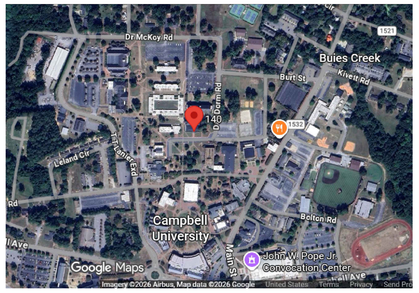
VICINITY MAP



CONTACTS

OWNER:	MEP:
CAMPBELL UNIVERSITY 225 DR MCKOY RD LILLINGTON, NC 27546 CONTACT: ROBBIE ADAMS P: 910.890.9995 E-MAIL: RADAMS@CAMPBELL.EDU	DEWBERRY ENGINEERS, INC. 2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 CONTACT: WESTON HOCKADAY, PE P: 919.425.7051 E-MAIL: WHOCKADAY@dewberry.com

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

Reviewed for Code Compliance

06/11/2026

Harnett COUNTY NORTH CAROLINA

See last page for ventilation calculations

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD BUIES CREEK, NC 27506

PROJECT SCOPE

PROVIDE FULLY FUNCTIONAL HVAC, PLUMBING, AND ELECTRICAL WORK TO SUPPORT HVAC AND PLUMBING INFRASTRUCTURE UPGRADES FOR POWELL HALL.

DEMOLISH EXISTING STEAM RADIATORS, STEAM TO DHW HEAT EXCHANGER, STEAM PIPING, CONDENSATE PIPING, AND CONDENSATE PUMPING TO FACILITATE NEW HVAC AND PLUMBING INFRASTRUCTURE INSTALLATION.

DEMOLISH EXISTING AIR CONDITIONING UNIT SPLIT SYSTEMS, LINESETS, AND DISTRIBUTION DUCTWORK.

DEMOLISH EXISTING MAIN DISTRIBUTION PANEL (MDP) AND PREPARE CONNECTIONS TO DISTRIBUTION POWER FOR RECONNECTION TO NEW MDP.

DEMOLISH TRASH CHUTE THROUGH MECHANICAL ROOMS FOR NEW DUCT RISER.

COORDINATE WITH GENERAL CONTRACTOR FOR INSTALLATION OF DUCTWORK, PIPING, AND CONDUIT TO BE CONCEALED WITHIN CEILING, CHASE, OR PAINTED.

COORDINATE WITH GENERAL CONTRACTOR FOR NEW PENETRATIONS IN INTERIOR, EXTERIOR WALL, AND FLOOR PENETRATIONS FOR CONDUIT, DUCTWORK, PIPING, AND PTAC WALL SLEEVE INSTALLATION.

COORDINATE WITH ROOF CONTRACTOR (SEPARATE VIA CAMPBELL) TO PROVIDE CURB ADAPTORS OR NEW ROOF CURB INSTALLATION FOR EXHAUST GRAVITY VENTILATORS.

COORDINATE WITH LIGHTING ELECTRICAL CONTRACTOR (SEPARATE VIA CAMPBELL) TO AVOID CONFLICTS WITH CIRCUITING, CONDUIT, AND CEILING SPACE.

COORDINATE WITH FIRE ALARM CONTRACTOR (SEPARATE VIA CAMPBELL) TO AVOID CONFLICTS WITH CIRCUITING, CONDUIT, AND CEILING SPACE.

COORDINATE WITH NATURAL GAS UTILITY PROVIDER TO EXTEND GAS PIPING FROM METER TO NEW PLUMBING EQUIPMENT.

PROVIDE NEW DEDICATED OUTDOOR AIR SYSTEM WITH NEW DUCTWORK THROUGH EACH FLOOR AND AIR DISTRIBUTION TO SERVE SPACES.

COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE DUCT CHASE FOR DOAS RISER. PROVIDE FIRE DAMPER AT EACH FLOOR PENETRATION FOR DUCT RISER SERVING MULTIPLE FLOORS. PROVIDE 18x18 HINGED ACCESS DOOR IN WALL AND 12x12 HINGED ACCESS DOOR IN DUCT FOR FIRE DAMPER ACCESS.

PROVIDE NEW PACKAGED TERMINAL AIR CONDITIONER (PTAC) HEAT PUMPS IN LOCATIONS SHOWN WITH WIRED WALL MOUNTED THERMOSTAT WITH OPTION FOR WIRELESS REMOTE MONITORING. COORDINATE WITH GENERAL CONTRACTOR FOR INSTALLATION OF WALL SLEEVE FOR FLUSH EXTERIOR ARCHITECTURAL FINISH AND LINTEL INSTALL.

PROVIDE NEW BATHROOM EXHAUST FANS WITH DUCTWORK. COORDINATE WITH GENERAL CONTRACTOR TO REMOVE TRANSOM ABOVE TOILET ROOM DOOR.

PROVIDE NEW BUILDING SYSTEM NETWORK CONTROLLER FOR MONITORING DOMESTIC WATER HEATER SYSTEM PACKAGED BACNET CONTROLLER, DOAS PACKAGED BACNET CONTROLLER, AND HEAT PUMPS. PROVIDE GRAPHICS, TRENDING, SETPOINT ADJUSTMENT, SCHEDULING, AND ALARMING INTO TRIDIUM ENTERPRISE SYSTEM FOR REMOTE ACCESS. PROVIDE NETWORK CONTROLLER FOR INTEGRATION OF NEW BACNET COMMUNICATION WIRING THROUGHOUT BUILDING. COORDINATE WITH ELECTRICIAN TO PROVIDE POWER TO BUILDING SYSTEM NETWORK CONTROL PANEL. PROVIDE CAT 6 NETWORK CABLE FOR DATA DROP FROM BUILDING SERVER TO BUILDING SYSTEM NETWORK CONTROLLER WITH FINAL TERMINATIONS AT SERVER AND DATA DROP BY CAMPBELL IT GROUP.

PROVIDE NEW ELECTRICAL INFRASTRUCTURE FROM MAIN DISTRIBUTION PANEL TO NEW BRANCH DISTRIBUTION PANELS AND CIRCUITS TO SUPPORT THE HVAC AND PLUMBING INFRASTRUCTURE UPGRADES. RECONNECT TO EXISTING ELECTRICAL INFRASTRUCTURE TO REMAIN.

PROVIDE NEW PLUMBING INFRASTRUCTURE INCLUDING DOMESTIC HOT WATER HEATERS, MIXING VALVE, AND RECIRCULATION PUMP WITH PIPING TO END OF RISER ON 3RD FLOOR.

