MTC - NE ACCELERATOR
AHU-1 REPLACEMENT

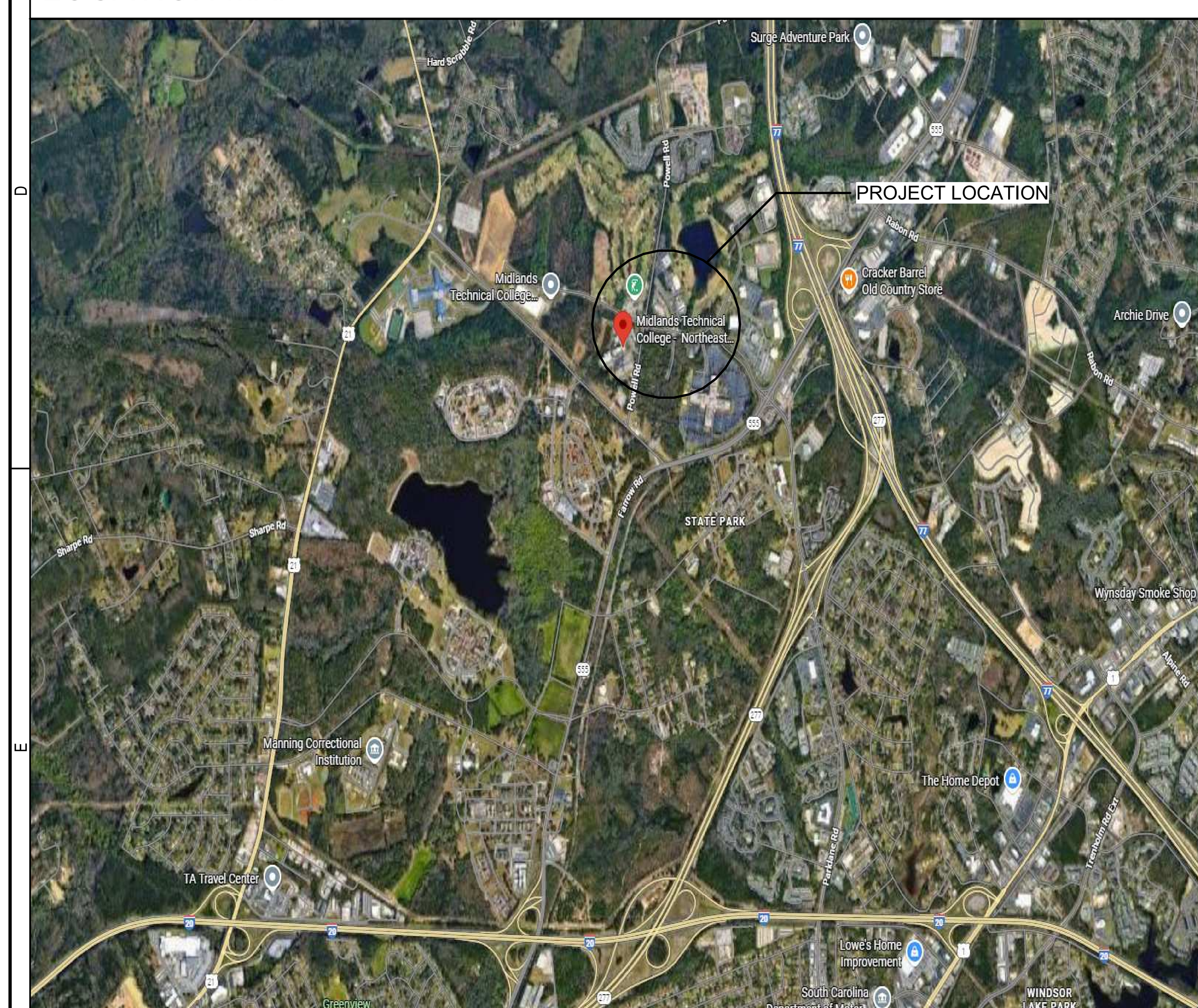
MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD, COLUMBIA, SC 29203

CONSTRUCTION SET

PROJECT NUMBER H59-N336-JR

DRAWING INDEX

LOCATION MAP



DESIGN CODES AND STANDARDS

PROJECT DESIGNED IN ACCORDANCE WITH:

1. 2021 INTERNATIONAL BUILDING CODE WITH SOUTH CAROLINA MODIFICATIONS.
2. 2021 INTERNATIONAL MECHANICAL CODE WITH SOUTH CAROLINA MODIFICATIONS.
3. 2021 INTERNATIONAL PLUMBING CODE WITH SOUTH CAROLINA MODIFICATIONS.
4. 2021 INTERNATIONAL FUEL GAS CODE WITH SOUTH CAROLINA MODIFICATIONS.
5. 2020 NATIONAL ELECTRICAL CODE (NFPA 70) WITH SOUTH CAROLINA MODIFICATIONS.
6. 2021 INTERNATIONAL FIRE CODE WITH SOUTH CAROLINA MODIFICATIONS.
7. STATE FIRE MARSHAL RULES, REGULATIONS AND POLICIES - LATEST EDITION.
8. ASHRAE/IENSA 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS, 2007 EDITION.

OSE TABLE 3E

2023 Edition

TABLE 3E CODE INFORMATION FOR ADDITIONS, ALTERATIONS, OR CHANGE OF OCCUPANCY TO AN EXISTING STRUCTURE

TYPE OF PROJECT:
☒ Alteration (IEBC Chaps. 7, 8 & 9) ☐ Addition (IEBC Chap. 11) ☐ Change of Occupancy (IEBC Chap. 10)

METHOD OF COMPLIANCE:
(Check only one Option and all items that apply under that Option.)

☐ **Option 1: Prescriptive Compliance Method (IEBC Chapter 5)**

☒ **Option 2: Work Area Compliance Method (IEBC Chaps. 6-12)**
- ☒ Alteration Level 1, minor including reroofing (IEBC Chap. 7)
- ☐ Alteration Level 2, reconfigurations of space (IEBC Chap. 8)
- ☐ Alteration Level 3, work area exceeds 50% (IEBC Chap. 9)
- Aggregate area of building: ______ SF
- Work area: ______ SF

☐ **Option 3: Performance Compliance Method (IEBC Chap. 13)**

CONSTRUCTION CLASSIFICATION (IBC 602) Type: Type 2

Change of Occupancy:	☐ Yes	☒ No
Existing Occupancy Classification(s): ______		
New Occupancy Classification(s): ______		
Original Building Code and Edition Applicable at time of Construction: 2003 IBC		
Provisions for Accessibility Required (IEBC 306)?	☐ Yes	☒ No
Existing Sprinkler System?	☒ Yes	☐ No
Existing Fire Alarm System?	☐ Manual	☒ Auto
Seismic Evaluation Required?	☐ Yes	☒ No
Major Facility Project? (See §48-52-810(10)(a))	☐ Yes	☒ No
Emergency Responder Communication Coverage: (IFC Section 510.2)		
Provide test to confirm if Communication Coverage Enhancement is Required?	☐ Yes	☒ No
If No, please explain why not: Minor HVAC Replacement Project		
Historic Building (IEBC Chapter 12):	☐ Yes	☒ No
☐ Preservation ☐ Rehabilitation ☐ Restoration ☐ Reconstruction		

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SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 17994 WILLIAM C. LIVINGSTON 5-25-26

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION SWYGERT AND ASSOCIATES, LTD. NO. 02020

PROJECT TITLE: MTC - NE ACCELERATOR AHU-1 REPLACEMENT
H59-N336-JR
MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD, COLUMBIA, SC 29203

CHECKED BY: WCL
DRAWN BY: CDV
DATE: 05-25-2026
PROJECT NO: 25325

REV	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

SHEET TITLE: TITLE SHEET

SHEET: T101

SHEET IN SET: OF

AIR HANDLING UNIT SCHEDULE

TAG	TRANE MODEL NO.	SUPPLY AIRFLOW-CFM	SUPPLY E.S.P.-IN. WG	SUPPLY MOTOR H.P. (QTY)	RETURN AIRFLOW-CFM	RETURN E.S.P.-IN. WG	RETURN MOTOR H.P. (QTY)	OUTDOOR AIR-CFM	DX COOLING COIL CAPACITY		HEAT KW (SSR)	REMARKS
									EA DB/WB	LA DB/WB		
AHU-1	CSAAO25	12,760	2.5	8 (3)	12,760	0.5	6 (2)	2,900	79.8/66.0	54.3/52.9	40.0	1, 2, 3, 4, 5, 6

1. UNIT SELECTION SHALL INCLUDE MID-LIFE FILTER LOAD.
2. PROVIDE ANGLED FILTER SECTION WITH TWO INCH PLEATED MERV 13 FILTERS AND 2 EXTRA SETS OF FILTERS.
3. FAN SECTION TO BE INTERNALLY ISOLATED WITH EXTENDED LUBE LINES.
4. PROVIDE THREE SINGLE POINT POWER CONNECTIONS FOR SUPPLY, RETURN, AND HEATER SECTIONS, WITH FACTORY DISCONNECT SWITCHES.
5. AIR HANDLER TO BE HORIZONTAL DRAW THRU. CONFIGURATION SHALL BE RELIEF PLENUM / RETURN FAN / ANGLED FILTER AND MIXING SECTION / ELECTRIC HEATER / DX COOLING COIL / SUPPLY FAN.
6. PROVIDE FLOAT SWITCH ON INTERNAL DRAIN PAN AND WIRE TO SHUT DOWN THE UNIT.

AIR COOLED CONDENSING UNIT

TAG	TRANE MODEL	NET COOLING CAPACITY - MBH @ 95°F	EER	REMARKS
ACCU-1	INTELLICORE 40T	504.3	11.1	1,2

1. PROVIDE TWO COOLING CIRCUITS AND FOUR CAPACITY STEPS.
2. PROVIDE LOUVERED COIL GUARDS, LOW AMBIENT COOLING TO 0°F, LIQUID AND SUCTION LINE SERVICE VALVES, AND HOT GAS BYPASS.

