679-22-106 TUSCALOOSA VA REPLACE HVAC, VARIOUS BUILDINGS

3701 Loop Road, Tuscaloosa, AL 35404

SHEET INDEX - GENERAL AND ARCHITECTURAL	
Sheet Number	Sheet Name
G001	COVER SHEET
A-101	FLOOR PLANS - DEMOLITION AND NEW WORK AND SECTIONS

SHEET INDEX - ELECTRICAL - BUILDING 02	
Sheet Number	Sheet Name
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
ED100	00 - GROUND FLOOR - ELECTRICAL - DEMOLITION
ED101	01 - FIRST FLOOR - ELECTRICAL - DEMOLITION
ED102	02 - SECOND FLOOR - ELECTRICAL - DEMOLITION
EP100	00 - GROUND FLOOR - POWER
EP101	01 - FIRST FLOOR - POWER
EP102	02 - SECOND FLOOR - POWER
E700	ELECTRICAL SCHEDULES

SHEET INDEX - MECHANICAL - BUILDING 02	
Sheet Number	Sheet Name
M000	MECHANICAL SYMBOLS AND ABBREVIATIONS
MD100	00 - GROUND FLOOR - MECHANICAL - DEMOLITION
MD101	01 - FIRST FLOOR - MECHANICAL - DEMOLITION
MD102	02 - SECOND FLOOR - MECHANICAL - DEMOLITION
MH100	00 - GROUND FLOOR - DUCTWORK
MH101	01 - FIRST FLOOR - DUCTWORK
MH102	02 - SECOND FLOOR - DUCTWORK
MP100	00 - GROUND FLOOR & BASEMENT - PIPING
MP101	01 - FIRST FLOOR - PIPING
MP102	02 - SECOND FLOOR - PIPING
M500	MECHANICAL DETAILS AND CONTROLS
M600	MECHANICAL SCHEDULES

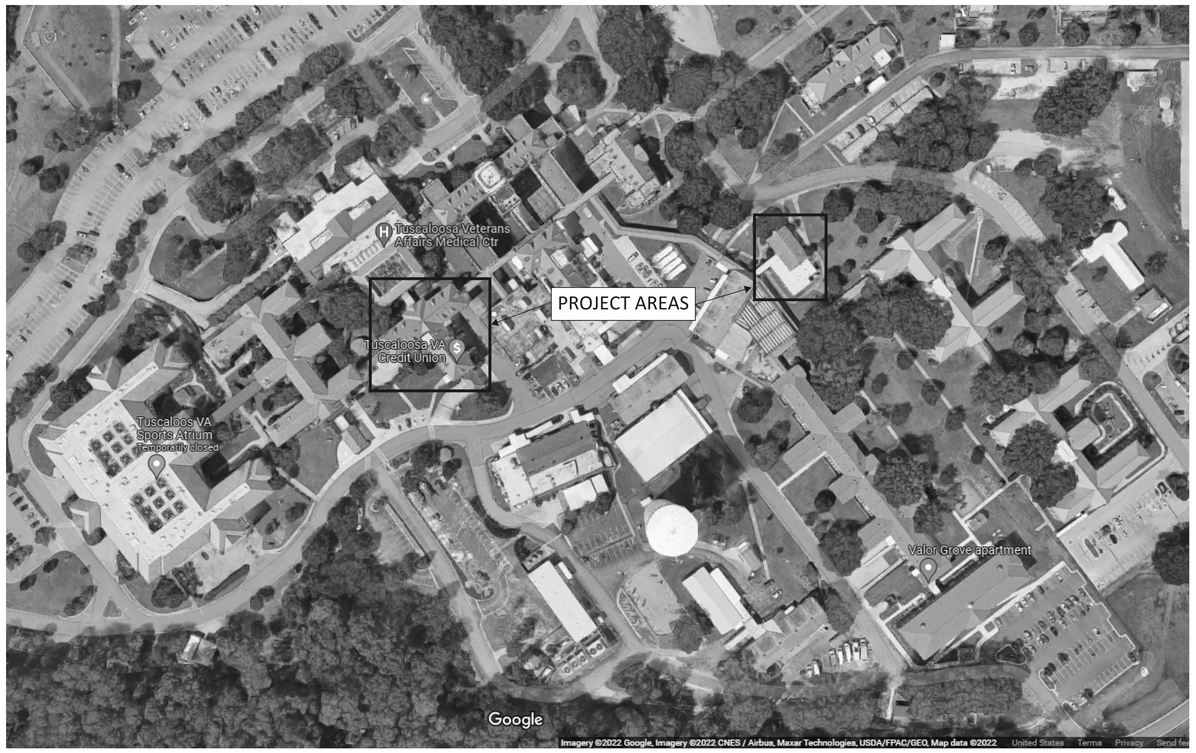
SHEET INDEX - ELECTRICAL - BUILDING 46	
Sheet Number	Sheet Name
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
ED101	ELECTRICAL DEMOLITION
EL101	FLOOR PLAN - LIGHTING
EP101	FLOOR PLAN - POWER

SHEET INDEX - MECHANICAL - BUILDING 46	
Sheet Number	Sheet Name
M000	MECHANICAL SYMBOLS AND ABBREVIATIONS
MD101	01-FIRST FIRST - MECHANICAL - DEMOLITION
MH101	01-FIRST FIRST - DUCTWORK
MP101	01-FIRST FLOOR - PIPING
M500	MECHANICAL DETAILS
M600	MECHANICAL SCHEDULES
M700	MECHANICAL CONTROLS

CHIEF OF ENGINEERING:	MEDICAL CENTER DIRECTOR:	SAFETY MANAGER:	INFECTION CONTROL:	ENERGY ENGINEER:

GENERAL CONSTRUCTION NOTE:

1. THE GENERAL CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING WITH THE COR TO IDENTIFY AREAS WHERE AFTER HOURS WORK WILL BE REQUIRED. AREAS INCLUDE, BUT ARE NOT LIMITED TO BUILDING 2. ALL WORK THAT WILL SHUT DOWN PATIENT CARE AREAS OUTSIDE OF THE AREAS BEING ACTIVELY WORKED IN WILL BE REQUIRED TO OCCUR OUTSIDE THE BUILDING HOURS OF OPERATION.
   A. BUILDING 2 HOURS OF OPERATION: 7:30AM - 4:00PM, MONDAY - FRIDAY
   B. BUILDING 46 HOURS OF OPERATION: UNOCCUPIED



Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

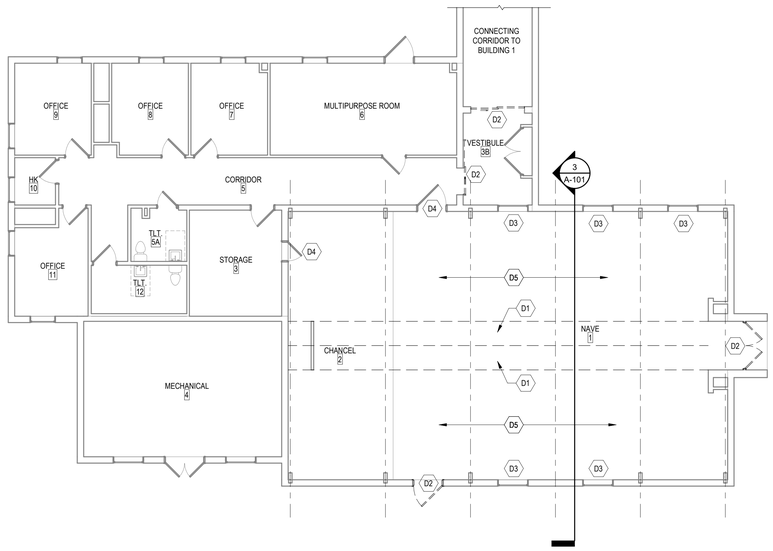
STAMP

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

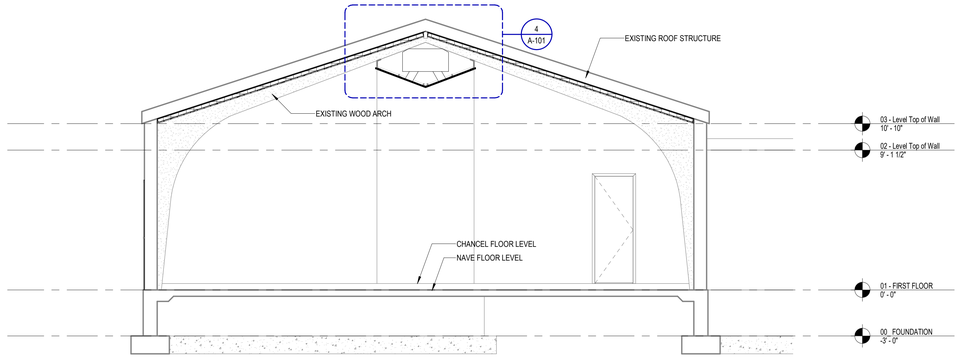
Drawing Title: COVER SHEET	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved:	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Building Number: 02
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	Drawing Number: G001



1 FIRST FLOOR PLAN - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'

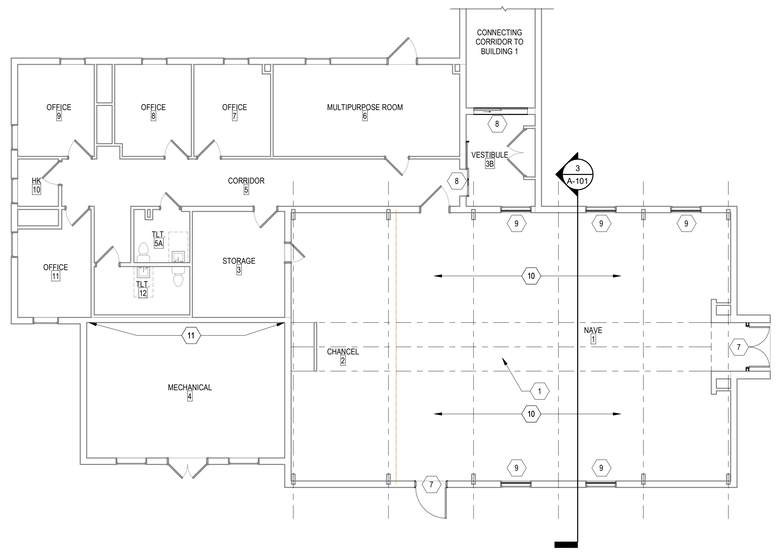
SCALE: 1/8"=1'-0"



3 SECTION THRU NAVE
1/4" = 1'-0"

0 2' 4' 8'

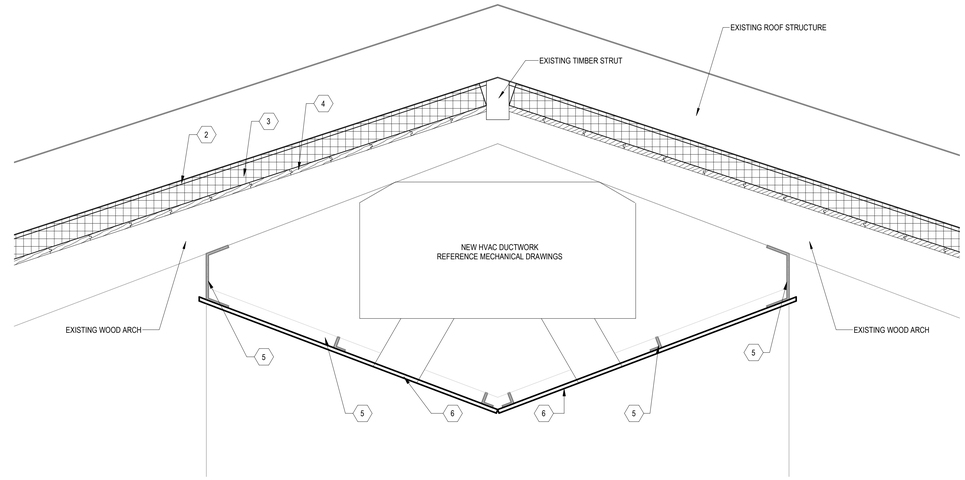
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN - NEW WORK
1/8" = 1'-0"

0 4' 8' 16'

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



4 ENLARGED SECTION @ HVAC SOFFIT
1 1/2" = 1'-0"

0 6" 1' 2'

SCALE: 1 1/2" = 1'-0"

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO REMAIN

EXISTING CONSTRUCTION TO BE DEMOLISHED

GENERAL NOTES

1. ALL DIMENSIONS ARE MEASURED FROM FACE OF EXISTING WALL TO THE FACE OF NEW WALL UNLESS NOTED OTHERWISE.
2. ALL NEW WORK TO BE FINISHED TO MATCH EXISTING.
3. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITION DEMOLITION AND NEW WORK NOTES.
4. CONTRACTOR SHALL ENSURE ALL DOORS WITHIN AREAS OF WORK SWING FREE OVER FLOORING AND TRANSITION STRIPS.
5. ALL PAINT COLORS TO BE SELECTED / APPROVED BY COR.

ALL NOTES MAYNOT BE APPLICABLE.

DEMOLITION KEYNOTES

D1 REMOVE EXISTING CEILING MOUNTED HVAC SOFFIT AND SUPPORT FRAMING. RETAIN EXISTING SUPPORT FRAMING COMPONENTS FOR REUSE.
D2 REMOVE DOOR(S), FRAME, HARDWARE, SILL AND JAMB.
D3 EXISTING WINDOW TO REMAIN.
D4 EXISTING DOOR TO REMAIN.
D5 REMOVE EXISTING LIGHT FIXTURES (NOT SHOWN) AND RETAIN FOR REUSE.

NEW WORK KEYNOTES

1 CLEAN EXISTING CEILING ABOVE NAVE AND CHANCEL AREAS.
2 INSTALL 3" LIGHT GAUGE Z CHANNELS - 2'-0" O.C. BETWEEN EXISTING WOOD ARCHES.
3 APPLY LAYER OF SPRAY FOAM INSULATION OVER ENTIRE EXISTING CEILING ABOVE NAVE AND CHANCEL AREAS.
4 INSTALL NEW 1" x 6" TONGUE AND GROOVE WOOD PLANK CEILING. PAINT TO MATCH EXISTING.
5 REINSTALL EXISTING HVAC SOFFIT STEEL SUPPORT STRUCTURE TO EXISTING WOOD ARCHES.
6 INSTALL NEW 1/2" PAINTED PLYWOOD PANELS FOR HVAC SOFFIT. PAINT TO MATCH EXISTING. COORDINATE OPENINGS FOR DIFFUSERS WITH MECHANICAL DRAWINGS.
7 INSTALL NEW STOREFRONT DOOR(S), FRAME, HARDWARE, SILL AND JAMB TO FIT EXISTING OPENING.
8 INSTALL NEW STOREFRONT SLIDING DOOR(S), FRAME, HARDWARE, SILL AND JAMB TO FIT EXISTING OPPENING.
9 CLEAN EXISTING WINDOWS TO REMAIN. INSTALL NEW WINDOW INFILL SYSTEM PER MANUFACTURERS INSTRUCTIONS. BASIS OF DESIGN: CRL FALLBROOK FIXED FRAME w/ 5/16" GLASS.
10 CLEAN AND REINSTALL EXISTING LIGHT FIXTURES.
11 SEAL ALL EXISTING PENETRATIONS IN WALL WITH EXPANDING FOAM INSULATION.

PLAN NORTH

Revisions:	Date:

ARCHITECT / ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street, Suite 355,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

STATE OF MISSOURI
JEFFREY D. SPERLING
NUMBER A-2002021727
ARCHITECT
4/24/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FLOOR PLANS - DEMOLITION AND NEW WORK AND SECTIONS	Phase: CONSTRUCTION DOCUMENTS	Project Title: VA TUSCALOOSA REPLACE HVAC, VARIOUS BUILDINGS	Project Number: 679.22.106
			Building Number: 46
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road East, Tuscaloosa, AL 35404	Drawing Number: A-101
		Issue Date: 04/26/2023 / Checked: JDS / Drawn: TLR	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/B46_679.22.106_ARCH_ATRIAX_R21.rvt
4/24/2023 8:34:18 PM

VA FORM 08 - 6231

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
##	MOUNTING HEIGHT TO CENTERLINE (ABOVE FINISHED FLOOR)
A	AMPERE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
AT	AMPERE TRIP
C	CEILING
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
CU	COPPER
D	DATA (WHEN APPLIED TO COMMUNICATIONS OUTLET)
D	DEMO (WHEN APPLIED TO EXISTING/DEMO ITEMS)
E	EXISTING
EO	ELECTRICALLY OPERATED
ERMS	ENERGY REDUCING MAINTENANCE SWITCH
F	FUSE
FLA	FULL LOAD AMPS
G, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFA	GROUND FAULT ALARM
GFP	GROUND FAULT PROTECTION
HP	HORSEPOWER
KAIC	KILOAMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERE
KW	KILOWATT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MO	MANUALLY OPERATED
NC	NORMALLY CLOSED
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
P	POLES
PART	PARTIAL
R	RELOCATE
SCCR	SHORT CIRCUIT CURRENT RATING
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOICE
W	WALL PHONE
W	WIRE
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
ZSI	ZONE SELECTIVE INTERLOCKING

REFER TO OTHER SCHEDULES AND NOTES FOR ADDITIONAL ABBREVIATIONS.

ELECTRICAL MISC SYMBOLS

PLAN SYMBOL	NAME
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL
	BRANCH CIRCUIT CONCEALED IN FLOOR OR BELOW GRADE
	CLEARANCE SPACE
	CONDUIT BREAK
	CONDUIT DOWN
	CONDUIT STUB-OUT
	CONDUIT UP
	HOMERUN TO PANEL G = GFCI CIRCUIT (PART) = PARTIAL CIRCUIT
	SWITCHED RECEPTACLE

ELECTRICAL EQUIPMENT SYMBOLS

PLAN SYMBOL	NAME
	PANELBOARD - RECESSED
	PANELBOARD - SURFACE

ONE LINE SYMBOL

PLAN SYMBOL	NAME
	CONTINUATION
	DISCONNECT SWITCH
	GROUND BAR
	GROUNDING ELECTRODE
	PANEL BOARD
	TRANSFORMER
M	UTILITY METER

EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	ROOM NAME	ROOM #	HP	KW	FLA	MCA	MOCP	VOLTS	PHASE	POLES	LOAD [VA]	CONTROL TYPE	DISCONNECT BY	DISCONNECT TYPE	FEEDER	PANEL	CIRCUIT NUMBER	SCCR	GEN	REMARKS
(E) P-2-1	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	1,3		No	1
(E) P-2-2	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	5,7		No	1
(E) P-2-3	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	13,15		No	1
(E) P-2-4	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	9,11		No	1
2-AHU-1	AIR HANDLING UNIT	CREDIT UNION	16B			11.2	14	25	208	3	3	4032	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	44,46,48		Yes	-
2-AHU-2	AIR HANDLING UNIT	Space	304				5.8	15	208	3	3	2917	INT	ELEC	NF	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	50,52,54		Yes	-
2-FCU-1A	FAN COIL UNIT	GROUP ROOM	113B				3.7	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46		No	2
2-FCU-1B	FAN COIL UNIT	GROUP ROOM	113B				3.7	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46		No	2
2-FCU-2A	FAN COIL UNIT	OFFICE	212B				3.7	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4		No	2
2-FCU-2B	FAN COIL UNIT	OFFICE	212B				3.7	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4		No	2
2-SSAH-13A	DUCTLESS SPLIT SYSTEM INDOOR	IT CLOSET	13A				1	30	208	1	2	208	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	43,45		Yes	1
2-SSCU-13A	DUCTLESS SPLIT SYSTEM OUTDOOR						25	30	208	1	2	4900	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	43,45		Yes	1

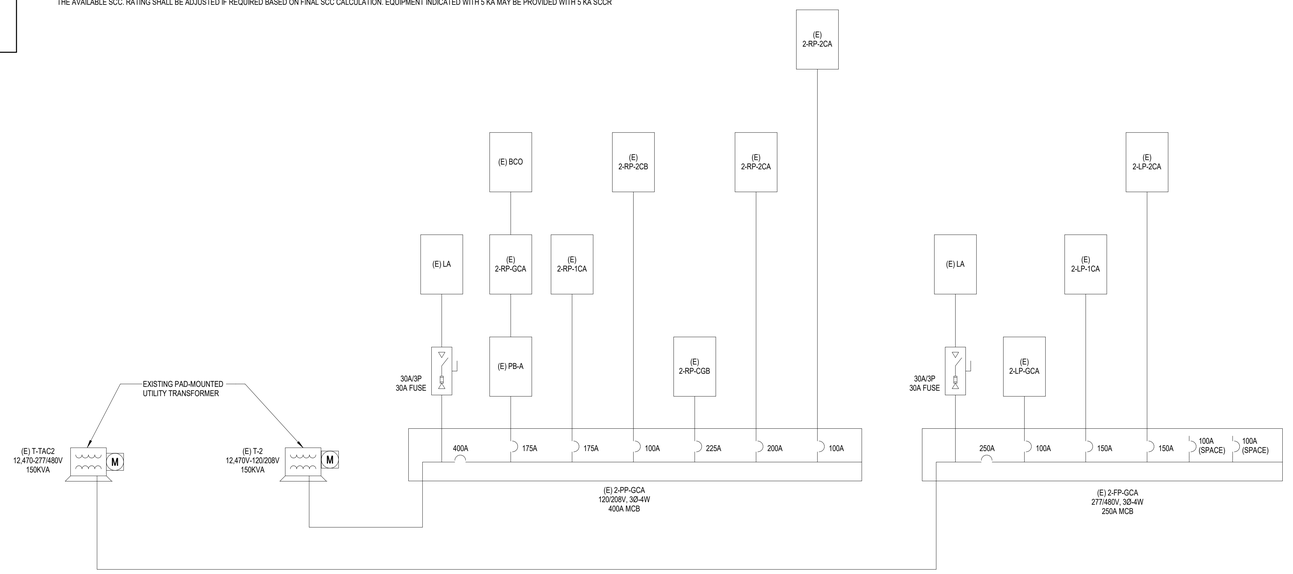
REMARKS: (EQUIPMENT CONNECTION SCHEDULE)
1. CONTROLS BETWEEN INDOOR AND OUTDOOR UNITS - INCLUDE CONTROL WIRING IN CONDUIT BETWEEN INDOOR AND OUTDOOR UNIT PER MANUFACTURER'S REQUIREMENTS.

GENERAL NOTES: (EQUIPMENT CONNECTION SCHEDULE)
A. EQUIPMENT LISTED MAY NOT BE UNIQUE, VERIFY QUANTITY WITH FLOOR PLANS. WHERE LOCATIONS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS, REFER TO MECHANICAL SHEETS. REFER TO DEFINITIONS BELOW FOR CLARIFICATIONS OF CONNECTION REQUIREMENTS.
B. PROVIDE WIRING AND EQUIPMENT CONNECTIONS FOR INTERNAL EQUIPMENT COMPONENTS AS REQUIRED. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
C. "CONTROL TYPE" - PROVIDE CONTROL AND CONNECTIONS:
   - "INT" = CONTROLS ARE MANUFACTURED INTEGRAL TO THE EQUIPMENT (SELF-CONTAINED).
D. "DISCONNECT BY" :
   - "MECHANICAL" = DISCONNECT IS PROVIDED WITH MECHANICAL EQUIPMENT.
     - ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND ADDITIONAL CONNECTIONS REQUIRED FOR LOOSE DISCONNECTS FURNISHED BY THE MECHANICAL CONTRACTOR.
   - "ELECTRICAL" = DISCONNECT IS FURNISHED BY ELECTRICAL CONTRACTOR. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT FURNISHED BY MECHANICAL CONTRACTOR.
E. "DISCONNECT TYPE" - PROVIDE DISCONNECT/RECEPTACLE AT EQUIPMENT LOCATION AND ASSOCIATED CONNECTION TO EQUIPMENT AND BRANCH CIRCUIT:
   - "NF" = NON-FUSED DISCONNECT. SIZE AND POLE QUANTITY AS INDICATED. 20/1 AND SMALLER SHALL BE TOGGLE SWITCH DISCONNECT.
   - "VFD" = VARIABLE FREQUENCY DRIVE CONTROLLER. LOCATE VARIABLE FREQUENCY DRIVE CONTROL TO SERVE AS THE MOTOR DISCONNECT.
   - "INT" = DISCONNECT IS MANUFACTURED INTEGRAL TO THE EQUIPMENT.
   - LOCATE DISCONNECT ADJACENT TO EQUIPMENT PER NEC - PROVIDE WITH STRUT MOUNTING AS REQUIRED.
   - WHERE DISCONNECT SERVES OUTDOOR EQUIPMENT, PROVIDE AS NEMA-3R.
   - PROVIDE DISCONNECT WITH EQUIPMENT GROUND KIT.
   - DISCONNECTS OF MOTORS SERVED FROM A VFD SHALL CONTAIN AUXILIARY CONTACTS CONNECTED TO THE VFD TO DISABLE VFD UPON DISCONNECTION.
   - WHERE STARTERS OR VFD'S CONTAIN INTEGRAL DISCONNECTS AND ARE LOCATED PER NEC TO SATISFY AS THE EQUIPMENT DISCONNECT, AN ADDITIONAL EQUIPMENT DISCONNECT IS NOT REQUIRED.
F. "FEEDER":
   - PROVIDE CONDUCTORS AND RACEWAY AS INDICATED. TYPICAL FORMAT IS: (FEEDER TAG) (NOMINAL SIZE) CONDUCTORS AND RACEWAY REQUIRED.
G. "GEN" - EQUIPMENT IS SERVED FROM A SOURCE PANEL PROVIDED WITH GENERATOR BACK-UP.
H. "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

ELECTRICAL GENERAL NOTES:

(GENERAL NOTES SHALL APPLY TO ALL SHEETS)

A. BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 75' SHALL UTILIZE #10 AWG CONDUCTORS. RECEPTACLE BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 150' SHALL UTILIZE #6 AWG CONDUCTORS.
B. FOR ALL CONDUIT AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE UL 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. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, 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.
C. ANY ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
D. NEW WIRING DEVICES AND ASSOCIATED COVERPLATES SHALL MATCH EXISTING FINISH OF SIMILAR INSTALLED DEVICES.
E. THE SELECTED EQUIPMENT AIC RATINGS ARE BASED ON THE IMPEDANCES FOR CONDUCTORS AND TRANSFORMERS USED IN THE CALCULATIONS. IF DIFFERENT EQUIPMENT OR DIFFERENT CONFIGURATIONS ARE SELECTED FOR INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATELY RATED EQUIPMENT THAT MEETS APPLICABLE SELECTIVE COORDINATION GOALS AND PROVIDES SIMILAR INCIDENT ENERGY RISK OF ARC FLASH HAZARDS.
F. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO INDEPENDENTLY SUPPORT ALL EXISTING TO REMAIN CABLING.