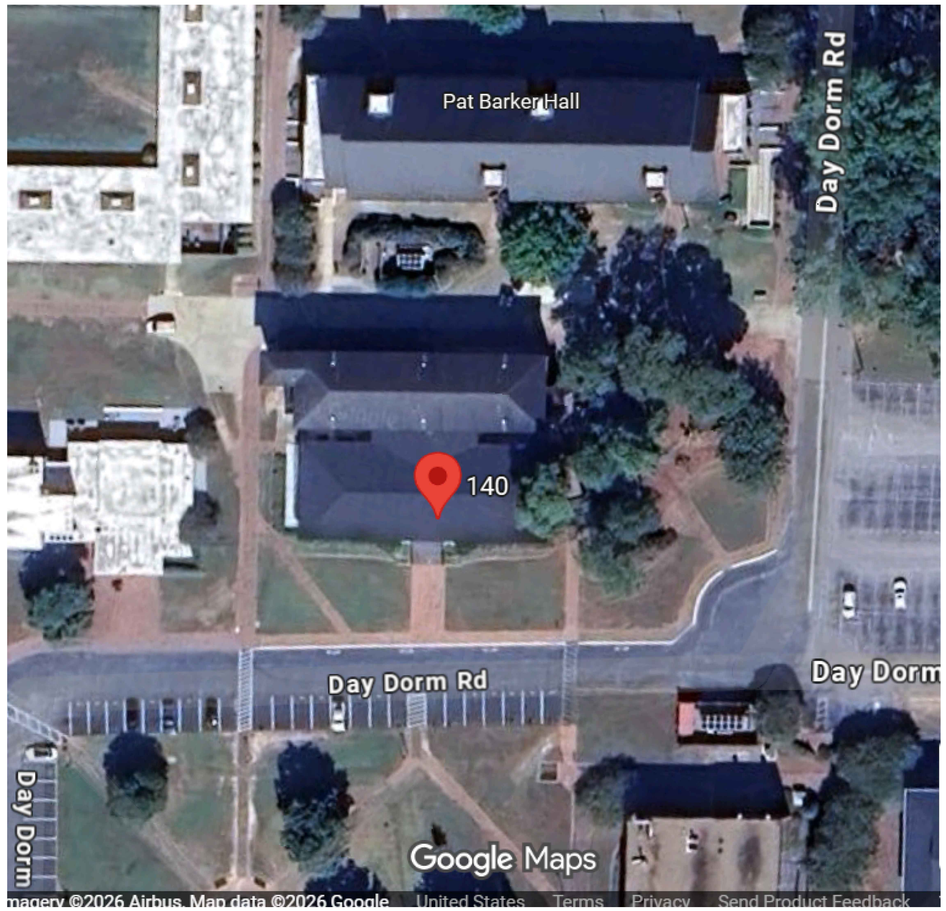
CONTRACTOR TO INCLUDE PERMITTING AND COSTS.

CONTRACTOR TO INCLUDE $5,000 CONSTRUCTION ALLOWANCE IN BID FOR OWNER APPROVED CHANGES.

CONTRACTOR TO SOURCE MATERIALS AND SCHEDULE WORK FOR SUBSTANTIAL COMPLETION OF WORK BY AUGUST 07, 2026

DRAWING INDEX

CAMPUS MAP



Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057983 KATHERINE E. ROWE-JONES
5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CB
APPROVED BY KR
CHECKED BY WH
DATE 05/20/2026

TITLE
COVER SHEET

PROJECT NO. 50193045

G-001

SHEET NO.

5/20/2026 3:50:10 PM
P:\50193045\CAD\LEAD SHEETS\50193045 G-001 COVER SHEET.DWG

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: CU - POWELL HVAC AND PLUMBING RENOVATION
Address: 84 DAY DORM ROAD BUIES CREEK Zip Code 27506
Owner/Authorized Agent: CAMPBELL UNIVERSITY Phone # (910) 890 - 9995 E-Mail RADAMS@CAMPBELL.EDU
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City_____ ☒ County HARNETT ☐ State

CONTACT: ROBBIE ADAMS

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				( )	
Civil				( )	
Electrical	DEWBERRY ENGINEERS	WILLIAM A. KEMP	041410	(919) 424-3724	CCOOK@DEWBERRY.COM
Fire Alarm				( )	
Plumbing	DEWBERRY ENGINEERS	CHRISTOPHER C. COOK	039771	(919) 746-9630	WKEMP@DEWBERRY.COM
Mechanical	DEWBERRY ENGINEERS	KATHERINE S. ROACH CORRA	057983	(919) 746-9602	KROACHCORRA@DEWBERRY.COM
Sprinkler-Standpipe				( )	
Structural				( )	
Retaining Walls >5' High				( )	
Other				( )	

("Others" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC CODE FOR: ☐ New Construction ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core
☐ Phased Construction – Shell/Core
☐ Renovation

2018 NC EXISTING BUILDING CODE: ☐ Prescriptive ☐ Repair ☒ Chapter 14
Alteration: ☐ Level I ☒ Level II ☐ Level III
☐ Historic Property ☐ Change of Use
CONSTRUCTED:(date) 1960 **ORIGINAL OCCUPANCY(S)** (Ch. 3)**:** RESIDENTIAL
RENOVATED: (date) 2026 Class ☐ I ☐ II ☐ III **CURRENT OCCUPANCY(S)** (Ch. 3)**:** RESIDENTIAL
RISK CATEGORY (table 1604.5) **Current:** ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ V-B
(check all that apply)
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☐ No ☒ Yes (Primary) **Flood Hazard Area:** ☐ No ☐ Yes
Special Inspections Required: ☐ No ☐ Yes

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	RENO/ALTER (SQ FT)	SUB-TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
TOTAL	0	0	0	0

NO CHANGE

ALLOWABLE AREA

Primary Occupancy Classification: SELECT ONE
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional: I-1 Condition ☐ 1 ☐ 2
I-2 Condition ☐ 1 ☐ 2
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
I-4 ☐
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐
Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509)**:** _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: ☐ No ☐ Yes Separation: _____Hr. Exception: _____
☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
☐ Separated Use (508.4) -
See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

NO CHANGE

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2* AREA	(C) AREA FOR FRONTAGE INCREASE[1,2]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]

NO CHANGE

[1] Frontage area increases from Section 506.3 are as follows:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
(F/P)
c. Ratio (F/P) =
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase I_f = 100 [F/P - 0.25] x W/30 = _____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (Table 504.3)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)			
Building Height in Stories (Table 504.3)			

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1
[3] The maximum height of open parking garages must comply with Table 406.5.4

NO CHANGE

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ REDUCTION)*	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction including supporting beams and joints							
Floor Ceiling Assembly							
Column Supporting Floors							
Roof Construction, including supporting beams and joints							
Roof/Ceiling Assembly							
Column Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

NO CHANGE

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FET FROM PERPERTY LINES	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☐ Yes
Exit Signs: ☐ No ☐ Yes
Fire Alarm: ☐ No ☐ Yes
Smoke Detection Systems: ☐ No ☐ Yes ☐ Partial _____
Carbon Monoxide Detection: ☐ No ☐ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (if not on the site plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.2)
☐ Occupant loads for each area
☐ Exit access travel distances (1017)
☐ Common path of travel distances (1006.2.1 or 2006.3.2(1))
☐ Dead end lengths (1020.4)
☐ Clear exit widths for each exit door
☐ Maximum calculated occupant load capacity number for each room to accommodate based on egress width (1005.3)
☐ Actual occupant load for each exit door
☐ A separate schematic plan indicating where fire rated demising wall and/or roof structure is provided for purposes of occupancy separation and supporting construction for a fire barrier/fire partition/smoke barrier:
☐ Location of doors with panic hardware (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification(s) 2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

Section/Table/Note	Title

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

NO CHANGE

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED				TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	VAN SPACES WITH 96" ACCESS AISLE	
TOTAL							

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS			URINALS		LAVATORIES		SHOWERS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX		/ TUBS	REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQ'D										

NO CHANGE

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, SCO, DPI, DHHS, ICC, etc., describe below)
_____
_____
_____

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the **North Carolina Energy Conservation Code** shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☐ Yes (Provide Code or Statutory reference): _____

Climate Zone: ☒ 3A ☐ 4A ☐ 5A

Method of Compliance, Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(or "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/Ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
Total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
Projection factor: _____
Door R-Values: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/Vertical requirement: _____
Slab Heated: _____

NO CHANGE

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factor: Snow (I_s) _____
Seismic (I_e) _____

Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Ultimate Wind Speed _____ mph (ASCE-7)
Exposure Category _____

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV
Spectral Response Acceleration S_s _____ %g S_1 _____ %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic
Analysis Procedure:
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

NO CHANGE

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 3A
winter dry bulb: 10
summer dry bulb: 95

Interior design conditions
winter dry bulb: 70
summer dry bulb: 72
relative humidity: 50

Building heating load: NO CHANG

Building cooling load: NO CHANG

Mechanical Spacing Conditioning System
Unitary
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler
Size category. If oversized, state reason.: N/A
Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: REFER TO EQUIPMENT SCHEDULES

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☒ C406.2 More Efficient Mechanical Equipment
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

LIFE-SAFETY PENETRATION SCHEDULE

	ASSEMBLY AND PENETRATION TYPE	F RATING (HR)	U.L. DETAIL SYSTEM NUMBER
CONCRETE FLOORS	INSULATED METAL PIPES	1 or 2	CAJ-5061, CAJ-5090, CAJ-5091, CAJ-5096, CAJ-5277
		3	CAJ-5061, CAJ-5090
	UNINSULATED METAL PIPES OR CONDUITS	1 or 2	CAJ-1226, CAJ-1155, CAJ-1380, CAJ-1575, FA-1028
		4	CBJ-1037
	UNINSULATED NON-METAL PIPES OR CONDUITS	1 or 2	CAJ-2109, CAJ-2407, CAJ-2567, CAJ-2831
	UNINSULATED METAL DUCTWORK WITHOUT DAMPERS	1 or 2	CAJ-7029, CAJ-7084
	CABLES	1 or 2	CAJ-3095, CAJ-3210, CAJ-3239
	CABLE TRAYS	1 or 2	CAJ-4034, CAJ-4035, CAJ-4083
		4	CAJ-4107
CONCRETE / MASONRY WALLS	INSULATED METAL PIPES	1 or 2	CAJ-5061, CAJ-5090, CAJ-5091, CAJ-5096, CAJ-5277
		4	WJ-5028
	UNINSULATED METAL PIPES OR CONDUITS	1 or 2	CAJ-1226, CAJ-1155, CAJ-1380, CAJ-1575
		4	CAJ-1630
	UNINSULATED NON-METAL PIPES OR CONDUITS	1 or 2	CAJ-2109, CAJ-2407, CAJ-2567, CAJ-2831
	INSULATED METAL DUCTWORK WITHOUT DAMPERS	1 or 2	CAJ-7145, WJ-7091, WJ-7112
	UNINSULATED METAL DUCTWORK WITHOUT DAMPERS	1 or 2	CAJ-7029, WJ-7109, WJ-7021
		3	CAJ-7192
	CABLES	1 or 2	CAJ-3095, CAJ-3180, WJ-3036
	CABLE TRAYS	1 or 2	CAJ-4034, CAJ-4035, CAJ-4083
		4	CAJ-4107
GYPSUM WALLBOARD	INSULATED METAL PIPES	1 or 2	WL-5046, WL-5047, WL-5096
		4	WL-5073
	UNINSULATED METAL PIPES OR CONDUITS	1 or 2	WL-1164, WL-1205, WL-1465
	UNINSULATED NON-METAL PIPES OR CONDUITS	1 or 2	WL-2084, WL-2341, WL-2649
	INSULATED METAL DUCTWORK WITHOUT DAMPERS	1 or 2	WL-7151, WL-7156
	UNINSULATED METAL DUCTWORK WITHOUT DAMPERS	1 or 2	WL-7155, WL-7213, WL-7250
	CABLES	1 or 2	WL-3065, WL-3111, WL-3161
	CABLE TRAYS	1 or 2	WL-4011, WL-4019, WL-4081

NOTES:
1. REFER TO SECTION 230500 FOR MORE INFORMATION.
2. SELECT UL LISTED PENETRATION DETAIL MATCHING THE PENETRATION CONDITIONS.
3. SUBMIT AN APROPRIATE DETAIL FOR ENGINEER REVIEW IF THE PROJECT CONDITIONS ARE NOT REPRESENTED ABOVE.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057983 KATHERINE S. ROACH CORRA
5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY VALUE
APPROVED BY VALUE
CHECKED BY VALUE
DATE 05/20/2026

TITLE
BUILDING CODE SUMMARY

PROJECT NO. 50193045

G-002

SHEET NO.

STANDARDS DETAILING SYMBOLS

SYMBOL	DESCRIPTION
PLAN / DETAIL REF. — AREA TO BE ENLARGED — SIM — 1 / A-101 — SHEET REF.	CALLOUT
SECTION REF. — 1 / A-101 — SHEET REF.	BUILDING / WALL SECTION
VIEW DESIGNATION — VIEW NAME — 1 View Name — SCALE: 1/8" = 1'-0" — VIEW SCALE	VIEW TITLE
LEVEL NAME — FIRST FLOOR; LEVEL ELEVATION — 100' - 0"	LEVEL LINE
GRID NUMBER OR LETTER — A	GRID LINE
INDICATES PLAN NORTH — INDICATES TRUE NORTH	NORTH INDICATOR
ROOM NUMBER — Space Name / 101	ROOM TAG
REVISION NUMBER — 1	REVISION TAG REVISION CLOUD
1	KEYNOTE TAG (PER SHEET NUMBERS)
ELEVATION AT POINT INDICATED — 1' - 0"	SPOT ELEVATION SYMBOL
	POINT OF CONNECTION
	POINT OF DISCONNECTION
LINETYPES	
	BACKGROUND
	EXISTING
	DEMOLITION
	NEW
	FUTURE
	HIDDEN/UNDER OBSTRUCTION