AIR BALANCE SCHEDULE

VAV TAG	MAX CFM	MIN CFM
FPVAV-1	1840	380
FPVAV-2	1600	300
FPVAV-3	950	220
FPVAV-4	1400	300
FPVAV-5	540	100
FPVAV-6	1300	600
FPVAV-7	1300	600
FPVAV-8	1300	600
FPVAV-9	1300	600
FPVAV-10	1230	100

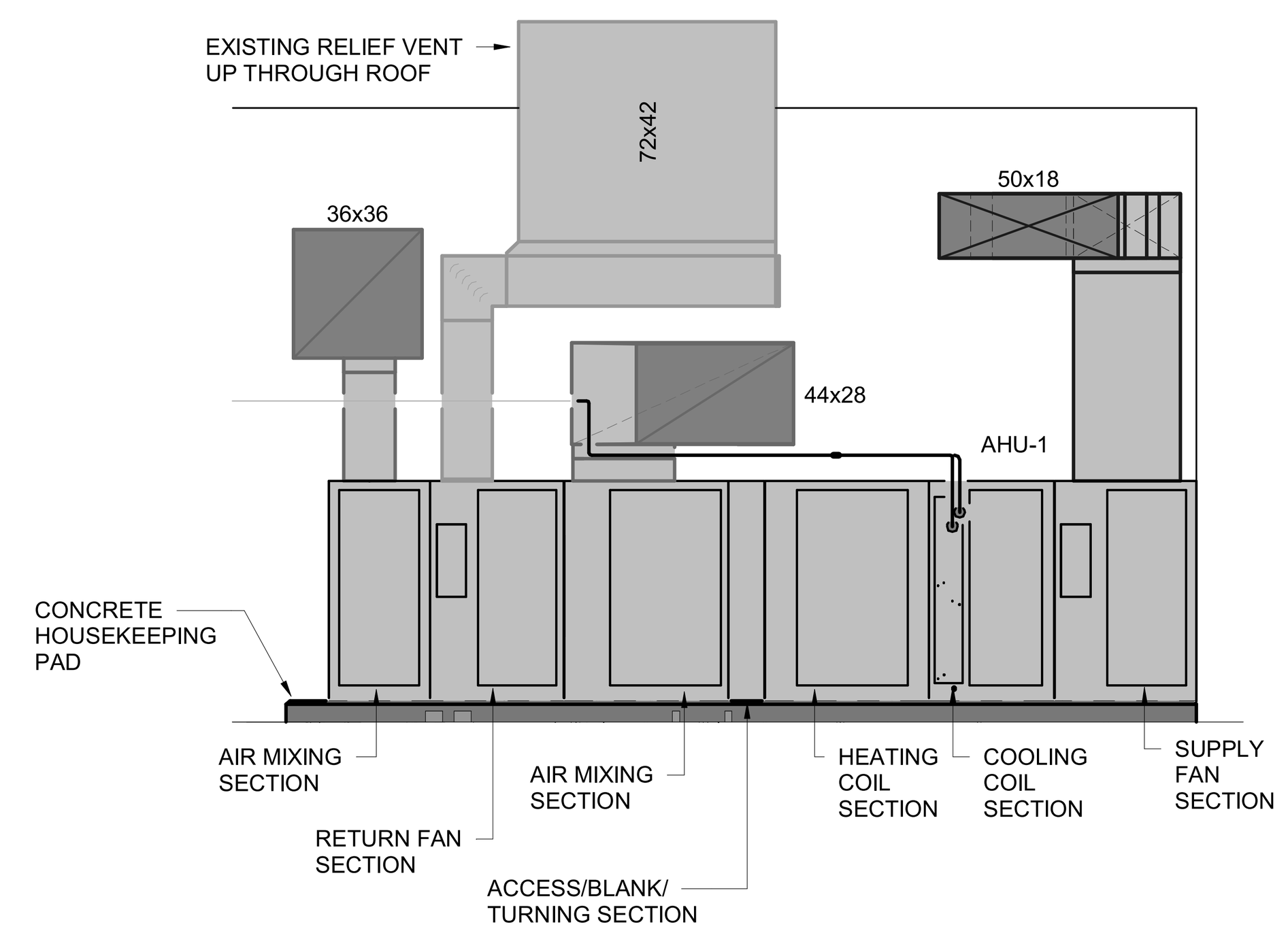
1. BALANCE VAV TERMINALS TO AIRFLOW SHOWN.

GENERAL NOTES

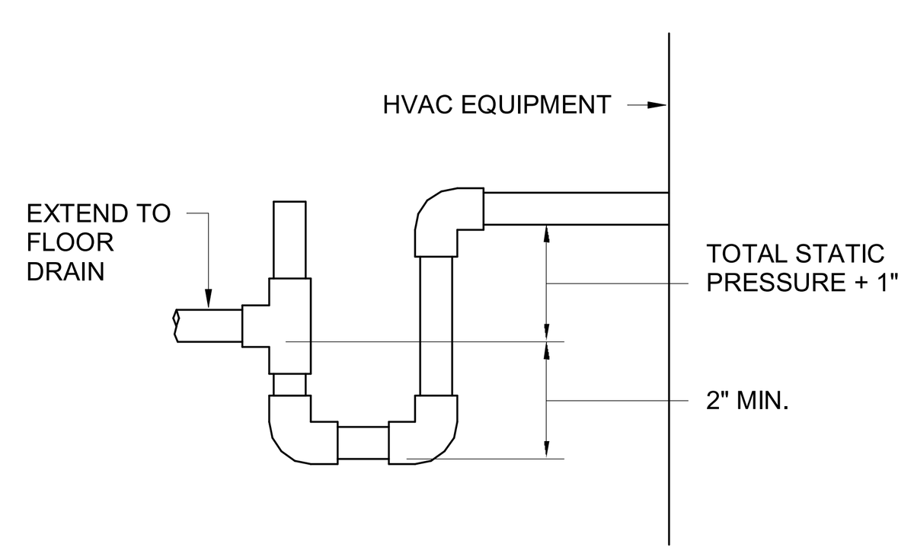
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2021 INTERNATIONAL MECHANICAL CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, AND 2006 SMACNA HVAC DUCT CONSTRUCTION STANDARD. ALL LOCAL CODES OR REQUIREMENTS STILL APPLY.
2. VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING.
3. DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
4. ALL PIPING IS SHOWN DIAGRAMMATIC. HOWEVER, THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS, PIPING AND INSULATION FOR ALL OFFSETS AND/OR CHANGES IN ELEVATION.
5. MINIMUM PIPE SIZE SHALL BE 3/4-INCH UNLESS INDICATED OTHERWISE.
6. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
7. MOTORIZED OUTSIDE AIR DAMPERS SHALL BE ABLE TO MODULATE AND ADJUST THE OPEN POSITION TO BALANCE THE OUTDOOR AIR TO THE SPECIFIED CFM.
8. PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE FULL SPACE FOR COIL REMOVAL AND REPLACEMENT FOR ALL HOT WATER AND CHILLED WATER AIR HANDLING UNITS.
9. THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.
10. THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING. DIVISION 26 WILL PROVIDE AND INSTALL ALL POWER WIRING. ALL WIRING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL AND ALL CONTROL WIRING SHALL BE ROUTED IN EMT CONDUIT INDOORS AND RIGID CONDUIT OUTDOORS. DUCT DETECTORS PROVIDED BY DIVISION 26 SHALL BE INSTALLED BY DIVISION 23. POWER WIRING AND FIRE ALARM CONNECTIONS SHALL BE BY DIVISION 26.
11. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY DISMANTLING OF EQUIPMENT TO BE REMOVED. FREON SHALL BE RECLAIMED AND DISPOSED OF PER EPA REGULATIONS.
12. ITEMS REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.
13. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING HVAC SYSTEMS FROM CONSTRUCTION DEBRIS, DUST AND DIRT FOR THE ENTIRE CONSTRUCTION DURATION. DUCT CLEANING AND UNIT/COIL CLEANING SHALL BE PERFORMED AS REQUIRED. PROTECTION SHALL INCLUDE MERV 13 FILTER MEDIA OVER ALL RETURN GRILLES AND RETURN DUCT OPENINGS TO PROTECT DUCTS AND EQUIPMENT. CONTRACTOR MUST INSPECT ALL EXISTING UNITS WITH THE OWNER PRIOR TO START OF WORK AND AT THE COMPLETION OF WORK.