ELECTRICAL ONE-LINE
NO SCALE

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029777 04/26/2023 CHARLES G. HILL

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SYMBOLS AND ABBREVIATIONS	Phase: CONSTRUCTION DOCUMENTS
Approved: SEE G001	FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS
Location: 3701 Loop Road, Tuscaloosa, AL 35404
Issue Date: 04/26/2023 | Checked: CGH | Drawn: SUB

Project Number: 679.22.106
Building Number: 02
Drawing Number: E000

4/26/2023 4:05:43 PM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B02_MEP.rvt

VA FORM 08 - 6231

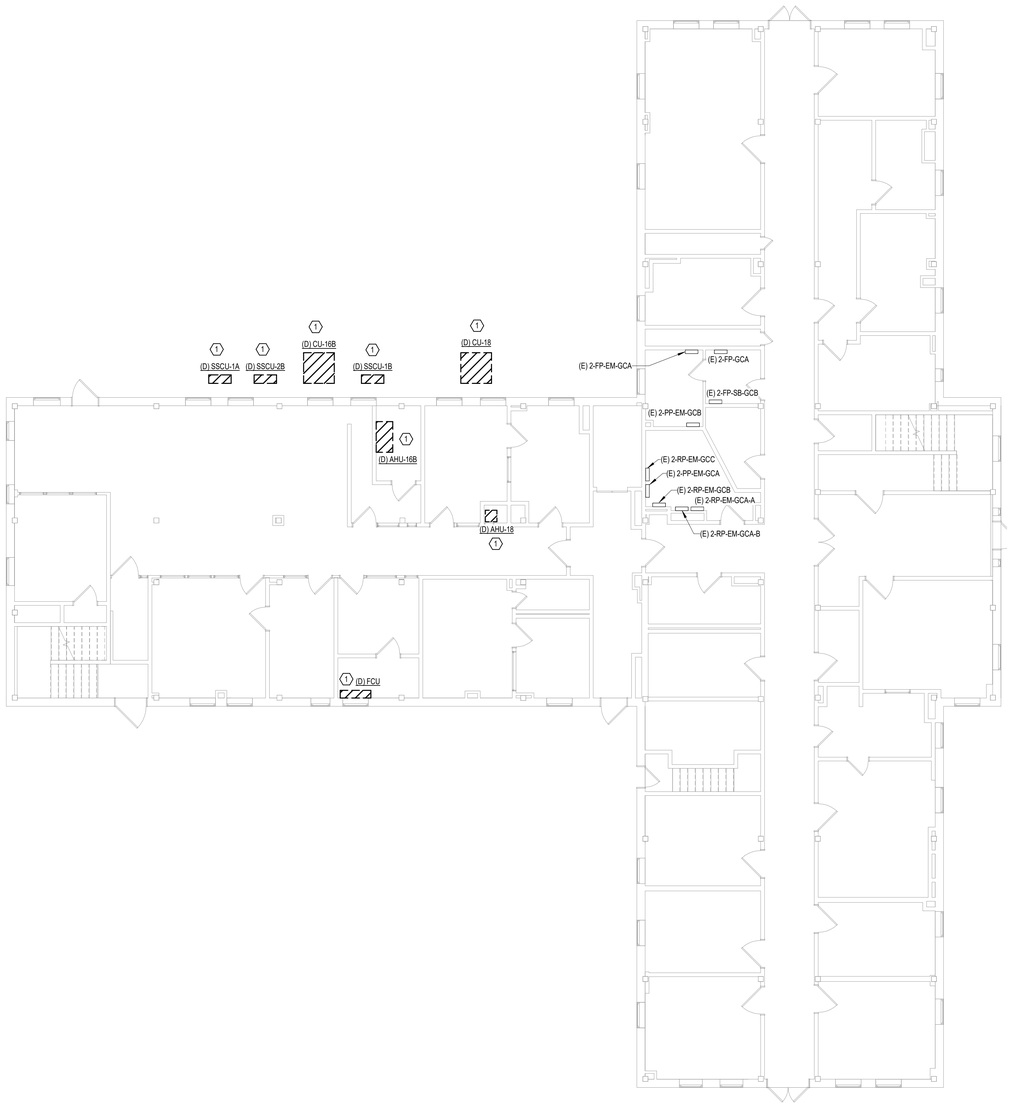
ELECTRICAL DEMOLITION GENERAL NOTES:

(ELECTRICAL DEMOLITION NOTES APPLY TO ALL ELECTRICAL DEMOLITION PLANS AND ALL ELECTRICAL DEMOLITION WORK)

A. THE INTENT OF THE DEMOLITION DRAWINGS IS TO DEFINE THE SCOPE OF ELECTRICAL DEMOLITION WORK. PROVIDE DEMOLITION FOR ITEMS AS SHOWN.
B. ITEMS INDICATED WITH A SUBSCRIPT 'E' SHALL BE EXISTING TO REMAIN (E-EXISTING). ITEMS INDICATED WITH A SUBSCRIPT 'D' OR SHOWN DASHED SHALL BE REMOVED (D-DEMOLITION). ITEMS INDICATED WITH A SUBSCRIPT 'R' SHALL BE REMOVED, STORED, AND REINSTALLED PER NEW WORK (R-RELOCATION).
C. THESE DRAWINGS DO NOT IDENTIFY EACH INDIVIDUAL ITEM TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ITEMS WHICH MUST BE REMOVED TO FACILITATE NEW CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR EXACT LIMITS OF DEMOLITION AND CONSTRUCTION. THESE PLANS ARE BASED ON PAST PROJECT DRAWINGS AND SITE OBSERVATIONS. THE DRAWINGS ARE PROVIDED TO THE CONTRACTOR AS AN AID IN DETERMINING THE EXTENT OF WORK REQUIRED FOR DEMOLITION AND TO PROVIDE GENERAL INFORMATION ABOUT EXISTING SYSTEMS. THESE DRAWINGS MAY NOT BE ACCURATE IN ALL AREAS. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS AND IS ENCOURAGED TO REVIEW FACILITY DRAWINGS PRIOR TO THE BID DATE.
D. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL ITEMS REMOVED. IF OWNER REFUSES SALVAGE, CONTRACTOR IS RESPONSIBLE FOR DISPOSAL.
E. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL ELECTRICAL DEMOLITION ITEMS. DISCONNECT AND REMOVE ELECTRICAL DEVICES, EQUIPMENT AND ASSOCIATED WIRING AS REQUIRED TO ACCOMMODATE NEW WORK. IF THE CONTRACTOR IS UNCLEAR REGARDING A SPECIFIC ITEM TO REMAIN OR BE REMOVED, THE CONTRACTOR SHALL SEEK CLARIFICATION FROM THE ARCHITECT.
F. SYSTEMS SERVING ADJACENT AREAS AND ITEMS THAT REMAIN SHALL BE MAINTAINED AT ALL TIMES. MODIFY SYSTEMS AS REQUIRED THROUGHOUT CONSTRUCTION TO MAINTAIN CONTINUITY OF SERVICE. DO NOT INTERRUPT SERVICE WITHOUT OWNER'S PRIOR WRITTEN APPROVAL. LIMIT DURATION OF INTERRUPTION ONLY TO THE TIME NECESSARY FOR DISCONNECTION AND IMMEDIATE RECONNECTION. INTERRUPTION TO SERVICE DEEMED BY OWNER AS ESSENTIAL MAY REQUIRE PREMIUM TIME AND SHALL BE INCLUDED WITH THE BID. EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO IDENTIFY EXISTING SYSTEM COMPONENTS ASSOCIATED WITH THESE SERVICES. APPROPRIATE METHODS OF MARKING THESE SHALL OCCUR TO ELIMINATE THE POSSIBILITY OF ACCIDENTAL INTERRUPTION. FOR CONDUIT AND CABLING THAT CAN REMAIN, PROVIDE SUPPORT AS REQUIRED. RELOCATE EXISTING JUNCTION BOXES THAT BECOME INACCESSIBLE DUE TO NEW WORK.
G. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED.
H. PROTECT EXISTING ELECTRICAL EQUIPMENT THAT REMAINS. IF DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.
I. PATCH AND REPAIR OPENINGS IN EXISTING WALLS AND FLOORS RESULTANT FROM SPECIFIED ELECTRICAL DEMOLITION. PATCH SHALL MATCH EXISTING CONSTRUCTION, FIRE RATING, AND FINISH. SEE ARCHITECTURAL SPECIFICATIONS FOR MEANS AND METHODS.
J. ALL UNLABELED ELECTRICAL DEVICES WITH CIRCUITRY OR DEVICES MODIFIED DURING CONSTRUCTION SHALL BE CIRCUIT TRACED AS NEEDED WITH A LABEL PROVIDED.

SHEET NOTES:⬡

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT AND REMOVE CONDUIT AND CONDUCTORS TO SOURCE. LABEL EXISTING UNUSED CIRCUIT BREAKER AS SPARE. LABEL EXISTING CIRCUIT BREAKERS (INCLUDE ALL BOX, TRIM PLATES, AND DISCONNECTS).



1 00 - GROUND FLOOR - ELECTRICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD
SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT
Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029777 04/26/2023 CHARLES G. HALL

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

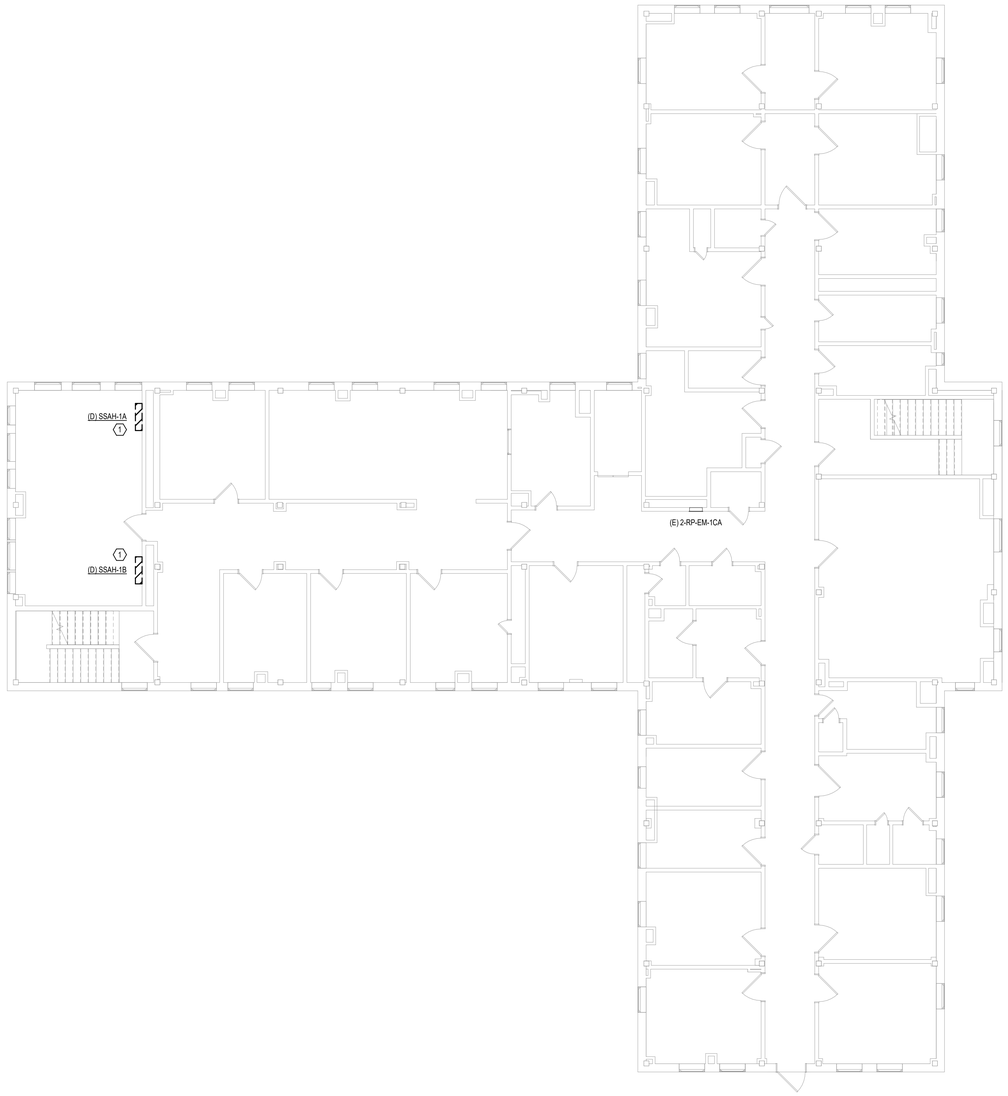
Drawing Title: 00 - GROUND FLOOR - ELECTRICAL - DEMOLITION	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Building Number: 02
		Issue Date: 04/26/2023 / Checked: CGH / Drawn: SUB	Drawing Number: ED100

BIM 360://22617.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B02_MEP.rvt
4/26/2023 4:05:44 PM

VA FORM 08 - 6231

SHEET NOTES:

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT AND REMOVE CONDUIT AND CONDUCTORS TO SOURCE. LABEL EXISTING UNUSED CIRCUIT BREAKERS AS SPARE. LABEL EXISTING CIRCUIT BREAKERS (INCLUDE ALL BOX, TRIM PLATES, AND DISCONNECTS).



1 01 - FIRST FLOOR - ELECTRICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 029777 ENGINEER CHARLES G. HALL 04/26/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

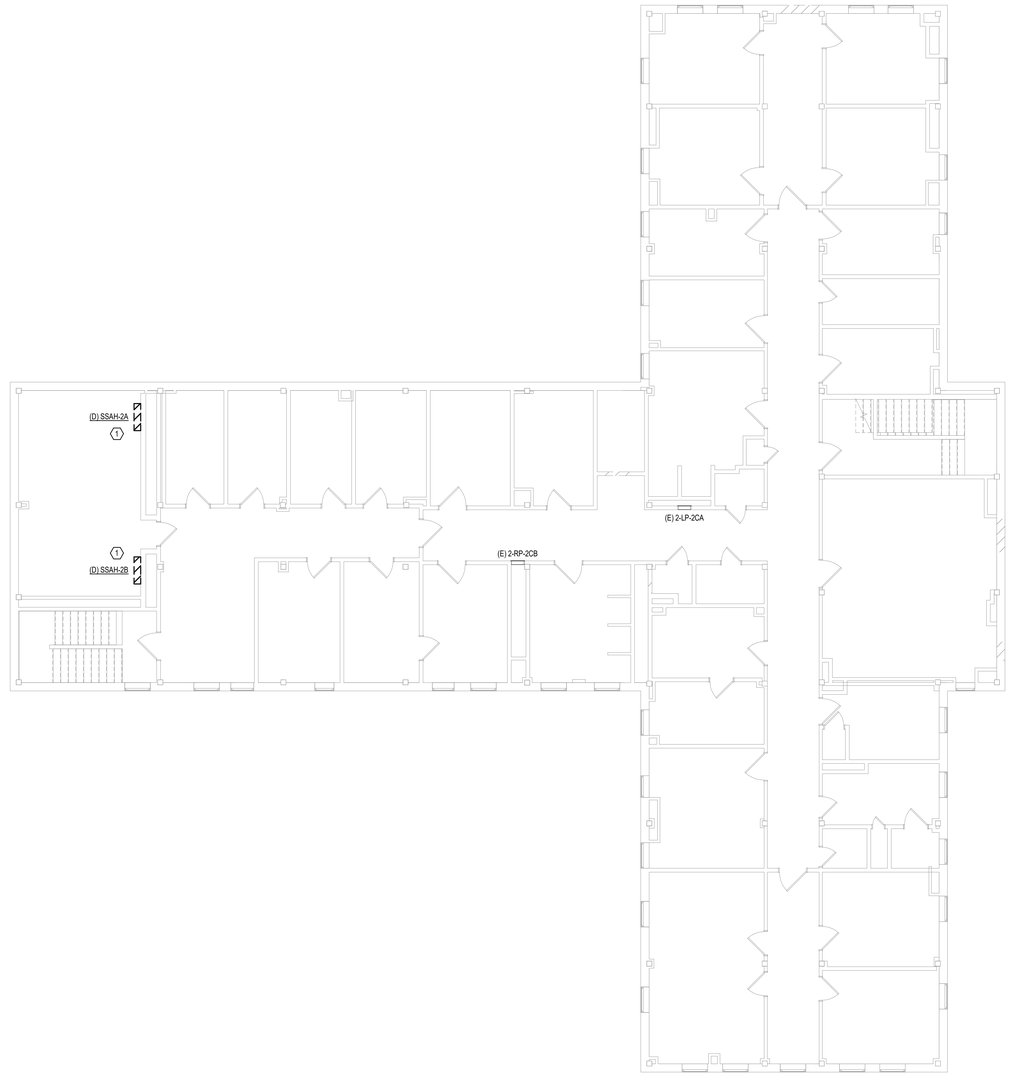
Drawing Title	01 - FIRST FLOOR - ELECTRICAL - DEMOLITION
Phase	CONSTRUCTION DOCUMENTS
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Project Number	679.22.106
Building Number	02
Approved:	SEE G001
	FULLY SPRINKLERED
Location	3701 Loop Road, Tuscaloosa, AL 35404
Drawing Number	ED101
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings\679.22.106_B02_MEP.rvt
4/26/2023 4:05:45 PM

VA FORM 08 - 6231

SHEET NOTES:

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT AND REMOVE CONDUIT AND CONDUCTORS TO SOURCE. LABEL EXISTING UNUSED CIRCUIT BREAKER AS SPARE. LABEL EXISTING CIRCUIT BREAKERS (INCLUDE ALL BOX, TRIM PLATES, AND DISCONNECTS).



1 02 - SECOND FLOOR - ELECTRICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

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

STAMP

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 029777 04/26/2023 CHARLES G. HALL

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	02 - SECOND FLOOR - ELECTRICAL - DEMOLITION
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB
Project Number	679.22.106
Building Number	02
Drawing Number	ED102

BIM 360://22017 001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt
4/26/2023 4:05:46 PM

VA FORM 08 - 6231

PANEL: (E) 2-RP-EM-GCA-B

LOCATION: ELECTRICAL 20 | **VOLTS:** 208/120 WYE | **MAINS TYPE:** MCB
SUPPLY FROM: (E) 2-PP-EM-GCA | **PHASES:** 3 | **MCB/MLO RATING:** 225 A
BRANCH: | **WIRES:** 4 | **MCB OPTIONS:**
SERVICE RATED: | **INTEGRAL SPD:** | **SECTIONS:** 1
MOUNTING: SURFACE | **AVAILABLE SCC (kA):** | **PANEL POLES:** 60
NEMA ENCLOSURE:

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	B	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1	EX. LOAD	--	15 A	1	1000 VA			1	20 A	--	EX. LOAD	2
3	EX. LOAD	--	15 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	4
5	EX. LOAD	--	15 A	1			1000 VA	1	20 A	--	EX. LOAD	6
7	EX. LOAD	--	20 A	1	1000 VA			1	20 A	--	EX. LOAD	8
9	EX. LOAD	--	20 A	1		1000 VA		1	20 A	--	EX. LOAD	10
11	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	12
13	EX. LOAD	--	20 A	1	1000 VA			1	20 A	--	EX. LOAD	14
15	EX. LOAD	--	20 A	1		1000 VA		1	20 A	--	EX. LOAD	16
17	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	18
19	EX. LOAD	--	20 A	1	1000 VA			1	20 A	--	EX. LOAD	20
21	EX. LOAD	--	20 A	1		1000 VA		1	20 A	--	EX. LOAD	22
23	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	24
25	EX. LOAD	--	20 A	1	1000 VA			1	20 A	--	EX. LOAD	26
27	EX. LOAD	--	20 A	1		1000 VA		1	20 A	--	EX. LOAD	28
29	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	30
31	EX. LOAD	--	20 A	1	1000 VA			3	30 A	--	EX. LOAD	32
33	EX. LOAD	--	20 A	1		1000 VA						34
35	EX. LOAD	--	20 A	1			1000 VA					36
37	EX. LOAD	--	20 A	2	1000 VA			3	30 A	--	EX. LOAD	38
39						1000 VA						40
41	EX. LOAD	--	40 A	1			1000 VA					42
43	NEW 2-SSCU-13A / 2-SSAH-13A	NEW	30 A	2	2554 VA			3	25 A	NEW	NEW 2-AHU-1	44
45						2554 VA						46
47	SPACE	--	--	1			--					48
49	SPACE	--	--	1	--	972 VA		3	15 A	NEW	NEW 2-AHU-2	50
51	SPACE	--	--	1		--	972 VA					52
53	SPACE	--	--	1			--					54
55	EX. LOAD	--	30 A	3	1000 VA	--		1	--	--	SPACE	56
57						1000 VA	--	1	--	--	SPACE	58
59							1000 VA	--	1	--	--	SPACE	60
			TOTAL LOAD:		19870 VA	19870 VA	17316 VA					
			TOTAL AMPS:		169 A	169 A	144 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Other	6949 VA	125.00%	8686 VA
Spare	45000 VA	100.00%	45000 VA
MEQ-C	5108 VA	125.00%	6385 VA

PANEL TOTALS	
CONNECTED LOAD:	57057 VA
CONNECTED CURRENT:	158 A
DEMAND LOAD:	60071 VA
DEMAND CURRENT:	167 A
CONSIDER 125% DEMAND:	75089 A
EQUIPMENT AMPS:	225 A
FEEDER AVAILABLE:	
SPARE CAPACITY:	25 %
	58 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. UPDATE PANEL DIRECTORY UPON COMPLETION.

PANEL: (E) 2-RP-EM-GCC

LOCATION: ELECTRICAL 20 | **VOLTS:** 208/120 WYE | **MAINS TYPE:** MLO
SUPPLY FROM: (E) 2-PP-EM-GCA | **PHASES:** 3 | **MCB/MLO RATING:** 125 A
BRANCH: | **WIRES:** 4 | **MCB OPTIONS:**
SERVICE RATED: | **INTEGRAL SPD:** | **SECTIONS:** 1
MOUNTING: SURFACE | **AVAILABLE SCC (kA):** | **PANEL POLES:** 24
NEMA ENCLOSURE:

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	B	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1	(E) P-2-1		20 A	2	1000 VA			2	20 A	--	EXISTING FAN COIL	2
3						1000 VA	1000 VA					4
5	(E) P-2-2		20 A	2			1000 VA	2	20 A	--	EXISTING FAN COIL	6
7					1000 VA	1000 VA						8
9	(E) P-2-4		20 A	2		1000 VA	1000 VA	2	20 A	--	EXISTING FAN COIL	10
11							1000 VA					12
13	(E) P-2-3		20 A	2	1000 VA	1000 VA		2	20 A	--	EXISTING FAN COIL	14
15						1000 VA	1000 VA					16
17	SPACE	--	--	1			--	1	--	--	SPACE	18
19	SPACE	--	--	1	--	--		1	--	--	SPACE	20
21	SPACE	--	--	1		--	--	1	--	--	SPACE	22
23	SPACE	--	--	1			--	1	--	--	SPACE	24
			TOTAL LOAD:		6000 VA	6000 VA	4000 VA					
			TOTAL AMPS:		53 A	53 A	33 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Spare	8000 VA	100.00%	8000 VA
MEQ-C	8000 VA	125.00%	10000 VA

PANEL TOTALS	
CONNECTED LOAD:	16000 VA
CONNECTED CURRENT:	44 A
DEMAND LOAD:	18000 VA
DEMAND CURRENT:	50 A
CONSIDER 125% DEMAND:	22500 A
EQUIPMENT AMPS:	125 A
FEEDER AVAILABLE:	
SPARE CAPACITY:	60 %
	75 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. PANEL AIC (INTERRUPTING) RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SCC (SHORT CIRCUIT CURRENT).

1 00 - GROUND FLOOR - POWER
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

POWER GENERAL NOTES:

(POWER GENERAL NOTES SHALL APPLY TO ALL SHEETS)

A. ELECTRICAL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. ROUTE ALL ELECTRICAL BRANCH CIRCUITS AND CONDUITS SPECIFIED, TO COORDINATE WITH OTHER TRADES AND TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, ARRANGE WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
C. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

1. CONNECT NEW MECHANICAL EQUIPMENT TO AVAILABLE SPACE AS SHOWN IN PANEL SCHEDULE. PROVIDE NEW CIRCUIT BREAKER FOR NEW MECHANICAL EQUIPMENT IN PANEL 2-RP-EM-GCA-B. REFERENCE PANEL SCHEDULE FOR CIRCUIT BREAKER SIZES.