GENERAL NOTES - PLUMBING

1. PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR COMPLETE PLUMBING SYSTEMS. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA PLUMBING CODE.
2. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
3. THE CONTRACTOR SHALL PAY ALL FEES REQUIRED TO OBTAIN ALL PERMITS AND INSPECTIONS.
4. PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTION FROM THE LOCAL AUTHORITY HAVING JURISDICTION. PROVIDE AN AS-BUILT SET OF DRAWINGS WHICH INDICATE ALL CHANGES MADE DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL WARRANTY ALL WORK AND MATERIAL FOR A PERIOD OF AT LEAST ONE (1) YEAR AFTER ACCEPTANCE BY THE OWNER.
6. THESE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO CONVEY EXACT DIMENSIONS, SIZES, AND/OR LOCATIONS OF ALL NEW OR EXISTING ARCHITECTURAL, STRUCTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, OR ELECTRICAL EQUIPMENT OR FEATURES, EITHER SHOWN OR INFERRED. THE INFORMATION CONTAINED IN THESE DRAWINGS SHALL BE USED AS PART OF AN ENTIRE, INTACT SET OF CONTRACT DOCUMENTS, INCLUDING ANY SEPARATE WRITTEN SPECIFICATIONS.
7. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. THE CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND OTHER TRADES' WORK AND SHALL PROVIDE ANY NECESSARY OFFSETS, RE-ROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION. SYSTEMS SHALL BE NEATLY ARRANGED TO MAXIMIZE SPACE ABOVE CEILINGS AND WITHIN CHASES. MAINTAIN MINIMUM EQUIPMENT, DEVICE, AND VALVE CLEARANCES FOR PROPER OPERATION AND MAINTENANCE.
8. THE CONTRACTOR SHALL VERIFY LATEST ARCHITECTURAL LAYOUTS, INCLUDING CEILINGS, PRIOR TO INSTALLATION OF SYSTEM.
9. UNLESS OTHERWISE SHOWN OR NOTED, ALL PIPING SHALL BE ROUTED CONCEALED IN VERTICAL WALLS OR CHASES, ABOVE CEILINGS, AND/OR UNDER SLABS.
10. ALL SUSPENDED PIPING SHALL BE SUPPORTED FROM FLOOR AND/OR ROOF STRUCTURAL MEMBERS. IN NO CASE SHALL PIPING BE SUSPENDED FROM FLOOR OR ROOF DECKING.
11. ONLY NEW MATERIALS AND EQUIPMENT ARE TO BE INSTALLED AND SHALL BE OF THE LATEST DESIGN FROM EACH MANUFACTURER. ONLY MATERIALS AND EQUIPMENT MANUFACTURED WITHIN THE UNITED STATES SHALL BE INSTALLED.
12. ALL FIRE-RATED PENETRATIONS SHALL BE SEALED UTILIZING AN APPROVED UL LISTED SYSTEM, IN A MANNER THAT EQUALS THE RATING OF THE ASSEMBLY IN WHICH IT IS INSTALLED.
13. THE CONTRACTOR SHALL NOT PLACE ANY SHUTOFF VALVES ABOVE ANY INACCESSIBLE CEILINGS OR BEHIND WALLS. COORDINATE ANY REQUIRED ACCESS PANELS WITH THE GENERAL CONTRACTOR.
14. UNLESS OTHERWISE NOTED, THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, CORE DRILLING, AND PATCHING REQUIRED TO INSTALL PLUMBING WORK. THE CONTRACTOR SHALL COORDINATE ANY CORE DRILLS WITH THE STRUCTURAL ENGINEER BEFORE DRILLING.
15. WHERE AFFECTED BY THE NEW WORK CONTRACTOR SHALL RELOCATE ANY EXISTING PIPING, COMPONENTS, OR SYSTEMS THAT ARE REQUIRED TO REMAIN IN ORDER TO KEEP EXISTING SYSTEMS OPERATIVE.

PLUMBING GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS FOR ALL AREAS OF WORK PRIOR TO BIDDING THE PROJECT.
2. THESE DRAWINGS ARE BASED ON EXISTING RECORD DOCUMENTS AND FIELD OBSERVATIONS. THE EXISTING CONDITIONS INDICATED WITHIN THESE DOCUMENTS ARE APPROXIMATE AND DO NOT INCLUDE EVERY COMPONENT. REPORT DISCREPANCIES TO THE ENGINEER BEFORE DISTURBING EXISTING INSTALLATION.
3. UNLESS OTHERWISE NOTED, PIPING SHOWN IS ABOVE THE CEILING, VERTICAL IN WALLS OR CHASES, OR UNDER SLAB.
4. REMOVE ALL EXISTING PLUMBING PIPING TO POINTS INDICATED. CAP (OR PLUG) EXISTING PLUMBING PIPING TO REMAIN WITHIN TWELVE (12) INCHES OF THE NEAREST ACTIVE MAIN TO WHICH IT CONNECTS, UNLESS NOTED OTHERWISE ON PLANS.
5. UNLESS NOTED OTHERWISE ALL PLUMBING FIXTURES INDICATED TO BE REMOVED SHALL ALSO HAVE ALL ASSOCIATED PIPING REMOVED BACK TO THE NEAREST HORIZONTAL MAIN, RISER, OR STACK CONNECTION AND BE CAPPED IN A CONCEALED LOCATION. UNDER NO CIRCUMSTANCE SHALL AN EXISTING PIPE BE LEFT OPEN.
6. NO PIPING, EQUIPMENT, OR ACCESSORIES SHALL BE ABANDONED IN PLACE.
7. ALL VOIDS LEFT IN FIRE-RATED WALLS, FLOORS, CEILINGS, OR ROOFS AS THE RESULT OF DEMOLITION SHALL BE PROPERLY FIRESTOPPED TO MAINTAIN REQUIRED RATING UTILIZING AN UNDERWRITERS LABORATORIES (UL) LISTED METHOD. ALL VOIDS LEFT IN NON-RATED WALLS, FLOORS, CEILINGS, OR ROOFS AS THE RESULT OF DEMOLITION SHALL BE REPAIRED IN A METHOD WHICH UTILIZES MATERIALS CONSISTENT WITH THE ADJACENT CONSTRUCTION. COORDINATE THIS WORK WITH THE GENERAL CONTRACTOR.
8. ALL DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
9. WHERE AFFECTED BY THE DEMOLITION WORK THE CONTRACTOR SHALL RELOCATE ANY EXISTING PIPING, COMPONENTS, OR SYSTEMS THAT ARE REQUIRED TO REMAIN IN ORDER TO KEEP EXISTING SYSTEMS OPERATIVE.
10. THE CONTRACTOR SHALL RECONNECT ANY EXISTING FIXTURES TO REMAIN WHERE THE EXISTING PIPING IS AFFECTED BY THE DEMOLITION WORK.
11. THE CONTRACTOR SHALL INSTALL TEMPORARY CAPS AT TERMINATION POINTS OF EXISTING PIPING TO REMAIN DURING DEMOLITION PHASE.
12. THE CONTRACTOR SHALL COORDINATE EACH REQUIRED SHUTDOWN WITH THE OWNER NO LESS THAN SEVENTY-TWO (72) HOURS IN ADVANCE OF EACH SHUTDOWN.
13. IF ANY EXISTING MATERIAL IS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS SUCH AS ASBESTOS, LEAD-BASED PAINT, OR POLYCHLORINATED BIPHENYLS (PCBs), STOP WORK IMMEDIATELY IN THAT AREA AND NOTIFY THE OWNER AND ARCHITECT OR ENGINEER.

ABBREVIATIONS - PLUMBING

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

A, AMP	AMPERE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGA	AMERICAN GAS ASSOCIATION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERING
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFC	BELOW FINISHED CEILING
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF SLAB OR STRUCTURE
BTU	BRITISH THERMAL UNIT
BTU/H	BRITISH THERMAL UNIT PER HOUR
CC	CONTROLS CONTRACTOR
CCTV	CLOSED CIRCUIT TELEVISION
CF	CUBIC FOOT OR FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CGA	COMPRESSED GAS ASSOCIATION
CO	CLEANOUT
CSC	CIVIL/SITE CONTRACTOR
CXA	COMMISSIONING AGENT
DCV	DOUBLECHECK VALVE
DEG, °	DEGREE
DFU	DRAINAGE FIXTURE UNIT
DIA, Ø	DIAMETER
DN	DOWN (PENETRATES TO FLOOR BELOW)
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ETR	EXISTING TO REMAIN
EX	EXISTING
FBO	FURNISHED BY OWNER
FGI	FACILITY GUIDELINES INSTITUTE
FPS	FEET PER SECOND
FT, '	FOOT OR FEET
FT-HD	FOOT HEAD
FT-LB	FOOT-POUND
GAL	GALLONS
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HOA	HANDS-OFF AUTOMATIC
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
HZ	HERTZ
IN, "	INCH OR INCHES
IN-LB	INCH-POUND
IN/HR	INCHES PER HOUR
INV	INVERT ELEVATION
KW	KILOWATT
LB	POUND
LF	LINEAR FEET
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MIN	MINIMUM
N-C	NORMALLY CLOSED
N-O	NORMALLY OPEN
N/A	NOT APPLICABLE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTP	NORMAL TEMPERATURE AND PRESSURE
NTS	NOT TO SCALE
OC	ON CENTER
OS&Y	OUTSIDE SCREW & YOKE
PC	PLUMBING CONTRACTOR
PCF	POUNDS PER CUBIC FOOT
PRV	PRESSURE REDUCING OR REGULATING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
SC	SPRINKLER CONTRACTOR
SF	SQUARE FOOT OR FEET
T&P	TEMPERATURE AND PRESSURE
T, TEMP	TEMPERATURE
TOP	TOP OF PIPE
TOS	TOP OF SLAB OR STRUCTURE
TTB	TIGHT TO SLAB OR STRUCTURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UP	UP (PENETRATES TO FLOOR ABOVE)
VIF	VERIFY IN FIELD
VTR	VENT TERMINAL THROUGH ROOF
W/	WITH
WSFU	WATER SUPPLY FIXTURE UNITS
ZCV	ZONE CONTROL VALVE
°F	DEGREE FAHRENHEIT
Δ	DIFFERENCE

