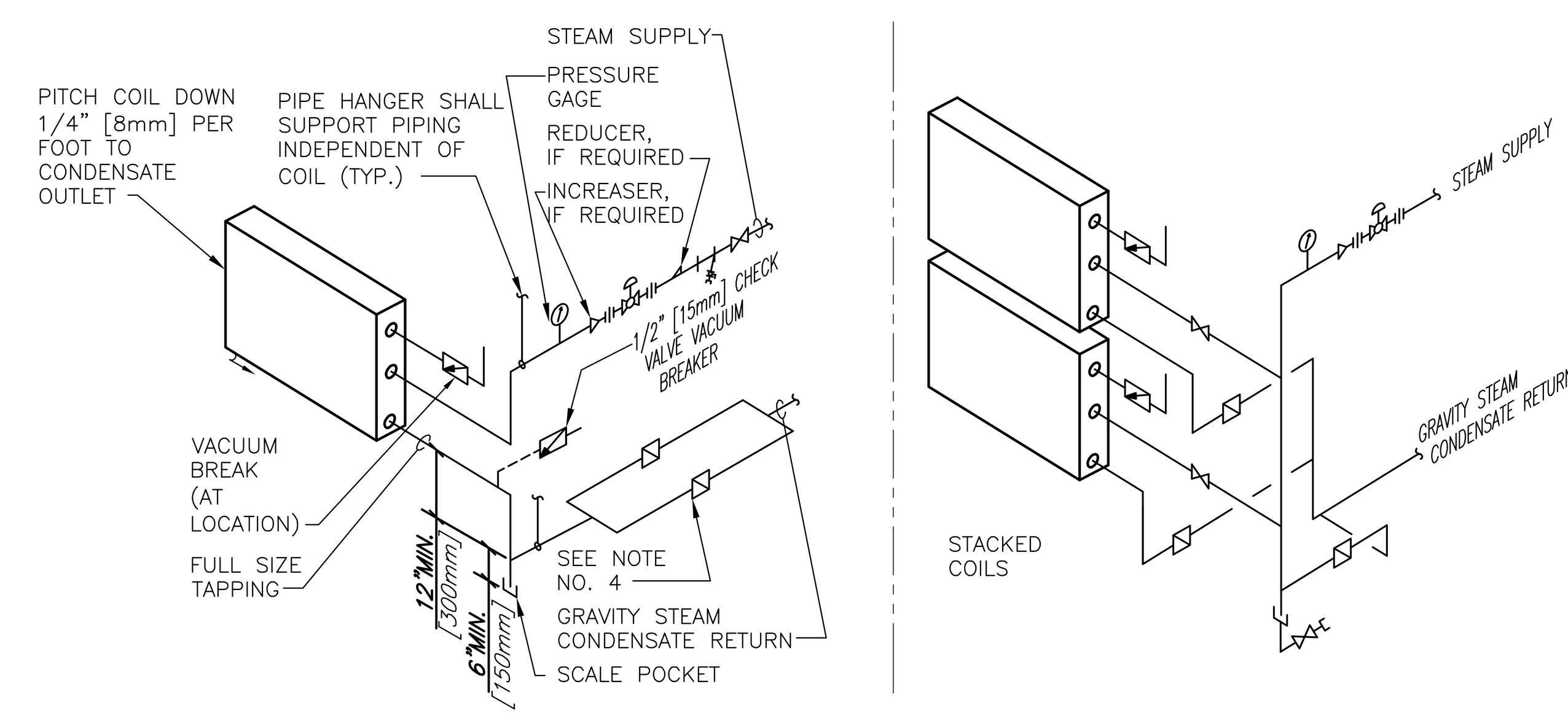
8 END OF STEAM LINE DRIP TRAP
NTS



NOTE:

1. ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 12" MINIMUM HIGH DRIP LEG FROM BOTTOM OF STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 6" SCALE POCKET BELOW TRAP INLET.
2. PROVIDE BYPASS PIPING.

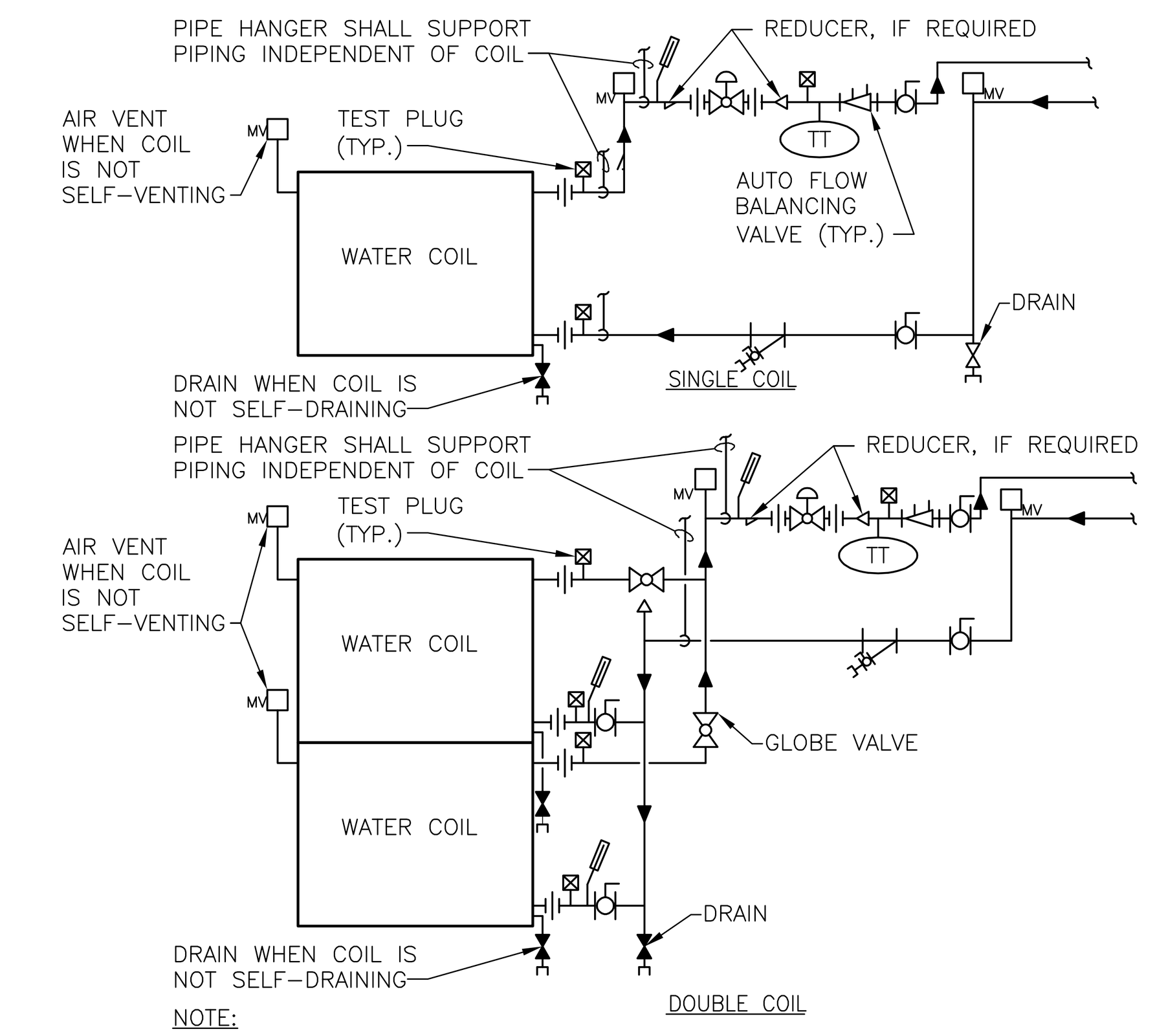
7 INVERTED BUCKET/ FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY
NTS



NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATOR UNITS, THE RUNOUT PIPING FOR CONNECTIONS TO COIL SHALL BE INSTALLED WITH SWING JOINTS TO ALLOW FOR THE VIBRATION.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
3. TRAP EACH COIL SEPARATELY WHEN INSTALLED IN A BANK OF TWO OR MORE HIGH. ALSO PROVIDE SEPARATE VACUUM BREAKER FOR EACH COIL.
4. TWO TRAP ASSEMBLIES IN PARALLEL ARE SHOWN. TWO TRAPS REQUIRED WHEN CONDENSATE LOAD IS 5,000 LBS/HR [2400 KG/HR] OR GREATER.
5. SUPPLY & RETURN PIPES ARE SHOWN FROM SAME END. REHEAT COIL MAY HAVE SUPPLY & RETURN PIPES FROM OPPOSITE ENDS.
6. REFER TO TRAP PIPING DETAILS FOR DETAILS.

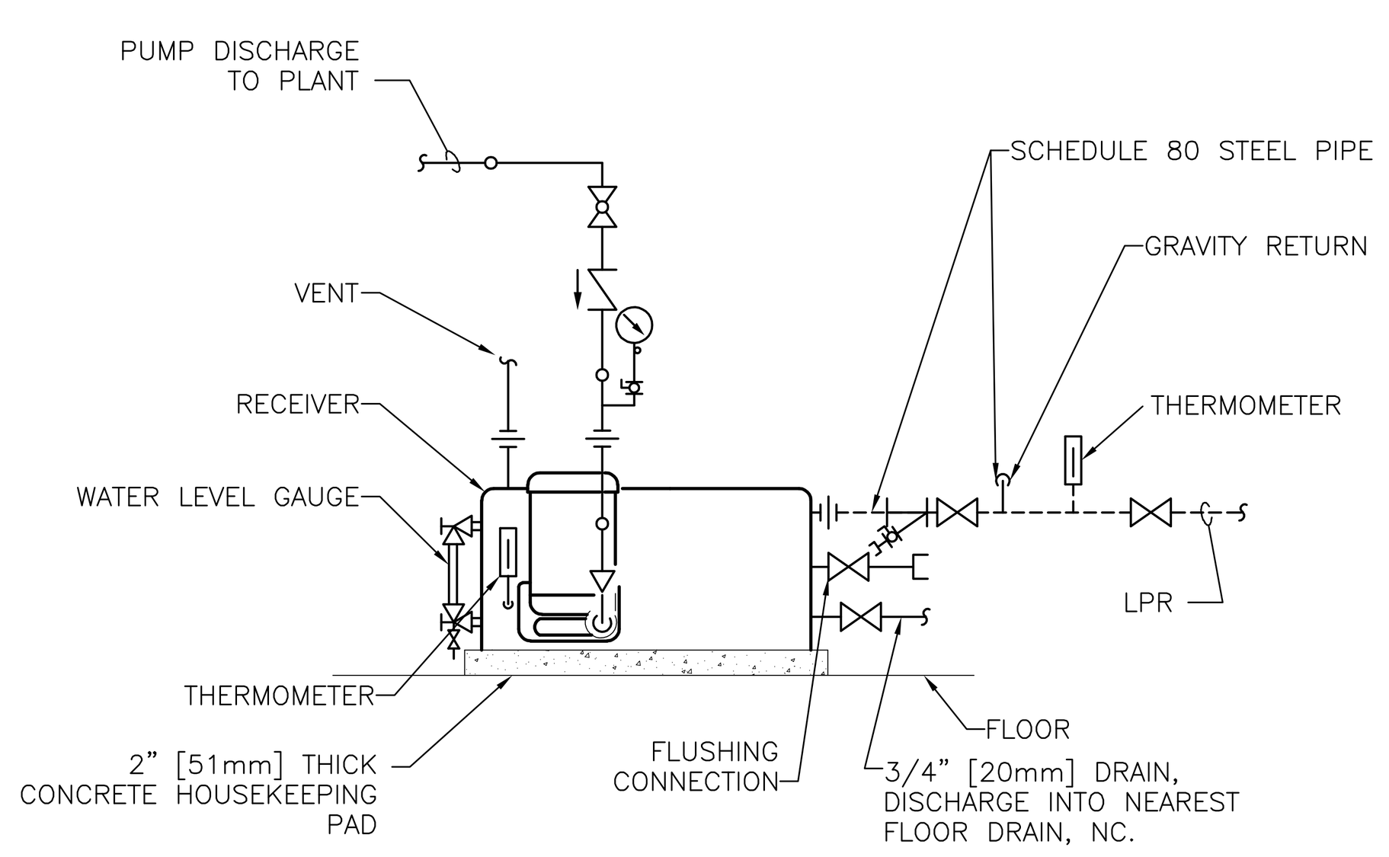
6 STEAM COIL - PIPING CONNECTIONS
NTS



NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]ø PIPE & SMALLER. TYPE "H-P" FOR 5" [125mm]ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.
3. THE FLOW ELEMENT MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