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029777 04/26/2023 CHARLES G. HALL

Office of Construction and Facilities Management
U.S. Department of Veterans Affairs

Drawing Title	00 - GROUND FLOOR - POWER
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB
Project Number	679.22.106
Building Number	02
Drawing Number	EP100

4/26/2023 4:05:48 PM
BIM 360://22617.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt
VA FORM 08 - 6231

PANEL: (E) 2-RP-EM-1CA

LOCATION: ENTRANCE WAY CG5
SUPPLY FROM: (E) 2-PP-EM-GCA
BRANCH:
SERVICE RATED:
MOUNTING: RECESSED
NEMA ENCLOSURE:

VOLTS: 208/120 WYE
PHASES: 3
WIRES: 4
INTEGRAL SPD:
AVAILABLE SCC (kA):

MAINS TYPE: MLO
MCB/MLO RATING: 225 A
MCB OPTIONS:
SECTIONS: 1
PANEL POLES: 60

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	B	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1	EX. LOAD	--	15 A	1	1000 VA	1000 VA		1	15 A	--	EX. LOAD	2
3	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	4
5	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	6
7	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	8
9	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	10
11	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	12
13	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	14
15	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	16
17	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	18
19	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	20
21	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	22
23	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	24
25	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	26
27	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	28
29	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	30
31	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	32
33	EX. LOAD	--	20 A	2		1000 VA	1000 VA	1	20 A	--	EX. LOAD	34
35							1000 VA	1	20 A	--	EX. LOAD	36
37	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	38
39	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	40
41	EX. LOAD	--	20 A	1			1000 VA	1	20 A	--	EX. LOAD	42
43	EX. LOAD	--	20 A	1	1000 VA	607 VA		2	20 A	NEW	NEW 2-FCU-1A, 2-FCU-1B	44
45	EX. LOAD	--	20 A	1		1000 VA	607 VA					46
47	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	SPARE	48
49	SPACE	--	--	1	--	1000 VA			1	20 A	--	SPARE	50
51	SPACE	--	--	1		--	--		1	--	--	SPACE	52
53	SPACE	--	--	1			--	--	1	--	--	SPACE	54
55	EX. LOAD	--	30 A	3	1000 VA	--			1	--	--	SPACE	56
57						1000 VA	--		1	--	--	SPACE	58
59							1000 VA	--	1	--	--	SPACE	60
			TOTAL LOAD:		17607 VA	16607 VA	17000 VA						
			TOTAL AMPS:		147 A	138 A	142 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Other	1214 VA	125.00%	1518 VA
Spare	50000 VA	100.00%	50000 VA

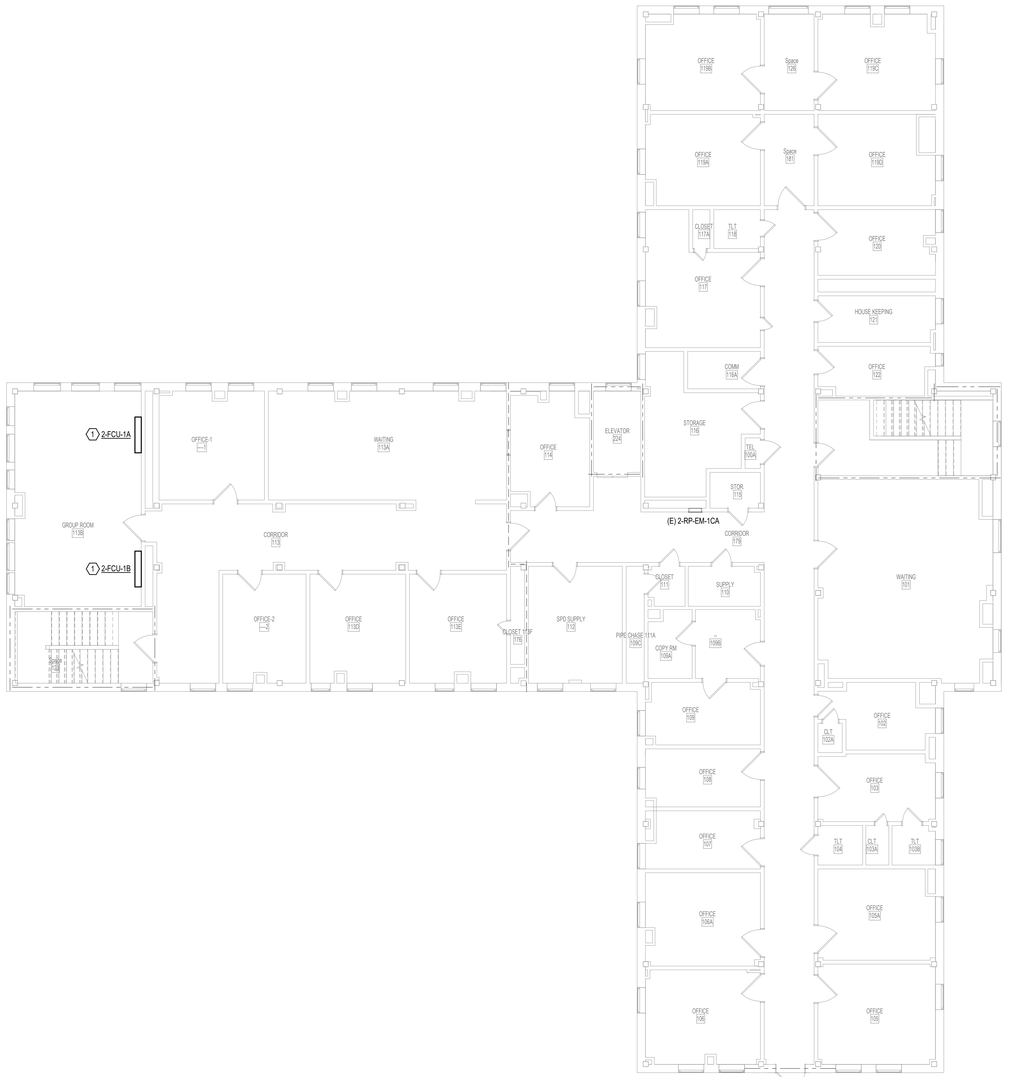
PANEL TOTALS	
CONNECTED LOAD:	51214 VA
CONNECTED CURRENT:	142 A
DEMAND LOAD:	51518 VA
DEMAND CURRENT:	143 A
CONSIDER 125% DEMAND:	64397 A
EQUIPMENT AMPS:	225 A
FEEDER AVAILABLE:	
SPARE CAPACITY:	36 % / 82 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. UPDATE PANEL DIRECTORY UPON COMPLETION.



1 01 - FIRST FLOOR - POWER
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

GENERAL NOTES:

A. ELECTRICAL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. ROUTE ALL ELECTRICAL BRANCH CIRCUITS AND CONDUITS SPECIFIED, TO COORDINATE WITH OTHER TRADES AND TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, ARRANGE WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
C. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

1. CONNECT NEW MECHANICAL EQUIPMENT TO AVAILABLE SPACE AS SHOWN IN PANEL SCHEDULE. PROVIDE NEW 20A CIRCUIT BREAKER FOR NEW MECHANICAL EQUIPMENT IN PANEL 2-RP-EM-1CA. REFERENCE PANEL SCHEDULE FOR CIRCUIT BREAKER SIZES.

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD
SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT
Atriax GROUP
www.atriaxgroup.com
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029771 04/26/2023 CHARLES G. HALL

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	01 - FIRST FLOOR - POWER
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB
Project Number	679.22.106
Building Number	02
Drawing Number	EP101

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt
4/26/2023 4:05:50 PM

VA FORM 08 - 6231

PANEL: (E) 2-RP-2CB

LOCATION: CORRIDOR 178
SUPPLY FROM: (E) 2-PP-EM-GCA
BRANCH:
SERVICE RATED:
MOUNTING: RECESSED
NEMA ENCLOSURE:

VOLTS: 208/120 WYE
PHASES: 3
WIRES: 4
INTEGRAL SPD:
AVAILABLE SCC (kA):

MAINS TYPE: MLO
MCB/MLO RATING: 100 A
MCB OPTIONS:
SECTIONS: 1
PANEL POLES: 12

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A		B		C		POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1	EX. LOAD	--	30 A	1	2500 VA	607 VA					2	20 A	NEW	NEW 2-FCU-2A, 2-FCU-2B	2
3	EX. LOAD	--	30 A	1			2500 VA	607 VA							4
5	EX. LOAD	--	20 A	1					1000 VA	1000 VA	1	20 A	--	EX. LOAD	6
7	EX. LOAD	--	20 A	1	1000 VA	1000 VA					1	20 A	--	EX. LOAD	8
9	EX. LOAD	--	20 A	1			1000 VA	1000 VA			1	20 A	--	EX. LOAD	10
11	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	12
			TOTAL LOAD:		5107 VA		5107 VA		2000 VA						
			TOTAL AMPS:		47 A		47 A		17 A						

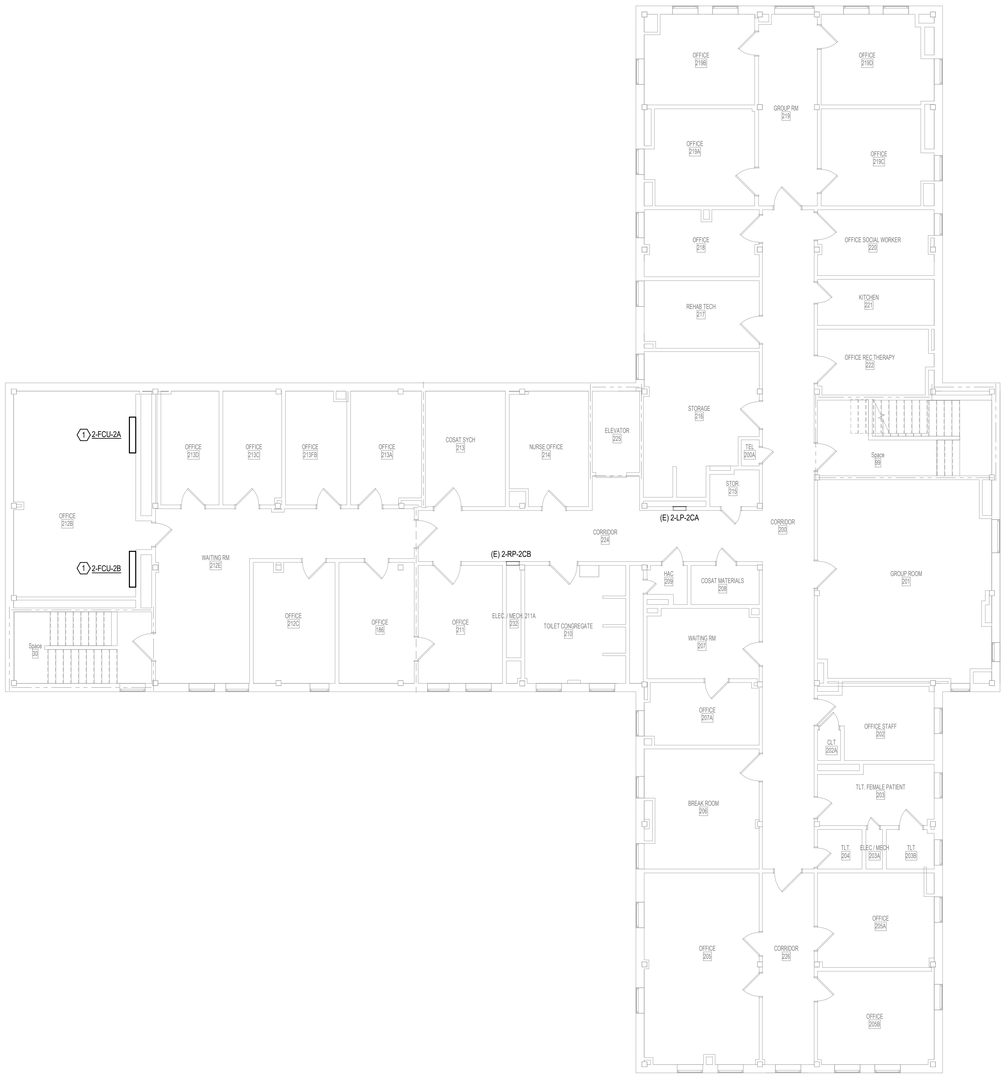
LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Other	1214 VA	125.00%	1518 VA	**CONNECTED LOAD:**	12214 VA
Spare	11000 VA	100.00%	11000 VA	**CONNECTED CURRENT:**	34 A
				DEMAND LOAD:	12518 VA
				DEMAND CURRENT:	35 A
				CONSIDER 125% DEMAND:	15647 A
				EQUIPMENT AMPS:	100 A
				FEEDER AVAILABLE:	
				SPARE CAPACITY:	65 %
					65 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. PANEL AIC (INTERRUPTING) RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SCC (SHORT CIRCUIT CURRENT).



1 02 - SECOND FLOOR - POWER
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

GENERAL NOTES:

A. ELECTRICAL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. ROUTE ALL ELECTRICAL BRANCH CIRCUITS AND CONDUITS SPECIFIED, TO COORDINATE WITH OTHER TRADES AND TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, ARRANGE WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
C. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

1. CONNECT NEW MECHANICAL EQUIPMENT TO AVAILABLE SPACE AS SHOWN IN PANEL SCHEDULE. REMOVE 60A CIRCUIT BREAKER AND PROVIDE NEW 20A/2POLE CIRCUIT BREAKER FOR NEW MECHANICAL EQUIPMENT IN PANEL 2-RP-2CB. REFERENCE PANEL SCHEDULE FOR CIRCUIT BREAKER SIZES.

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD
SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT
Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029777 04/26/2023 CHARLES G. HALL

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	02 - SECOND FLOOR - POWER
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB
Project Number	679.22.106
Building Number	02
Drawing Number	EP102

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt
4/26/2023 4:05:51 PM

VA FORM 08 - 6231

EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	ROOM NAME	ROOM #	HP	KW	FLA	MCA	MOCP	VOLTS	PHASE	POLES	LOAD [VA]	CONTROL TYPE	DISCONNECT BY	DISCONNECT TYPE	FEEDER	PANEL	CIRCUIT NUMBER	SCCR	GEN	REMARKS
(E) P-2-1	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	1,3		No	1
(E) P-2-2	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	5,7		No	1
(E) P-2-3	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	13,15		No	1
(E) P-2-4	EXISTING PUMP								208		2	2000	-	-	-	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCC	9,11		No	1
2-AHU-1	AIR HANDLING UNIT	CREDIT UNION	16B			11.2	14	25	208	3	3	4032	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	44,46,48		Yes	-
2-AHU-2	AIR HANDLING UNIT	Space	304			5.8	15	25	208	3	3	2917	INT	ELEC	NF	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	50,52,54		Yes	-
2-FCU-1A	FAN COIL UNIT	GROUP ROOM	113B			3.7	20	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46		No	2
2-FCU-1B	FAN COIL UNIT	GROUP ROOM	113B			3.7	20	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46		No	2
2-FCU-2A	FAN COIL UNIT	OFFICE	212B			3.7	20	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4		No	2
2-FCU-2B	FAN COIL UNIT	OFFICE	212B			3.7	20	20	208	1	2	607		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4		No	2
2-SSAH-13A	DUCTLESS SPLIT SYSTEM INDOOR	IT CLOSET	13A			1	30	208	1	2	208	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	43,45		Yes	1
2-SSCU-13A	DUCTLESS SPLIT SYSTEM OUTDOOR						25	30	208	1	2	4900	INT	ELEC	NF	(3X) (30A) 2-#10 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	43,45		Yes	1

REMARKS: (EQUIPMENT CONNECTION SCHEDULE)
1. MECHANICAL UNIT EXISTING TO REMAIN.
2. DISCONNECT SWITCH TO BE MOUNTED AND INSTALLED ADJACENT TO UNIT OR ABOVE CEILING ADJACENT TO UNIT. DISCONNECT MAY BE MOUNTED TO UNIT OR INDEPENDENTLY SUPPORTED FROM THE STRUCTURE ABOVE. REFERENCE SPECIFICATIONS FOR INSTALLATION REQUIREMENTS AND SUPPORT INFORMATION. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.

GENERAL NOTES: (EQUIPMENT CONNECTION SCHEDULE)
A. EQUIPMENT LISTED MAY NOT BE UNIQUE, VERIFY QUANTITY WITH FLOOR PLANS. WHERE LOCATIONS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS, REFER TO MECHANICAL SHEETS. REFER TO DEFINITIONS BELOW FOR CLARIFICATIONS OF CONNECTION REQUIREMENTS.
B. PROVIDE WIRING AND EQUIPMENT CONNECTIONS FOR INTERNAL EQUIPMENT COMPONENTS AS REQUIRED. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
C. "CONTROL TYPE" - PROVIDE CONTROL AND CONNECTIONS:
   - "INT" = CONTROLCSS ARE MANUFACTURED INTEGRAL TO THE EQUIPMENT (SELF-CONTAINED).
   - "FA STOP" = FANS WITH CFM OF 2000 OR GREATER AND FANS SERVING DUCTS CONTAINING SMOKE DAMPERS.
     - PROVIDE FIRE ALARM SYSTEM DUCT SMOKE DETECTORS AT RETURN-SIDE AND SUPPLY-SIDE OF FAN/UNIT. PROVIDE MULTIPLE DETECTORS IF REQUIRED TO ACCOMMODATE MAIN DUCT TAKE-OFFS WHERE A SINGLE DETECTOR CANNOT BE INSTALLED TO CAPTURE ALL AIRFLOW. FIRE ALARM SYSTEM SHALL SHUTDOWN FAN UPON DETECTION OF SMOKE IN DUCT OR ROOMS SERVED FROM THIS EQUIPMENT. PROVIDE WITH INDIVIDUAL FIRE ALARM SYSTEM ADDRESSABLE CONTROL MODULE AT MOTOR CONTROLLER/STARTER AND CONNECT TO SHUTDOWN FAN.
D. "DISCONNECT BY":
   - "MECHANICAL" = DISCONNECT IS FURNISHED BY MECHANICAL CONTRACTOR OR PROVIDED WITH MECHANICAL EQUIPMENT.
     - ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND ADDITIONAL CONNECTIONS REQUIRED FOR LOOSE DISCONNECTS FURNISHED BY THE MECHANICAL CONTRACTOR.
E. "DISCONNECT TYPE" - PROVIDE DISCONNECT/RECEPTACLE AT EQUIPMENT LOCATION AND ASSOCIATED CONNECTION TO EQUIPMENT AND BRANCH CIRCUIT:
   - "VFD" = VARIABLE FREQUENCY DRIVE CONTROLLER. LOCATE VARIABLE FREQUENCY DRIVE CONTROL TO SERVE AS THE MOTOR DISCONNECT.
   - DISCONNECTS OF MOTORS SERVED FROM A VFD SHALL CONTAIN AUXILIARY CONTACTS CONNECTED TO THE VFD TO DISABLE VFD UPON DISCONNECTION.
   - WHERE STARTERS OR VFD'S CONTAIN INTEGRAL DISCONNECTS AND ARE LOCATED PER NEC TO SATISFY AS THE EQUIPMENT DISCONNECT, AN ADDITIONAL EQUIPMENT DISCONNECT IS NOT REQUIRED.
F. "FEEDER":
   - PROVIDE CONDUCTORS AND RACEWAY AS INDICATED. TYPICAL FORMAT IS: (FEEDER TAG) (NOMINAL SIZE) CONDUCTORS AND RACEWAY REQUIRED.
G. "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

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SCHEDULES	Phase: CONSTRUCTION DOCUMENTS
Approved: SEE G001	FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS
Location: 3701 Loop Road, Tuscaloosa, AL 35404
Issue Date: 04/26/2023 | Checked: CGH | Drawn: SUB

Project Number: 679.22.106
Building Number: 02
Drawing Number: E700

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_BI02_MEP.rvt
4/26/2023 4:05:44 PM

VA FORM 08 - 6231

GENERAL MECHANICAL 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 OR BACKWATER 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	
	DUCT CONTINUATION	
	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
D	DEMOLISH	PC	PLUMBING CONTRACTOR
E	EXISTING	PSIG	POUNDS PER SQUARE INCH GAUGE
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SHT	SHEET
FPM	FEET PER MINUTE	TOB	TOP OF BEAM
FPS	FEET PER SECOND	TOS	TOP OF STEEL
GC	GENERAL CONTRACTOR	VEL	VELOCITY
GPM	GALLONS PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
L	LENGTH		

TEMPERATURE CONTROL SYMBOLS

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	
F/S	FLOW MEASURING STATION	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
F	FLOW SWITCH	

HVAC SYMBOLS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
WxH	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 FILLED REGION INDICATE EXTENSION UP. NO FILLED REGION 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.
CD	CONTROL DAMPER	DAMPER SHALL BE SAME SIZE AS DUCT UNLESS NOTED OTHERWISE. REFER TO SEQUENCES, SCHEMATICS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
FD	FIRE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
SD	SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
FS	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	
	TRANSFER AIR ARROW ### = AIRFLOW IN CFM	ARROW INDICATES DIRECTION OF TRANSFER AIR.
	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

COVER SHEET NOTES:

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

MECHANICAL GENERAL NOTES:

A. THESE NOTES APPLY TO ALL SHEETS CONTAINING HVAC, PIPING, 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. VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL. BE ADVISED THAT LOCATIONS SHOWN ARE APPROXIMATE. AN ATTEMPT HAS BEEN MADE TO SHOW ALL PIPING, DUCTWORK, AND OUTLETS. CONTRACTOR SHALL VISIT THE SITE TO VERIFY COMPONENTS, LOCATIONS AND SIZES SHOWN OR NOT SHOWN. ALL COMPONENTS NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS. IF DEVIATION BETWEEN EXISTING CONDITIONS AND NEW WORK IS FOUND, CONTRACTOR SHALL NOTIFY ENGINEER.
C. IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING THE CONSTRUCTION OF THE ADDITIONS AND REMODELING/ALTERATION OF THE EXISTING BUILDING. SERVICES TO THE EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION EXCEPT DURING SCHEDULED SHUTDOWNS FOR EXTENSION OR MODIFICATION. PLAN TO COMPLETE SHUTDOWNS DURING OFF HOURS TO MINIMIZE IMPACT TO THE OWNER. COORDINATE SHUTDOWNS WITH THE OWNER A MINIMUM OF 14 DAYS PRIOR TO WORK. PROVIDE TEMPORARY SERVICES WHERE NECESSARY TO ACCOMPLISH ANY SHUTDOWN. THIS INCLUDES BUT IS NOT LIMITED TO STAFFING AND EQUIPMENT FOR FIRE WATCHES, PROVISIONS FOR BOTTLED WATER, AND TEMPORARY HEATING OR COOLING EQUIPMENT. TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL THE PERMANENT SYSTEMS ARE OPERATIONAL AND HAVE PASSED ALL REQUIRED TESTING.
D. 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.
E. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.
F. EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS AS "TO BE RETAINED, RELOCATED", ALL EXISTING EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION AND/OR WITH PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:
   a. REMOVE ANY PIPING PROTRUDING ABOVE FINISHED FLOOR OR THROUGH WALL AND CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN WITH MATERIAL TO MATCH EXISTING.
   b. REMOVE ALL FIXTURES, CARRIERS, SUPPLY AND WASTE AND VENT PIPING, STEAM, HEATING HOT WATER, HVAC SUPPLY, RETURN AND EXHAUST AS NOTED. CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN. SUPPLY AND RETURN MAINS ON PIPING SYSTEMS CONVEYING WATER OR GASES SHALL BE VALVED AND CAPPED
   c. IN REMODELED/ALTERED AREAS, ANY PIPING OR DUCTWORK PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BEING SERVED FROM EXISTING ADJACENT, REMOTE, OR SURROUNDING AREAS THAT ARE TO REMAIN) SHALL BE RETAINED AND KEPT OPERATIONAL AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGE TO BE ACCOMPLISHED IN THE REMODELED AREA.
   d. REMOVE UNUSED OR ABANDONED HANGERS AND PATCH ABANDONED PENETRATIONS TO MATCH EXISTING.
   e. PENETRATIONS THROUGH EXISTING WALLS AND FLOORS FORMERLY OCCUPIED BY REMOVED PIPING OR DUCTWORK SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION.
   f. RE-SUPPORT ANY PIPING AND DUCTWORK THAT WAS SUPPORTED FROM BUILDING ELEMENTS REMOVED AS PART OF THE WORK.
   g. MAINTAIN CONTROL WIRING OR PNEUMATIC TUBING REQUIRED FOR THE CONTINUED PROPER OPERATION OF THE BUILDING AUTOMATION SYSTEM.
G. ALL EXISTING EQUIPMENT BEING REMOVED WILL BE HANDED OVER TO OWNER FOR FIRST RIGHT OF SALVAGE. IF OWNER REFUSES SALVAGE ITEMS, REMOVING CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL.
H. CONTRACTOR SHALL REFER TO THE DRAWINGS OF ALL TRADES TO FAMILIARIZE THEMSELVES WITH EXTENT OF WORK INCLUDING BUT NOT LIMITED TO WHERE NEW PARTITIONING IS BEING INSTALLED, WHERE EXISTING PARTITIONING IS BEING REMOVED, WHERE CEILINGS ARE BEING REMOVED AND/OR REPLACED, ETC.
I. 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.
J. PERFORM AIR AND FLUID BALANCE PRE-TEST ON ALL DISTRIBUTION EQUIPMENT AND ALL AIR OUTLETS IN THE AREA PRIOR TO COMMENCING WORK. SUBMIT PRE-TEST INFORMATION TO OWNER/ENGINEER.
K. 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.
L. 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.
M. 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.
N. 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.
O. 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.
P. 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.
Q. 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.
R. 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.
S. 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.
T. 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. ON EXISTING EQUIPMENT, COORDINATE WORK WITH OWNER.
U. 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.
V. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED. REFER TO DETAIL SHEETS FOR GENERAL CONSTRUCTION DETAILS.
W. 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. REFER TO SCHEDULE SHEETS FOR PROVIDED SCHEDULES.
X. 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.
Y. 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.
Z. 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. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, 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.