PLUMBING PIPING SYMBOLS

SYMBOL	DESCRIPTION
DCW	DOMESTIC COLD WATER
NP	NON-POTABLE WATER SUPPLY
TWS	TEMPERED WATER SUPPLY
DHW	DOMESTIC HOT WATER SUPPLY
120° DHW	DOMESTIC HOT WATER SUPPLY - 120 °F
140° DHW	DOMESTIC HOT WATER SUPPLY - 140 °F
TWR	TEMPERED WATER RETURN
DHWR	DOMESTIC HOT WATER RETURN
120° DHWR	DOMESTIC HOT WATER RETURN - 120 °F
140° DHWR	DOMESTIC HOT WATER RETURN - 140 °F
PWS	PURIFIED WATER SUPPLY
PWR	PURIFIED WATER RETURN
W	SANITARY WASTE
AW	ACIDIC WASTE
GW	GREASE-LADEN WASTE
OW	OIL-LADEN WASTE
V	SANITARY VENT
AV	ACIDIC VENT
GV	GREASE-LADEN VENT
OV	OIL-LADEN VENT
CD	CONDENSATE DRAIN
ID	INDIRECT DRAIN
PD	PUMPED DRAIN OR PUMP DISCHARGE
PRD	PRIMARY ROOF DRAIN
SRD	SECONDARY ROOF DRAIN
G	FUEL GAS SUPPLY (NATURAL GAS OR PROPANE)
CA	COMPRESSED AIR SUPPLY
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
	GLOBE VALVE
	SOLENOID VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	AUTOMATIC BALANCING VALVE (FLOW LIMITER)
	MANUALLY CALIBRATED BALANCING VALVE
	THERMOSTATIC BALANCING VALVE
	WATER HAMMER ARRESTER
	WALL HYDRANT (HOSE BIBB)
	BACKWATER VALVE
	FLOOR DRAIN (ROUND OR SQUARE)
	TRENCH DRAIN
	ROOF DRAIN
	WALL CLEANOUT
	FLOOR CLEANOUT
	END-OF-LINE CLEANOUT
	P-TRAP
	PIPE TURN UP (PENETRATES TO FLOOR ABOVE)
	PIPE TURN DOWN (PENETRATES TO FLOOR BELOW)
	PIPE ELEVATION DROP
	PIPE BOTTOM TAKE OFF
	PIPE TOP TAKE OFF
	PIPE CAP OR PLUG
	PIPE UNION
	WYE STRAINER
	WYE WITH COMBINATION EIGHTH BEND
	SANITARY TEE
	WYE 45°

PLUMBING SYSTEMS SUMMARY

PLUMBING SYSTEM / SERVICE	FIXTURE UNITS	PEAK FLOW
DOMESTIC WATER	77 WSFU	60 GPM
NATURAL GAS	N/A	400 CFH

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039771 CHRISTOPHER C. CAIN

5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

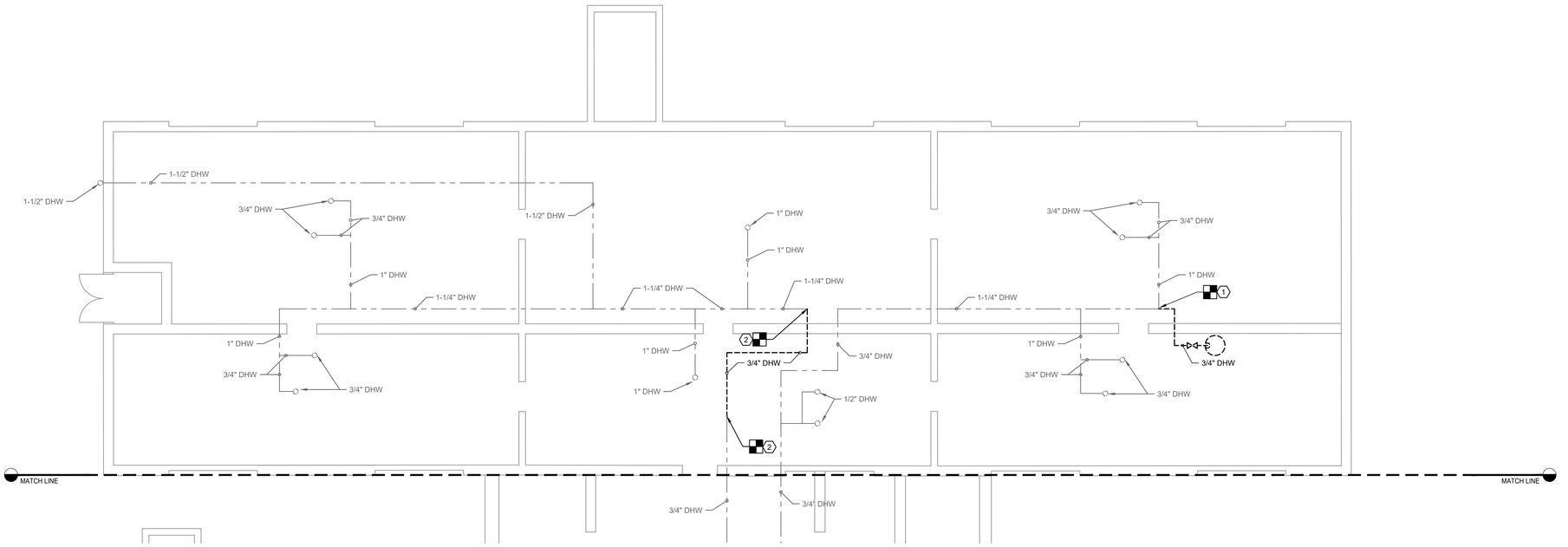
TITLE

PLUMBING SYMBOLS & ABBREVIATIONS

PROJECT NO. 50193045

P-001

SHEET NO.