LEGEND

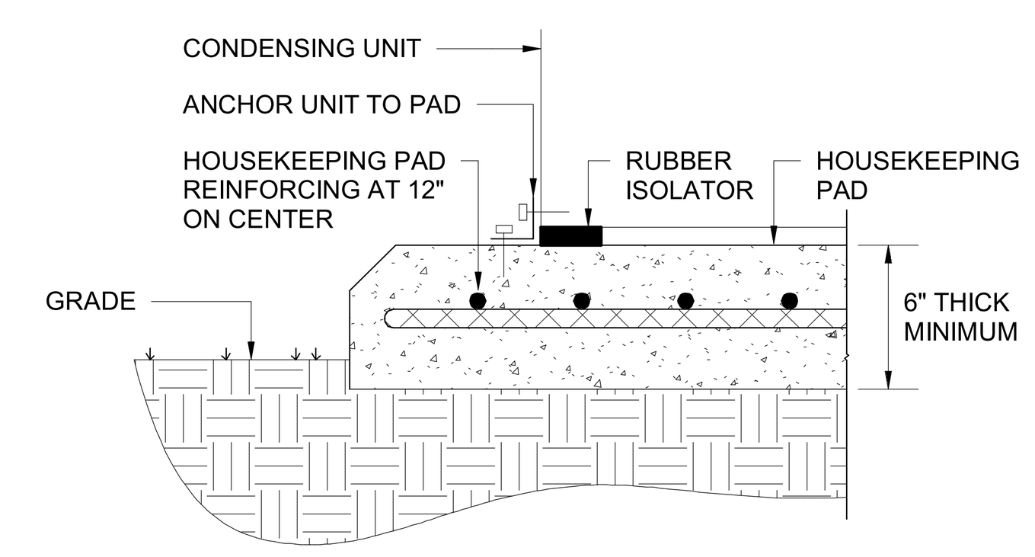
SYMBOL	DESCRIPTION
	THERMOSTAT
	RECTANGULAR SUPPLY DUCTWORK
	RETURN AND FRESH AIR DUCTWORK
	EXHAUST DUCTWORK
	CONNECTION POINT OF NEW TO EXISTING



1/M001 AHU-1 SECTION
1/4" = 1'-0"



CONDENSATE DRAIN DETAIL
NO SCALE



HOUSEKEEPING PAD DETAIL
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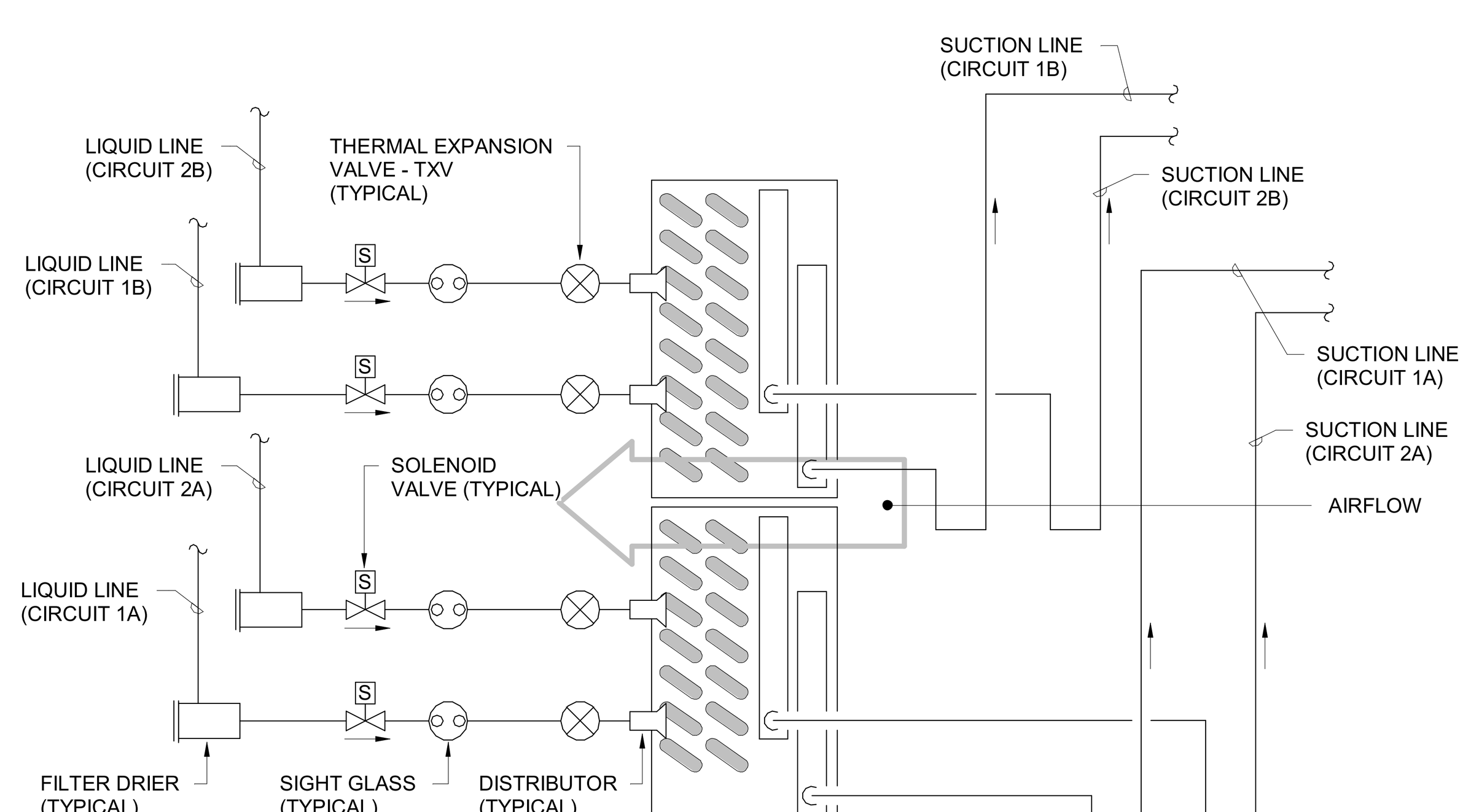

AHU DX COIL PIPING DETAIL
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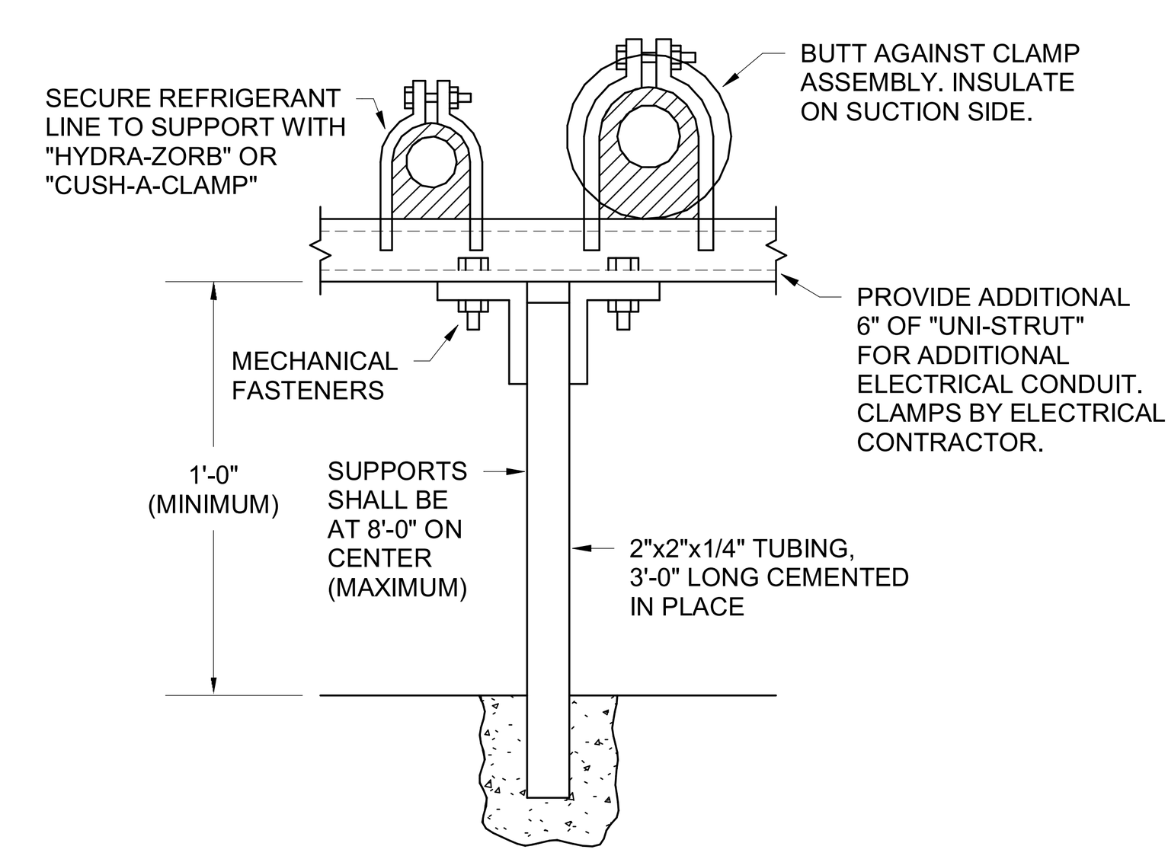

REFRIGERANT PIPE SUPPORT DETAIL
NO SCALE

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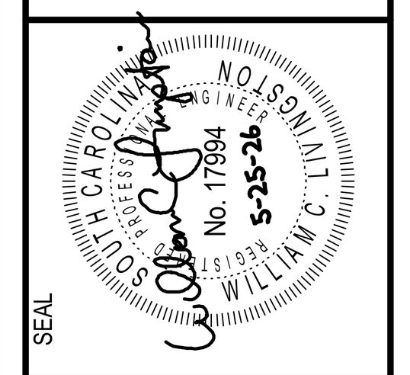

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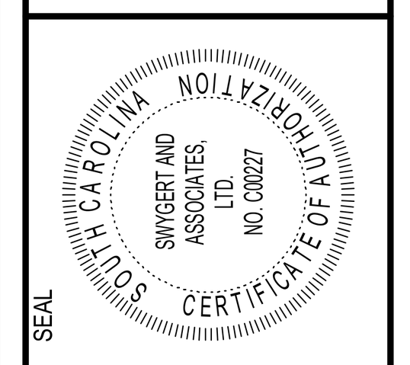

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MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD, COLUMBIA, SC 29203