5 WATER COILS - PIPING CONNECTIONS
NTS



9 CONDENSATE PUMPS - PIPING CONNECTIONS
NTS

Revisions:	Date

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Location: SHREVEPORT, LA
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Drawn: APS
Project Number: 667-16-102
Building Number: 1
Drawing Number: MH-502
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Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

HVAC DESIGN DATA

DESIGN CONDITIONS	SUMMER TEMP °F	SUMMER TEMP [°C]	SUMMER WET BULB TEMP °F	SUMMER WET BULB TEMP [°C]	SUMMER % HUMIDITY	WINTER TEMP °F	WINTER TEMP [°C]	WINTER DEWPOINT TEMP °F	WINTER DEWPOINT TEMP [°C]	WINTER % HUMIDITY	LOWEST AVERAGE ANNUAL DEWPOINT °F	LOWEST AVERAGE ANNUAL DEWPOINT [°C]
OUTDOOR DESIGN CONDITIONS	97.8	[37]	76.3	[25]	37.8	23.8	[-5]	-		NA	-	
INDOOR AREA DESIGN CONDITIONS												
KITCHEN	78	[26]	67.9	[20]	60	70	[21]	-		-		

ROOM AIR BALANCE SCHEDULE

ROOM NO	ROOM NAME	AIR HANDLING UNIT NO	TERMINAL UNIT	INDIVIDUAL ROOM TEMP CONTROL	SUPPLY ROOM AIR FLOW CFM	SUPPLY ROOM AIR FLOW L/S	SUPPLY # OF AIR DEVICES	SUPPLY AIR DEVICE MARK	SUPPLY FAN	RETURN OR EXHAUST (R/E)	RETURN OR EXHAUST ROOM AIR FLOW CFM	RETURN OR EXHAUST ROOM AIR FLOW L/S	RETURN OR EXHAUST # OF AIR DEVICES	RETURN OR EXHAUST AIR DEVICE MARK	RETURN OR EXHAUST FAN	ROOM AIR FLOW CV	ROOM AIR FLOW VAV	ROOM AIR BALANCE	NET INFILTRATION CFM	NET INFILTRATION [L/s]	NET EXFILTRATION CFM	NET EXFILTRATION [L/s]	REMARKS
B-N-10	MAIN KITCHEN	1-AHU8	-	Y	27640	[13000]	3, 7	EXISTING	AH-1-SF-1,2,3,4,5,6	BOTH	30800	[15000]	5	EG-E	BOTH	X		(-)	3160	[1500]	0	[ ]	1

NOTE

1. TOTAL OF ALL SUPPLY, INCLUDING TWO MAKEUP AIR HANDLERS AND FOUR EXHAUST FANS.

STEAM CONDENSATE PUMP SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE UNIT	FLOW EACH PUMP GPM	FLOW EACH PUMP [L/s]	DISCHARGE PRESSURE PSIG	DISCHARGE PRESSURE [kPa]	MIN RECEIVER SIZE GAL	MIN RECEIVER SIZE [L]	MOTOR NOMINAL POWER EACH HP	MOTOR NOMINAL POWER EACH [W]	MOTOR PHASE	MOTOR VOLT	MOTOR RPM	REMARKS
CP-1-SB4-1	SB-4 SUB-BASEMENT	AH-1-SB4-1	SIMPLEX	6	[.4]	22	[150]	9	[34]	0.33	[250]	1	115	3500	1, 2, 3, 4

REMARKS:

1. REMOVE AND DISPOSE OF EXISTING; SIMPLEX, 120 VOLT, HOFFMAN WATCHMAN SERIES (WC) MODEL NUMBER WC-6-20-B, 8 GPM 22 PSI.
2. PROVIDE NEW STEAM CONDENSATE PUMP WITH INTEGRAL RECEIVER INCLUDING FLOAT SWITCHES AND CONTROLS.
3. CONTRACTOR TO VERIFY AVAILABLE ELECTRICAL POWER FOR CONDENSATE RECEIVER PUMP PRIOR TO PREPARING SUBMITTAL AND INCORPORATE FINDINGS IN SUBMITTAL SHOULD FINDINGS DIFFER FROM DOCUMENT INFORMATION.
4. CONTRACTOR TO CONFIRM STEAM CONDENSATE PUMP PROPERLY SIZED FOR AHU STEAM HEAT COIL IN AHU PRIOR TO PROVIDING SUBMITTAL.

AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	AIR FLOW	SUPPLY CFM	SUPPLY [L/s]	MIN OA CFM	MIN OA [L/s]	RETURN CFM	RETURN [L/s]	SUPPLY FAN MARK	RETURN OR RELIEF FAN MARK	EXHAUST FAN MARK	PREFILTER MARK	PREFILTER 2 MARK	AFTER FILTER MARK	FINAL FILTER MARK	HEAT RECOVERY MARK	HEAT COIL MARK	COOLING COIL MARK	REHEAT COIL	HUMIDIFIER MARK	REMARKS
AH-1-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	CUSTOM	VARIABLE	15000	[7100]	2250	[1100]	12750	[6000]	SF-1-AH-1 THRU SF-6-AH-1	-	-	PF1-SB-1	PF-2-SB-1	-	-	N/A	-	CWC-1-SB-1, CWC-2-SB-1	SHC-1-SB-1, SHC-2-SB-1	-	1-12

NOTE:

FAN ENERGY PER ASHRAE 90.1-2013

REFER TO AHU SOUND POWER SCHEDULE FOR SOUND DATA.