1 CRAWLSPACE DOMESTIC DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

(#) KEYNOTES:

1. DEMOLISH EXISTING ELECTRIC WATER HEATER AND ASSOCIATED PIPING BACK TO NEAREST ACTIVE MAIN AS INDICATED. CAP PIPING AT MAIN.
2. DEMOLISH EXISTING PIPING AS INDICATED AND PREPARE FOR RECONNECTION.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

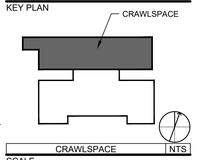
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039771 CHRISTOPHER CAIN COOK
5/21/2026

KEY PLAN



CRAWLSPACE NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE

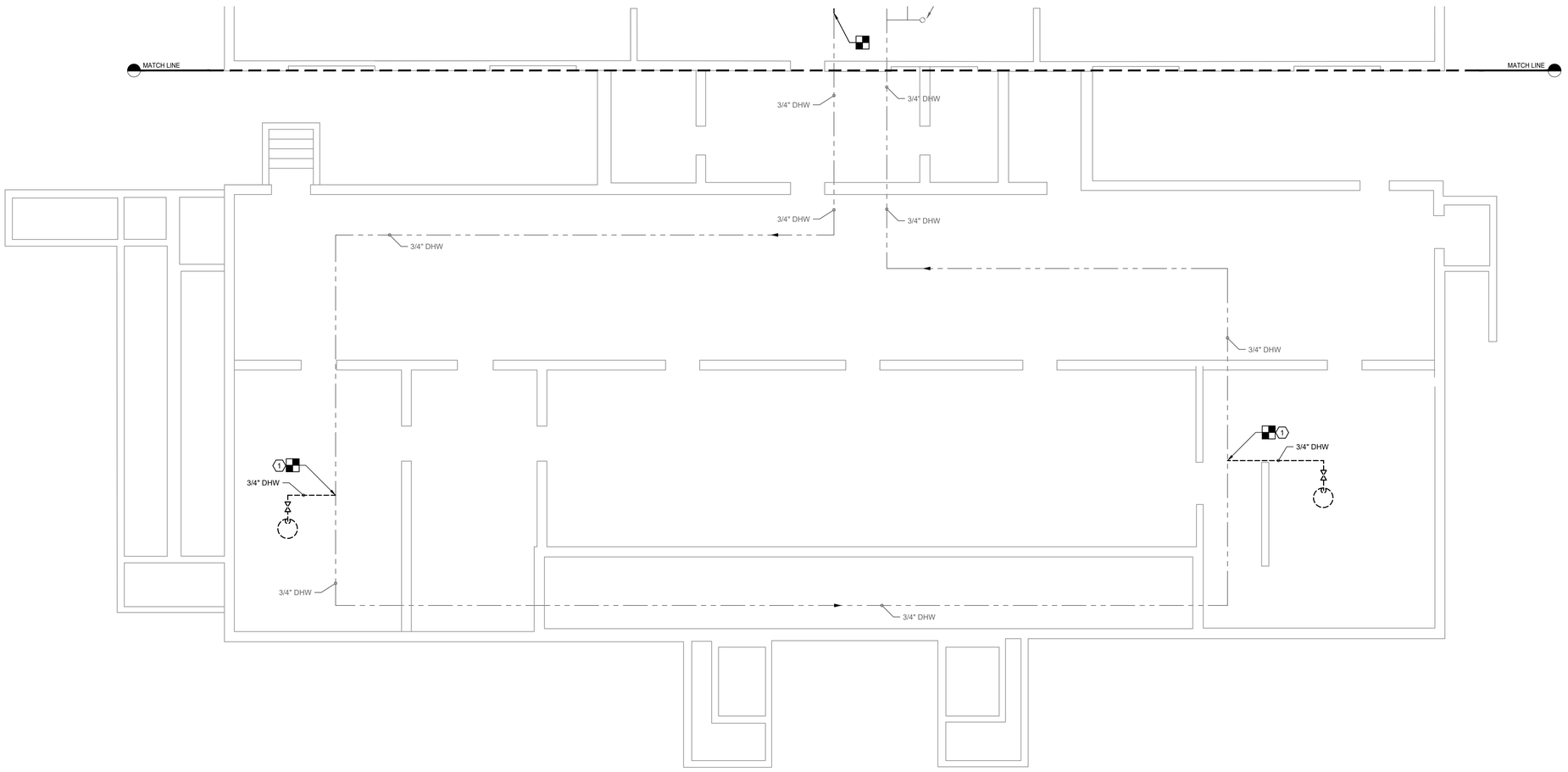
CRAWLSPACE DOMESTIC DEMOLITION PLAN AREA A

PROJECT NO. 50193045

PD101

SHEET NO.

5/20/2026 9:21:36 AM
P:\50193045\CAD\PLUMBING\50193045 PD101 CRAWLSPACE DOMESTIC DEMOLITION PLAN.DWG



1 CRAWLSPACE DOMESTIC DEMOLITION PLAN AREA B

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

(#) KEYNOTES:

1. DEMOLISH EXISTING ELECTRIC WATER HEATER AND ASSOCIATED PIPING BACK TO NEAREST ACTIVE MAIN AS INDICATED. CAP PIPING AT MAIN.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

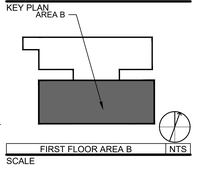
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039771 CHRISTOPHER CAIN COOK
5/21/2026

KEY PLAN



FIRST FLOOR AREA B | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE

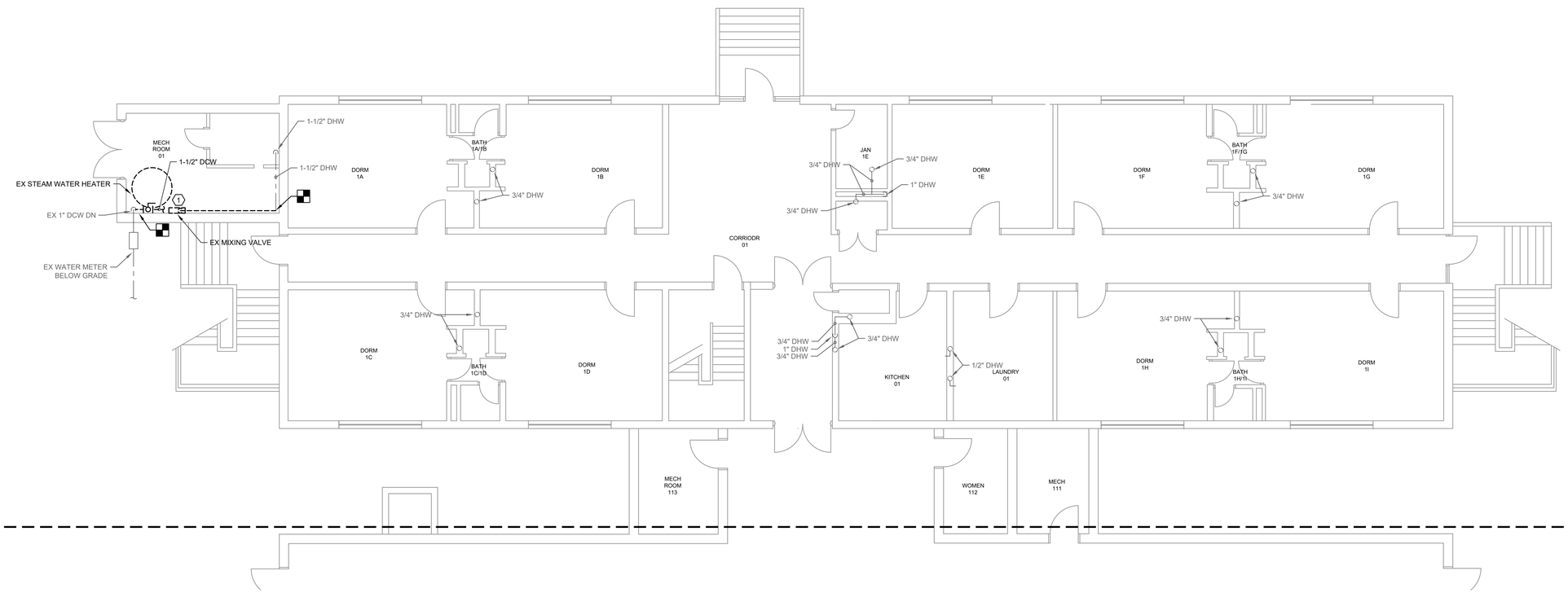
CRAWLSPACE DOMESTIC DEMOLITION PLAN AREA B

PROJECT NO. 50193045

PD102

SHEET NO.