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SYMBOLS AND ABBREVIATIONS

Approved: SEE G001

Phase: CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS

Location: 3701 Loop Road, Tuscaloosa, AL 35404

Issue Date: 04/26/2023 | Checked: AGT | Drawn: PCM

Project Number: 679.22.106

Building Number: 02

Drawing Number: M000

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt

4/26/2023 4:05:56 PM

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

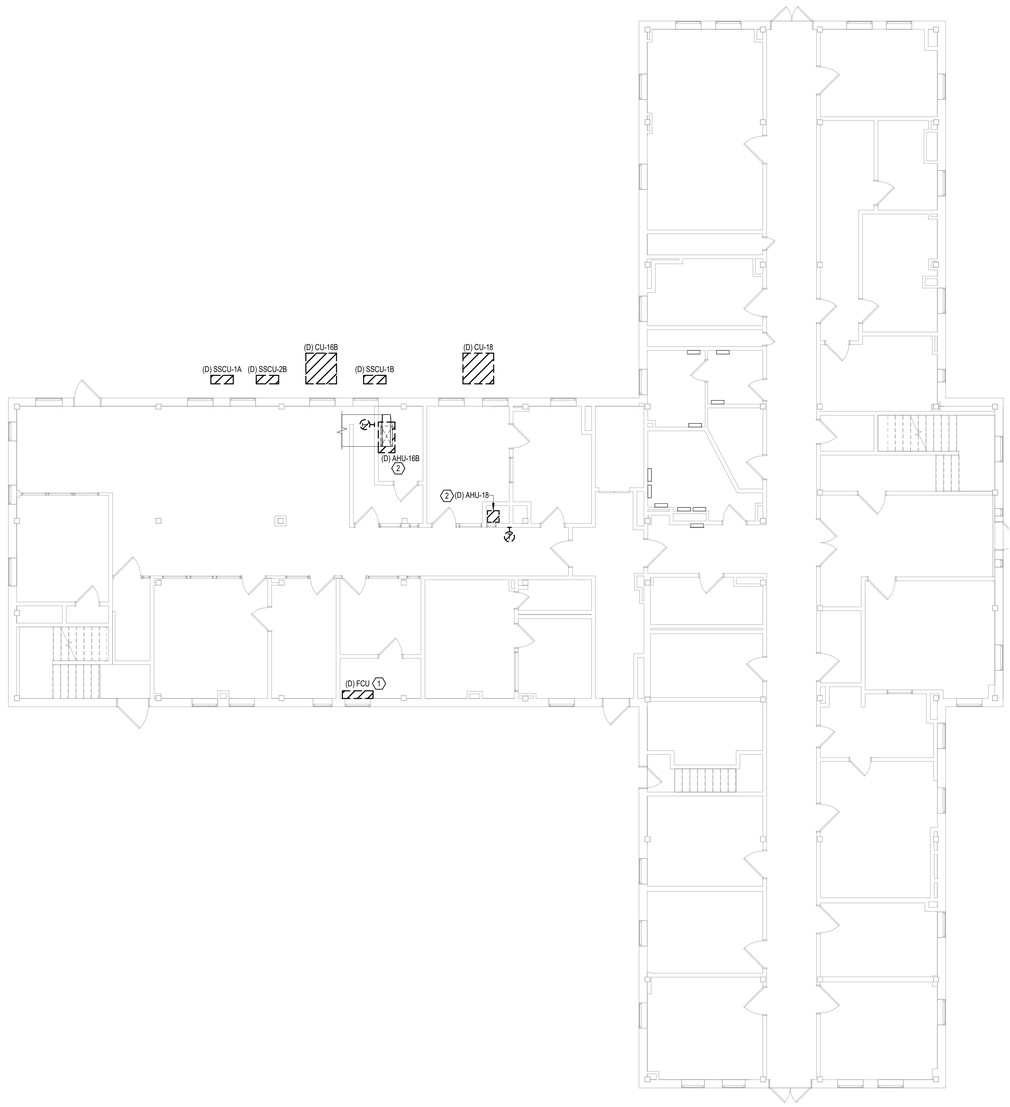
B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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. DEMOLISH HEATING HOT WATER PIPING, CHILLED WATER PIPING, AND CONDENSATE PIPING BACK TO MAIN AND CAP. PROVIDE INSULATED END CAP, INSULATION SHALL MATCH EXISTING.
2. DEMOLISH ALL REFRIGERANT PIPING. DEMOLISH STEAM PIPING AND CONDENSATE PIPING BACK TO MAIN AND CAP. PROVIDE INSULATED END CAP. INSULATION SHALL MATCH EXISTING.



1 00 - GROUND FLOOR - MECHANICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 ENGINEER ANDREA G THOMPSON 04/26/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	00 - GROUND FLOOR - MECHANICAL - DEMOLITION
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	AGT
Drawn	PCM
Project Number	679.22.106
Building Number	02
Drawing Number	MD100

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_BI02_MEP.rvt
4/26/2023 4:05:59 PM

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

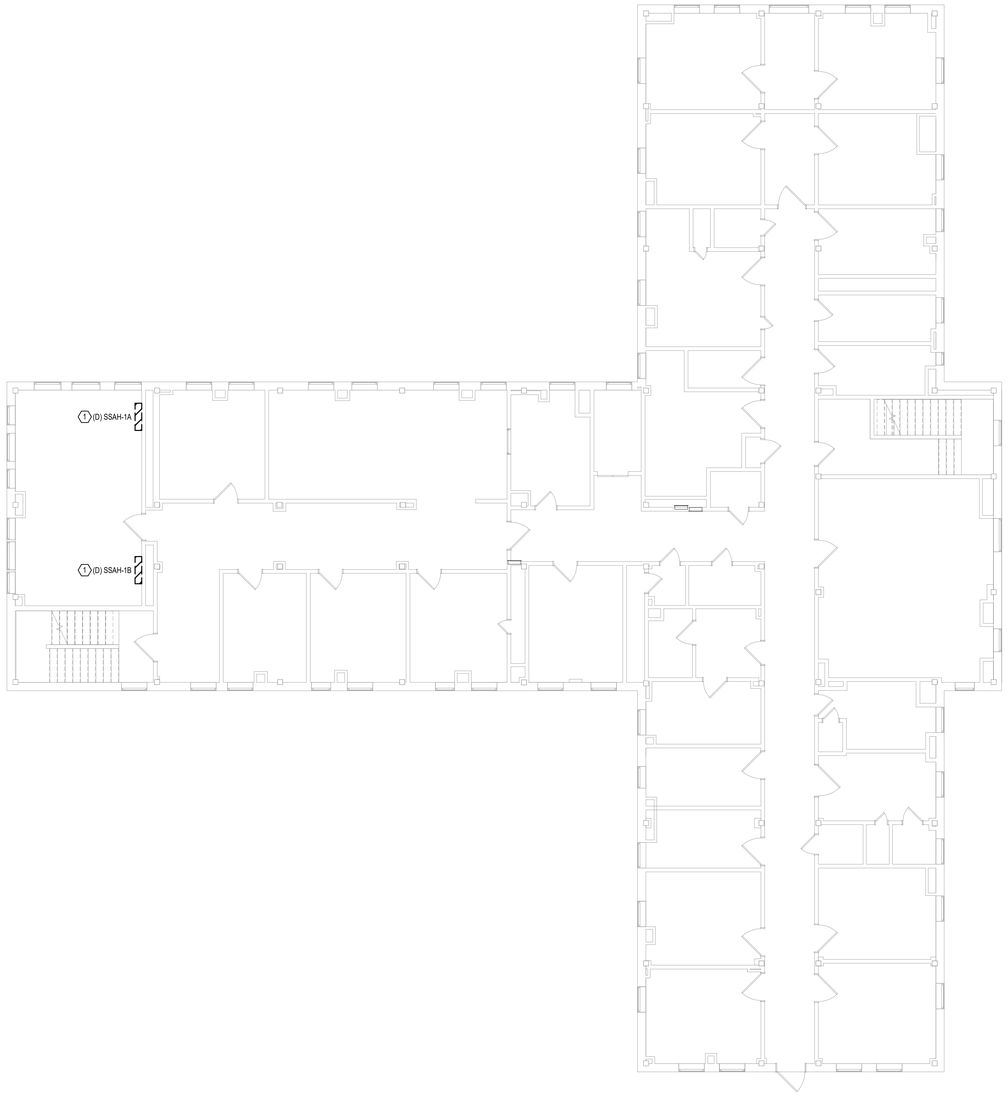
B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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. DEMOLISH REFRIGERANT PIPING. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDENSATE PIPING ROUTING AND SIZE. CONDENSATE PIPING SHALL REMAIN IN PLACE FOR REUSE.



1 01 - FIRST FLOOR - MECHANICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 01 - FIRST FLOOR - MECHANICAL - DEMOLITION	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001		Location: 3701 Loop Road, Tuscaloosa, AL 35404	Building Number: 02
	FULLY SPRINKLERED	Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	Drawing Number: MD101

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B02_MEP.rvt
4/26/2023 4:05:59 PM

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

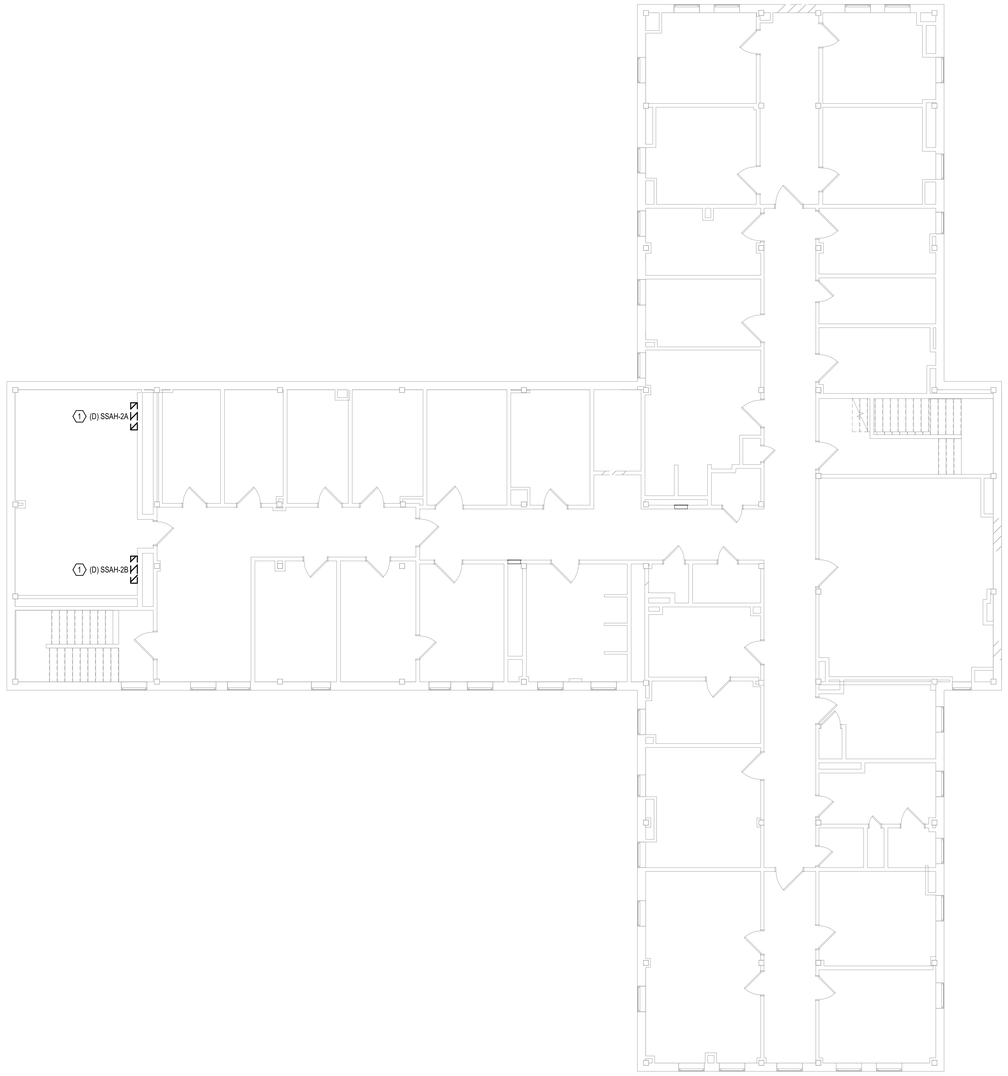
B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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. DEMOLISH REFRIGERANT PIPING. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDENSATE PIPING ROUTING AND SIZE. CONDENSATE PIPING SHALL REMAIN IN PLACE FOR REUSE.



1 02 - SECOND FLOOR - MECHANICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 02 - SECOND FLOOR - MECHANICAL - DEMOLITION	Phase: CONSTRUCTION DOCUMENTS
Approved: SEE G001	FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS		Project Number: 679.22.106
		Building Number: 02
Location: 3701 Loop Road, Tuscaloosa, AL 35404		Drawing Number: MD102
Issue Date: 04/26/2023	Checked: AGT	Drawn: PCM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B92_MEP.rvt
4/26/2023 4:06:00 PM

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.

SHEET NOTES:⬡

1. CONTRACTOR SHALL CONNECT EXISTING SUPPLY DUCT AND RETURN DUCT INLET TO NEW AHU.
2. EXISTING SMOKE DUCT DETECTOR SHALL BE INTERLOCKED WITH NEW AHU.
3. CONTRACTOR SHALL PROVIDE CUSTOM PLENUM BOX AND UNIT STAND. PLENUM BOX SHALL CONNECT TO EXISTING RETURN AIR GRILLE MOUNTED IN WALL.

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 00 - GROUND FLOOR - DUCTWORK	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001		Location: 3701 Loop Road, Tuscaloosa, AL 35404	Building Number: 02
	FULLY SPRINKLERED	Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	Drawing Number: MH100

VA FORM 08 - 6231

4/26/2023 4:08:01 PM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B02_MEP.rvt

GENERAL NOTES:

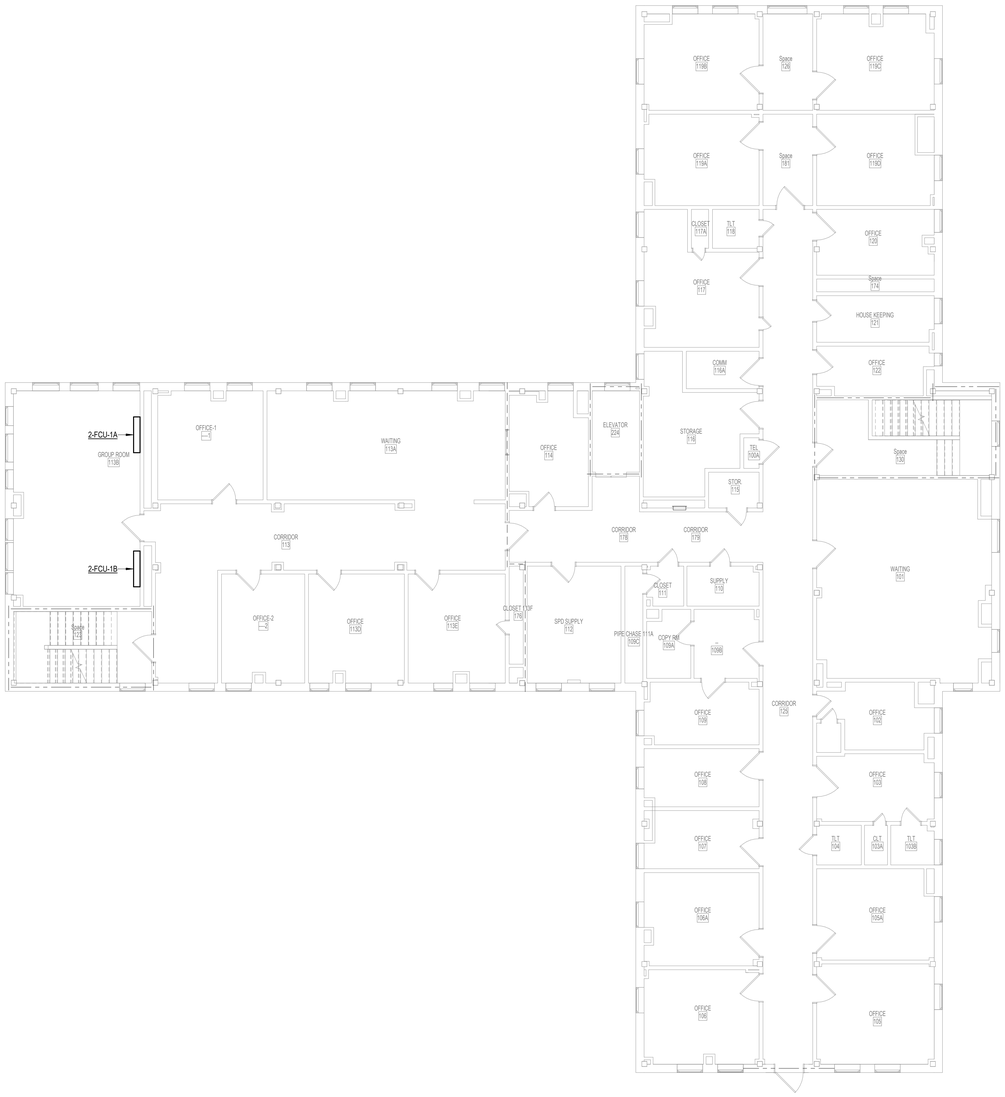
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.



1 01 - FIRST FLOOR - DUCTWORK
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	01 - FIRST FLOOR - DUCTWORK
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	AGT
Drawn	PCM
Project Number	679.22.106
Building Number	02
Drawing Number	MH101

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_B02_MEP.rvt
4/26/2023 4:06:02 PM

VA FORM 08 - 6231

GENERAL NOTES:

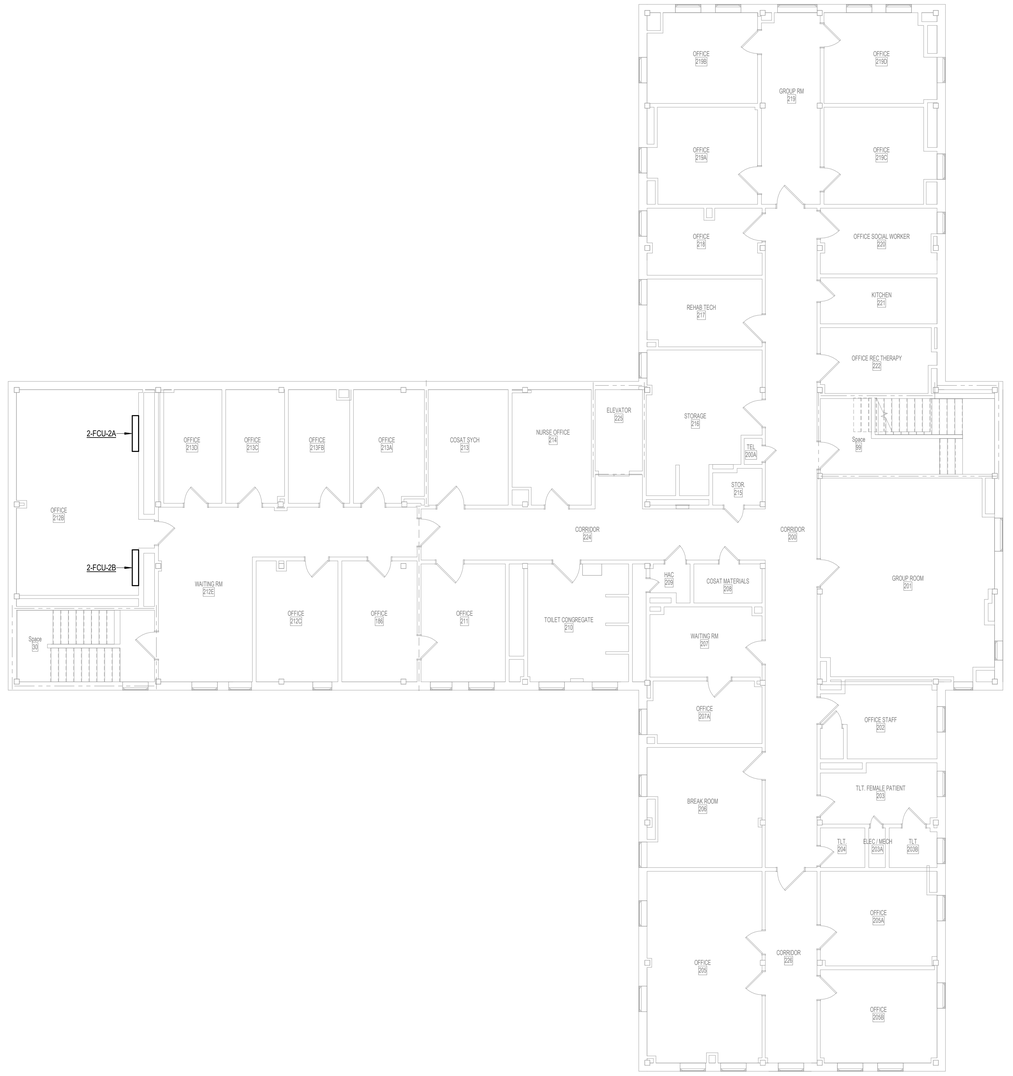
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.



1 02 - SECOND FLOOR - DUCTWORK
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title 02 - SECOND FLOOR - DUCTWORK	**Phase** CONSTRUCTION DOCUMENTS	**Project Title** REPLACE HVAC VARIOUS BUILDINGS	**Project Number** 679.22.106
			Building Number 02
Approved: SEE G001	FULLY SPRINKLERED	**Location** 3701 Loop Road, Tuscaloosa, AL 35404	**Drawing Number** MH102
		Issue Date 04/26/2023 / **Checked** AGT / **Drawn** PCM	

BIM 360://22017 001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B92_MEP.rvt
4/26/2023 4:06:04 PM

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.

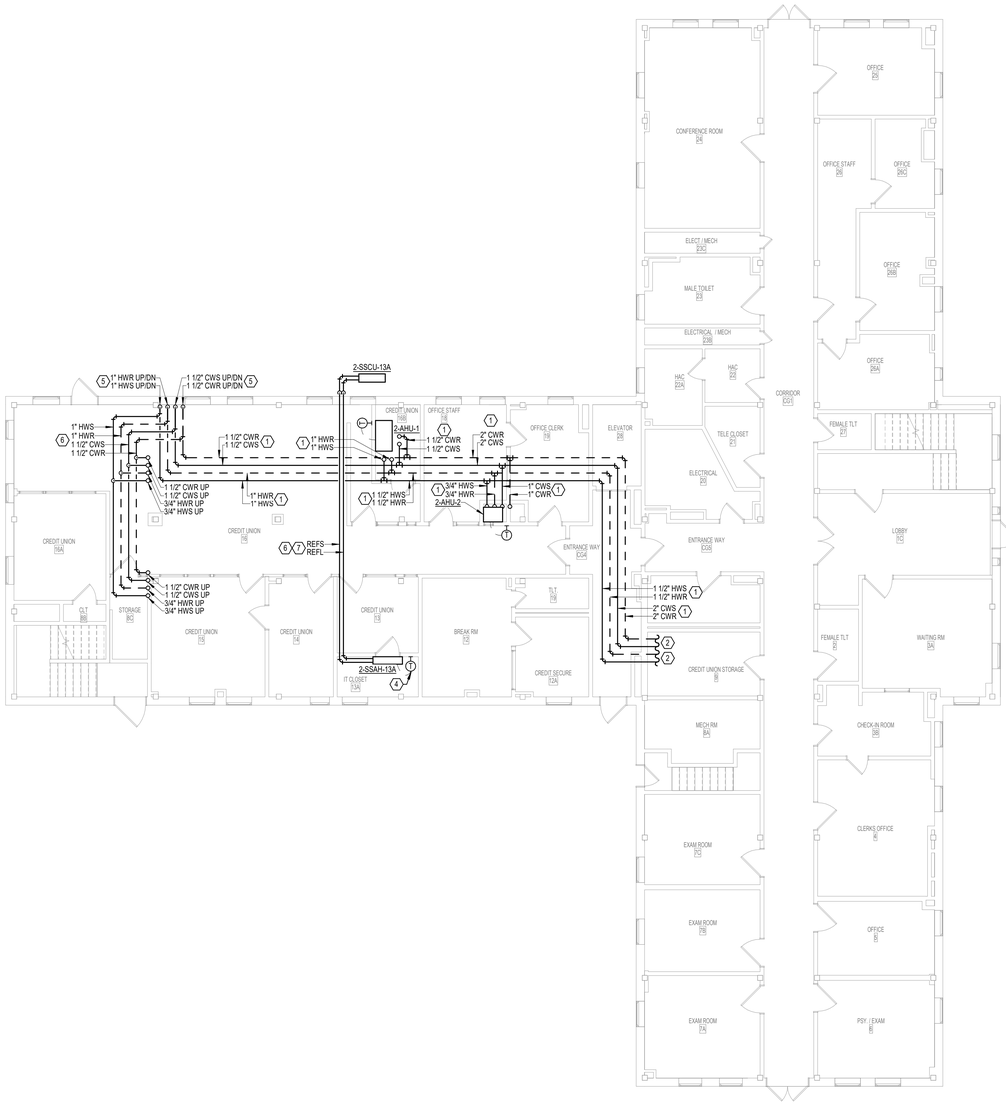
C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.

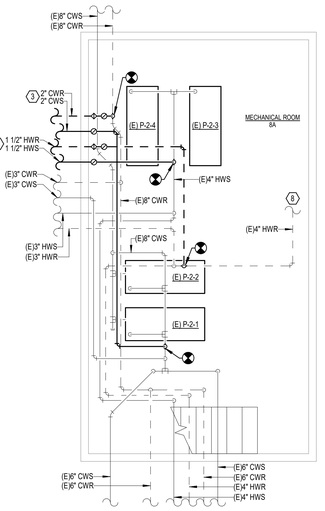
SHEET NOTES:⬡

1. PIPING SHALL BE ROUTED IN CRAWLSPACE BELOW.
2. SEE CONTINUATION OF CRAWLSPACE PIPING IN BASEMENT MECHANICAL ROOM 8A.
3. SEE CONTINUATION OF BASEMENT MECHANICAL ROOM 8A PIPING IN CRAWLSPACE BELOW GROUND LEVEL.
4. SPACE THERMOSTAT SHALL TIE INTO EXISTING METASYS SYSTEM.
5. ROUTE HEATING AND CHILLED WATER PIPING IN WALL FROM CRAWLSPACE BELOW TO ABOVE CEILING.
6. INSTALL PIPING ABOVE CEILING.
7. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. (E) 4" HWR TO EXISTING HEAT EXCHANGERS.