REMARKS:

1. PROVIDE NEW AIR HANDLING UNIT.
2. PROVIDE PLENUM FANS WITH ECM MOTOR UTILIZING 0-10 VDC SPEED CONTROL INPUT FROM DDC.
3. ASHRAE 62.1 STAINLESS STEEL DRAIN PANS.
4. INNER LINER CAPABLE OF WASHDOWN.
5. UVC LIGHTS BETWEEN COOLING AND HEATING COIL, WIRED TO JUNCTION BOX, INCLUDING DOOR INTERLOCK TO TURN LIGHT OFF WHEN DOOR OPEN AND WINDOW IN DOOR WITH UVC INHIBITING COATING.
6. MARINE LIGHTS AND SWITCHES FAN AND FAN SECTIONS, WIRED TO JUNCTION BOX
7. FILTER PRESSURE LOSS GAUGES, ONE FOR EACH SET OF FILTERS, WITH ADJUSTABLE SETPOINT SWITCH FOR DDC INPUT / PREVENTATIVE MAINTENANCE.NOTIFICATION
8. CONTRACTOR TO VERIFY SPACE FOR INSTALLATION AND REQUIRED HEIGHT FOR COOLING COIL AND STEAM COIL CONDENSATE DRAINING IS AVAILABLE AND INCORPORATE FINDINGS IN SUBMITTAL SHOULD FINDINGS DIFFER FROM DOCUMENT INFORMATION.
9. CONTRACTOR TO VERIFY AVAILABLE ELECTRICAL POWER FOR AHU PRIOR TO PREPARING SUBMITTAL AND INCORPORATE FINDINGS IN SUBMITTAL SHOULD FINDINGS DIFFER FROM DOCUMENT INFORMATION.
10. PROVIDE MANUFACTURER FURNISHED, MOUNTED AND WIRED FUSED DISCONNECT / MOTOR STARTER. COORDINATE WITH CONTROLS FOR DDC INTERFACE AND HARDWIRED SAFETIES (LOW TEMPERAURE, HIGH DUCT PRESSURE, SMOKE DETECTOR).
11. PROVIDE FAN 0-10 VOLT CONTROL WIRING TO JUNCTION BOX FOR DDC INTERFACE. CLEARLY LABLE WIRING WITH USE AND IDENTIFICATION AS TO CONNECTED FAN.
12. PROVIDE FAN BLANK OFF PANELS.

CHILLED WATER COOLING COIL SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW CFM	AIR FLOW [L/s]	MAX FACE VELOCITY FPM	MAX FACE VELOCITY [M/s]	APD IN WG	APD [Pa]	EAT Db °F	EAT Db [°C]	EAT Wb °F	EAT Wb [°C]	LAT Db °F	LAT Db [°C]	LAT Wb °F	LAT Wb [°C]	TOTAL CAPACITY MBH	TOTAL CAPACITY [kW]	SENSIBLE CAPACITY MBH	SENSIBLE CAPACITY [kW]	CHILLED WATER FLOW GPM	CHILLED WATER FLOW [L/s]	EWT °F	EWT [°C]	LWT °F	LWT [°C]	WPD FT	WPD [M]	REMARKS
CWC-1-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	7500	[3500]	500	[3]	0.7	[180]	78.3	[26]	64.8	[18]	54.5	[13]	53.9	[12]	246	[72]	195	[57]	82.7	[5]	44	[7]	56	[13]	7.57	[2]	1, 2, 3
CWC-2-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	7500	[3500]	500	[3]	0.7	[180]	78.3	[26]	64.8	[18]	54.5	[13]	53.9	[12]	246	[72]	195	[57]	82.7	[5]	44	[7]	56	[13]	7.57	[2]	1, 2, 3

NOTE:

THE COOLING COIL FIN SPACING SHALL NOT EXCEED 132 FINS PER FOOT [400 FINS PER METER].

BASED ON WATER, NO GLYCOL.

REMARKS:

1. PROVIDE NEW COOLING COIL.
2. COOLING COIL PERFORMANCE BASED ON 15% OUTSIDE AIR.
3. TWO FACE SPLIT STACKED COILS, A SINGLE COIL IS ACCEPTABLE.

STEAM HEATING COIL SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	APPLICATION	AIR FLOW CFM	AIR FLOW [L/s]	MAX FACE VELOCITY FPM	MAX FACE VELOCITY [M/s]	APD IN WG	APD [Pa]	TEMPERATURES EAT °F	EAT [°C]	LAT °F	LAT [°C]	TOTAL MIN CAPACITY MBH	TOTAL MIN CAPACITY [kW]	STEAM ENT CONT VALVE PSIG	ENT CONT VALVE [kPa]	ENT COIL PSIG	ENT COIL [kPa]	FLOW LBS/HR	FLOW [kg/HR]	STEAM TRAP MARK	STEAM TRAP LBS/HR	STEAM TRAP [kg/HR]	REMARKS
SHC-1-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN'	AH-1-SB4-1	HEAT	7500	[3500]	480	[2.54]	0.11	[28]	59	[15]	87	[31]	230	[780]	20	[140]	5	[35]	240	[110]	-	600	[270]	1, 2
SHC-2-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN'	AH-1-SB4-1	HEAT	7500	[3500]	480	[2.54]	0.11	[28]	59	[15]	87	[31]	230	[780]	20	[140]	5	[35]	240	[110]	-	600	[270]	1, 2

REMARKS:

1. PROVIDE NEW STEAM HEAT COIL.
2. TWO FACE SPLIT STACKED COILS, A SINGLE COIL IS ACCEPTABLE.

FAN SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW CFM	AIR FLOW [L/s]	TSP IN	TSP [Pa]	FAN TYPE	WHEEL	CLASS	ARRANGEMENT, ROTATION, AND DISCHARGE	DIAMETER IN	DIAMETER [mm]	MIN % EFF	DRIVE	FAN MAX RPM	MOTOR ELECTRICAL NOMINAL POWER BHP	HP	[kW]	PHASE	VOLT	RPM	SPEED CONTROL	CONTROL SEQUENCE	REMARKS
SF-1-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2
SF-2-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2
SF-3-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2
SF-4-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2
SF-5-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2
SF-6-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	2500	[1200]	2.9	[730]	PLENUM	AIRFOIL	-	AXIAL DISCHARGE	13.98	[350]	67.4%	DIRECT	3230	1.57	1.7	[1]	3	208	2600	0-10 VDC	CAV	1,2

1..98

REMARKS:

1. PROVIDE NEW PLENUM FANS WITH ECM MOTORS WITH SINGLE 0-10 VDC INPUT FROM DDC.
2. CONTRACTOR TO VERIFY AVAILABLE ELECTRICAL POWER FOR AHU PRIOR TO PREPARING SUBMITTAL AND INCORPORATE FINDINGS IN SUBMITTAL SHOULD FINDINGS DIFFER FROM DOCUMENT INFORMATION.