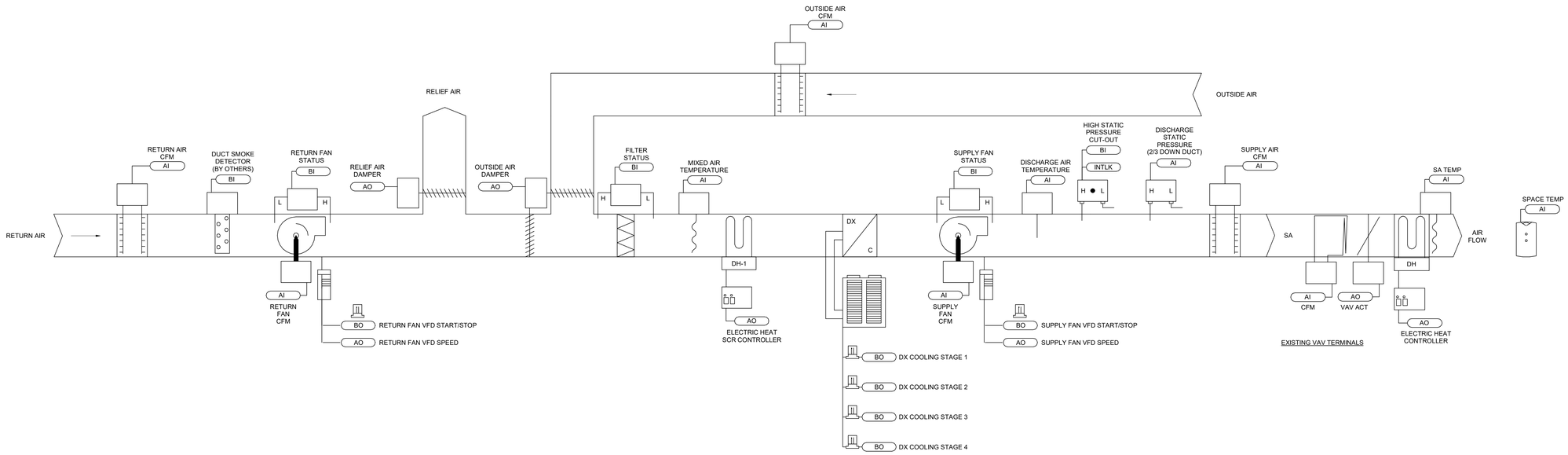
PROJECT NO:	DATE:	DRAWN BY:	CHECKED BY:
25325	05-25-2026	CDV	WCL

REV	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

SHEET TITLE:
DETAILS, NOTES, SCHEDULES, AND LEGEND

SHEET:
M001

SHEET IN SET:
OF



VAV DX AIR HANDLER CONTROL DIAGRAM

NO SCALE

SEQUENCE OF OPERATION

1. THE BAS SHALL INTERFACE TO EACH UNIT DDC CONTROLLER (REFER TO SPECIFICATION SECTION 230010) VIA BACNET PROTOCOL. ALL VAV UNIT CONTROL FUNCTIONS AND MONITORING POINTS SHALL BE VIEWABLE THROUGH THE BUILDING CONTROL SYSTEM FOR THE SYSTEM OPERATOR(S). NECESSARY FIELD CONTROL INTERLOCK WIRING REQUIRED FOR THE VAV UNIT CONTROLS SHALL BE PROVIDED BY THE BUILDING CONTROL SYSTEM CONTRACTOR. CONTROL COMPONENTS FOR THE VAV AIR HANDLING SYSTEMS WILL BE FURNISHED BY THE VAV AIR HANDLING UNIT MANUFACTURER. VAV AIR HANDLING SYSTEM BACNET INTEGRATION COMPONENTS REQUIRED FOR THE BAS WILL ALSO BE FURNISHED BY THE VAV AIR HANDLING UNIT MANUFACTURER.

2. ACCORDING TO ITS OCCUPIED AND UNOCCUPIED SCHEDULE, EACH AIR HANDLING UNIT SHALL BE OPTIMALLY STARTED AND STOPPED THROUGH A BACNET INTERFACE TO ITS MANUFACTURER PROVIDED DDC CONTROLLER. A CURRENT SWITCH SHALL SENSE FAN STATUS. THE AHU SUPPLY FAN SHALL RAMP UP TO ITS COOLING AIRFLOW (CFM SUPPLY) AS MEASURED BY THE DUCT MOUNTED AIRFLOW MEASURING STATION.

3. A DUCT STATIC PRESSURE TRANSMITTER SHALL BE LOCATED AT TWO-THIRDS THE DISTANCE DOWN THE LONGEST DUCT RUN AND SHALL ALLOW THE DDC CONTROLLER TO OPERATE THE SUPPLY FAN VARIABLE SPEED DRIVE IN ORDER TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT. A DUCT STATIC PRESSURE HIGH LIMIT SWITCH SHALL SHUT DOWN THE AIR HANDLING UNIT AND ALARM THE DDC CONTROLLER IF ITS SETPOINT IS EXCEEDED.

4. DURING UNOCCUPIED HOURS AND MORNING START UP OPERATION, THE MOTORIZED OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN IN OCCUPIED OPERATION, THE OUTSIDE AIR DAMPER SHALL MODULATE IN CONJUNCTION WITH THE RETURN AIR DAMPER TO MAINTAIN ITS MINIMUM REQUIRED OUTSIDE AIRFLOW (CFM VENTILATION) AS MEASURED BY A DUCT MOUNTED AIRFLOW STATION.

5. THE RETURN AIR FAN SHALL OPERATE WHEN SUPPLY AIR FAN IS IN OPERATION. . A CURRENT SWITCH SHALL SENSE FAN STATUS. THE RETURN AIR FAN VARIABLE FREQUENCY DRIVE SHALL MODULATE THE FAN SPEED TO MAINTAIN THE RETURN AIRFLOW (CFM RETURN) AS MEASURED BY A DUCT MOUNTED AIRFLOW STATION. THE RETURN AIRFLOW SHALL BE CALCULATED BASED ON THE FOLLOWING FORMULA:
(CFM RETURN) = (CFM SUPPLY) – (CFM VENTILATION).

6. THE EXHAUST AIR DAMPER SHALL BE MODULATED OPEN TO MAINTAIN BUILDING PRESSURE AT +0.05" (ADJ).

7. THE SUPPLY AIR TEMPERATURE SETPOINT SHALL BE 55 DEGREES WHEN OUTDOOR AIR TEMPERATURE IS ABOVE 55 DEGREES. WHEN OUTDOOR AIR TEMPERATURE IS BELOW 55 DEGREES THE SUPPLY AIR TEMPERATURE SETPOINT SHALL BE RESET TO 65 DEGREES. THE AIR HANDLING UNIT SUPPLY AIR TEMPERATURE SHALL BE CONTROLLED TO MAINTAIN ITS SETPOINT BY ENABLING IN SEQUENCE THE STAGES OF DX COOLING. THE AIR HANDLING UNIT PREHEAT COIL DISCHARGE AIR TEMPERATURE SHALL BE CONTROLLED TO MAINTAIN ITS SETPOINT BY ENABLING IN SEQUENCE THE ELECTRIC STAGES OF HEAT.

8. ECONOMIZER SHALL BE ENABLED WHEN OUTDOOR TEMPERATURES ARE LOWER THAN 55 DEGREES. THE OUTSIDE AIR DAMPER SHALL BE MODULATED IN CONJUNCTION WITH THE RETURN AIR DAMPER TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

9. AHU DUCT SMOKE DETECTORS SHALL BE PROVIDED BY DIVISION 26 AND MOUNTED UNDER THIS SECTION OF THE SPECIFICATIONS. WIRING OF THE AHU DUCT SMOKE DETECTORS TO THE FIRE ALARM SYSTEM SHALL BE ACCOMPLISHED BY DIVISION 26. INTERLOCK WIRING FOR SHUTDOWN OF THE AIR HANDLING UNITS FROM THE AHU DUCT SMOKE DETECTORS SHALL BE ACCOMPLISHED UNDER THIS SECTION OF THE SPECIFICATIONS. THE AHU DUCT SMOKE DETECTORS WILL ALARM THE DDC CONTROLLER IN THE EVENT THAT PRODUCTS OF COMBUSTION ARE DETECTED.

10. ADDITIONALLY, THE DDC CONTROLLER SHALL MONITOR THE AIR HANDLING UNIT RETURN AIR TEMPERATURE, HUMIDITY, AND CONDENSING UNIT DX COMPRESSOR STATUS.

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PROJECT NO:	DATE:	DESCRIPTION	REV
25325	05-25-2026		