1 00 - GROUND FLOOR - PIPING
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



2 BB - BASEMENT - PIPING
1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 00 - GROUND FLOOR & BASEMENT - PIPING	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001			Building Number: 02
	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Drawing Number: MP100
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B02_MEP.rvt
4/26/2023 4:06:06 PM

VA FORM 08 - 6231

GENERAL NOTES:

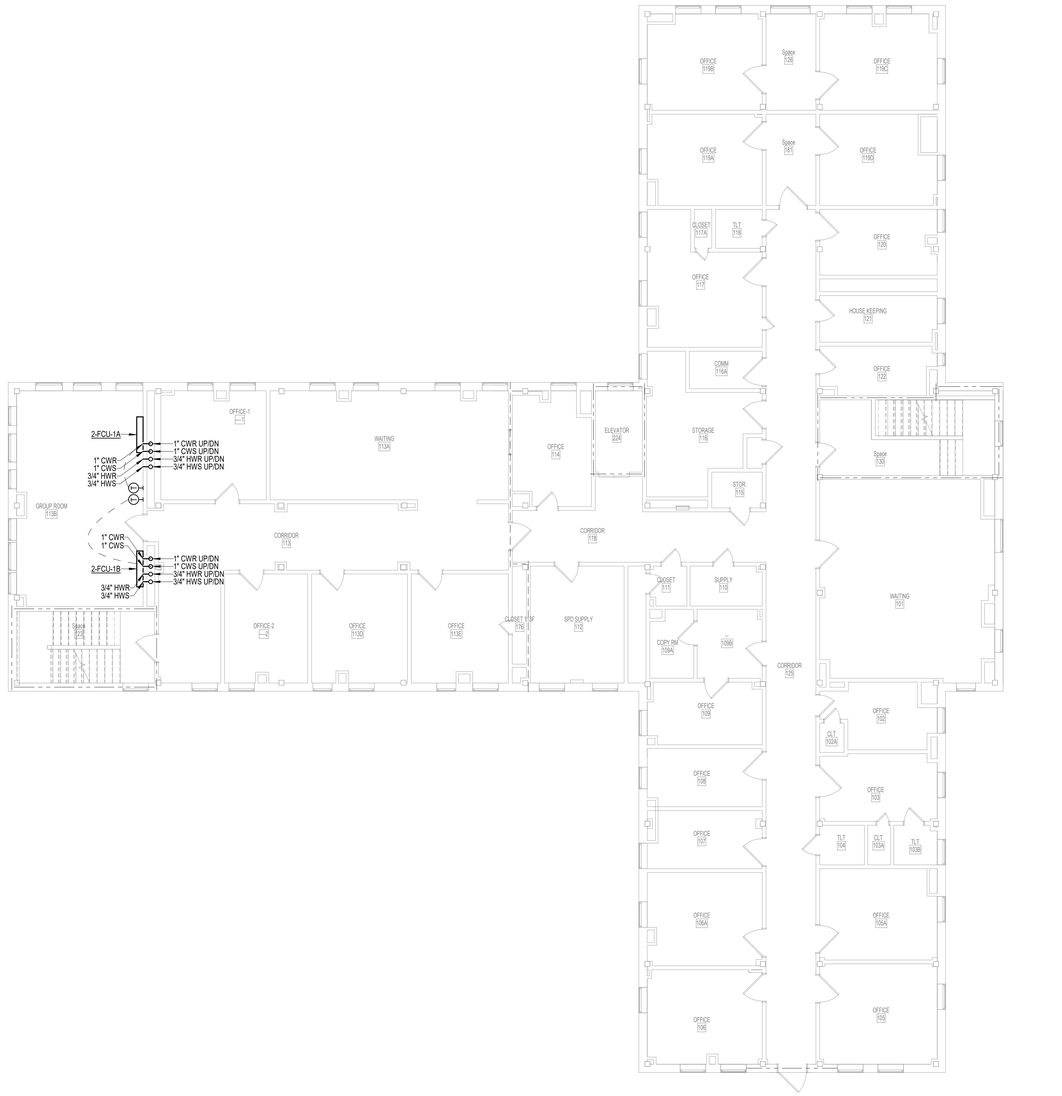
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.



1 01 - FIRST FLOOR - PIPING
1/8" = 1'-0"

0 4' 8' 16'

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

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 01 - FIRST FLOOR - PIPING	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Building Number: 02
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	Drawing Number: MP101

BIM 360://22017 001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_BI02_MEP.rvt
4/26/2023 4:06:08 PM

VA FORM 08 - 6231

GENERAL NOTES:

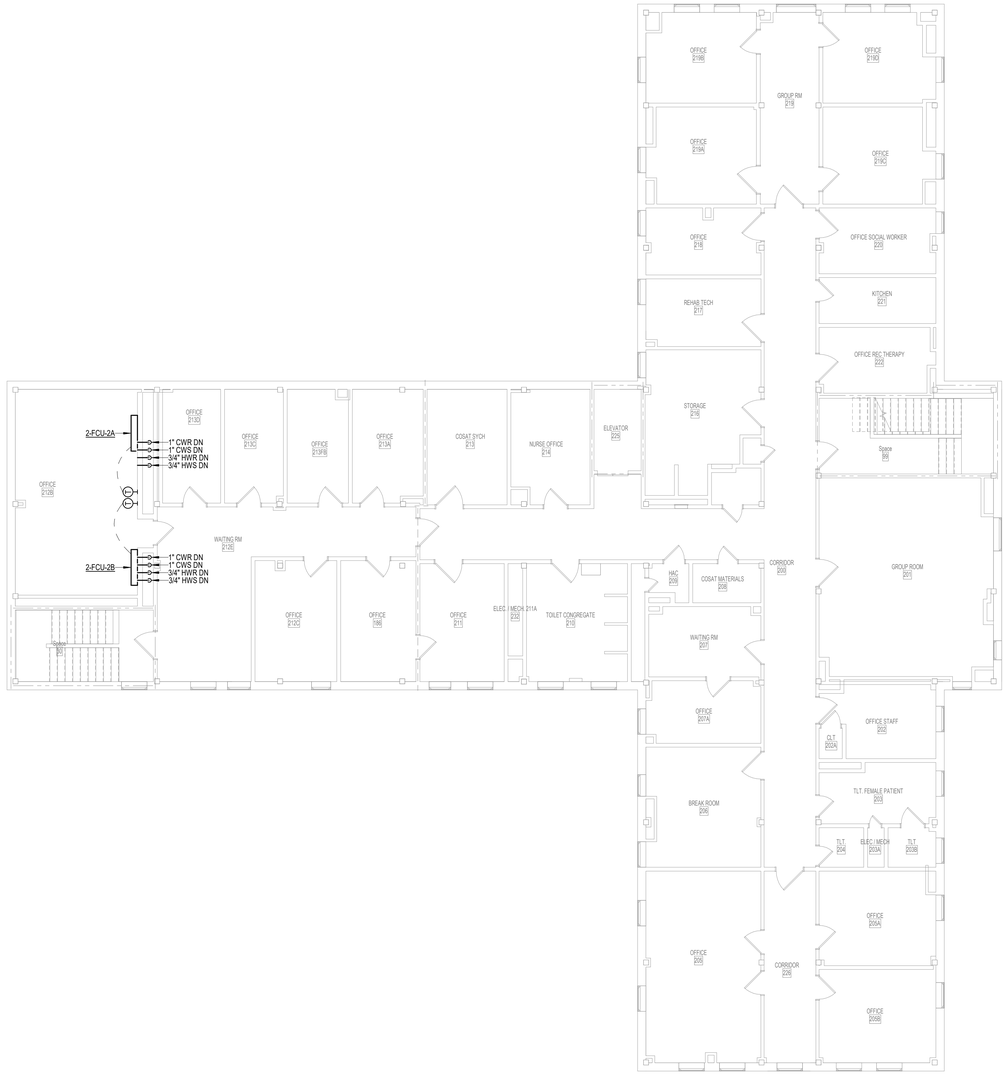
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

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.

E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.



1 02 - SECOND FLOOR - PIPING
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 ENGINEER ANDREA G THOMPSON 04/26/2023

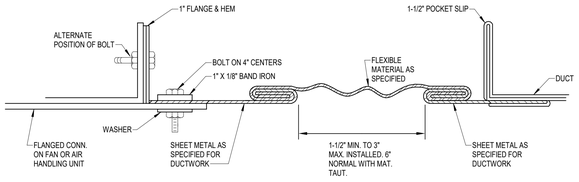
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

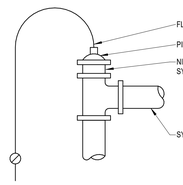
Drawing Title: 02 - SECOND FLOOR - PIPING	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
Approved: SEE G001			Building Number: 02
	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Drawing Number: MP102
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_BIR2_MEP.rvt
4/26/2023 4:06:10 PM

VA FORM 08 - 6231

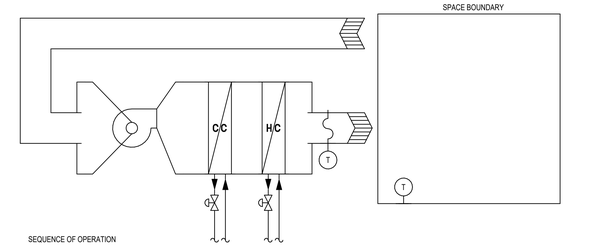


5 RECTANGULAR FLEXIBLE CONNECTION
NO SCALE



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.

8 MANUAL AIR VENT
NO SCALE



SEQUENCE OF OPERATION

EACH ZONE HAS A FAN COIL UNIT WITH A HOT WATER HEATING COIL, HEATING COIL CONTROL VALVE, CHILLED WATER COOLING COIL, COOLING COIL CONTROL VALVE, AND DIRECT DIGITAL CONTROLLER. INSTALL A WALL MOUNTED THERMOSTAT TO MAINTAIN A SPACE TEMPERATURE OF 72°F (ADJUSTABLE). SEE DRAWINGS FOR SENSOR REQUIREMENTS.

ON A CALL FOR COOLING, THE COOLING COIL CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS MAINTAINED OR UNTIL IT IS FULLY OPEN. THE HEATING COIL CONTROL VALVE SHALL BE CLOSED.

ON A CALL FOR HEATING, THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS MAINTAINED OR UNTIL IT IS FULLY OPEN. THE COOLING COIL CONTROL VALVE SHALL BE CLOSED.

THE FAN SHALL CYCLE WITH DEMAND. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, SEND AN ALARM TO THE OPERATOR INTERFACE.

ON A CALL FOR COOLING, THE COOLING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE HEATING COIL CONTROL VALVE SHALL BE CLOSED.

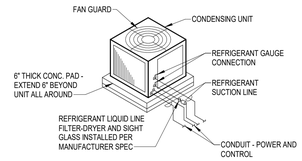
ON A CALL FOR HEATING, THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE COOLING COIL CONTROL VALVE SHALL BE CLOSED.

IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJUSTABLE), SEND ALARM TO THE OPERATOR INTERFACE.

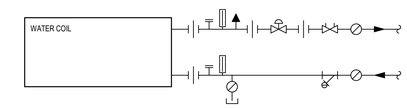
GENERAL NOTES

1. FAN COIL UNIT CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 24 INCHES.
2. WHERE MULTIPLE SPACES ARE SERVED BY A FAN COIL UNIT, WIRE ALL OCCUPANCY SENSORS TO FAN COIL UNIT CONTROLLER.
3. MOUNT ALL ROOM SENSORS AT 48" ABOVE FINISHED FLOOR. COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.

4 FAN COIL UNIT CONTROLS
NO SCALE

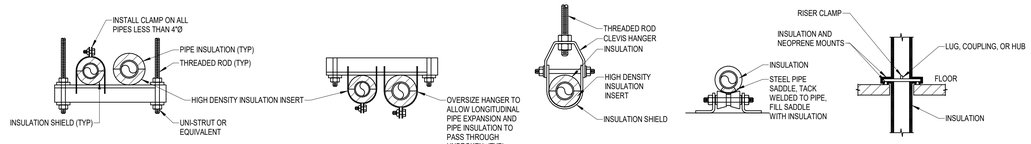


7 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL
NO SCALE



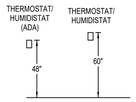
3 HEATING/CHILLED WATER COIL
NO SCALE

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



TRAPEZE HANGER | STRUT CLAMP HANGERS | CLEVIS HANGER | ROLLER SUPPORT | VERTICAL PIPE SUPPORT

2 PIPE SUPPORT - TYPICAL FOR ALL PIPING
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. WHERE DEVICES OR EQUIPMENT ARE SHOWN ON WALLS WHERE THE ARCHITECTURAL ELEVATION INDICATES A SURFACE OTHER THAN THE BASE PAINT FOR THE PROJECT, REQUEST CLARIFICATION ON THE MOUNTING LOCATION OF THE DEVICE OR EQUIPMENT. DEVICES AND EQUIPMENT SHALL NOT BE MOUNTED TO FEATURE WALLS AND WALLS CONSTRUCTED OF MATERIALS OTHER THAN DRYWALL WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.

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.

1 MECHANICAL EQUIPMENT MOUNTING HEIGHTS
NO SCALE

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS AND CONTROLS	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679.22.106
			Building Number: 02
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road, Tuscaloosa, AL 35404	Drawing Number: M500
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679.22.106_BI02_MEP.rvt
4/26/2023 4:05:57 PM

VA FORM 08 - 6231

SPLIT SYSTEM SCHEDULE

MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	INDOOR UNIT				OUTDOOR UNIT					ELECTRICAL DATA							
				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	MANUFACTURER	MODEL	REMARKS
				LENGTH	WIDTH	HEIGHT		LENGTH	WIDTH	HEIGHT										
2-SSAH-13A	13A	3.0	36	46 1/16"	11 5/8"	14 3/8"	80/67						46	208 V	1	26	30		TRANE	TPK036	(1)(5)
2-SSCU-13A	SSAH-13A	3.0	36					41 5/16"	13"	52 11/16"	95/75	20	211	208 V	1	25	30	DIV 26	TRANE	TRUYA036	(1)(2)(3)(4)

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.

FAN COIL UNIT SCHEDULE

MARK	MAX SIZE (LxWxH) [IN]	AIRFLOW [CFM]	COOLING					HEATING					ELECTRICAL DATA					MANUFACTURER	MODEL	REMARKS
			COOLING [MBH]	COOLING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	HEATING [MBH]	HEATING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY			
2-AHU-1	48x26x40	3000	79.12	20.23	42	54	8.52	106.47	6.75	180	150	0.96	208 V	3	14	25	DIV 26	TRANE	BCHE090	(1)(2)(3)(4)(5)(6)(7)(8)(9)
2-AHU-2	23x30x50	1200	27.92	6.5	42	54	2.51	45.39	2.89	180	150	2.46	208 V	3	5.75	15	DIV 26	TRANE	BCVE036	(1)(2)(3)(4)(5)(6)(7)(8)(9)
2-FCU-1A	56x10x25	800	19.26	4.38	42	54	8.14	10.98	1.1	180	150	0.39	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(5)(6)(7)(8)(9)
2-FCU-1B	56x10x25	800	19.26	4.38	42	54	8.14	10.98	1.1	180	150	0.39	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(5)(6)(7)(8)(9)
2-FCU-2A	56x10x25	800	19.26	4.38	42	54	8.14	10.98	1.1	180	150	0.39	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(5)(6)(7)(8)(9)
2-FCU-2B	56x10x25	800	19.26	4.38	42	54	8.14	10.98	1.1	180	150	0.39	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(5)(6)(7)(8)(9)

REMARKS:
1. PROVIDE DISCONNECT.
2. PROVIDE VIBRATION ISOLATION.
3. PROVIDE AUXILIARY DRAIN PAN.
4. PROVIDE CONDENSATE HIGH LIMIT SWITCH.
5. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
6. PROVIDE INTEGRAL CONTROL VALVE.
7. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
8. PROVIDE WITH POWER SUPPLY. COORDINATE MOUNTING INSIDE ARCHITECTURAL ENCLOSURE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR ACCESS TO ALL COMPONENTS REQUIRING MAINTENANCE.
9. PROVIDE BACNET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

HVAC 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	141 - 200	1.5	1.5	2	2	2	MF	ASJ-SSL	1-100	(3)
INDOOR HOT WATER	105 - 140	1	1	1.5	1.5	1.5	MF	ASJ-SSL	1-100	(3)
INDOOR COLD WATER	40 - 60	0.5	0.5	1	1	1	MF, E	ASJ-SSL	1-100, 1-200	
INDOOR COLD WATER	< 40	0.5	1	1	1	1.5	MF, E	ASJ-SSL	1-100, 1-200	
REFRIGERANT	ANY	0.5	1	1	1	NA	E		1-200	(4)
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	(5)

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. HOT WATER SYSTEM TEMPERATURES EXCEEDING 200 DEG F TO BE TREATED FOR APPROPRIATE TEMPERATURE RANGE AS LISTED UNDER LPS OR HPS.
4. UNDERGROUND REFRIGERANT PIPING SHALL BE INSULATED AS SPECIFIED FOR ABOVEGROUND PIPING AND INSTALLED IN PVC CONDUIT.
5. 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.

DUCT AND PLENUM INSULATION SCHEDULE

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

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. INSULATE FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS AS RECOMMENDED BY THE SMACNA FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC.
4. REFER TO NCIIS PLATE 3-600 FOR INSULATION OF TRAPEZE OR ANGLE IRON DUCT SUPPORTS.

COORDINATION OF WORK SCHEDULE

ITEM	SUPPLIER	INSTALLER	POWER	CONTROL (4)
MOTORS	MC	MC (3)	EC	CC
EQUIPMENT MOUNTED ELECTRICAL COMPONENTS	MC	MC	EC	CC
LOOSE MOUNTED ELECTRICAL COMPONENTS	EC	EC	EC	CC
CONTROL RELAYS, TRANSFORMERS, POWER	MC	EC	EC (4)	CC
120V THERMOSTATS	MC	MC	MC	CC (1)
TEMPERATURE CONTROL SENSORS	MC	MC	CC	CC
TEMPERATURE CONTROL PANELS	MC	CC	EC (4)	CC
VARIABLE SPEED DRIVES	MC	MC	EC	CC
TERMINAL BOX CONTROLS	MC	MC	EC (4)	CC
PE/EP SWITCHES, SOLENOID VALVES, ACTUATORS	CC	CC	EC (4)	CC
PUSHBUTTON STATIONS	EC	EC	EC (4)	EC
TIME CLOCKS	EC	EC	EC	EC
FAN COIL UNITS	MC	MC	EC	CC (1)
DX CONDENSING UNITS AND CONDENSERS	MC	MC	EC	CC (1)
SMOKE DAMPERS	MC	MC	EC	EC

REMARKS:
1. IF NO CC IN CONTRACT, MC TO WIRE CONTROLS AND EC TO PIPE CONDUIT.
2. ALL LOW VOLTAGE WIRING OF PANELS TO BE COVERED IN MC BID, WIRING CONTRACTOR TO BE SUBCONTRACTOR TO MC.
3. INSTALLING CONTRACTOR IS RESPONSIBLE FOR FIELD ALIGNMENT SERVICES WHEN REQUIRED BY COMMON MOTOR REQUIREMENTS SPECIFICATION OR BY INDIVIDUAL EQUIPMENT SPECIFICATIONS.
4. ALL HARDWARE, SOFTWARE, EQUIPMENT, ACCESSORIES, WIRING (POWER AND SENSOR), PIPING, RELAYS, SENSORS, POWER SUPPLIES, TRANSFORMERS, AND INSTRUMENTATION REQUIRED FOR A COMPLETE AND OPERATIONAL DDC SYSTEM, BUT NOT SHOWN ON THE ELECTRICAL DRAWINGS, ARE THE RESPONSIBILITY OF THE CC.

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SCHEDULES
Phase	CONSTRUCTION DOCUMENTS
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Project Number	679.22.106
Building Number	02
Approved:	SEE G001
	FULLY SPRINKLERED
Location	3701 Loop Road, Tuscaloosa, AL 35404
Issue Date	04/26/2023
Checked	AGT
Drawn	PCM
Drawing Number	M600

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_BI02_MEP.rvt
4/26/2023 4:05:58 PM

VA FORM 08 - 6231

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
##"	MOUNTING HEIGHT TO CENTERLINE (ABOVE FINISHED FLOOR)
A	AMPERE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
AT	AMPERE TRIP
C	CEILING
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
CU	COPPER
D	DATA (WHEN APPLIED TO COMMUNICATIONS OUTLET)
D	DEMO (WHEN APPLIED TO EXISTING/DEMO ITEMS)
E	EXISTING
EO	ELECTRICALLY OPERATED
ERMS	ENERGY REDUCING MAINTENANCE SWITCH
F	FUSE
FLA	FULL LOAD AMPS
G, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFA	GROUND FAULT ALARM
GFP	GROUND FAULT PROTECTION
HP	HORSEPOWER
KAIC	KILOAMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERE
KW	KILOWATT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MO	MANUALLY OPERATED
NC	NORMALLY CLOSED
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
P	POLES
PART	PARTIAL
R	RELOCATE
SCCR	SHORT CIRCUIT CURRENT RATING
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOICE
W	WALL PHONE
W	WIRE
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
ZSI	ZONE SELECTIVE INTERLOCKING

REFER TO OTHER SCHEDULES AND NOTES FOR ADDITIONAL ABBREVIATIONS.

ONE LINE SYMBOL

PLAN SYMBOL	NAME
	CIRCUIT BREAKER
	CONTINUATION
	GROUND BAR
	GROUNDING ELECTRODE
	PANEL BOARD
	TRANSFORMER

ELECTRICAL MISC SYMBOLS

PLAN SYMBOL	NAME
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL
	BRANCH CIRCUIT CONCEALED IN FLOOR OR BELOW GRADE
	CLEARANCE SPACE
	CONDUIT BREAK
	CONDUIT DOWN
	CONDUIT STUB-OUT
	CONDUIT UP
	HOMERUN TO PANEL G = GFCI CIRCUIT (PART) = PARTIAL CIRCUIT
	SWITCHED RECEPTACLE

LIGHTING DEVICE SYMBOLS

PLAN SYMBOL	NAME
S3	SWITCH - 3 WAY

LIGHTING FIXTURE SYMBOLS

PLAN SYMBOL	NAME
	EMERGENCY HATCH
	EXIT SIGN - WALL
	PENDANT - SMALL CONE
	TRACK LIGHTING
	WALL SCONCE FIXTURE

ELECTRICAL GENERAL NOTES:

(GENERAL NOTES SHALL APPLY TO ALL SHEETS)

A. BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 75' SHALL UTILIZE #10 AWG CONDUCTORS. RECEPTACLE BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 150' SHALL UTILIZE #8 AWG CONDUCTORS.
B. FOR ALL CONDUIT AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE UL 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. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, 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.
C. ANY ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
D. NEW WIRING DEVICES AND ASSOCIATED COVERPLATES SHALL MATCH EXISTING FINISH OF SIMILAR INSTALLED DEVICES.
E. THE SELECTED EQUIPMENT AIC RATINGS ARE BASED ON THE IMPEDANCES FOR CONDUCTORS AND TRANSFORMERS USED IN THE CALCULATIONS. IF DIFFERENT EQUIPMENT OR DIFFERENT CONFIGURATIONS ARE SELECTED FOR INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATELY RATED EQUIPMENT THAT MEETS APPLICABLE SELECTIVE COORDINATION GOALS AND PROVIDES SIMILAR INCIDENT ENERGY RISK OF ARC FLASH HAZARDS.
F. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO INDEPENDENTLY SUPPORT ALL EXISTING TO REMAIN CABLING.

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	ELECTRICAL SYMBOLS AND ABBREVIATIONS
Approved:	SEE G001
Phase	CONSTRUCTION DOCUMENTS
	FULLY SPRINKLERED
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Location	3701 Loop Road East Tuscaloosa, AL 35404-5099
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB
Project Number	679-22-106
Building Number	46
Drawing Number	E000

VA FORM 08 - 6231

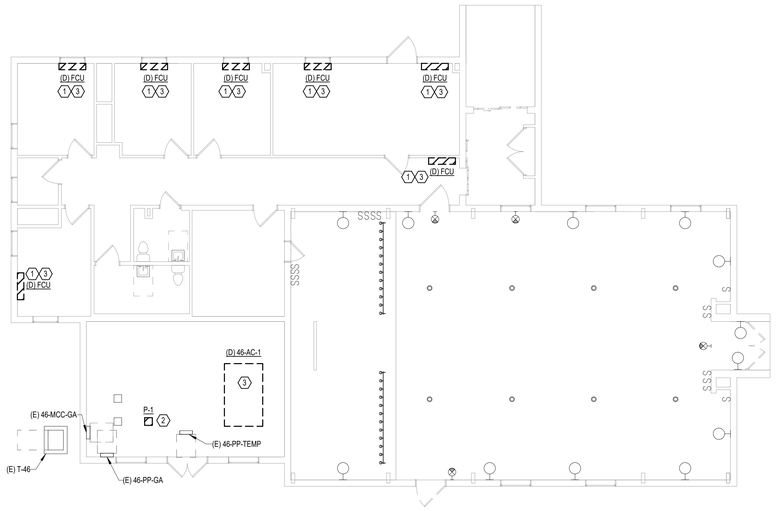
ELECTRICAL DEMOLITION GENERAL NOTES:

(ELECTRICAL DEMOLITION NOTES APPLY TO ALL ELECTRICAL DEMOLITION PLANS AND ALL ELECTRICAL DEMOLITION WORK)

A. THE INTENT OF THE DEMOLITION DRAWINGS IS TO DEFINE THE SCOPE OF ELECTRICAL DEMOLITION WORK. PROVIDE DEMOLITION FOR ITEMS AS SHOWN.
B. ITEMS INDICATED WITH A SUBSCRIPT 'E' SHALL BE EXISTING TO REMAIN (E-EXISTING). ITEMS INDICATED WITH A SUBSCRIPT 'D' OR SHOWN DASHED SHALL BE REMOVED (D-DEMOLITION). ITEMS INDICATED WITH A SUBSCRIPT 'R' SHALL BE REMOVED, STORED, AND REINSTALLED PER NEW WORK (R-RELOCATION).
C. THESE DRAWINGS DO NOT IDENTIFY EACH INDIVIDUAL ITEM TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ITEMS WHICH MUST BE REMOVED TO FACILITATE NEW CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR EXACT LIMITS OF DEMOLITION AND CONSTRUCTION. THESE PLANS ARE BASED ON PAST PROJECT DRAWINGS AND SITE OBSERVATIONS. THE DRAWINGS ARE PROVIDED TO THE CONTRACTOR AS AN AID IN DETERMINING THE EXTENT OF WORK REQUIRED FOR DEMOLITION AND TO PROVIDE GENERAL INFORMATION ABOUT EXISTING SYSTEMS. THESE DRAWINGS MAY NOT BE ACCURATE IN ALL AREAS. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS AND IS ENCOURAGED TO REVIEW FACILITY DRAWINGS PRIOR TO THE BID DATE.
D. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL ITEMS REMOVED. IF OWNER REFUSES SALVAGE, CONTRACTOR IS RESPONSIBLE FOR DISPOSAL.
E. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL ELECTRICAL DEMOLITION ITEMS. DISCONNECT AND REMOVE ELECTRICAL DEVICES, EQUIPMENT AND ASSOCIATED WIRING AS REQUIRED TO ACCOMMODATE NEW WORK. IF THE CONTRACTOR IS UNCLEAR REGARDING A SPECIFIC ITEM TO REMAIN OR BE REMOVED, THE CONTRACTOR SHALL SEEK CLARIFICATION FROM THE ARCHITECT.
F. SYSTEMS SERVING ADJACENT AREAS AND ITEMS THAT REMAIN SHALL BE MAINTAINED AT ALL TIMES. MODIFY SYSTEMS AS REQUIRED THROUGHOUT CONSTRUCTION TO MAINTAIN CONTINUITY OF SERVICE. DO NOT INTERRUPT SERVICE WITHOUT OWNER'S PRIOR WRITTEN APPROVAL. LIMIT DURATION OF INTERRUPTION ONLY TO THE TIME NECESSARY FOR DISCONNECTION AND IMMEDIATE RECONNECTION. INTERRUPTION TO SERVICE DEEMED BY OWNER AS ESSENTIAL MAY REQUIRE PREMIUM TIME AND SHALL BE INCLUDED WITH THE BID. EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO IDENTIFY EXISTING SYSTEM COMPONENTS ASSOCIATED WITH THESE SERVICES. APPROPRIATE METHODS OF MARKING THESE SHALL OCCUR TO ELIMINATE THE POSSIBILITY OF ACCIDENTAL INTERRUPTION. FOR CONDUIT AND CABLING THAT CAN REMAIN, PROVIDE SUPPORT AS REQUIRED. RELOCATE EXISTING JUNCTION BOXES THAT BECOME INACCESSIBLE DUE TO NEW WORK.
G. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED.
H. PROTECT EXISTING ELECTRICAL EQUIPMENT THAT REMAINS. IF DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.
I. PATCH AND REPAIR OPENINGS IN EXISTING WALLS AND FLOORS RESULTANT FROM SPECIFIED ELECTRICAL DEMOLITION. PATCH SHALL MATCH EXISTING CONSTRUCTION, FIRE RATING, AND FINISH. SEE ARCHITECTURAL SPECIFICATIONS FOR MEANS AND METHODS.
J. ALL UNLABELED ELECTRICAL DEVICES WITH CIRCUITRY OR DEVICES MODIFIED DURING CONSTRUCTION SHALL BE CIRCUIT TRACED AS NEEDED WITH A LABEL PROVIDED.