NOTE

ALL SELECTIONS ARE BASED ON AN ALTITUDE OF 260 FT.

ADJUST TSP BASED ON SUBMITTED AHU.

ADJUST TSP TO ACCOUNT FOR ESP DETERMINED TO BE USED BASED ON PRE CONSTRUCTION AIR SYSTEM TESTING PER PLANS AND REVIEW AND DISCUSSION WITH COR. 1.2" WC IS ESP USED IN SCHEDULED TSP.

AIR FILTER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	MERV RATING	AIR FLOW CFM	AIR FLOW [L/s]	APD INITIAL IN	APD INITIAL [mm]	APD CHANGEOVER IN	APD CHANGEOVER [mm]	HOUSING TYPE	CARTRIDGES #	CARTRIDGES SIZE IN	CARTRIDGES SIZE [mm]	ARRANGEMENT	REMARKS
PF-1-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	7	15000	[7100]	.17	[4]	1	[25]	SIDE ACCESS	12	20X24X2	508X610X51		1, 2
PF-2-SB4-1	SB-4 SUB-BASEMENT	B-N-10 MAIN KITCHEN	AH-1-SB4-1	11	15000	[7100]	.35	[9]	1.5	[38]	SIDE ACCESS	12	20X24X4	508X610X102		1, 2

REMARKS:

1. PROVIDE NEW PREFILTERS, 2 BANKS OF PRE FILTERS. MINIMUM MERV SCHEDULED.
2. ADJUST COUNT AND DIMENSIONS TO BE PROPERLY SIZED FOR SUBMITTED AIR HANDLING UNIT.

AHU SOUND POWER SCHEDULE

SYSTEM AND/OR SERVICE	LOCATION	TYPE	63	125	250	500	1000	2000	4000	8000	LWA	REMARKS
			1	2	3	4	5	6	7	8	-	
AH-1-SB4-1	SB-4 SUB-BASEMENT	RADIATED	64	64	71	55	49	46	46	51	-	----
AH-1-SB4-1	SB-4 SUB-BASEMENT	DISCHARGE	65	71	89	73	70	71	72	63	-	----
AH-1-SB4-1	SB-4 SUB-BASEMENT	RETURN	64	64	72	61	55	56	47	51	-	----

(UNIT SOUND POWER (DB))

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

Revisions: | Date

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Drawing Title: MECHANICAL - SCHEDULES

Approved: Project Director

Project Title: REPLACE AHU KITCHEN BLDG 1

Location: SHREVEPORT, LA

Date: 03/17/2017 | Checked: JAU | Drawn: JRM

Project Number: 667-16-102

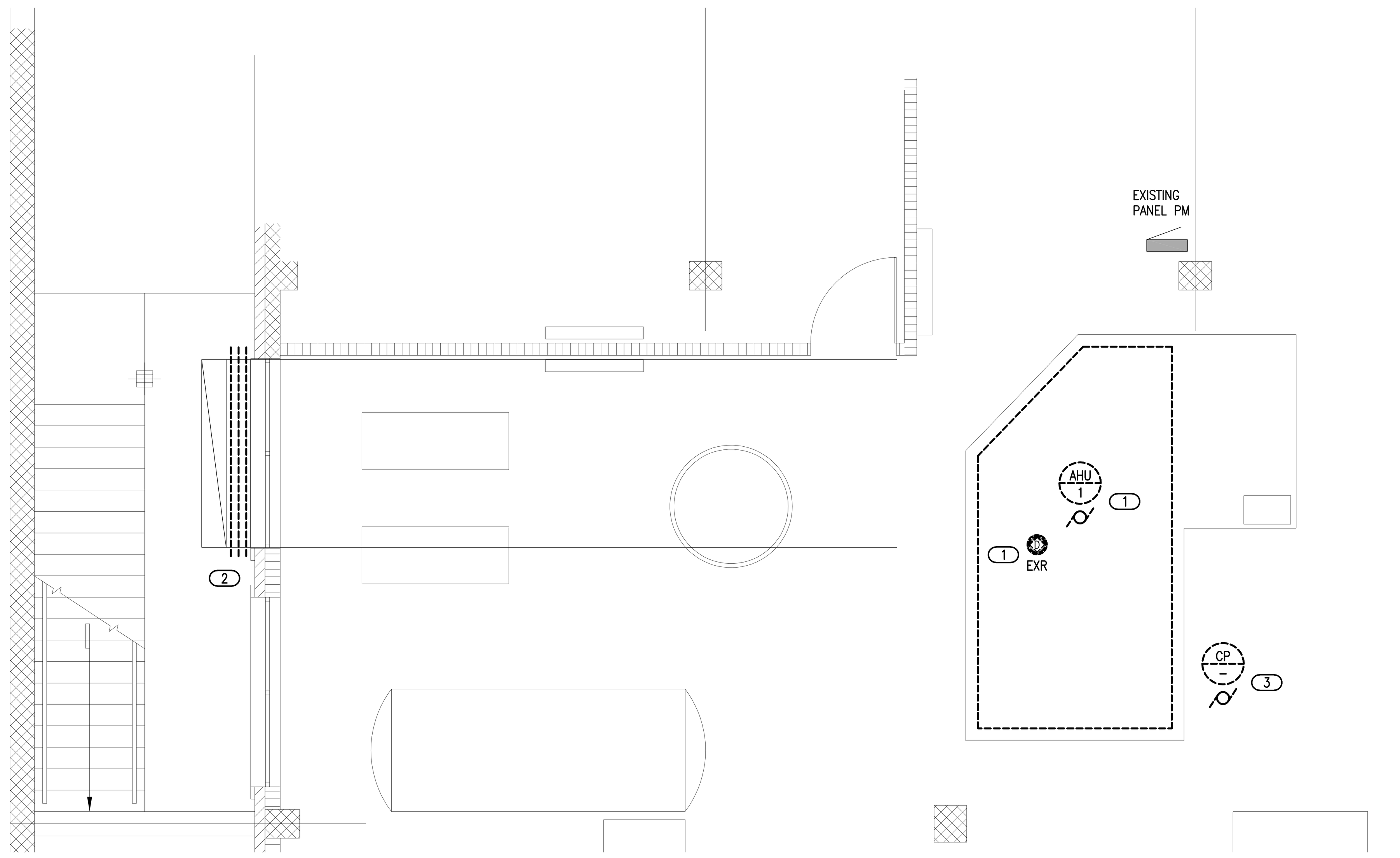
Building Number: 1

Drawing Number: MH-601
Dwg. 22 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