DRAWN BY: CDV | CHECKED BY: WCL

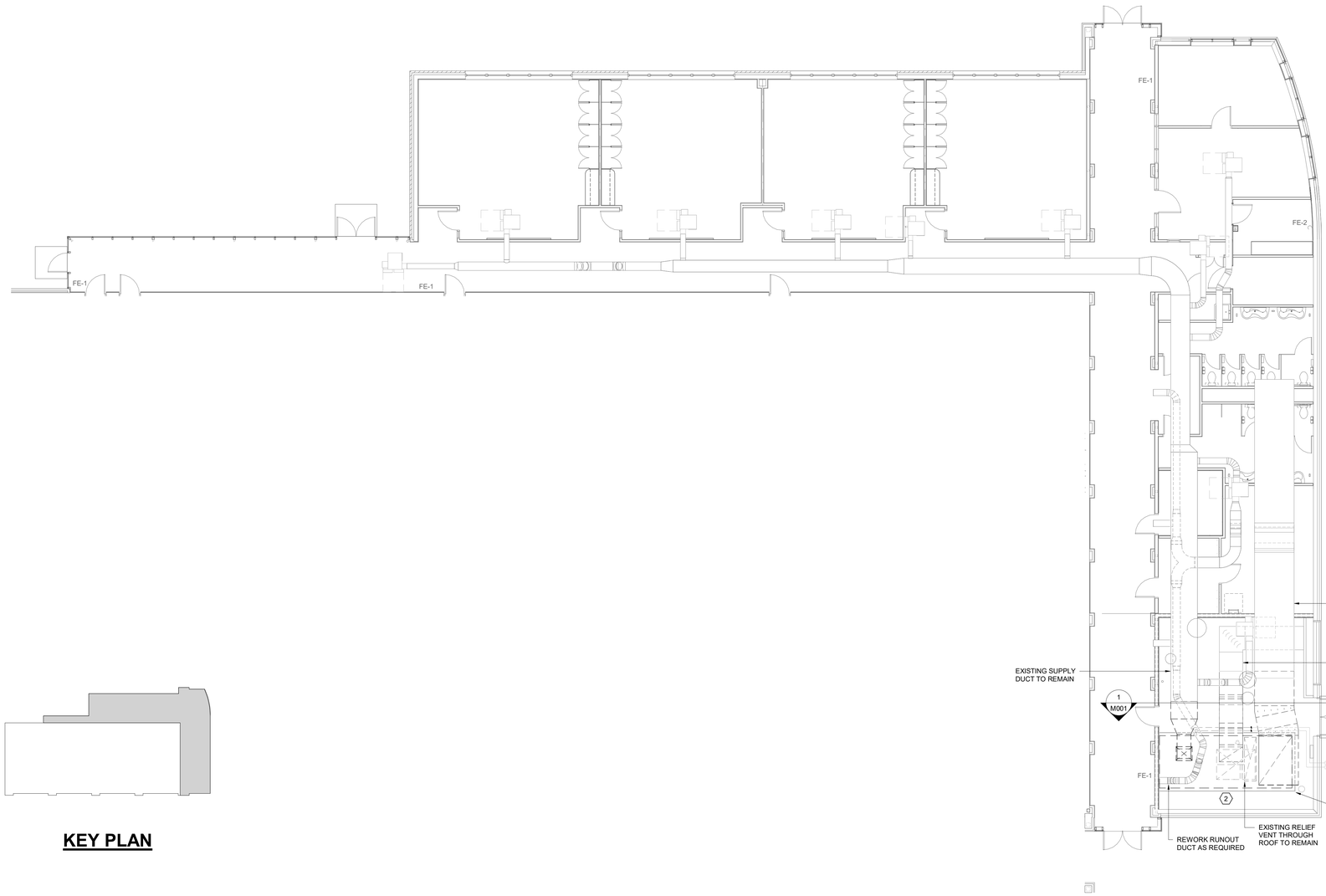
SHEET TITLE: CONTROL DIAGRAMS

SHEET: M002

SHEET IN SET: OF

DEMOLITION NOTES

1. REMOVE CONDESING UNIT AND TUBING AS SHOWN.
2. REMOVE AIR HANDLER AND DUCTWORK AND TUBING AS SHOWN.



KEY PLAN

1 MD101 FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

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DRAWN BY:	CHECKED BY:
CDV	WCL

DATE	DESCRIPTION	REV
05-25-2026		

PROJECT NO: 25325

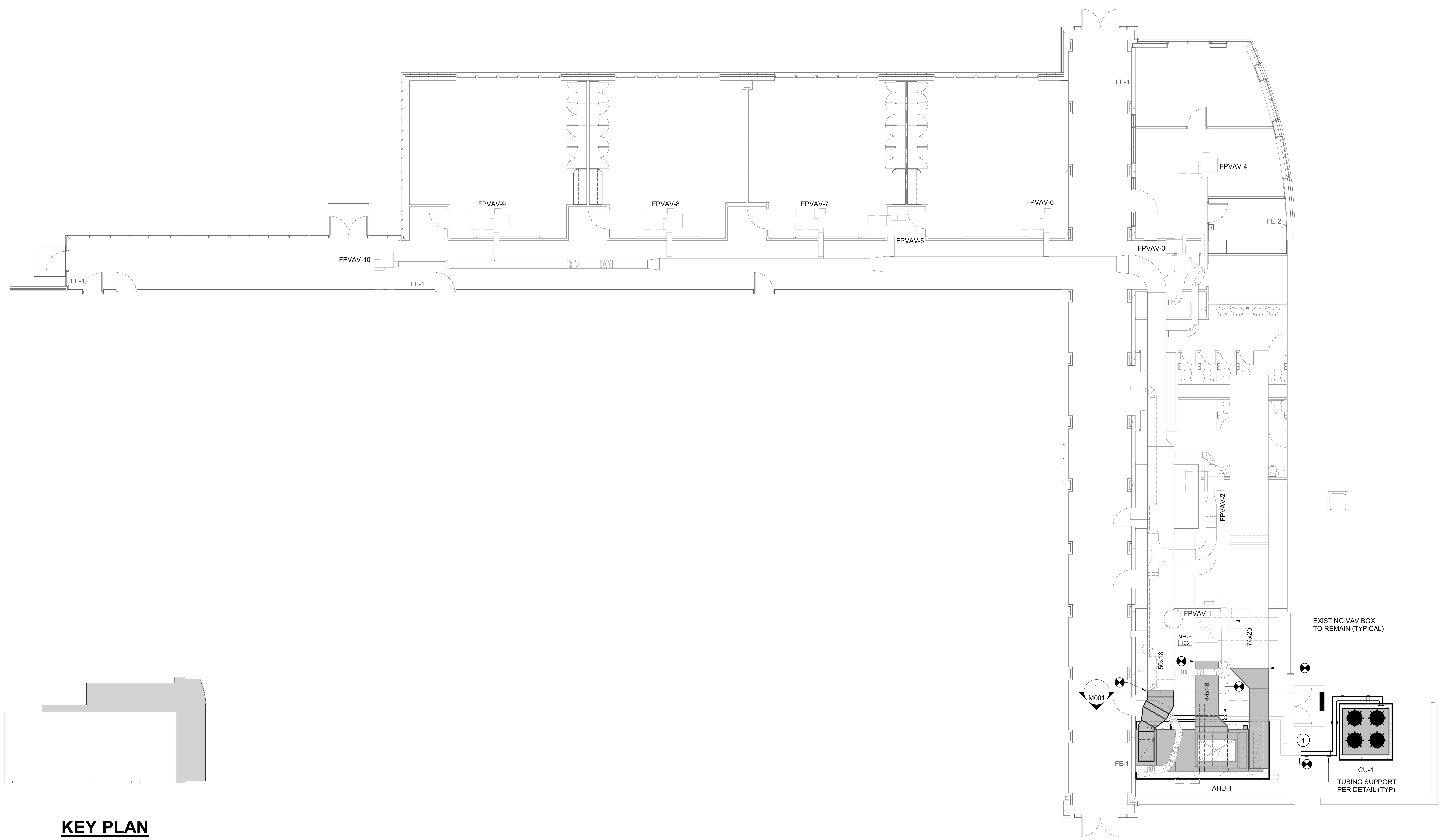
SHEET TITLE:
FIRST FLOOR DEMOLITION PLAN

SHEET:
MD101

SHEET IN SET:
OF

NOTES TO SHEET

1. RE-INSULATE EXTERIOR TUBING AND PROVIDE ALUMINUM JACKET PER SPECIFICATIONS.



KEY PLAN

1 FIRST FLOOR RENOVATION PLAN
M101 — 1/8" = 1'-0"

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SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION — SWYGERT AND ASSOCIATES, LTD. NO. C00227

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REV	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

SHEET TITLE: FIRST FLOOR PLAN

SHEET: M101

SHEET IN SET: OF

EQUIPMENT CONNECTION SCHEDULE									
		ELECTRICAL SUMMARY			DISCONNECT SUMMARY				
UNIT I.D.	CONNECTION DESCRIPTION	VOLTAGE	# OF POLES	LOAD (VA)	FURN. BY	DISC. TYPE	DISC. RATING	NEMA RATING	NOTES
ACCU-1	CONDENSING UNIT	480 V	3	82305	M				1,2
AHU-1-1	AIR HANDLER RETURN	480 V	3	11489	M				1,2
AHU-1-2	AIR HANDLER SUPPLY	480 V	3	22214	M				1,2
AHU-1-3	AIR HANDLER HEATER	480 V	3	52539	M				1,2

EQUIPMENT CONNECTION SCHEDULE NOTES

1 ALL SWITCHES SHALL BE HEAVY DUTY TYPE AT 480-VOLT AND GENERAL DUTY TYPE FOR 240-VOLT.

2 "M" DENOTES DISCONNECT SWITCH INTEGRAL WITH MECHANICAL EQUIPMENT. "E" DENOTES DISCONNECT IS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE (GFI TYPE @ 18"AFF)	(D)	SMOKE DETECTOR (DUCT MOUNTED)
	DUPLEX RECEPTACLE (GFI TYPE @ 6" ABOVE COUNTER)		PANELBOARD (SURFACE MOUNTED)
J	JUNCTION BOX (WALL MTD)		CONTROL PANEL (SURFACE MOUNTED)
J	JUNCTION BOX (CEILING)		DISCONNECT SWITCH, (REFER TO EQUIPMENT CONNECTION SCHEDULE)
S	LIGHT SWITCH, SINGLE POLE	#1	KEY NOTE CALLOUT (REFER TO KEY NOTES ON SHEET)
S^M	MOTOR RATED SNAP SWITCH IN NEMA 1 ENCLOSURE		

TO OTHER INITIATING DEVICES. REFER TO FLOOR PLAN FOR QUANTITIES AND LOCATIONS.