SHEET NOTES:

1. EXISTING FAN COIL UNIT (FCU) TO BE REPLACED. DISCONNECT FAN COIL UNIT AND SALVAGE CIRCUIT FOR RECONNECTION TO NEW EQUIPMENT.
2. EXISTING CIRCULATION PUMP TO BE REPLACED. DISCONNECT PUMP AND SALVAGE CIRCUIT FOR RECONNECTION TO NEW EQUIPMENT.
3. DISCONNECT EXISTING MECHANICAL EQUIPMENT. SITE CLEAR CONDUIT AND CONDUCTORS TO SOURCE. LABEL EXISTING CIRCUIT BREAKER PREVIOUSLY SERVING THIS UNIT AS SPARE (INCLUDE ALL BOX COVERS, TRIM PLATES, AND DISCONNECTS)..



1 01-FIRST FLOOR - ELECTRICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 029777 ENGINEER CHARLES G. HALL 04/26/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	ELECTRICAL DEMOLITION
Phase	CONSTRUCTION DOCUMENTS
Project Title	REPLACE HVAC VARIOUS BUILDINGS
Project Number	679-22-106
Building Number	46
Approved:	SEE G001
	FULLY SPRINKLERED
Location	3701 Loop Road East Tuscaloosa, AL 35404-5099
Drawing Number	ED101
Issue Date	04/26/2023
Checked	CGH
Drawn	SUB

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B46_MEP - R21.rvt
4/26/2023 4:06:53 PM

VA FORM 08 - 6231

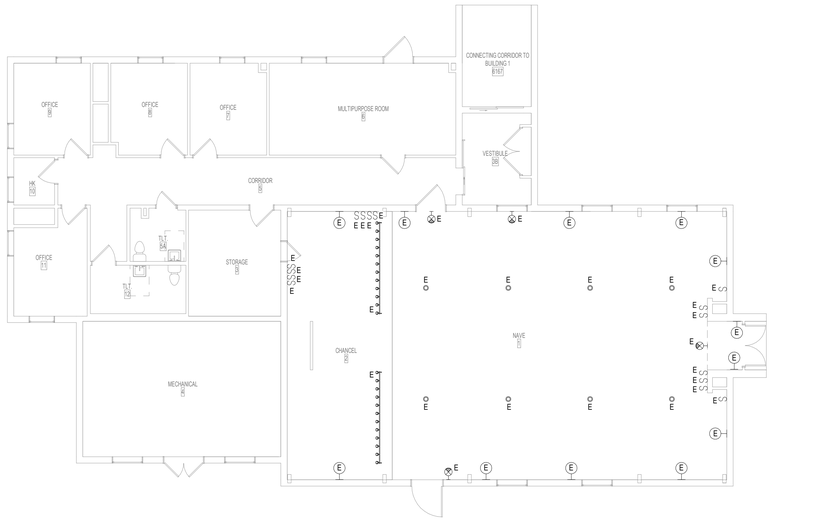
LIGHTING GENERAL NOTES:

(LIGHTING GENERAL NOTES SHALL APPLY TO ALL SHEETS)

A. LIGHTING CONTROL DEVICES ARE INDICATED WITHOUT CONNECTION TO FIXTURE(S) BEING CONTROLLED. WITHIN EACH AREA, CONNECT CONTROL DEVICE TO SERVE LIGHT FIXTURE(S) LOCATED WITHIN SAME AREA. WHERE LIGHT FIXTURES ARE INDICATED WITH A SUBSCRIPT LETTER IDENTIFYING INDIVIDUAL LIGHTING CONTROL ZONES, CONTROL DEVICE SERVING AREA WITH MATCHING SUBSCRIPT SHALL CONTROL CORRESPONDING LIGHT FIXTURES.
B. SWITCHES SERVING UNDERCABINET TASK LIGHTING SHALL MATCH RECEPTACLE HEIGHT ABOVE COUNTER.
C. LIGHTING CONTROL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
D. CONTRACTOR SHALL COORDINATE ALL LIGHTING CONTROL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. COORDINATE ROUTING OF ALL ELECTRICAL BRANCH CIRCUITS AND CONDUIT WITH OTHER TRADES TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
E. FIXTURES DESIGNATED ['24'][,] ['LS'][,] AND EXIT LIGHTS SHALL BE SERVED FROM A [COMMON] 20A [120V] [277V] [LIFE SAFETY BRANCH CIRCUIT (WITHIN PANEL ___)][CENTRAL BATTERY INVERTER BRANCH CIRCUIT]. [FIXTURES DESIGNATED '24' AND] EXIT LIGHTS SHALL BE ILLUMINATED 24 HOURS. [FIXTURES DESIGNATED 'LS' SHALL BE SWITCHED BY CONTROLS INDICATED. PROVIDE EMERGENCY LIGHTING CONTROL RELAYS PER SPECIFICATIONS FOR EMERGENCY LIGHTING OVERRIDE. REFER TO MANUFACTURER'S WIRING DIAGRAMS FOR INSTALLATION INSTRUCTIONS.] [BRANCH CIRCUITS SHALL BE DISTRIBUTED AS FOLLOWS:
   - FLOOR A, AREA A (- LIFE SAFETY PANEL-CIRCUIT NUMBER)
   - REPEAT AS NEEDED]
F. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:⬡

1. XXX



1 01-FIRST FLOOR - LIGHTING
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 029777 04/26/2023 ENGINEER CHARLES G. HALL

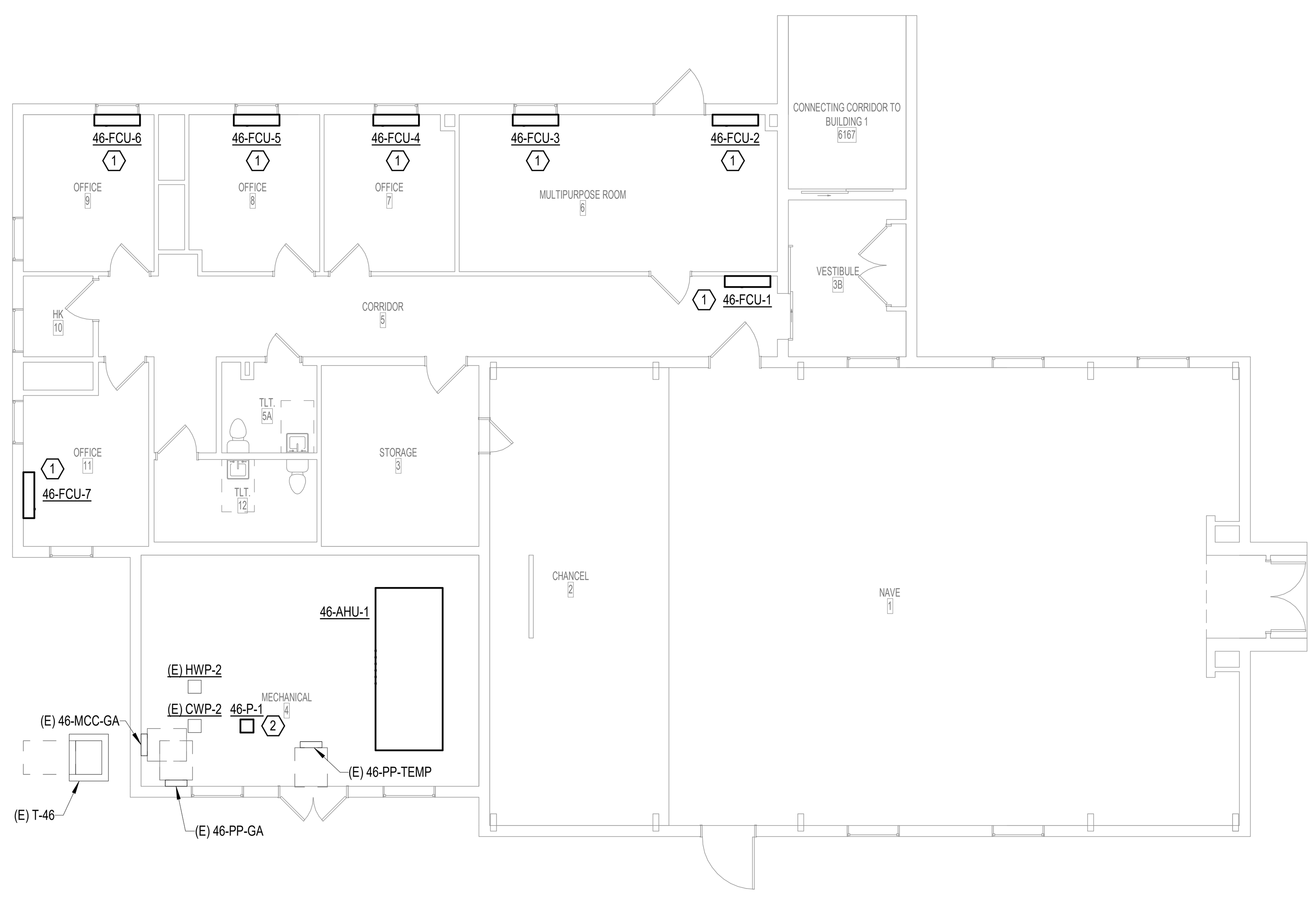
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FLOOR PLAN - LIGHTING	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679-22-106
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road East Tuscaloosa, AL 35404-5099	Building Number: 46
		Issue Date: 04/26/2023 · Checked: CGH · Drawn: SUB	Drawing Number: EL101

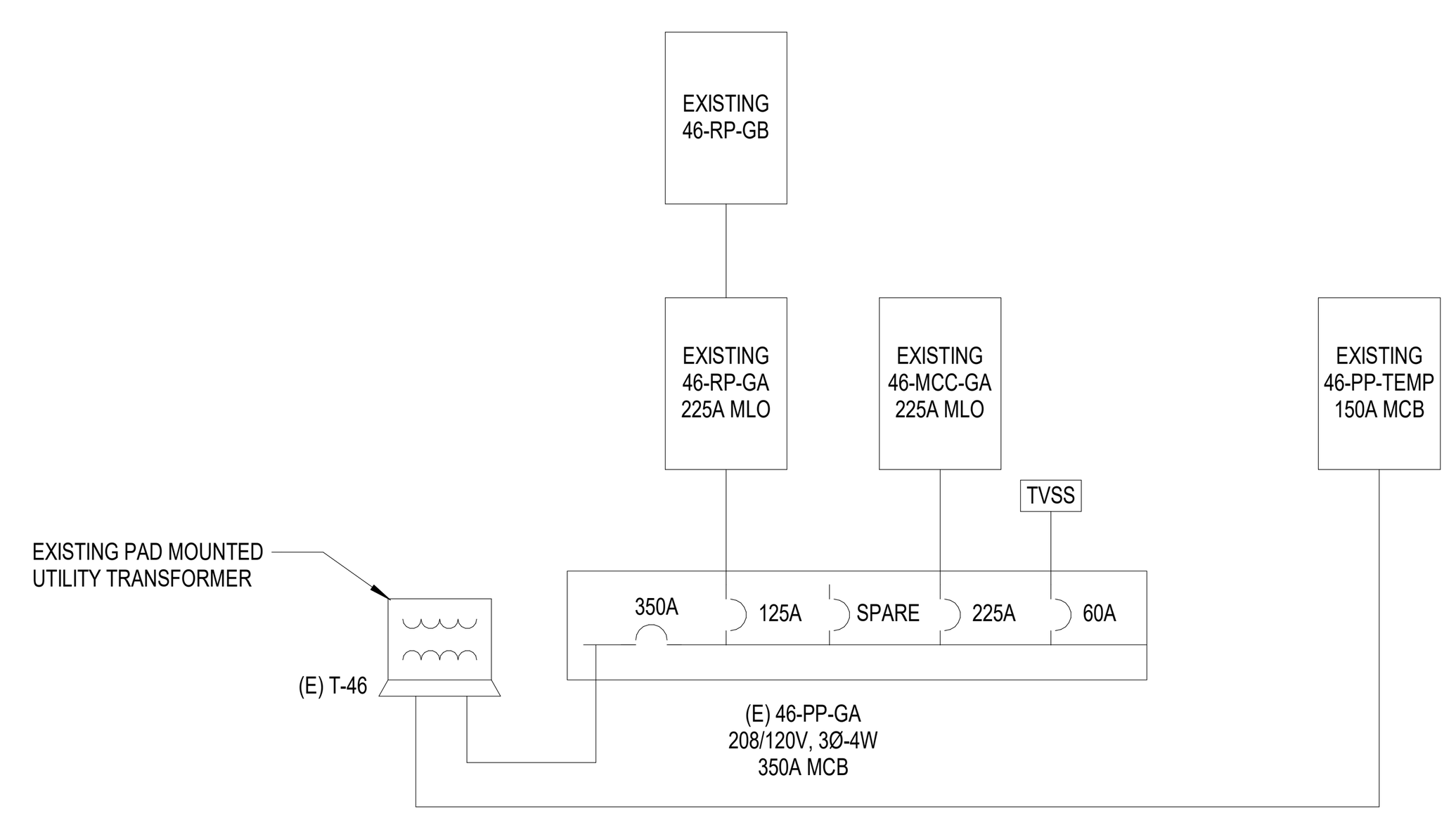
BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings\679.22.106_B46_MEP_R21.rvt
4/26/2023 4:06:54 PM

VA FORM 08 - 6231



1 01-FIRST FLOOR - POWER
1/8" = 1'-0"

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



2 ELECTRICAL ONE-LINE
NO SCALE

EQUIPMENT CONNECTION SCHEDULE

MARK	DESCRIPTION	ROOM NAME	ROOM #	HP	KW	FLA	MCA	MOCP	VOLTS	PHASE	POLES	LOAD [VA]	CONTROL TYPE	DISCONNECT BY	DISCONNECT TYPE	FEEDER	PANEL	CIRCUIT NUMBER	SCCR
46-AHU-1	AIR HANDLING UNIT	MECHANICAL	4	7.5	8.8	25.3		50	208	3	3	9115	INT, FA STOP	MECH	VFD	(5) (50A) 3-#6 CU, #10 CU GND - 1"C.	(E) 46-MCC-GA	14,16,18	0
46-FCU-1	FAN COIL UNIT	CORRIDOR	5	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	7,9	0
46-FCU-2	FAN COIL UNIT	MULTIPURPOSE ROOM	6	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	7,9	0
46-FCU-3	FAN COIL UNIT	MULTIPURPOSE ROOM	6	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	7,9	0
46-FCU-4	FAN COIL UNIT	OFFICE	7	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	7,9	0
46-FCU-5	FAN COIL UNIT	OFFICE	8	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	8,10	0
46-FCU-6	FAN COIL UNIT	OFFICE	9	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	8,10	0
46-FCU-7	FAN COIL UNIT	OFFICE	11	0	0	0		15	208	1	2	208		MECH	F 30A/1P	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 46-PP-TEMP	8,10	0

GENERAL NOTES: (EQUIPMENT CONNECTION SCHEDULE)

A. EQUIPMENT LISTED MAY NOT BE UNIQUE, VERIFY QUANTITY WITH FLOOR PLANS. WHERE LOCATIONS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS, REFER TO MECHANICAL SHEETS. REFER TO DEFINITIONS BELOW FOR CLARIFICATIONS OF CONNECTION REQUIREMENTS.
B. PROVIDE WIRING AND EQUIPMENT CONNECTIONS FOR INTERNAL EQUIPMENT COMPONENTS AS REQUIRED. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
C. "CONTROL TYPE" - PROVIDE CONTROL AND CONNECTIONS:
- "INT" = CONTROLS ARE MANUFACTURED INTEGRAL TO THE EQUIPMENT (SELF-CONTAINED).
- "FA STOP" = FANS WITH CFM OF 2000 OR GREATER AND FANS SERVING DUCTS CONTAINING SMOKE DAMPERS.
  - PROVIDE FIRE ALARM SYSTEM DUCT SMOKE DETECTORS AT RETURN-SIDE AND SUPPLY-SIDE OF FAN/UNIT. PROVIDE MULTIPLE DETECTORS IF REQUIRED TO ACCOMMODATE MAIN DUCT TAKE-OFFS WHERE A SINGLE DETECTOR CANNOT BE INSTALLED TO CAPTURE ALL AIRFLOW. FIRE ALARM SYSTEM SHALL SHUTDOWN FAN UPON DETECTION OF SMOKE IN DUCT OR ROOMS SERVED FROM THIS EQUIPMENT. PROVIDE WITH INDIVIDUAL FIRE ALARM SYSTEM ADDRESSABLE CONTROL MODULE AT MOTOR CONTROLLER/STARTER AND CONNECT TO SHUTDOWN FAN.

D. "DISCONNECT BY" :
- "MECHANICAL" = DISCONNECT IS FURNISHED BY MECHANICAL CONTRACTOR OR PROVIDED WITH MECHANICAL EQUIPMENT.
  - ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND ADDITIONAL CONNECTIONS REQUIRED FOR LOOSE DISCONNECTS FURNISHED BY THE MECHANICAL CONTRACTOR.

E. "DISCONNECT TYPE" - PROVIDE DISCONNECT/RECEPTACLE AT EQUIPMENT LOCATION AND ASSOCIATED CONNECTION TO EQUIPMENT AND BRANCH CIRCUIT:
- "VFD" = VARIABLE FREQUENCY DRIVE CONTROLLER. LOCATE VARIABLE FREQUENCY DRIVE CONTROL TO SERVE AS THE MOTOR DISCONNECT.
- DISCONNECTS OF MOTORS SERVED FROM A VFD SHALL CONTAIN AUXILIARY CONTACTS CONNECTED TO THE VFD TO DISABLE VFD UPON DISCONNECTION.
- WHERE STARTERS OR VFD'S CONTAIN INTEGRAL DISCONNECTS AND ARE LOCATED PER NEC TO SATISFY AS THE EQUIPMENT DISCONNECT, AN ADDITIONAL EQUIPMENT DISCONNECT IS NOT REQUIRED.

F. "FEEDER":
- PROVIDE CONDUCTORS AND RACEWAY AS INDICATED. TYPICAL FORMAT IS: (FEEDER TAG) (NOMINAL SIZE) CONDUCTORS AND RACEWAY REQUIRED.

G. "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

POWER GENERAL NOTES:

(POWER GENERAL NOTES SHALL APPLY TO ALL SHEETS)

A. ELECTRICAL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. ROUTE ALL ELECTRICAL BRANCH CIRCUITS AND CONDUITS SPECIFIED, TO COORDINATE WITH OTHER TRADES AND TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, ARRANGE WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
C. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

1. CONNECT NEW FAN COIL UNIT TO EXISTING CIRCUIT SALVAGED FROM DEMOLITION. PROVIDE MOTOR RATED, TOGGLE STYLE, DISCONNECT AT OR NEAR UNIT. COORDINATE DISCONNECT LOCATION WITH MECHANICAL CONTRACTOR.

2. CONNECT NEW PUMP TO EXISTING CIRCUIT SALVAGED FROM DEMOLITION.

PANEL: (E) 46-PP-TEMP

LOCATION:	MECHANICAL 4	VOLTS:	208/120 WYE	MAINS TYPE:	MCB
SUPPLY FROM:	(E) T-46	PHASES:	3	MCB/MLO RATING:	150 A
BRANCH:		WIRES:	4	MCB OPTIONS:	
SERVICE RATED:		INTEGRAL SPD:		SECTIONS:	1
MOUNTING:	SURFACE	AVAILABLE SCC (kA):		PANEL POLES:	42
NEMA ENCLOSURE:					

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	A	B	B	C	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1					1000 VA	1000 VA									2
3	EX. PUMP	--	20 A	3			1000 VA	1000 VA			3	20 A	--	EX. PUMP	4
5									1000 VA	1000 VA					6
7	NEW FCU-1, FCU-2, FCU-3, FCU-4	NEW	20 A	2	416 VA	312 VA					2	20 A	NEW	NEW FCU-5, FCU-6. FCU-7	8
9							416 VA	312 VA							10
11	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	12
13	SPACE	--	--	1	--	--					1	--	--	SPACE	14
15	SPACE	--	--	1			--	--			1	--	--	SPACE	16
17	SPACE	--	--	1					--	--	1	--	--	SPACE	18
19	SPACE	--	--	1	--	--					1	--	--	SPACE	20
21	SPACE	--	--	1			--	--			1	--	--	SPACE	22
23	SPACE	--	--	1					--	--	1	--	--	SPACE	24
25	SPACE	--	--	1	--	--					1	--	--	SPACE	26
27	SPACE	--	--	1			--	--			1	--	--	SPACE	28
29	SPACE	--	--	1					--	--	1	--	--	SPACE	30
31	SPACE	--	--	1	--	--					1	--	--	SPACE	32
33	SPACE	--	--	1			--	--			1	--	--	SPACE	34
35	SPACE	--	--	1					--	--	1	--	--	SPACE	36
37	SPACE	--	--	1	--	--					1	--	--	SPACE	38
39	SPACE	--	--	1			--	--			1	--	--	SPACE	40
41	SPACE	--	--	1					--	--	1	--	--	SPACE	42
				TOTAL LOAD:	2728 VA		2728 VA		2000 VA						
				TOTAL AMPS:	24 A		24 A		17 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Spare	6000 VA	100.00%	6000 VA	CONNECTED LOAD:	7456 VA
MEQ-C	1456 VA	125.00%	1820 VA	CONNECTED CURRENT:	21 A
				DEMAND LOAD:	7820 VA
				DEMAND CURRENT:	22 A
				CONSIDER 125% DEMAND:	9775 A
				EQUIPMENT AMPS:	150 A
				FEEDER AVAILABLE:	
				SPARE CAPACITY:	85 %
					128 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. UPDATE PANEL DIRECTORY UPON COMPLETION.

PANEL: (E) 46-MCC-GA

LOCATION:	MECHANICAL 4	VOLTS:	208/120 WYE	MAINS TYPE:	MLO
SUPPLY FROM:	(E) 46-PP-GA	PHASES:	3	MCB/MLO RATING:	225 A
BRANCH:		WIRES:	4	MCB OPTIONS:	-
SERVICE RATED:	No	INTEGRAL SPD:	No	SECTIONS:	1
MOUNTING:	SURFACE	AVAILABLE SCC (kA):	10kAIC	PANEL POLES:	30
NEMA ENCLOSURE:	TYPE 1				

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	A	B	B	C	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT
1	EX. WATER TREATMENT...	--	20 A	1	1000 VA	1000 VA									2
3	EX. CONTROL CHILLER	--	20 A	1			1000 VA	1000 VA			3	15 A	--	EX. ROOF VENT	4
5	EX. STARTER COIL VOLTAGE	--	20 A	1					1000 VA	1000 VA					6
7	EX. LOAD	--	15 A	1	1000 VA	1000 VA									8
9	EX. LOAD	--	15 A	1			1000 VA	1000 VA			3	15 A	--	EX. AHU	10
11	EX. LOAD	--	15 A	1					1000 VA	1000 VA					12
13					1000 VA	3038 VA									14
15	EX. P-1	--	20 A	3			1000 VA	3038 VA			3	90 A	NEW	NEW 46-AHU-1	16
17									1000 VA	3038 VA					18
19					0 VA	1000 VA					1	20 A	--	EX. COND. PUMPS	20
21	SPARE	--	20 A	3			0 VA	1000 VA			1	20 A	--	EX. COND. PUMPS	22
23									0 VA	1000 VA	1	20 A	--	EX. COND. PUMPS	24
25	EX. LIGHTS THIS ROOM	--	20 A	1	1000 VA	1000 VA					2	30 A	--	EX. WATER HEATER	26
27	EX. EXHAUST / HEATER FAN	--	20 A	1			1000 VA	1000 VA							28
29	EX. JOHNSON CONTROLS	--	20 A	1					1000 VA	1000 VA	1	20 A	--	EX. FILTER ROLLER MOTOR	30
				TOTAL LOAD:	11038 VA		11038 VA		11038 VA						
				TOTAL AMPS:	92 A		92 A		92 A						

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Spare	24000 VA	100.00%	24000 VA	CONNECTED LOAD:	33115 VA
MEQ-C	9115 VA	125.00%	11394 VA	CONNECTED CURRENT:	92 A
				DEMAND LOAD:	35394 VA
				DEMAND CURRENT:	98 A
				CONSIDER 125% DEMAND:	44242 A
				EQUIPMENT AMPS:	225 A
				FEEDER AVAILABLE:	
				SPARE CAPACITY:	56 %
					127 A

OPTIONS:

CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST' - PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI' - PROVIDE GFCI CIRCUIT BREAKER / 'GFP' - PROVIDE GFP CIRCUIT BREAKER / 'ERMS' - ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI' - ZONE SELECTIVE INTERLOCKING / 'L' - PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R' - PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:

A. UPDATE PANEL DIRECTORY UPON COMPLETION.

ONE-LINE GENERAL NOTES:

(GENERAL NOTES SHALL APPLY TO ALL ONE-LINE SHEETS)

A. MECHANICAL EQUIPMENT NOT SHOWN ON ONE-LINE. REFER TO PANEL SCHEDULES FOR COMPLETE LIST OF CIRCUIT BREAKER SIZES AND QUANTITIES REQUIRED.