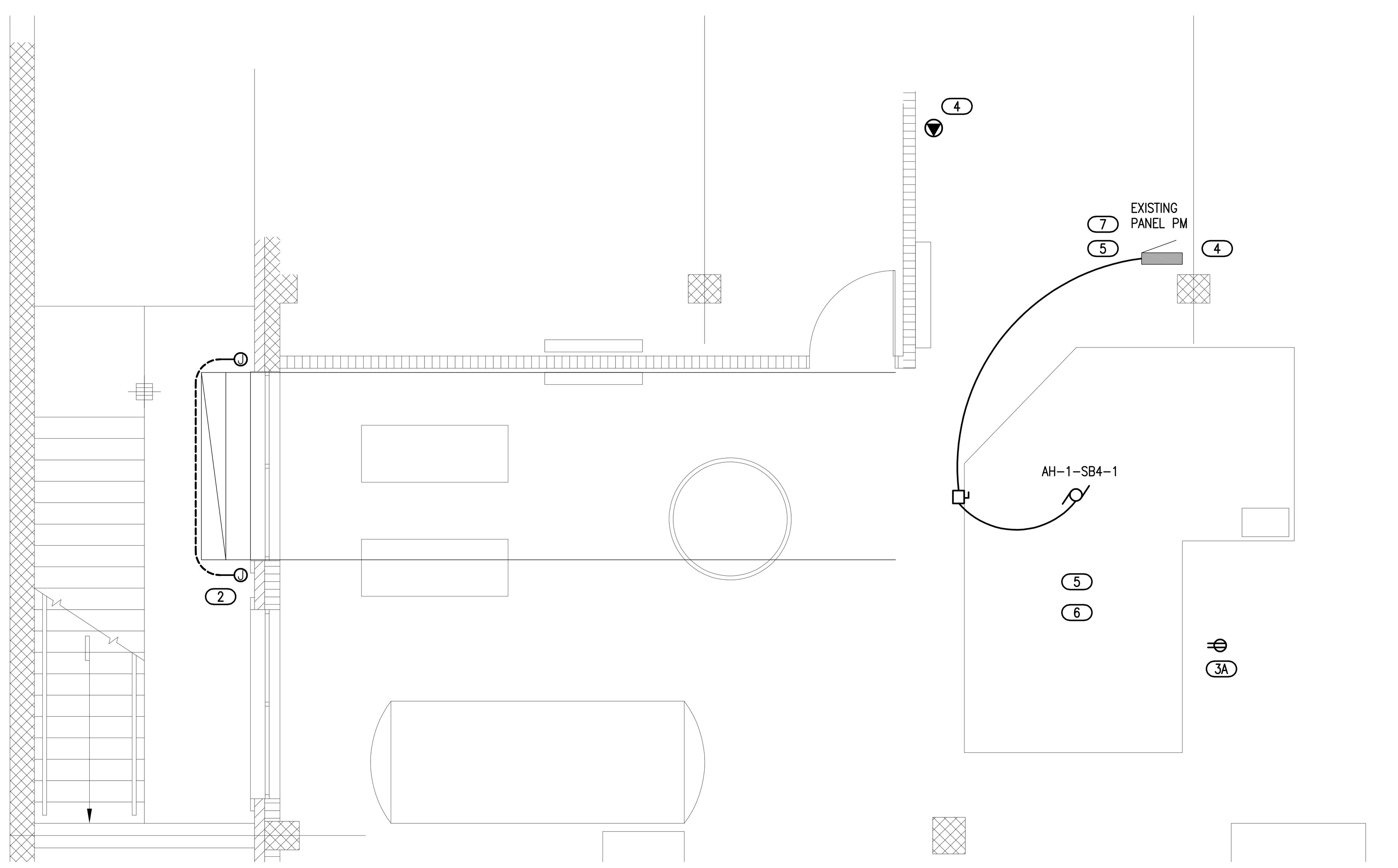
VA FORM 08-6231



ELECTRICAL - SUB BASEMENT - DEMOLITION PLAN

1/4" = 1'-0"