5/20/2026 9:23:36 AM
P:\50193045\CAD\PLUMBING\50193045 PD102 CRAWLSPACE DOMESTIC DEMOLITION PLAN AREA B.DWG



1 FIRST FLOOR DOMESTIC DEMOLITION PLAN AREA A
SCALE: 3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

(#) KEYNOTES:

1. DEMOLISH EXISTING STEAM WATER HEATER, MIXING VALVE, AND ASSOCIATED ACCESSORIES AND PIPING AS INDICATED. PREPARE PIPING FOR RECONNECTION.

Dewberry

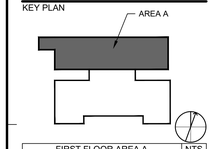
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN



FIRST FLOOR AREA A | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

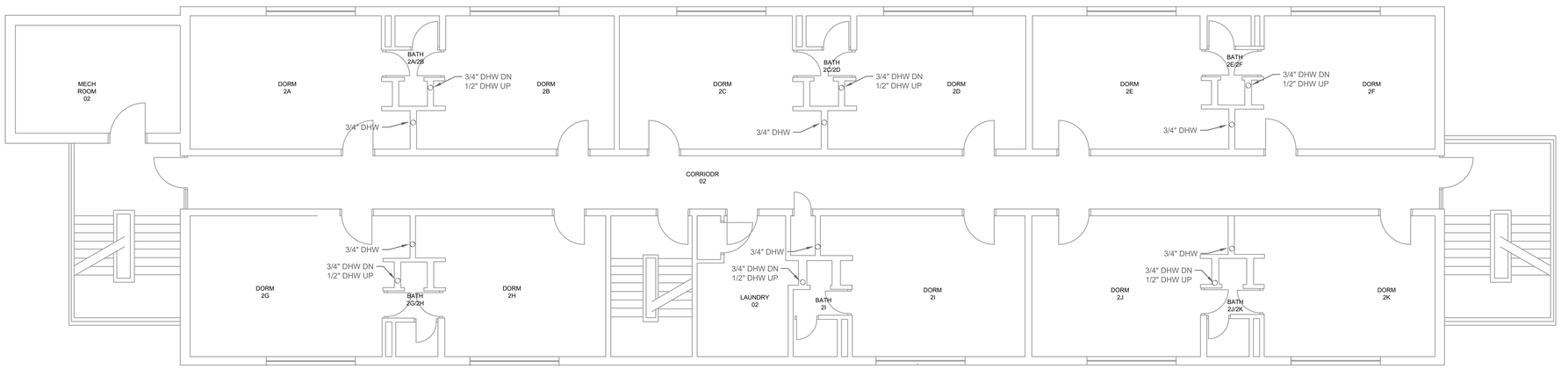
TITLE
FIRST FLOOR DOMESTIC DEMOLITION PLAN AREA A

PROJECT NO. 50193045

PD111

SHEET NO.

5/20/2026 9:23:50 AM
P:\50193045\CAD\PLUMBING\50193045 PD111 FIRST FLOOR DOMESTIC DEMOLITION PLAN AREA A.DWG



1 SECOND FLOOR DOMESTIC DEMOLITION WORK PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

KEYNOTES:

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

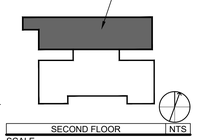
84 DAY DORM ROAD
BUIES CREEK, NC 27506

CONSTRUCTION DOCUMENTS

SEAL

5/21/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE

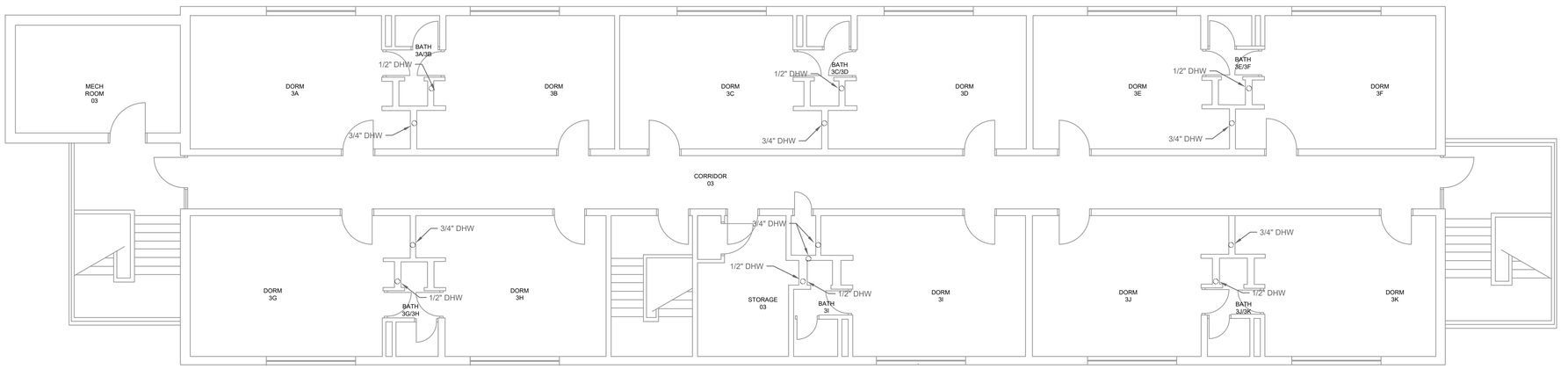
SECOND FLOOR DOMESTIC DEMOLITION PLAN

PROJECT NO. 50193045

PD121

SHEET NO.

5/20/2026 9:27:28 AM
P:\50193045\CAD\PLUMBING\50193045 PD121 SECOND FLOOR DOMESTIC DEMOLITION PLAN.DWG



1 THIRD FLOOR DOMESTIC DEMOLITION PLAN
SCALE: 3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

(#) KEYNOTES:

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

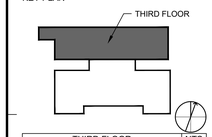
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