TRUE NORTH

WALL RATING LEGEND
- FIRE WALL
- SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING, RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 029777 04/26/2023 ENGINEER CHARLES G. HALL

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
FLOOR PLAN - POWER	CONSTRUCTION DOCUMENTS	REPLACE HVAC VARIOUS BUILDINGS	679-22-106
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road East, Tuscaloosa, AL 35404-5099	Building Number: 46
		Issue Date: 04/26/2023 / Checked: CGH / Drawn: SUB	Drawing Number: EP101

VA FORM 08 - 6231

4/26/2023 4:06:54 PM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679-22-106_B46_MEP_R21.rvt

GENERAL MECHANICAL 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 OR BACKWATER 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	
	DUCT CONTINUATION	
	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
D	DEMOLISH	PC	PLUMBING CONTRACTOR
E	EXISTING	PSIG	POUNDS PER SQUARE INCH GAUGE
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SHT	SHEET
FPM	FEET PER MINUTE	TOB	TOP OF BEAM
FPS	FEET PER SECOND	TOS	TOP OF STEEL
GC	GENERAL CONTRACTOR	VEL	VELOCITY
GPM	GALLONS PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
L	LENGTH		

TEMPERATURE CONTROL SYMBOLS

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	
F/S	FLOW MEASURING STATION	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
F	FLOW SWITCH	

HVAC SYMBOLS

SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
WxH	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 FILLED REGION INDICATE EXTENSION UP. NO FILLED REGION 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.
CD	CONTROL DAMPER	DAMPER SHALL BE SAME SIZE AS DUCT UNLESS NOTED OTHERWISE. REFER TO SEQUENCES, SCHEMATICS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
FD	FIRE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
SD	SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
FS	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	
###	TRANSFER AIR ARROW ### = AIRFLOW IN CFM	ARROW INDICATES DIRECTION OF TRANSFER AIR.
	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

COVER SHEET NOTES:

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

MECHANICAL GENERAL NOTES:

A. THESE NOTES APPLY TO ALL SHEETS CONTAINING HVAC, PIPING, 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. VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL. BE ADVISED THAT LOCATIONS SHOWN ARE APPROXIMATE. AN ATTEMPT HAS BEEN MADE TO SHOW ALL PIPING, FIXTURES, DUCTWORK, AND OUTLETS. CONTRACTOR SHALL VISIT THE SITE TO VERIFY COMPONENTS, LOCATIONS AND SIZES SHOWN OR NOT SHOWN. ALL COMPONENTS NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS. IF DEVIATION BETWEEN EXISTING CONDITIONS AND NEW WORK IS FOUND, CONTRACTOR SHALL NOTIFY ENGINEER.

C. IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING THE CONSTRUCTION OF THE ADDITIONS AND REMODELING/ALTERATION OF THE EXISTING BUILDING. SERVICES TO THE EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION EXCEPT DURING SCHEDULED SHUTDOWNS FOR EXTENSION OR MODIFICATION. PLAN TO COMPLETE SHUTDOWNS DURING OFF HOURS TO MINIMIZE IMPACT TO THE OWNER. COORDINATE SHUTDOWNS WITH THE OWNER A MINIMUM OF 14 DAYS PRIOR TO WORK. PROVIDE TEMPORARY SERVICES WHERE NECESSARY TO ACCOMPLISH ANY SHUTDOWN. THIS INCLUDES BUT IS NOT LIMITED TO STAFFING AND EQUIPMENT FOR FIRE WATCHES, PROVISIONS FOR BOTTLED WATER, AND TEMPORARY HEATING OR COOLING EQUIPMENT. TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL THE PERMANENT SYSTEMS ARE OPERATIONAL AND HAVE PASSED ALL REQUIRED TESTING.

D. 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.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.

F. EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS AS "TO BE RETAINED, RELOCATED", ALL EXISTING EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION AND/OR WITH PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:
   a. REMOVE ANY PIPING PROTRUDING ABOVE FINISHED FLOOR OR THROUGH WALL AND CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN WITH MATERIAL TO MATCH EXISTING.
   b. REMOVE ALL FIXTURES, CARRIERS, SUPPLY AND WASTE AND VENT PIPING, STEAM, HEATING HOT WATER, HVAC SUPPLY, RETURN AND EXHAUST AS NOTED. CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN. SUPPLY AND RETURN MAINS ON PIPING SYSTEMS CONVEYING WATER OR GASES SHALL BE VALVED AND CAPPED
   c. IN REMODELED/ALTERED AREAS, ANY PIPING OR DUCTWORK PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BEING SERVED FROM EXISTING ADJACENT, REMOTE, OR SURROUNDING AREAS THAT ARE TO REMAIN) SHALL BE RETAINED AND KEPT OPERATIONAL AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGE TO BE ACCOMPLISHED IN THE REMODELED AREA.
   d. REMOVE UNUSED OR ABANDONED HANGERS AND PATCH ABANDONED PENETRATIONS TO MATCH EXISTING.
   e. PENETRATIONS THROUGH EXISTING WALLS AND FLOORS FORMERLY OCCUPIED BY REMOVED PIPING OR DUCTWORK SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION.
   f. RE-SUPPORT ANY PIPING AND DUCTWORK THAT WAS SUPPORTED FROM BUILDING ELEMENTS REMOVED AS PART OF THE WORK.
   g. MAINTAIN CONTROL WIRING OR PNEUMATIC TUBING REQUIRED FOR THE CONTINUED PROPER OPERATION OF THE BUILDING AUTOMATION SYSTEM.

G. ALL EXISTING EQUIPMENT BEING REMOVED WILL BE HANDED OVER TO OWNER FOR FIRST RIGHT OF SALVAGE. IF OWNER REFUSES SALVAGE ITEMS, REMOVING CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL.

H. CONTRACTOR SHALL REFER TO THE DRAWINGS OF ALL TRADES TO FAMILIARIZE THEMSELVES WITH EXTENT OF WORK INCLUDING BUT NOT LIMITED TO WHERE NEW PARTITIONING IS BEING INSTALLED, WHERE EXISTING PARTITIONING IS BEING REMOVED, WHERE CEILINGS ARE BEING REMOVED AND/OR REPLACED, ETC.

I. 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.

J. PERFORM AIR AND FLUID BALANCE PRE-TEST ON ALL DISTRIBUTION EQUIPMENT AND ALL AIR OUTLETS IN THE AREA PRIOR TO COMMENCING WORK. SUBMIT PRE-TEST INFORMATION TO OWNER/ENGINEER.

K. 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.

L. 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.

M. 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.

N. 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.

O. 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.

P. 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.

Q. 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.

R. 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.

S. 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.

T. 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. ON EXISTING EQUIPMENT, COORDINATE WORK WITH OWNER.

U. 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.

V. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED. REFER TO DETAIL SHEETS FOR GENERAL CONSTRUCTION DETAILS.

W. 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. REFER TO SCHEDULE SHEETS FOR PROVIDED SCHEDULES.

X. 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.

Y. 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.

Z. 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. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, 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.

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SYMBOLS AND ABBREVIATIONS

Approved: SEE G001

Phase: CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS

Location: 3701 Loop Road East, Tuscaloosa, AL 35404-5099

Issue Date: 04/26/2023 | Checked: AGT | Drawn: PCM

Project Number: 679-22-106

Building Number: 46

Drawing Number: M000

4/26/2023 4:06:55 PM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B46_MEP_R21.rvt

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

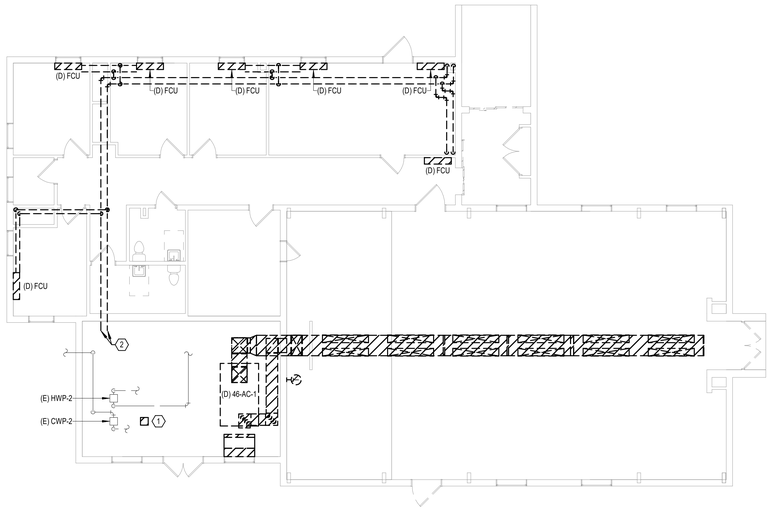
B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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. DEMOLISH HEATING/CHILLED WATER PUMP.
2. DEMOLISH HEATING/CHILLED WATER PIPING BACK TO MAIN AND CAP. PROVIDE INSULATED END CAP. INSULATION SHALL MATCH EXISTING.



1 01-FIRST FIRST - MECHANICAL - DEMOLITION
1/8" = 1'-0"

0 4" 8" 16"
SCALE: 1/8"=1'-0"

TRUE NORTH

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 01-FIRST FIRST - MECHANICAL - DEMOLITION	Phase: CONSTRUCTION DOCUMENTS
Approved: SEE G001	FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679-22-106
	Building Number: 46
Location: 3701 Loop Road East Tuscaloosa, AL 35404-5099	Drawing Number: MD101
Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Building\679.22.106_B46_MEP_R21.rvt
4/26/2023 4:07:00 PM

VA FORM 08 - 6231

GENERAL NOTES:

A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

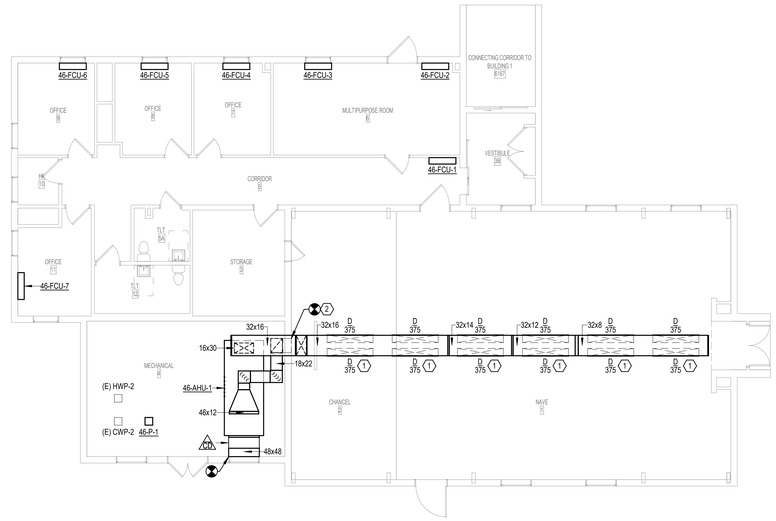
B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

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. INSTALL DIFFUSERS IN ARCHITECTURAL SOFFIT, TYPICAL. REFER TO ARCHITECTURAL.
2. CONNECT NEW RETURN DUCT TO EXISTING RETURN PLENUM AND RETURN GRILLES.



1 01-FIRST FIRST - DUCTWORK
1/8" = 1'-0"

0 4' 8' 16'

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

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
www.atriaxgroup.com

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 ENGINEER ANDREA G THOMPSON
04/26/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: 01-FIRST FIRST - DUCTWORK	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679-22-106
Approved: SEE G001			Building Number: 46
	FULLY SPRINKLERED	Location: 3701 Loop Road East Tuscaloosa, AL 35404-5099	Drawing Number: MH101
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	

4/26/2023 4:07:01 PM

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings/679-22-106_B46_MEP_R21.rvt

VA FORM 08 - 6231

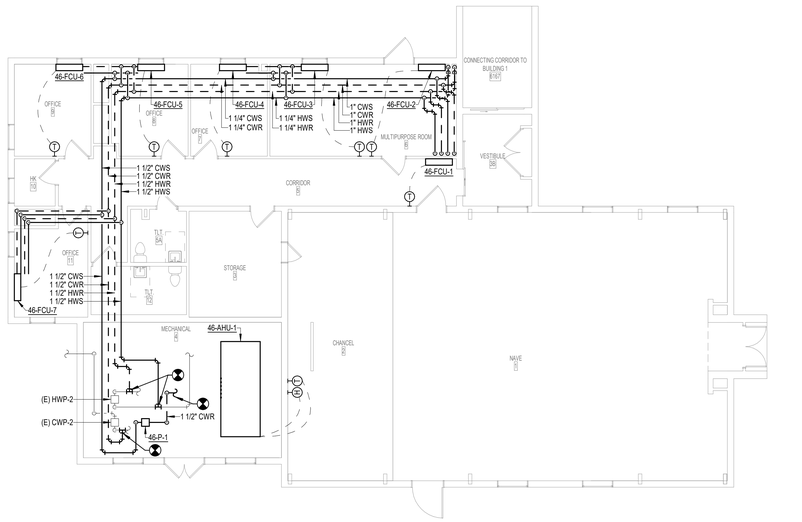
GENERAL NOTES:

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.



1 01-FIRST FLOOR - PIPING
1/8" = 1'-0"

0 4' 8' 16'

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

TRUE NORTH

WALL RATING LEGEND
FIRE WALL
SMOKE WALL

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL SEAL 036968 04/26/2023 ENGINEER ANDREA G THOMPSON

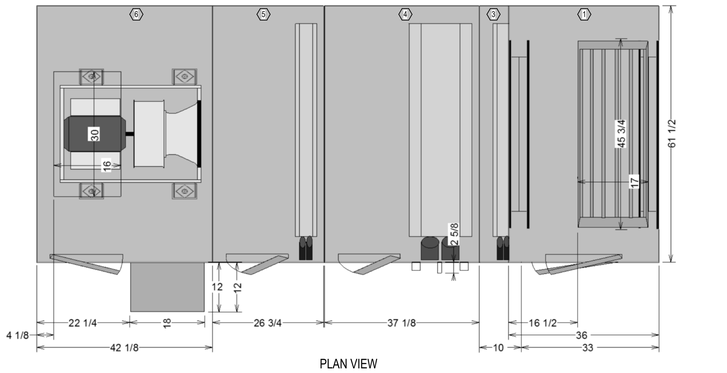
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

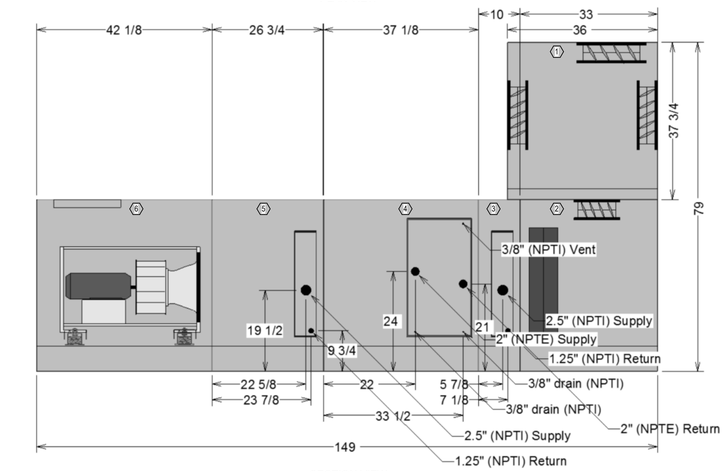
Drawing Title: 01-FIRST FLOOR - PIPING	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679-22-106
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road East, Tuscaloosa, AL 35404-5099	Building Number: 46
		Issue Date: 04/26/2023 / Checked: AGT / Drawn: PCM	Drawing Number: MP101

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings\679.22.106_B46_MEP_R21.rvt
4/26/2023 4:07:02 PM

VA FORM 08 - 6231



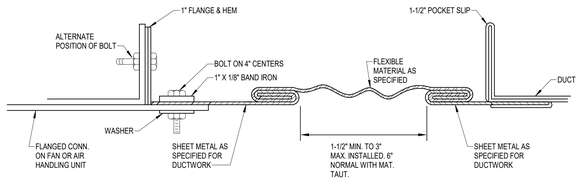
PLAN VIEW



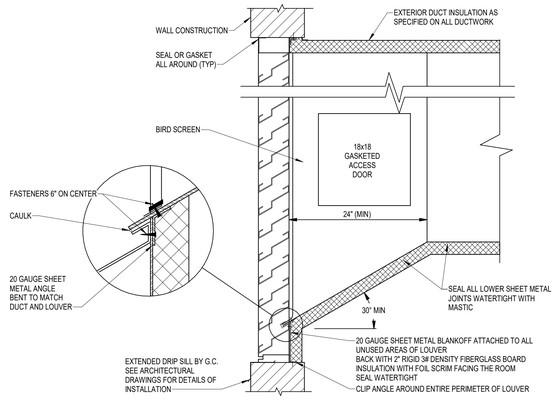
SECTION VIEW

NOTES:
1. AIR MIXING SECTION
2. AIR MIXING SECTION
3. PRE-HEAT COIL SECTION
4. COOLING COIL SECTION
5. RE-HEAT COIL SECTION
6. FAN SECTION

11 46-AHU-1 PLAN AND SECTION DETAILS
1/8" = 1'-0"

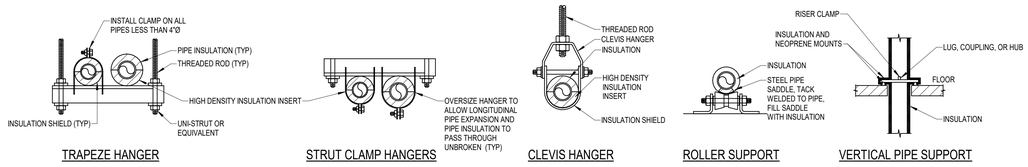


10 RECTANGULAR FLEXIBLE CONNECTION
NO SCALE



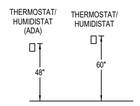
NOTES:
1. SEAL ALL JOINTS ON BOTTOM SURFACE OF DUCT WITHIN 6'-0" OF THE LOUVER WATERTIGHT.
2. CAULK SHEET METAL SCREWS WHERE THEY PENETRATE METAL.

9 LOUVER INSTALLATION DETAIL
NO SCALE



TRAPEZE HANGER | STRUT CLAMP HANGERS | CLEVIS HANGER | ROLLER SUPPORT | VERTICAL PIPE SUPPORT

8 PIPE SUPPORT - TYPICAL FOR ALL PIPING
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.

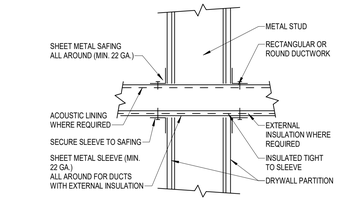
B. GROUP DEVICES IN AN ORGANIZED AND UNIFORM MANNER.

C. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL REQUIREMENTS. WHERE THESE REQUIREMENTS DIFFER FROM THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE. WHERE DEVICES OR EQUIPMENT ARE SHOWN ON WALLS WHERE THE ARCHITECTURAL ELEVATION INDICATES A SURFACE OTHER THAN THE BASE PAINT FOR THE PROJECT, REQUEST CLARIFICATION ON THE MOUNTING LOCATION OF THE DEVICE OR EQUIPMENT. DEVICES AND EQUIPMENT SHALL NOT BE MOUNTED TO FEATURE WALLS AND WALLS CONSTRUCTED OF MATERIALS OTHER THAN DRYWALL WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.

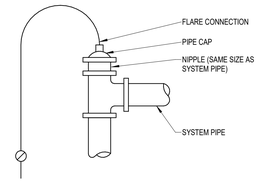
D. ALL DEVICES SHALL BE COORDINATED SO AS NOT TO INTERRUPT A BACK SPLASH OR MATERIAL TRANSITIONS. REFER TO ARCHITECTURAL ELEVATION TO CONFIRM DEVICE IS NOT LOCATED WITHIN TRANSITION AREA.

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

7 MECHANICAL EQUIPMENT MOUNTING HEIGHTS
NO SCALE

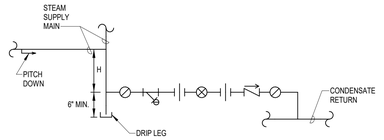


6 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL
NO SCALE



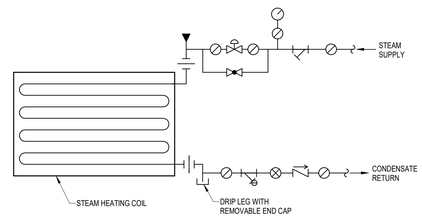
NOTES:
1. VALVE MANUAL AIR VENT. EXTEND VENT LINE TO WITHIN 6" ABOVE CEILING WHERE PIPING IS ABOVE CONCEALED ABOVE CEILING. WHERE PIPING IS EXPOSED, VALVE IS TO BE LOCATED WITHIN 5'-0" OF FLOOR.

5 MANUAL AIR VENT
NO SCALE

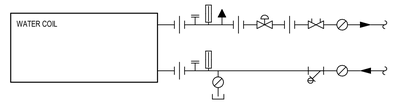


NOTES:
1. ELEVATED RETURN MAINS ON LOW PRESSURE SYSTEMS SHALL NOT BE PERMITTED.
2. H = 1.5 x PIPE DIAMETER, BUT NOT LESS THAN 12 IN.

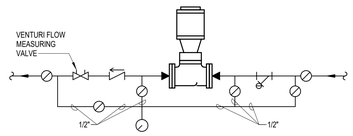
4 END OF STEAM MAIN TRAP
NO SCALE



3 STEAM COIL PIPING
NO SCALE



2 HEATING/CHILLED WATER COIL
NO SCALE



1 IN-LINE PUMP
NO SCALE

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS
Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP
Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964
www.atriaxgroup.com
NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title MECHANICAL DETAILS	**Phase** CONSTRUCTION DOCUMENTS	**Project Title** REPLACE HVAC VARIOUS BUILDINGS	**Project Number** 679-22-106
Approved: SEE G001	FULLY SPRINKLERED	**Location** 3701 Loop Road East Tuscaloosa, AL 35404-5099	**Building Number** 46
		Issue Date 04/26/2023 / **Checked** AGT / **Drawn** PCM	**Drawing Number** M500

VA FORM 08 - 6231

BIM 360://22017 001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B46_MEP_R21.rvt
4/26/2023 4:06:57 PM

PUMP SCHEDULE

MARK	FLOW [GPM]	TOTAL HEAD [FT]	SHUT-OFF HEAD [FT]	TYPE OF FLUID	RPM	SUCTION / DISCHARGE SIZE [IN]	MAX IMPELLER DIAMETER [IN]	ELECTRICAL DATA				MANUFACTURER	MODEL	REMARKS
								HP	VOLTAGE	PHASE	DISCONNECT BY			
46-P-1	26	20	21	WATER	1,368	1.5 / 1.5	5.25	1	240 V	1	DIV 26	BELL & GOSSETT	E-90 ECM 1.5AAB	(1)(2)(3)

REMARKS:
1. PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE WITH THE FOLLOWING ACCESSORIES: DISCONNECT, SUCTION DIFFUSER, CHECK VALVE, VENTURI FLOW MEASURING DEVICE, FLEXIBLE CONNECTORS, UNIONS, AND TEMPERATURE AND PRESSURE GAUGES ON EACH CONNECTION.
3. PROVIDE BACNET INTERFACE AND TIE INTO EXISTING METASYS SYSTEM. PUMP SHALL HAVE START AND STOP FUNCTION CONTROLLED BY EXISTING METASYS SYSTEM.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

MARK	IMAGE	DESCRIPTION	MAX S.P.	MATERIAL	FINISH	FACE SIZE		NECK SIZE	AIRFLOW	MANUFACTURER	MODEL	REMARKS
						LENGTH	WIDTH					
D		LINEAR BAR SLOT STYLE SUPPLY DIFFUSER	0.10 in-wg	ALUMINUM	PAINT, WHITE	72"	12"	-	0 - 375	PRICE	SDS	(1)(2)(3)(4)

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. 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.

HVAC 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				
HPS AND MPS (STEAM PRESSURES UP TO 120 PSIG INCLUDING CONDENSATE)	251 - 350	3	4	4.5	4.5	4.5	MF	ASJ-SSL	1-100	
LPS (STEAM PRESSURES UP TO 15 PSIG INCLUDING CONDENSATE AND BOILER FEEDWATER.)	0 - 250	2.5	2.5	2.5	3	3	MF	ASJ-SSL	1-100	
INDOOR STEAM VENT AND BOILER BLOWDOWN	140 - 200	1.5	1.5	2	2	2	MF	ASJ-SSL	1-100	
INDOOR HOT WATER	141 - 200	1.5	1.5	2	2	2	MF	ASJ-SSL	1-100	(3)
INDOOR HOT WATER	105 - 140	1	1	1.5	1.5	1.5	MF	ASJ-SSL	1-100	(3)
INDOOR COLD WATER	40 - 60	0.5	0.5	1	1	1	MF, E	ASJ-SSL	1-100, 1-200	
INDOOR COLD WATER	< 40	0.5	1	1	1	1.5	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	(4)

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. HOT WATER SYSTEM TEMPERATURES EXCEEDING 200 DEG F TO BE TREATED FOR APPROPRIATE TEMPERATURE RANGE AS LISTED UNDER LPS OR HPS.
4. 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.