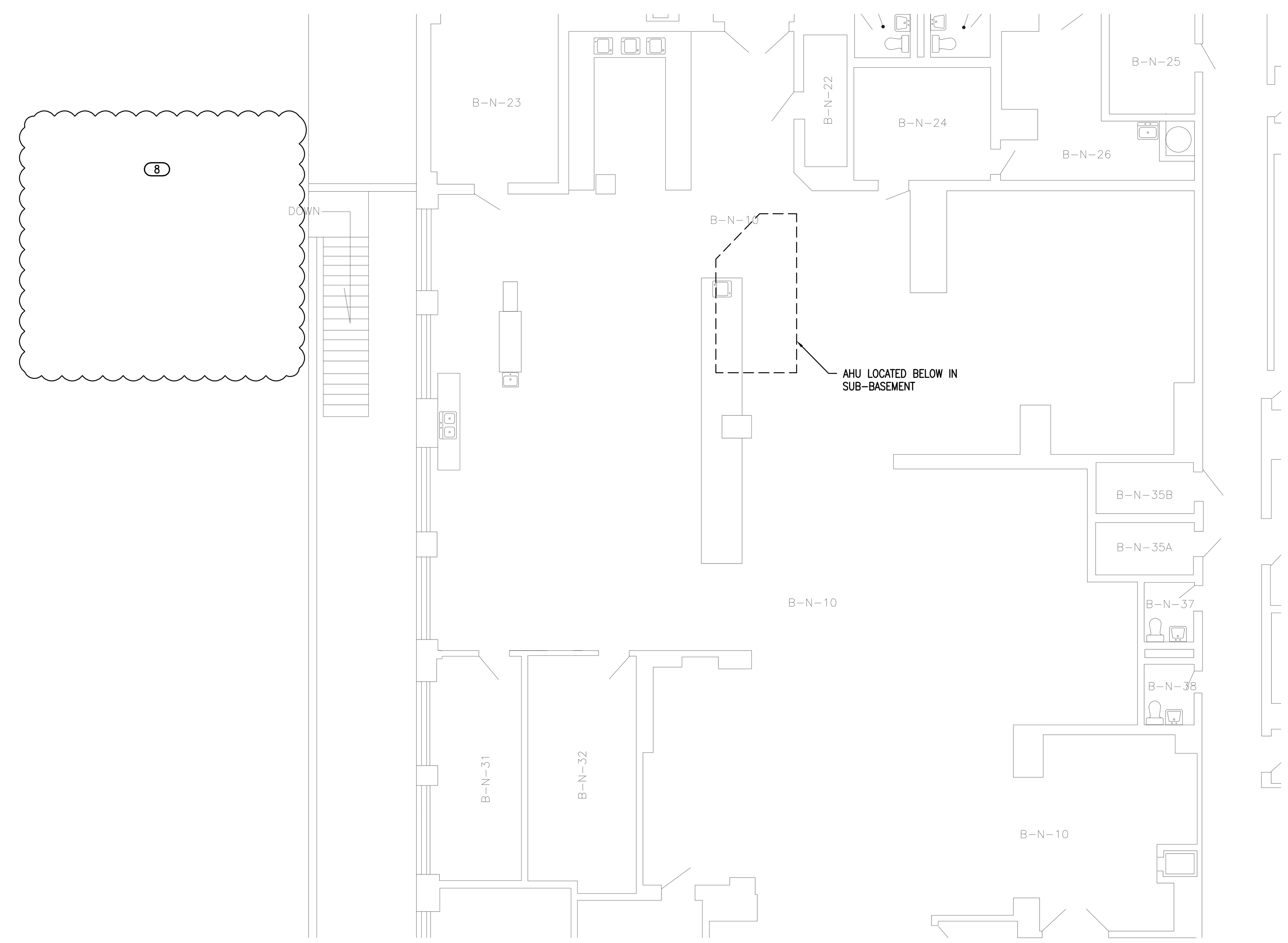
NORTH



ELECTRICAL - SUB BASEMENT - POWER PLAN

1/4" = 1'-0"

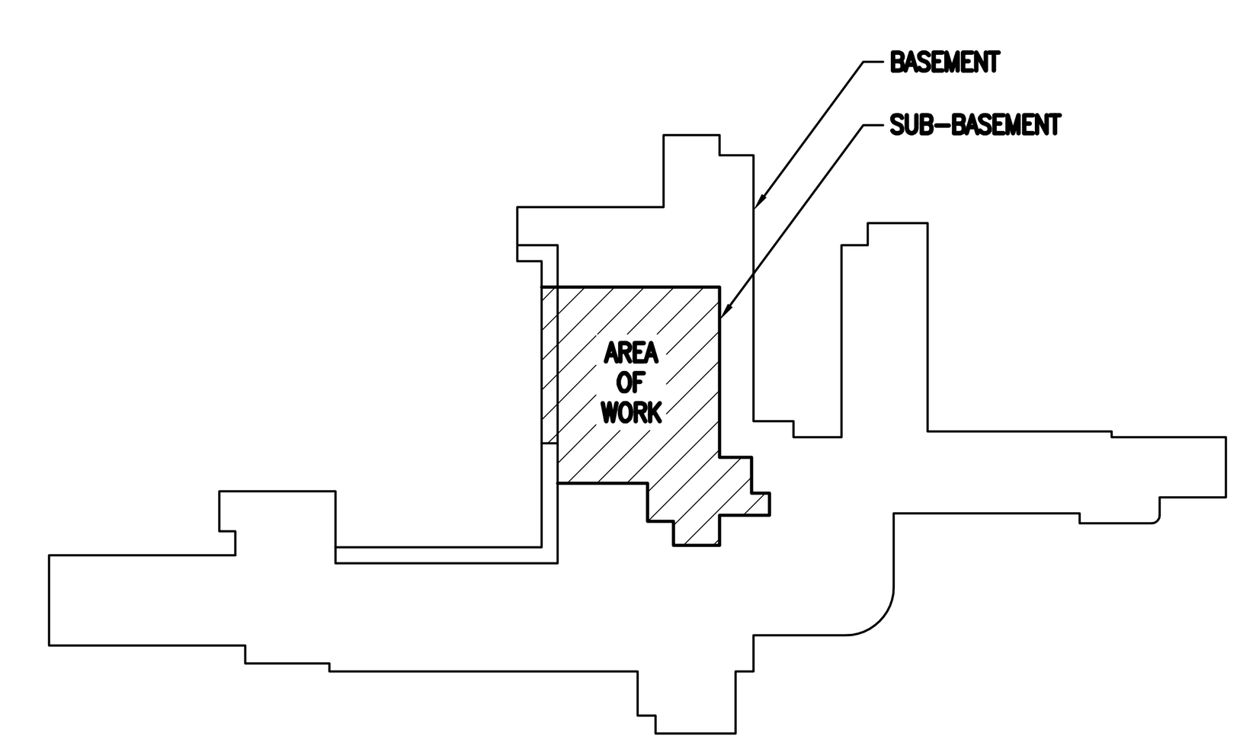
NORTH



ELECTRICAL - BASEMENT - LOCATION PLAN

1/8" = 1'-0"

NORTH



KEYPLAN

NO SCLAE

NORTH

SYMBOLS LEGEND

- DUPLEX RECEPTACLE
- J-BOX
- PANEL BOARD
- DISCONNECT
- ELECTRICAL EQUIPMENT CONNECTION
- MOTOR CONNECTION
- DUCT DETECTOR