D

FROM NEW OR EXISTING INITIATING DEVICE CIRCUIT

FLOOR

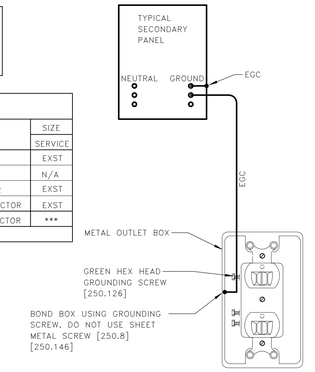
EXISTING FIRE ALARM SYSTEM NOTES

1. SEE FLOOR PLANS FOR INTENDED COVERAGE OF FIRE ALARM SYSTEM. ALL FIRE ALARM WORK SHALL BE PROVIDED BY A FIRE ALARM CONTRACTOR CERTIFIED BY MANUFACTURER TO WORK ON THE SYSTEM.
2. EXISTING BUILDING FIRE ALARM SYSTEM IS BASED ON SIMPLEX/MODEL#4010. PROVIDE ADDITIONAL POWER SUPPLIES AND OTHER SYSTEM ACCESSORIES REQUIRED TO SUPPORT ADDITIONAL DEVICES.
3. INITIATING DEVICES SHALL BE SMOKE DETECTORS, DUCT-MOUNTED SMOKE DETECTORS, HEAT DETECTORS, MANUAL PULL STATIONS / ABORT STATIONS, AND WATER FLOW SWITCHES.
4. SYSTEM TROUBLE (OPEN WIRING, SHORTED WIRING, OR GROUND FAULTS) SHALL BE ANNUNCIATED BOTH AUDIBLY AND VISUALLY AT THE FACP AND AT ALL ANNUNCIATORS.
5. PROVIDE ALL DUCT SMOKE DETECTORS AND ACCESSORIES NECESSARY FOR INTERLOCKING WITH MECHANICAL EQUIPMENT (AHU'S, SMOKE DAMPERS, ETC). COORDINATE WITH MECHANICAL PLANS FOR LOCATIONS AND REQUIREMENTS. DETECTORS SHALL BE FURNISHED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR, WIRED TO FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR, AND TIED TO MECHANICAL CONTROLS FOR AHU SHUTDOWN BY MECHANICAL CONTRACTOR.
6. ALL SYSTEM WIRING SHALL BE CLASS B. NO T-TAPPING IS PERMITTED.
7. ALL FIRE ALARM SYSTEM CABLING SHALL BE IN RED CONDUIT.
8. SEQUENCE OF OPERATION SHALL BE BASED ON EXISTING SYSTEM PROGRAMMING. THIS SCOPE OF WORK WILL NOT REQUIRE ANY MODIFICATIONS.

3 / E001 EXISTING FIRE ALARM SYSTEM SINGLE-LINE
NOT TO SCALE

DIAGRAM PROVIDES OVERALL VIEW OF BUILDING GROUNDING SYSTEM. EQUIPMENT SHALL BE GROUNDED BASED ON ITS PORTION OF THIS DIAGRAM.

GROUNDING LEGEND		
ABBR.	DESCRIPTION	SIZE SERVICE
MBJ	MAIN BONDING JUMPER	EXST
SBJ	SYSTEM BONDING JUMPER	N/A
SSBJ	SUPPLY SIDE BONDING JUMPER	EXST
GEC	GROUNDING ELECTRODE CONDUCTOR	EXST
EGC	EQUIPMENT GROUNDING CONDUCTOR	***
*** SIZE PER TABLE 250.122.		



GROUNDING NOTES:

1. NUMBERS IN BRACKETS REFER TO SPECIFIC SECTIONS OF THE NATIONAL ELECTRICAL CODE.
2. ALL UNDERGROUND OR OTHERWISE INACCESSIBLE GROUND CONNECTIONS AND SPLICES SHALL BE EXOTHERMICALLY WELDED [250.68].
3. PROVIDE A GROUND WIRE IN ALL CONDUITS.
4. EARTH SHALL NOT BE USED AS THE SOLE GROUND RETURN PATH FOR ANY EQUIPMENT POWERED UNDER THIS PROJECT.
5. NO ALUMINUM SHALL BE USED FOR GROUNDING WORK WITHOUT THE SPECIFIC WRITTEN PERMISSION OF THE ENGINEER. EXCEPTION: ALUMINUM BUILDING STRUCTURAL MATERIALS SHALL BE BONDED WITH LISTED ALUMINUM EQUIPMENT WITH ALUMINUM TO COPPER CONNECTORS FOR ROUTING COPPER EGC'S.
6. ALL METAL ENCLOSURES AND RACEWAYS SHALL BE BONDED TO GROUND [250.86]. FOR CIRCUITS OVER 250V PROVIDE BOND PER [250.97], STANDARD LOCKNUTS ARE NOT ACCEPTABLE.
7. PROVIDE EGC CONNECTED TO ANY JUNCTION BOX WHERE SPLICE IS MADE [250.148] OR WHERE A DEVICE IS INSTALLED.
8. PROVIDE BOND TO EXPOSED METAL ON ALL MOTORS, PUMPS, AND LIGHTING FIXTURES PER [250.112].

1 / E001 GROUNDING DETAIL
NOT TO SCALE

GENERAL EXISTING CONDITION NOTES

1 AREAS OF WORK EXIST FOR THIS PROJECT WHICH ARE NOT ACCESSIBLE OR HAVE LIMITED ACCESS DURING DESIGN. AS SUCH CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK BEFORE DEMOLITION OF ANY SERVICE. ANY ELECTRICAL COMPONENTS NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO ELECTRICAL REWORK SHALL BE COMMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER.

2 IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REMOVED, THE CONTRACTOR SHALL WORK THRU THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.

3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A FIRESTOP SYSTEM IN ALL PENETRATIONS OF FIRE-RATED WALLS CREATED BY THE REMOVAL OF EXISTING ELECTRICAL CONDUIT OR CABLES, AS WELL AS THOSE CREATED BY NEWLY INSTALLED CONDUITS AND SLEEVES.

4 WHERE INSTALLATION REQUIRES CUTTING OR DRILLING OF THE EXISTING FLOOR SLAB, THE CONTRACTOR SHALL X-RAY THE EXISTING SLAB PRIOR TO WORK TO ENSURE THAT NO EXISTING UTILITIES OR STRUCTURAL ELEMENTS IN THE SLAB WILL BE COMPROMISED BY THE WORK. NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS THAT WILL REQUIRE RELOCATING THE PROPOSED SLAB WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGED UTILITIES OR STRUCTURAL ELEMENTS CAUSED BY THE SLAB DEMOLITION.

5 SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING PER NEC IN THE CONSTRUCTION AREA.

6 REMOVE ALL ABANDONED CONDUIT, WIRE, AND COMMUNICATION CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA.

7 PROVIDE JUNCTION BOX COVER PLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA.

8 SUPPORT ALL EXISTING COMMUNICATION CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA

9 WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER

GENERAL "DEMOLITION" NOTES

1 ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY OWNER'S PROJECT MANAGER. MATERIALS THAT OWNER'S PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

GENERAL "POWER" NOTES

1 ALL BRANCH CIRCUITS INDICATED ON THESE PLANS TO BE LARGER THAN NO. 12 AWG SHALL BE SIZED AS INDICATED FOR THE ENTIRE LENGTH OF THE CIRCUIT.

2 PROVIDE AND INSTALL AN ENGRAVED LAMINATED PLASTIC NAMEPLATE ON EACH ITEM OF ELECTRICAL EQUIPMENT SERVING MECHANICAL EQUIPMENT WHICH MATCH MECHANICAL DESCIPTIONS, TO INDICATE THE DESIGNATION OF THE UNIT ON THE PLANS & THE BRANCH CIRCUIT SERVING THE EQUIPMENT.

3 PROVIDE LABEL ON FACE OF COVER PLATE OF ALL RECEPTACLES, SWITCHES & WALL MOUNTED DEVICES INDICATING PANEL AND BRANCH CIRCUIT TO WHICH EACH DEVICE IS CONNECTED.

GENERAL "ELECTRICAL" NOTES

1 BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG UNLESS NOTED OTHERWISE. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES, IN OUTLET BOXES, IS NOT REQUIRED TO BE LARGER THAN NO. 12 AWG.

2 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE OR FIXTURE SHALL USE NO. 10 CONDUCTORS AND 3/4"C.

3 RACEWAYS SHALL BE INSTALLED CONCEALED ABOVE CEILINGS, BELOW FLOOR, AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. WHERE EXPOSED RACEWAYS MUST BE USED, LAYOUT RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL RUNS.

4 THE ARRANGEMENT, GROUPING, AND ROUTING OF BRANCH CIRCUITS SHALL BE PROVIDED AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICE FOR ELECTRICAL WORK, THE NATIONAL ELECTRICAL CODE REQUIREMENTS, LOCAL ORDINANCES, AND THE FOLLOWING:

4.1 A COMMON NEUTRAL SHALL NOT BE INSTALLED IN A HOMERUN FOR 2 OR 3 BRANCH CIRCUITS UNLESS DIRECTION IS PROVIDED BY THE ENGINEER IN WRITTING FOR A SPECIFIC APPLICATION.

4.2 MULTIPLE SINGLE-POLE BRANCH CIRCUITS (UP TO 3 HOTS, 3 NEUTRALS, 1 GROUND) RATED FOR 30-AMPS OR LESS MAY BE PULLED INTO A SINGLE RACEWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE RACEWAYS AND DERATING CONDUCTORS PER NEC ARTICLE 310.15.

4.3 BRANCH CIRCUIT, FEEDER & COMMUNICATION CIRCUITS SHALL BE ROUTED OVERHEAD UNLESS PRIOR APPROVAL HAS BEEN GRANTED BY THE ARCHITECT AND ENGINEER.