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)
SUPPLY AIR ROUND OR FLAT OVAL(EXPOSED)	MF BLANKET	6	0.75	FSK	3-100	(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.

COORDINATION OF WORK SCHEDULE

ITEM	SUPPLIER	INSTALLER	POWER	CONTROL (4)
MOTORS	MC	MC (3)	EC	CC
EQUIPMENT MOUNTED ELECTRICAL COMPONENTS	MC	MC	EC	CC
LOOSE MOUNTED ELECTRICAL COMPONENTS	EC	EC	EC	CC
CONTROL RELAYS, TRANSFORMERS, POWER	MC	EC	EC (4)	CC
120V THERMOSTATS	MC	MC	MC	CC (1)
TEMPERATURE CONTROL SENSORS	MC	MC	CC	CC
TEMPERATURE CONTROL PANELS	MC	CC	EC (4)	CC
VARIABLE SPEED DRIVES	MC	MC	EC	CC
PE/EP SWITCHES, SOLENOID VALVES, ACTUATORS	CC	CC	EC (4)	CC
PUSHBUTTON STATIONS	EC	EC	EC (4)	EC
TIME CLOCKS	EC	EC	EC	EC
FAN COIL UNITS	MC	MC	EC	CC (1)

REMARKS:
1. IF NO CC IN CONTRACT, MC TO WIRE CONTROLS AND EC TO PIPE CONDUIT.
2. ALL LOW VOLTAGE WIRING OF PANELS TO BE COVERED IN MC BID, WIRING CONTRACTOR TO BE SUBCONTRACTOR TO MC.
3. INSTALLING CONTRACTOR IS RESPONSIBLE FOR FIELD ALIGNMENT SERVICES WHEN REQUIRED BY COMMON MOTOR REQUIREMENTS SPECIFICATION OR BY INDIVIDUAL EQUIPMENT SPECIFICATIONS.
4. ALL HARDWARE, SOFTWARE, EQUIPMENT, ACCESSORIES, WIRING (POWER AND SENSOR), PIPING, RELAYS, SENSORS, POWER SUPPLIES, TRANSFORMERS, AND INSTRUMENTATION REQUIRED FOR A COMPLETE AND OPERATIONAL DDC SYSTEM, BUT NOT SHOWN ON THE ELECTRICAL DRAWINGS, ARE THE RESPONSIBILITY OF THE CC.

FAN COIL UNIT SCHEDULE

MARK	MAX SIZE (LxWxH) [IN]	AIRFLOW [CFM]	COOLING					HEATING				ELECTRICAL DATA					MANUFACTURER	MODEL	REMARKS
			COOLING [MBH]	COOLING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	HEATING [MBH]	HEATING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY			
46-FCU-1	56x10x25	420	16.86	3.0	42	53	4.06	15.35	1.02	180	150	1.02	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(2)(3)(4)(5)(6)(7)
46-FCU-2	48x10x25	300	12.27	3.0	42	50	11.8	10.99	0.73	180	150	0.16	208 V	1	2.25	15	DIV 26	TRANE	FCBB060	(1)(2)(3)(4)(5)(6)(7)
46-FCU-3	56x10x25	440	17.26	3.0	42	54	4.06	15.68	1.04	180	150	0.36	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(2)(3)(4)(5)(6)(7)
46-FCU-4	48x10x25	350	14.32	3.0	42	52	3.66	11.77	.78	180	150	0.18	208 V	1	2.25	15	DIV 26	TRANE	FCBB060	(1)(2)(3)(4)(5)(6)(7)
46-FCU-5	48x10x25	350	14.32	3.0	42	52	3.66	11.77	.78	180	150	0.18	208 V	1	2.25	15	DIV 26	TRANE	FCBB060	(1)(2)(3)(4)(5)(6)(7)
46-FCU-6	56x10x25	540	21.77	3.3	42	55	5.8	17.21	1.15	180	150	0.42	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(2)(3)(4)(5)(6)(7)
46-FCU-7	56x10x25	460	17.64	3.0	42	54	4.06	15.99	1.07	180	150	0.37	208 V	1	2.25	15	DIV 26	TRANE	FCBB080	(1)(2)(3)(4)(5)(6)(7)

REMARKS:
1. PROVIDE DISCONNECT.
2. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
3. PROVIDE INTEGRAL CONTROL VALVE.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VCMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. PROVIDE WITH POWER SUPPLY. COORDINATE MOUNTING INSIDE ARCHITECTURAL ENCLOSURE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR ACCESS TO ALL COMPONENTS REQUIRING MAINTENANCE.
6. PROVIDE WITH DEHUMIDIFICATION CONTROL SEQUENCE PROGRAM.
7. PROVIDE BACNET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	OVERALL SIZE [LxWxH]	MINIMUM OUTSIDE AIR [CFM]	SUPPLY FAN MARK	COOLING COIL MARK	HEATING COIL REMARK	FILTER MARK	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS
								FLA	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY			
46-AHU-1	MECHANICAL RM 4	149"x62"x42"	1,000	SF-1	CC-1	HC-1, HC-2	FIL-1, FIL-2	42	208 V	3	52.5	90	DIV 26	TRANE	CSAA010	(1)(2)(3)(4)(5)(6)(7)

REMARKS:
1. PROVIDE WITH UV LIGHTS WITH EXTERIOR CONTROL SWITCH.
2. PROVIDE WITH INTEGRAL VFD WITH SINGLE POINT POWER CONNECTION.
3. PROVIDE WITH SINGLE POINT POWER CONNECTION.
4. MOUNT ON 6" HOUSEKEEPING PAD.
5. PROVIDE WITH PRESSURE RELIEF DOORS.
6. EQUIPMENT SHORT CIRCUIT CURRENT RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SHORT CIRCUIT CURRENT. REVIEW SHORT CIRCUIT CURRENT RATING WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
7. PROVIDE BACNET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

HYDRONIC COIL SCHEDULE

MARK	SERVES	FLUID TYPE	AIRFLOW [CFM]	MIN ROWS	MAX FINS PER FOOT	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	EWT / LWT [°F]	MAX P.D. [FT]	
CC-1	46-AHU-1	WATER	4,500	8	99	490	0.75	80/67	55/54.7	171.2	124.0	22.8 GPM	42/57	1.19	(2)(3)(4)(5)
HC-1	46-AHU-1	STEAM	4,500	1	67	551	0.16	45	100	268.4	268.4	283.64 LB/HR	-	7.58	(1)(2)(4)
HC-2	46-AHU-1	STEAM	4,500	1	67	551	0.16	45	100	268.1	268.4	283.64 LB/HR	-	7.58	(1)(2)(4)

REMARKS:
1. STEAM PRESSURE INDICATED IS THE PRESSURE AVAILABLE UPSTREAM OF THE CONTROL VALVE.
2. MAINTAIN COIL PULL SPACE ON INSTALLATION.
3. PROVIDE DOUBLE SLOPED DRAIN PAN.
4. CONTRACTOR TO PIPE UNIT AS INDICATED FROM FACTORY, COUNTERFLOW.
5. PROVIDE UV LIGHTS FOR COIL. LIGHTS SHALL PROVIDE PROPER COVERAGE OF COIL AND DRAIN PAN SURFACES WITHIN THE COIL DISCHARGE SECTION.

FAN SCHEDULE

MARK	TYPE	AIRFLOW [CFM]	TOTAL S.P. [IN W.C.]	MAX FAN RPM	MAX FAN BHP	ELECTRICAL DATA			REMARKS
						HP	VOLTAGE	PHASE	
SF-1	DD PLENUM	4,500	7.23	2,869	7.88	10	208 V	3	(1)(2)(3)

REMARKS:
1. PROVIDE MOTOR GUARD.
2. PROVIDE VIBRATION ISOLATION.
3. EQUIPMENT SHORT CIRCUIT CURRENT RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SHORT CIRCUIT CURRENT. REVIEW SHORT CIRCUIT CURRENT RATING WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.

FILTER SCHEDULE

MARK	ASSOCIATED EQUIPMENT	FUNCTION	TYPE	DEPTH [IN]	MAX FACE VELOCITY [FPM]	MERV RATING	INITIAL PRESSURE DROP [IN W.C.]	FINAL PRESSURE DROP [IN W.C.]	REMARKS
FIL-1	46-AHU-1	PREFILTER	PLEATED	2	463	8	.5	1.0	(1)
FIL-2	46-AHU-1	FILTER	CARTRIDGE	4	463	13	.5	1.0	(1)

REMARKS:
1. PROVIDE MAGNAHELIC GAUGE ACROSS HOUSING FILTER.

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES

Approved: SEE G001

Phase: CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: REPLACE HVAC VARIOUS BUILDINGS

Location: 3701 Loop Road East, Tuscaloosa, AL 35404-5099

Issue Date: 04/26/2023

Checked: AGT

Drawn: PCM

Project Number: 679-22-106

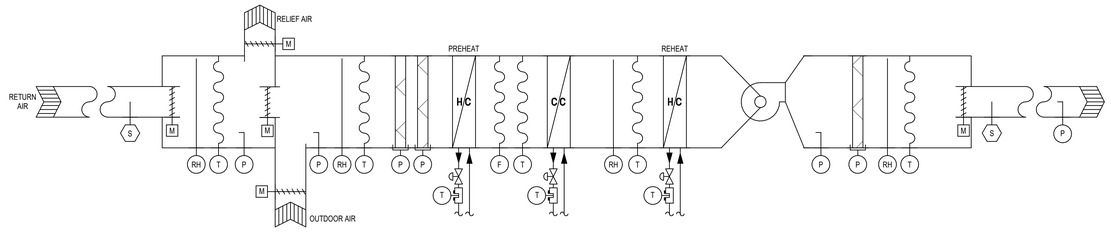
Building Number: 46

Drawing Number: M600

BIM 360://22017 001 - VA Tuscaloosa Replace HVAC Various Building/679.22.106_B46_MEP_R21.rvt

4/26/2023 4:06:59 PM

VA FORM 08 - 6231



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. ALL CONTROL POINT SHALL FULLY INTEGRATE WITH EXISTING METASYS SYSTEM.
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 AND CONSISTS OF A SUPPLY FAN WITH VFD, OUTDOOR AIR DAMPER, RETURN AIR DAMPER, RELIEF AIR DAMPER, BLENDER, PRE-FILTER BANK, HOT WATER HEATING COIL, CHILLED WATER COOLING COIL, FINAL FILTER BANK AND UNIT ISOLATION DAMPERS.

SUPPLY FAN CONTROL:

START/STOP: THE DDC SYSTEM SHALL START THE SUPPLY FANS VIA THE VFD WITH A TIME DELAY TO ALLOW ALL FIRE/SMOKE AND SMOKE DAMPERS IN THE AIR HANDLING SYSTEM TO OPEN PRIOR TO SUPPLY FAN OPERATION. THE SUPPLY FANS 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 EACH INDIVIDUAL SUPPLY FAN AND REPORT STATUS TO BMS. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION OF A GIVEN FAN IN VFD OR BYPASS MODE, SEND AN ALARM TO THE OPERATOR INTERFACE. IF THE CURRENT STATUS SWITCH FOR ALL FANS DOES NOT PROVE OPERATION, 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. THE DDC SYSTEM SHALL CONTROL THE SUPPLY FAN VFD IN 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.

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).

LOW PRESSURE LIMIT: DIFFERENTIAL PRESSURE SWITCH SHALL BE A MANUAL RESET TYPE. 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) 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. TO PROVIDE DEHUMIDIFICATION CONTROL, THE DISCHARGE AIR TEMPERATURE SHALL BE OVERRIDDEN WHEN SPACE RELATIVE HUMIDITY EXCEEDS 60% (ADJUSTABLE).

WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:
1. THE HEATING COIL CONTROL VALVE(S) SHALL MODULATE CLOSED.
2. 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.
3. IF THE OUTSIDE AIR ENTHALPY IS ABOVE THE RETURN AIR ENTHALPY, THE OUTSIDE AIR DAMPER SHALL MODULATE CLOSED AND RETURN AIR DAMPER SHALL OPEN TO THEIR MINIMUM OUTSIDE AIR DAMPER POSITIONS.
4. THE SUPPLY FAN SPEED SHALL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM AIRFLOWS TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
5. IF THE SETPOINT CANNOT BE ACHIEVED BY DAMPER MODULATION, THE DDC SYSTEM SHALL MODULATE THE CHILLED WATER CONTROL VALVE(S) OPEN.
6. IF THE SETPOINT CANNOT BE ACHIEVED BY DAMPER MODULATION, THE DDC SYSTEM SHALL ENABLE THE ASSOCIATED CONDENSING UNIT CONTROLS TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.
7. 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 SETPOINT CANNOT BE ACHIEVED BY DAMPER MODULATION, THE PRE-HEATING COIL CONTROL VALVE SHALL MODULATE OPEN TO MAINTAIN SETPOINT.
4. IF THE SETPOINT CANNOT BE ACHIEVED BY DAMPER MODULATION, THE PRE-HEATING COIL CONTROL VALVE SHALL MODULATE OPEN TO MAINTAIN SETPOINT.
5. IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 10°F (ADJUSTABLE) BELOW THE SETPOINT, SEND AN ALARM TO THE OPERATOR INTERFACE.

ON A CALL FOR HEATING, RE-HEAT CONTROL VALVE SHALL MODULATE OPEN UNTIL THE SPACE TEMPERATURE SETPOINT IS MAINTAINED.

SEQUENCE OF OPERATION CONTINUED

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. THE RETURN AIR DAMPER AND OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE MINIMUM SCHEDULED OUTSIDE AIR CFM, OR WHEN IN ECONOMIZER MODE, MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

RELIEF AIR DAMPER: THE RELIEF AIR DAMPER SHALL MODULATE TO MAINTAIN A POSITIVE PRESSURE OF 0.2" W.C. (ADJUSTABLE) IN THE SPACES SERVED BY THE AHU RELATIVE TO THE BUILDING EXTERIOR. THE SPACES SERVED ARE NAVE ROOM 1 AND CHANCEL ROOM 2.

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

UNIT SHUTDOWN:

THE SUPPLY FAN 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.
THE HEATING COIL CONTROL VALVE(S) SHALL CLOSE. FREEZESTAT SHALL OVERRIDE HEATING CONTROL VALVE(S) AS REQUIRED.
ALL FIRE/SMOKE AND SMOKE DAMPERS ASSOCIATED WITH THE AIR HANDLING SYSTEM SHALL CLOSE.

UNOCCUPIED CONTROL:

OCCUPIED/UNOCCUPIED SCHEDULE SHALL BE SET AT THE OPERATOR INTERFACE.
THE SUPPLY FAN SHALL SHUTDOWN.
THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN. ECONOMIZER CYCLE SHALL TAKE PRECEDENCE OVER DAMPER POSITION.
IF THE SPACE TEMPERATURE FALLS BELOW 60°F (ADJUSTABLE), THE DDC SYSTEM SHALL RESTART THE SUPPLY FAN AND COOLING CAPABILITIES SHALL BE DISABLED. THE FANS SHALL CONTINUE RUNNING UNTIL THE SPACE TEMPERATURE RISES 5°F (ADJUSTABLE).
IF THE SPACE TEMPERATURE RISES ABOVE 80°F (ADJUSTABLE), THE DDC SYSTEM SHALL RESTART THE SUPPLY FAN AND MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. THE FAN SHALL CONTINUE RUNNING UNTIL THE SPACE TEMPERATURE FALLS 5°F (ADJUSTABLE).
IF SPACE HUMIDITY SENSOR DETECTS HUMIDITY ABOVE 60% RH (ADJUSTABLE), THE DDC SYSTEM SHALL RESTART THE SUPPLY FAN AND MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT AT 55°F. THE FAN SHALL CONTINUE RUNNING AND THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE MAINTAINED FOR A MINIMUM OF 2 HOURS (ADJUSTABLE).

HEATING OPTIMUM START-UP: THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE DDC SYSTEM SHALL MEASURE EACH OF THE SPACE TEMPERATURES AND THE OUTSIDE AIR DRY BULB REFERENCE TEMPERATURE TO DETERMINE THE MINIMUM RUN TIME TO WARM THE SPACES TO THEIR SETPOINT. WHEN THE COMPUTED START TIME IS REACHED, THE DDC SYSTEM SHALL START THE AIR HANDLING SYSTEM AND OPERATE WITH THE OUTSIDE AIR AND RELIEF AIR DAMPERS CLOSED AND THE RETURN AIR DAMPER OPEN. THE AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 90°F (ADJUSTABLE). THE SYSTEM SHALL CONTINUE TO OPERATE IN THIS MODE UNTIL ALL TEMPERATURES EXCEED A SETPOINT OF 65°F (ADJUSTABLE). AT THAT TIME, THE DDC SYSTEM SHALL SWITCH TO OCCUPIED CONTROL. THE VENTILATION AIR CONTROL SHALL BE INACTIVE.

COOLING OPTIMUM START-UP: THIS CYCLE SHALL OVERRIDE THE UNOCCUPIED CYCLE. IF THE SYSTEM WAS OPERATING AS A RESULT OF THE UNOCCUPIED CYCLE, THE SYSTEM SHALL CONTINUE TO OPERATE. THE DDC SYSTEM SHALL MEASURE EACH OF THE SPACE TEMPERATURES AND THE OUTSIDE AIR DRY BULB REFERENCE TEMPERATURE TO DETERMINE THE MINIMUM RUN TIME TO COOL THE SPACES TO THEIR SETPOINT. WHEN THE COMPUTED START TIME IS REACHED, THE DDC SYSTEM SHALL START THE AIR HANDLING SYSTEM AND OPERATE WITH OUTSIDE AIR AND RELIEF AIR DAMPERS CLOSED AND THE RETURN AIR DAMPER OPEN. THE AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT A SETPOINT OF 55°F (ADJUSTABLE). THE SYSTEM SHALL CONTINUE TO OPERATE IN THIS MODE UNTIL ALL SPACE TEMPERATURES ARE LESS THAN A SETPOINT OF 78°F (ADJUSTABLE). AT THAT TIME, THE DDC SYSTEM SHALL SWITCH TO OCCUPIED CONTROL. THE ECONOMIZER CYCLE SHALL TAKE PRECEDENCE OVER THIS MODE OF CONTROL. THE VENTILATION AIR CONTROL SHALL BE INACTIVE.

FILTER MONITORING:

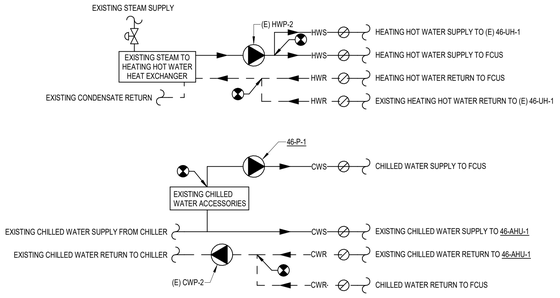
FOR EACH FILTER BANK WITH RATING OF MERV 8 AND BELOW, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 0.6" W.C. (ADJUSTABLE).
FOR EACH FILTER BANK WITH RATING OF MERV 9 TO MERV 16, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 1.0" W.C. (ADJUSTABLE).
FOR EACH FILTER BANK WITH RATING OF MERV 17 AND ABOVE, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 2.0" W.C. (ADJUSTABLE).

ALARM MONITORING:

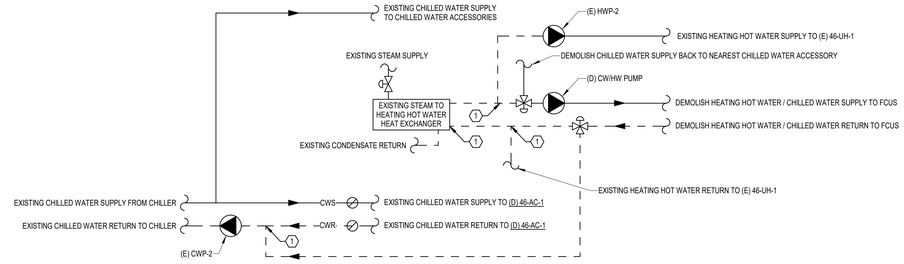
FREEZE PROTECTION: INSTALL AN ELECTRIC FREEZESTAT DOWNSTREAM OF THE HEATING COIL PER MANUFACTURER'S RECOMMENDATION. PROVIDE A STAGED FREEZE PROTECTION APPROACH AS INDICATED BELOW.
1. IF THE PRE-HEATING COIL DISCHARGE AIR TEMPERATURE DROPS BELOW 40°F (ADJUSTABLE) FOR 5 MINUTES, OVERRIDE THE RETURN AIR AND OUTSIDE AIR DAMPERS TO MAINTAIN THE MINIMUM OUTSIDE AIRFLOW AND MODULATE THE PRE-HEATING COIL CONTROL VALVE TO MAINTAIN A HEATING COIL DISCHARGE AIR TEMPERATURE OF AT LEAST 55°F (ADJUSTABLE). DISABLE THIS FUNCTION WHEN THE PRE-HEATING COIL DISCHARGE AIR TEMPERATURE RISES ABOVE 45°F (ADJUSTABLE) FOR 5 MINUTES.
2. IF THE PRE-HEATING COIL DISCHARGE AIR TEMPERATURE DROPS BELOW 38°F (ADJUSTABLE) FOR 5 MINUTES, FULLY CLOSE THE OUTSIDE AIR DAMPER FOR ONE HOUR AND SEND AN ALARM TO THE OPERATOR INTERFACE INDICATING THE OUTSIDE AIR DAMPER HAS CLOSED. AFTER ONE HOUR, THE AIR HANDLING UNIT SHALL RESUME MINIMUM VENTILATION AND ENTER THE PREVIOUS STAGE OF FREEZE PROTECTION.
3. IF THE FREEZESTAT SENSES A TEMPERATURE AT OR BELOW 32ºF (ADJUSTABLE), SHUT DOWN THE SUPPLY FAN, CLOSE THE OUTDOOR AIR DAMPER, OPEN THE COOLING COIL CONTROL VALVE TO 100% AND ENABLE ITS ASSOCIATED CHILLED WATER SYSTEM PUMP. MODULATE THE PRE-HEATING COIL CONTROL VALVE TO MAINTAIN A PRE-HEATING COIL DISCHARGE AIR TEMPERATURE OF 80ºF (ADJUSTABLE). 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 AND ALL FIRE/SMOKE AND SMOKE DAMPERS WITHIN THIS SYSTEM SHALL CLOSE. THE FIRE ALARM SYSTEM SHALL NOTIFY THE OPERATOR INTERFACE WHENEVER AN ALARM CONDITION IS EXPERIENCED.

4 AHU CONTROLS
NO SCALE

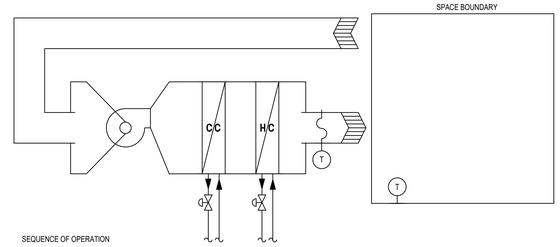


3 MECHANICAL ROOM PIPING SCHEMATIC - NEW WORK
NO SCALE



NOTES:
1. LIMIT OF DEMOLITION.

2 MECHANICAL ROOM PIPING SCHEMATIC - DEMOLITION
NO SCALE



SEQUENCE OF OPERATION

EACH ZONE HAS A FAN COIL UNIT WITH A HOT WATER HEATING COIL, HEATING COIL CONTROL VALVE, CHILLED WATER COOLING COIL, COOLING COIL CONTROL VALVE, AND DIRECT DIGITAL CONTROLLER. INSTALL A WALL MOUNTED THERMOSTAT TO MAINTAIN A SPACE TEMPERATURE OF 72°F (ADJUSTABLE). SEE DRAWINGS FOR SENSOR REQUIREMENTS.

ON A CALL FOR COOLING, THE COOLING COIL CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS MAINTAINED OR UNTIL IT IS FULLY OPEN. THE HEATING COIL CONTROL VALVE SHALL BE CLOSED.

ON A CALL FOR HEATING, THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS MAINTAINED OR UNTIL IT IS FULLY OPEN. THE COOLING COIL CONTROL VALVE SHALL BE CLOSED.

THE FAN SHALL CYCLE WITH DEMAND. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, SEND AN ALARM TO THE OPERATOR INTERFACE.

ON A CALL FOR COOLING, THE COOLING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE HEATING COIL CONTROL VALVE SHALL BE CLOSED.

ON A CALL FOR HEATING, THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE COOLING COIL CONTROL VALVE SHALL BE CLOSED.

IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJUSTABLE), SEND ALARM TO THE OPERATOR INTERFACE.

GENERAL NOTES

1. FAN COIL UNIT CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 24 INCHES.
2. WHERE MULTIPLE SPACES ARE SERVED BY A FAN COIL UNIT, WIRE ALL OCCUPANCY SENSORS TO FAN COIL UNIT CONTROLLER.
3. MOUNT ALL ROOM SENSORS AT 48" ABOVE FINISHED FLOOR. COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.

1 FAN COIL UNIT CONTROLS
NO SCALE

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

SPECIALIZED ENGINEERING SOLUTIONS

Specialized Engineering Solutions
1300 Baxter Street. Suite 230,
Charlotte, NC 28204
T: (704) 348-3097
www.specializedeng.com

CONSULTANT

Atriax GROUP

Atriax, pllc
102 3rd Avenue, NE
PO Box 1629, Hickory, NC 28603
T: 828.315.9962
F: 828.315.9964

www.atriaxgroup.com

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

STAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036968 04/26/2023 ANDREA G THOMPSON

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS	Phase: CONSTRUCTION DOCUMENTS	Project Title: REPLACE HVAC VARIOUS BUILDINGS	Project Number: 679-22-106
			Building Number: 46
Approved: SEE G001	FULLY SPRINKLERED	Location: 3701 Loop Road East, Tuscaloosa, AL 35404-5099	Drawing Number: M700
		Issue Date: 04/26/2023 · Checked: AGT · Drawn: PCM	

BIM 360://22017.001 - VA Tuscaloosa Replace HVAC Various Buildings\679-22-106_B46_MEP_R21.rvt
4/26/2023 4:06:59 PM
VA FORM 08 - 6231