SYMBOL LINEWEIGHT LEGEND

LIGHT SOLID LINES = EXISTING DEVICE(S) TO REMAIN

HEAVY, DASHED LINES = EXISTING DEVICE(S) TO BE REMOVED

HEAVY, SOLID LINES = NEW DEVICE(S) TO BE INSTALLED

GENERAL ELECTRICAL NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH NATIONAL, STATE, AND LOCAL CODES AND/OR ORDINANCES.
2. ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER CONTRACTORS.
3. SEE ARCHITECTURAL, MECHANICAL, & PLUMBING DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO GIVE APPROXIMATE LOCATIONS AND OVERALL DESIGN INTENT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCTS, MATERIALS, AND ELECTRICAL METHODS WHICH HAVE NOT BEEN SHOWN OR INDICATED BUT ARE REQUIRED FOR A COMPLETE SYSTEM TO THE STANDARDS OF THE INDUSTRY.
5. INSTALL LIGHTING FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTING DEVICES FOR ADEQUATE SUPPORT OF FIXTURES FROM STRUCTURE.
6. UPON COMPLETION OF THE ELECTRICAL WORK, THE INSTALLATION SHALL BE TESTED FOR CONTINUITY, GROUNDS, AND SHORT CIRCUITS. THE ELECTRICAL CONTRACTOR SHALL DEMONSTRATE PROPER PERFORMANCE OF ALL SYSTEMS. ALL DEFECTIVE WORK OR MATERIALS SHALL BE REPLACED OR REPAIRED AS NECESSARY AND RETESTED.
7. ELECTRICAL RACEWAYS THAT PENETRATE FIRE RATED ASSEMBLIES SHALL BE SLEEVED AND SEALED AS PER THE LOCAL BUILDING CODE.
8. PROTECT TELEMETRY AND OTHER LOW VOLTAGE CABLE FROM DEMOLITION OPERATIONS. DO NOT DISRUPT WITHOUT WRITTEN OWNER APPROVAL UPON 5 DAY MINIMUM NOTICE.
9. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND SCHEDULING OF REQUIRED ELECTRICAL INSPECTIONS.

THIS DEMOLITION PLAN HAS BEEN PREPARED TO ASSIST THE CONTRACTOR IN DETERMINING THE SCOPE OF DEMOLITION WORK TO BE INCLUDED IN THIS PROJECT. THE CONTRACTOR SHOULD REVIEW ALL DRAWINGS AND SPECIFICATIONS, INCLUDING DEMOLITION SHOWN FOR OTHER TRADES, AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS, IN ORDER TO DETERMINE THE SCOPE OF DEMOLITION WORK.

KEYED NOTES

(1) REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE.

(2) REMOVE EXISTING ELECTRICAL CONDUIT AND CONDUCTOR THAT RUN THROUGH HVAC DUCT WORK. J-BOXES SHALL BE ADDED AT EACH SITE TO GO AROUND HVAC DUCT. EXTEND CIRCUITS AND MATCH EXISTING CONDUIT AND CONDUCTOR SIZES. REPAIR DUCT AND INSULATION AS REQUIRED.

(3) DISCONNECT EXISTING CONDENSATE PUMP (PUMP HAS PLUG FOR POWER). REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE. SALVAGE CIRCUIT.

(3A) INSTALL NEW RECEPTACLE NEAR NEW CONDENSATE PUMP (CP1-SB4-1)LOCATION. RE-USE SALVAGED CIRCUIT. COORDINATE LOCATION WITH HVAC INSTALLER.

(4) 120V DIRECT ELECTRICAL CONNECTION FOR HVAC CONTROL PANEL. CIRCUIT TO NEAREST 120V NON-SWITCHED NORMAL CIRCUIT. PROVIDE NEW 20A/1 CIRCUIT BREAKER IN EXISTING PANEL "PM".

(5) NEW DETECTOR SHALL BE SUPPLIED BY EC. INSTALL NEW DETECTOR PER IMC & NFPA REQUIREMENTS. DETECTOR SHALL PROVIDE SIGNAL TO SHUT DOWN POWER TO THE AHU, PROVIDE FIRE ALARM CONTROL MODULE TO PROVIDE SIGNAL TO THE FANS.

(6) PROVIDE (2)120V POWER CONNECTIONS; ONE FOR AHU UV LIGHT AND ONE FOR OTHER AHU LIGHTS. COORDINATE WITH EQUIPMENT PROVIDER. PROVIDE (2)NEW 20A/1 CIRCUIT BREAKER IN EXISTING PANEL "PM".

(7) PROVIDE NEW 30A/3 CIRCUIT BREAKER TO FEED NEW AHU. EC SHALL PROVIDE (3)#10+(1)#10 GND. CONDUCTORS IN 3/4" CONDUIT.

(8) INSTALL TEMPORARY 480V/3 CONNECTION (CONDUITS, CONDUCTORS & CIRCUIT BREAKER) TO TEMPORARY AHU LOCATED IN CLOUDED AREA. VERIFY SIZE REQUIREMENTS WITH SUPPLIER. ADDITIONALLY PLAN TO INSTALL (3) 120V DEDICATED CIRCUITS TO TEMPORARY AHU FOR LIGHTS, CONTROLS AND MISC. COORDINATE REQUIREMENTS WITH HVAC CONTRACTOR. 480V AND 120V CIRCUITS SHALL BE PULLED FROM SUB-BASEMENT EQUIPMENT ROOM SB-4. SEE SHEET "MH102" FOR TEMPORARY AHU SPECIFICATIONS.

GENERAL NOTES

1. REMOVE, RELOCATE, LIGHTS, FIRE ALARM ETC. AS REQUIRED. ANY DEVICE THAT IS REMOVED TO FACILITATE THE AHU REPLACEMENT SHALL BE REINSTALLED NEAR ITS ORIGINAL LOCATION.
2. EC SHALL REWORK, REROUTE ELECTRICAL J-BOXES, CONDUIT, OUTLETS AND THE LIKE AS REQUIRED FOR NEW INSTALLATIONS. COORDINATE LOCATIONS WITH HVAC TO ACCOUNT FOR MAINTENANCE ACCESS.

Revisions: | Date

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Drawing Title	ELECTRICAL DEMOLITON AND POWER PLANS
Approved: Project Director	
Project Title	REPLACE AHU KITCHEN BLDG 1
Location	SHREVEPORT, LA
Date	03/17/2017
Checked	CJS
Drawn	LA
Project Number	667-16-102
Building Number	1
Drawing Number	E-101
Dwg.	12 of 12

Office of Construction and Facilities Management

Department of Veterans Affairs

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