4.4 A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.

5 COORDINATE THE ROUTING OF UNDERGROUND CONDUCTORS/CONDUIT WITH STRUCTURAL FOOTINGS AND UNDERGROUND UTILITIES.

6 THE USE OF MC CABLE IS NOT ALLOWED.

7 SEAL ALL EXISTING AND NEW FIRE RATED WALL AND FLOOR PENETRATIONS IN THE CONSTRUCTION AREA

8 WHEREVER ON THE ELECTRICAL DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL".

9 ELECTRICAL CONTRACTOR SHALL PROVIDE WATER PROOFING FOR ALL CONDUIT ENTERING BUILDING.

CONDUIT SCHEDULE	
BRANCH CIRCUIT RATING	CONDUIT SIZE
20A-40A	3/4"
45A-55A	1"
60A-110A	1 1/4"
125A-150A	1 1/2"
175A-200A	2"
225A-300A	2 1/2"
350A	3"
400A	3 1/2"

GENERAL PANEL SCHEDULE NOTES

1 FIELD VERIFY EXISTING LOAD SERVED BY EACH BRANCH AND CLEARLY LABEL IN PANELBOARD SCHEDULES.

2 CIRCUITS INDICATED TO FEED NEW LIGHTING AND ELECTRICAL DEVICES ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING EXISTING BREAKERS WHERE ADDITIONAL SPACE IS NEEDED BUT AVAILABLE.

3 EXISTING BREAKERS SHOWN IN PANEL SCHEDULES ARE FOR REFERENCE ONLY.

4 EXISTING LOADS SHOWN ON PANELBOARD SCHEDULES WERE TAKEN FROM EXISTING AS-BUILT DOCUMENTS AND PANELBOARD DIRECTORIES. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING BRANCH CIRCUITS IN EACH PANEL THAT IS MODIFIED AND PROVIDE AN UPDATED, COMPLETE AND CORRECT PANEL SCHEDULE IN EACH PANEL. EACH CIRCUIT SHALL LIST LOAD DESCRIPTION AND LOCATION (ROOM #'S).

EXISTING PANELBOARD: HH — **DISTRIBUTION:** 480/277 Wye — **A.I.C. RATING:** EXISTING
SUPPLIED FROM: — **PHASES:** 3 — **MAINS RATING:** 400 A
MOUNTING: SURFACE — **WIRES:** 4 — **MCB RATING:** MAIN LUGS ONLY
ENCLOSURE: Type 1 — PANEL TYPE GE 'A' SERIES II

WIRE SIZE	NTS	CKT	DESCRIPTION	BKR	P	A		B		C		P	BKR	DESCRIPTION	CKT	NTS	WIRE SIZE
--		1				0.0	7.4								2		
		3	EXISTING LOAD (TRANSFORMER TH)	70	3			0.0	7.4			3	30	AHU-1-2 SUPPLY	4	2	3-#10, 1-#10, 1-#10
		5								0.0	7.4				6		
--		7	SPARE	20	1	0.0	17.5								8		
--		9	SPARE	20	1			0.0	17.5			3	70	AHU-1-3 HEATER	10	1	
--		11	SPARE	20	1					0.0	17.5				12		
		13				0.0	0.0								14		
--		15	EXISTING LOAD (WATER HEATER WH-1)	30	3			0.0	0.0			3	70	SPARE	16		--
		17								0.0	0.0				18		
--		19	EXISTING LOAD	20	1	0.0	0.0								20		
--		21	EXISTING LOAD (FPVAV-2)	40	1			0.0	0.0			3	20	EXISTING LOAD (VP-1 VACUUM PUMP)	22		--
--		23	EXISTING LOAD (FPVAV-3)	20	1					0.0	0.0				24		
--		25	EXISTING LOAD (FPVAV-4)	30	1	0.0	0.0					1	20	EXISTING LOAD (LIGHTING...	26		--
--		27	EXISTING LOAD (FPVAV-5)	20	1			0.0	0.0			1	20	EXISTING LOAD (CORRIDOR COVE)	28		--
--		29	EXISTING LOAD (LIGHTING-BLDG MTD)	20	1					0.0	0.0	1	20	EXISTING LOAD (CORRIDOR)	30		--
--		31	EXISTING LOAD (EXTERIOR POLE)	20	1	0.0	3.8								32		
--		33	EXISTING LOAD (FPVAV-10)	20	1			0.0	3.8			3	15	AHU-1-1 RETURN	34	2	
--		35	EXISTING LOAD (FPVAV-1)	40	1					0.0	3.8				36		
		37				27.4	--					1	--	NOT AVAILABLE	38		--
	1	39	ACCU-1 CONDENSING UNIT (SUB-FEED TYPE BREAKER)	110	3			27.4	--			1	--	NOT AVAILABLE	40		--
		41								27.4	--	1	--	NOT AVAILABLE	42		--
TOTAL PER PHASE KVA:						56.2		56.2		56.2		ADD. CONNECTED KVA:				168.5	
TOTAL PER PHASE AMPACITY:						203		203		203		ADD. CONNECTED AMPS:				203	

NOTES (NTS COLUMN):
1) RE-USE EXISTING BREAKER FOR NEW LOAD SHOWN
2) REMOVE EXISTING BREAKER(S) AND PROVIDE BREAKER IN SPACE AS SHOWN

DEMOLITION/RENOVATION NOTATION

* IF NO ANNOTATION IS SHOWN ASSUME EXISTING TO REMAIN IN PLACE FOR SOLID LINES AND DEMOLISH FOR DASHED LINES.
* DEVICES AND EQUIPMENT NOT SHOWN SHALL BE ASSUMED TO BE EXISTING TO REMAIN IN PLACE.
E EXISTING FIXTURE OR DEVICE TO REMAIN IN PLACE.
R EXISTING FIXTURE OR DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. MAINTAIN CONTINUITY OF REMAINING PORTIONS OF BRANCH CIRCUIT.
RE EXISTING DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. EXISTING CIRCUIT SHALL BE RETAINED. PROVIDE NEW DEVICE AS SHOWN ON RENOVATION PLANS.
RN RELOCATED FIXTURE (NEW LOCATION).
RR EXISTING FIXTURE TO BE RELOCATED BY THE ELECTRICAL CONTRACTOR TO NEW LOCATION SHOWN ON RENOVATION PLAN.

ABBREVIATIONS

ABR	DESCRIPTION
(E)	EXISTING
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BOD	BOTTOM OF DEVICE
CLG	CEILING
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
FACP	FIRE ALARM CONTROL PANEL
FDS	FUSED DISCONNECT SWITCH
GFCI	GROUND-FAULT CIRCUIT-INTERRUPTING
GP	GENERAL PURPOSE
J-BOX	JUNCTION BOX
NEC	NATIONAL ELECTRIC CODE
NFDS	NON-FUSED DISCONNECT SWITCH
OC	ON CENTER
SD	SMOKE DETECTOR
UNO	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL DRAWING INDEX

#	SHEET NAME
E001	ELECTRICAL NOTES & LEGENDS
E301	FIRST FLOOR POWER & TELECOMMUNICATIONS PLAN
ED301	FIRST FLOOR DEMOLITION PLAN

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A/E Seal: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 26181 5-25-26 REGISTERED ENGINEER

PROJECT TITLE: MTC - NE ACCELERATOR AHU-1 REPLACEMENT H59-N336-JR
MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD, COLUMBIA, SC 29203

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ORIG BY:	DRAWN BY:
	HTT
DATE:	DRAWN BY:
5-25-2026	
DESCRIPTION	
REV	
PROJECT NO: 25325	

SHEET TITLE: ELECTRICAL NOTES & LEGENDS

SHEET: E001

SHEET IN SET: OF

KEY NOTES

1 DEMOLISH CONDUIT AND CONDUCTORS FROM AHU-1 TO RETURN FAN DISCONNECT. REMOVE DISCONNECT. PROVIDE AND INSTALL JUNCTION BOX IN PLACE OF DISCONNECT. MAINTAIN HOMERUN CONDUCTORS BACK TO PANEL.

2 DEMOLISH CONDUIT AND CONDUCTORS FROM AHU-1 TO SUPPLY FAN DISCONNECT. REMOVE DISCONNECT. DEMOLISH HOMERUN CONDUCTORS BACK TO PANEL. CONDUIT TO REMAIN AND BE REUSED.

3 DISCONNECT CONDUCTORS FROM AHU-1 HEATER DISCONNECT. REMOVE DISCONNECT. PROTECT HOMERUN CONDUCTORS DURING CONSTRUCTION. HOMERUN CONDUCTORS AND CONDUIT TO BE REUSED.

4 DEMOLISH CONDUIT AND CONDUCTORS FROM CU-1 TO DISCONNECT. REMOVE DISCONNECT. PROTECT HOMERUN CONDUCTORS DURING CONSTRUCTION. HOMERUN CONDUCTORS AND CONDUIT TO BE REUSED.

5 DEMOLISH DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR TO BE REPLACED. SEE RENOVATION DRAWINGS.

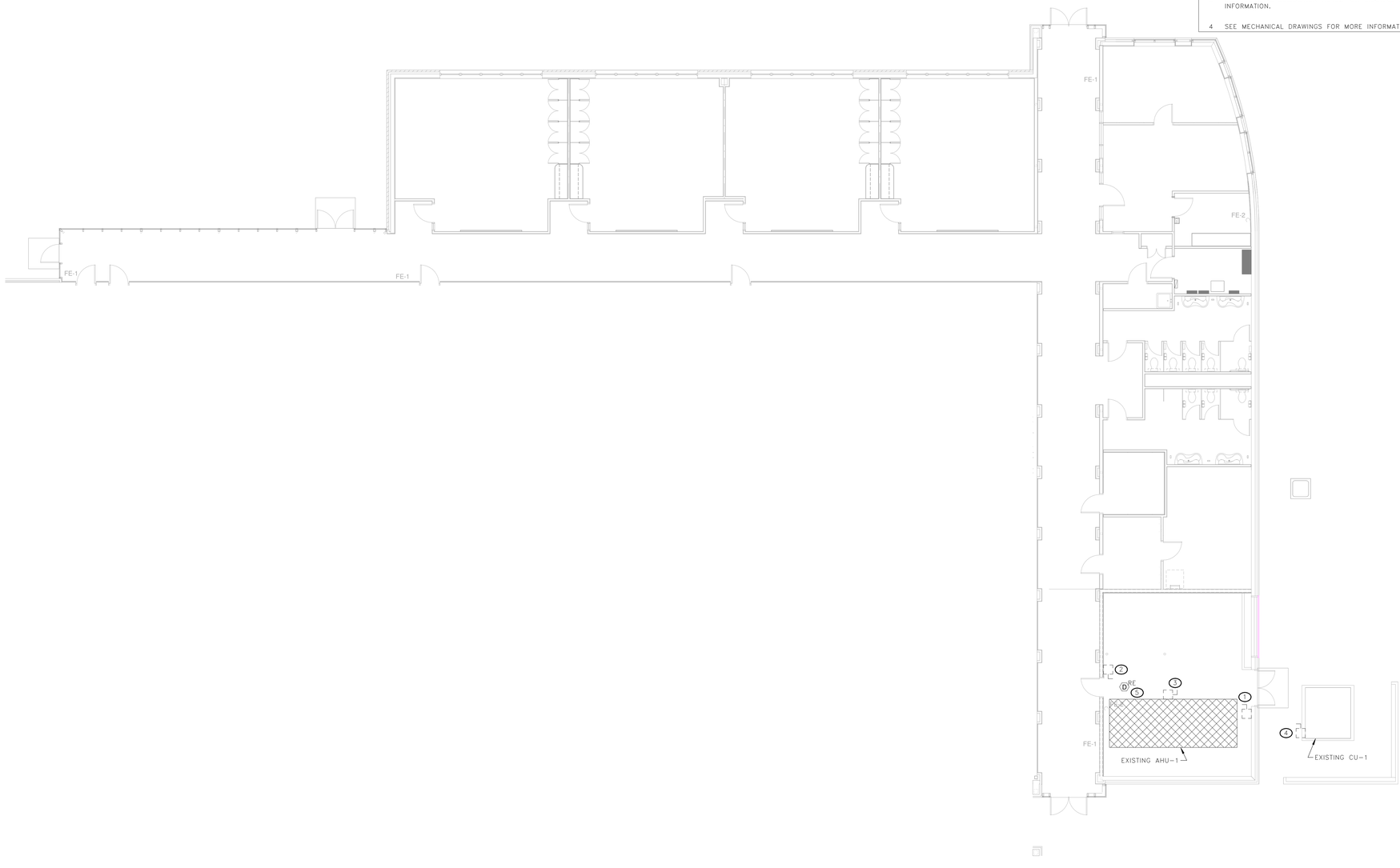
GENERAL NOTES

1 CONTRACTOR SHALL FIELD VERIFY ALL EXISTING BRANCH CIRCUITS BEFORE BEGINNING WORK.

2 MECHANICAL UNIT APPEARS TO BE FED FROM EXISTING PANEL 'HH'.

3 SEE 'GENERAL DEMOLITION NOTES' ON DRAWING SHEET E001 FOR MORE INFORMATION.

4 SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.



1 / ED301 1ST FLOOR DEMOLITION POWER PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

0 8'-0" 16'-0" 24'-0" 32'-0"
SCALE: 1/8" = 1' - 0"

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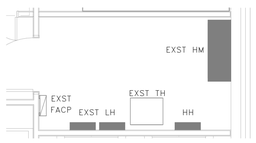
DATE:	DESCRIPTION
5-25-2026	
PROJECT NO:	REV.
25325	

SHEET TITLE:
FIRST FLOOR DEMOLITION PLAN

SHEET:
ED301

SHEET IN SET:
OF



2 / E301 ELECTRICAL ROOM – ENLARGED PLAN
SCALE: 1/4" = 1'-0"

KEY NOTES

1 PROVIDE CONDUCTORS AND EXTEND CIRCUIT FROM JUNCTION BOX TO RETURN FAN DISCONNECT. PROVIDE CONDUCTORS AND CONDUIT AS REQUIRED TO EXTEND CIRCUIT FROM DISCONNECT TO UNIT AND MAKE FINAL CONNECTIONS.

2 PROVIDE NEW BRANCH CIRCUIT TO SUPPLY FAN DISCONNECT AS INDICATED IN PANEL "HH" SCHEDULE. EXTEND CIRCUIT FROM DISCONNECT TO UNIT.

3 RECONNECT HOMERUN CONDUCTORS TO HEATER. PROVIDE ADDITIONAL CONDUCTORS AND CONDUIT AS REQUIRED TO EXTEND CIRCUIT AND MAKE FINAL CONNECTIONS.

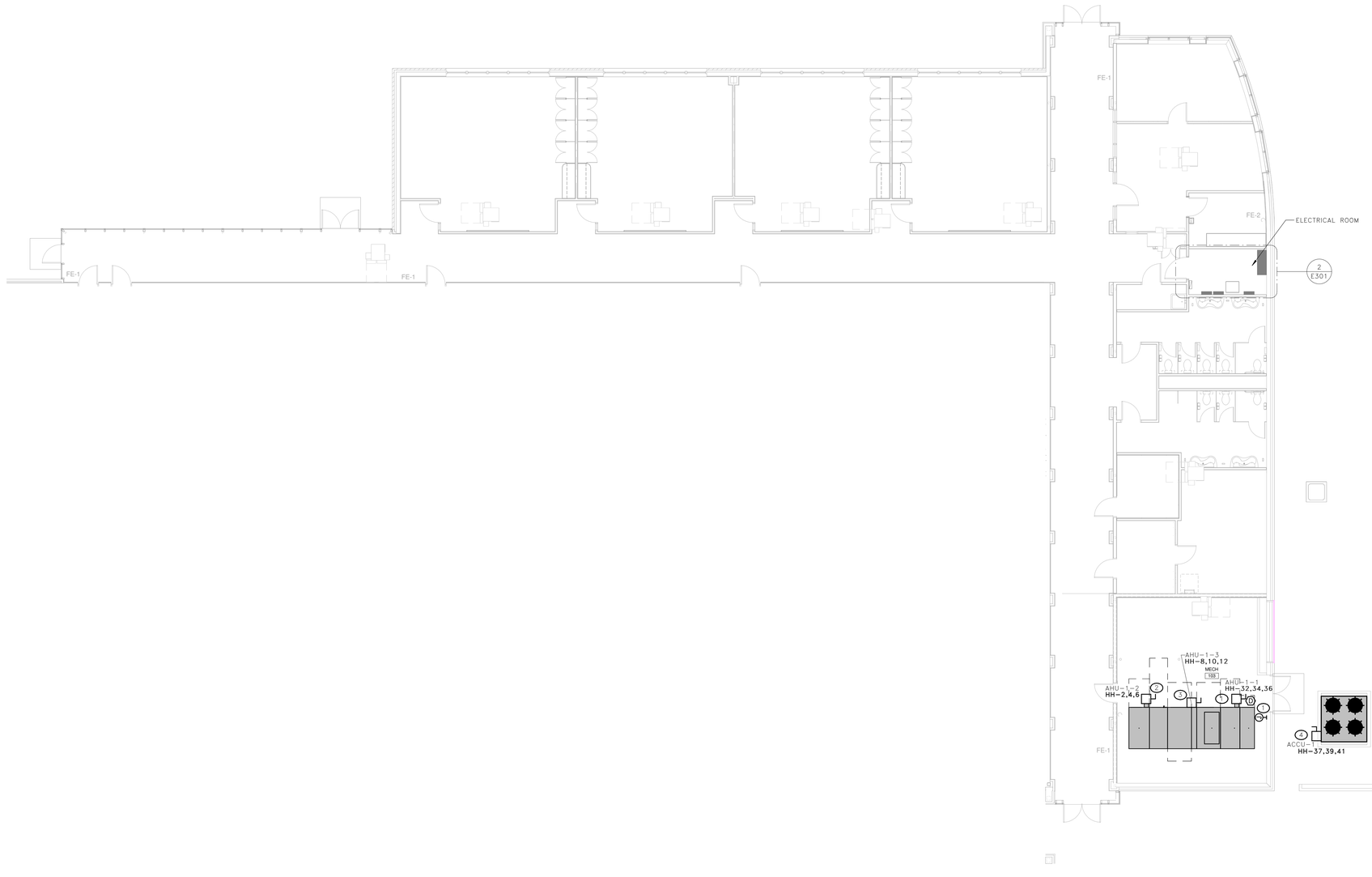
4 RECONNECT HOMERUN CONDUCTORS TO ACCU-1 DISCONNECT. PROVIDE ADDITIONAL CONDUCTORS AND CONDUIT AS REQUIRED TO EXTEND CIRCUIT AND MAKE FINAL CONNECTIONS.

GENERAL NOTES

1 EQUIPMENT DISCONNECTS SHALL BE RECONNECTED TO EXISTING PANEL AND CIRCUIT SHOWN UNLESS NOTED OTHERWISE. PROVIDE ADDITIONAL CONDUIT AND CONDUCTORS AS REQUIRED TO EXTEND CIRCUIT TO DISCONNECT. WHERE REQUIRED. MATCH CONDUIT AND CONDUCTORS OF EXISTING CIRCUIT UNLESS NOTED OTHERWISE.

2 SEE PANELBOARD 'HH' SCHEDULE FOR MORE INFORMATION.

3 SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.



1 / E301 1ST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

0 4'-0" 8'-0" 12'-0" 16'-0"
SCALE: 1/4" = 1'-0"

0 8'-0" 16'-0" 24'-0" 32'-0"
SCALE: 1/8" = 1' -0"

PLAN NORTH

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JLA		25325	5-25-2026	

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HTT		

SHEET TITLE:
FIRST FLOOR POWER & TELECOMMUNICATIONS PLAN

SHEET: E301

SHEET IN SET: OF