5/21/2026

KEY PLAN



THIRD FLOOR | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

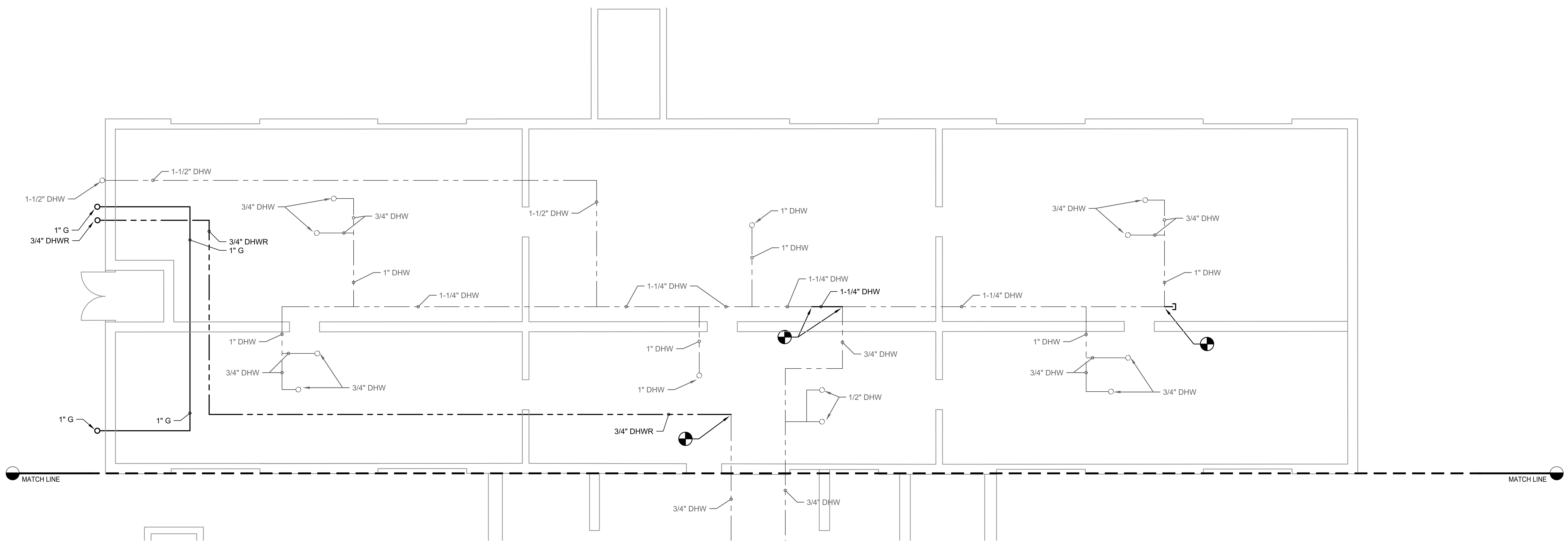
TITLE
THIRD FLOOR DOMESTIC DEMOLITION PLAN

PROJECT NO. 50193045

PD131
SHEET NO.

5/20/2026 9:24:29 AM
P:\50193045\CAD\PLUMBING\50193045 PD131 THIRD FLOOR DOMESTIC DEMOLITION PLAN.DWG

Docusign Envelope ID: 16ED8D1C-C23C-8D91-80CA-8AD58A219FDE



1 CRAWLSPACE DOMESTIC NEW WORK PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

KEYNOTES:

Dewberry

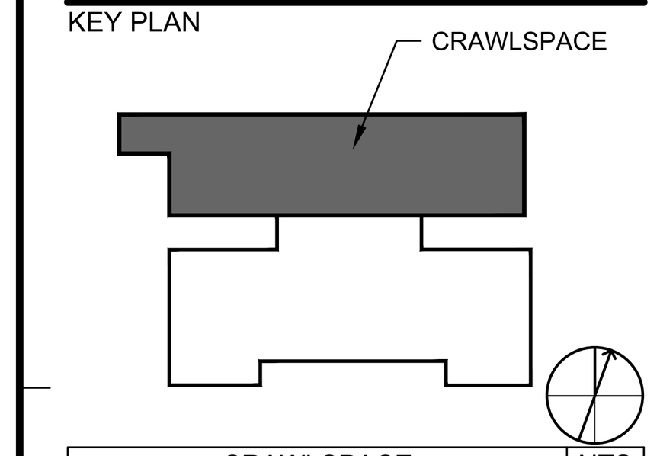
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL
5/21/2026

KEY PLAN



CRAWLSPACE | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

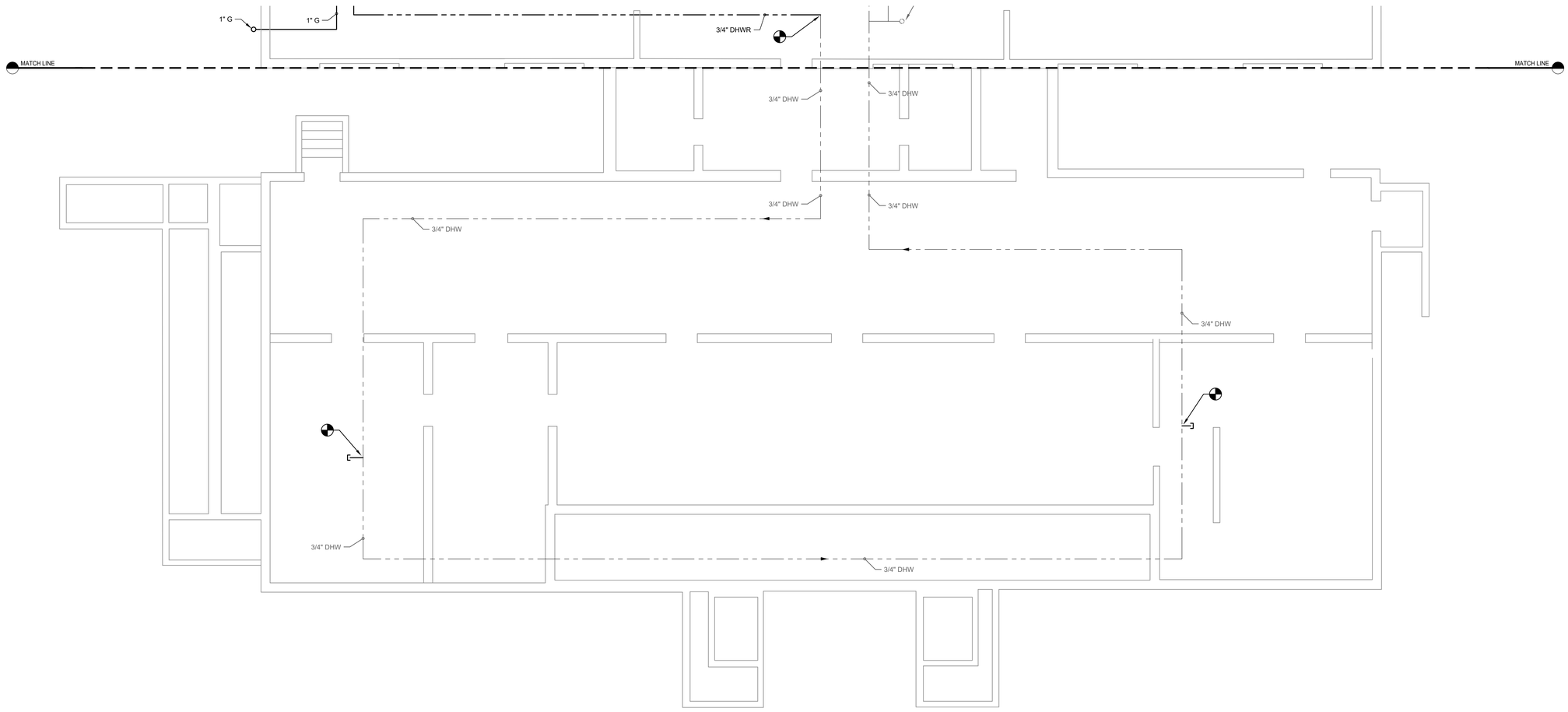
DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE
CRAWL SPACE DOMESTIC NEW WORK PLAN AREA A

PROJECT NO. 50193045

P-101
SHEET NO.

5/20/2026 9:24:54 AM
P:\50193045\CAD\PLUMBING\50193045 P-101 CRAWLSPACE DOMESTIC NEW WORK PLAN.DWG



1 CRAWLSPACE DOMESTIC NEW WORK PLAN AREA B
SCALE: 3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

(#) KEYNOTES:

Dewberry

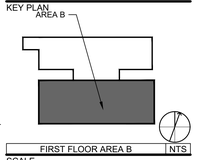
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN



FIRST FLOOR AREA B 1/NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

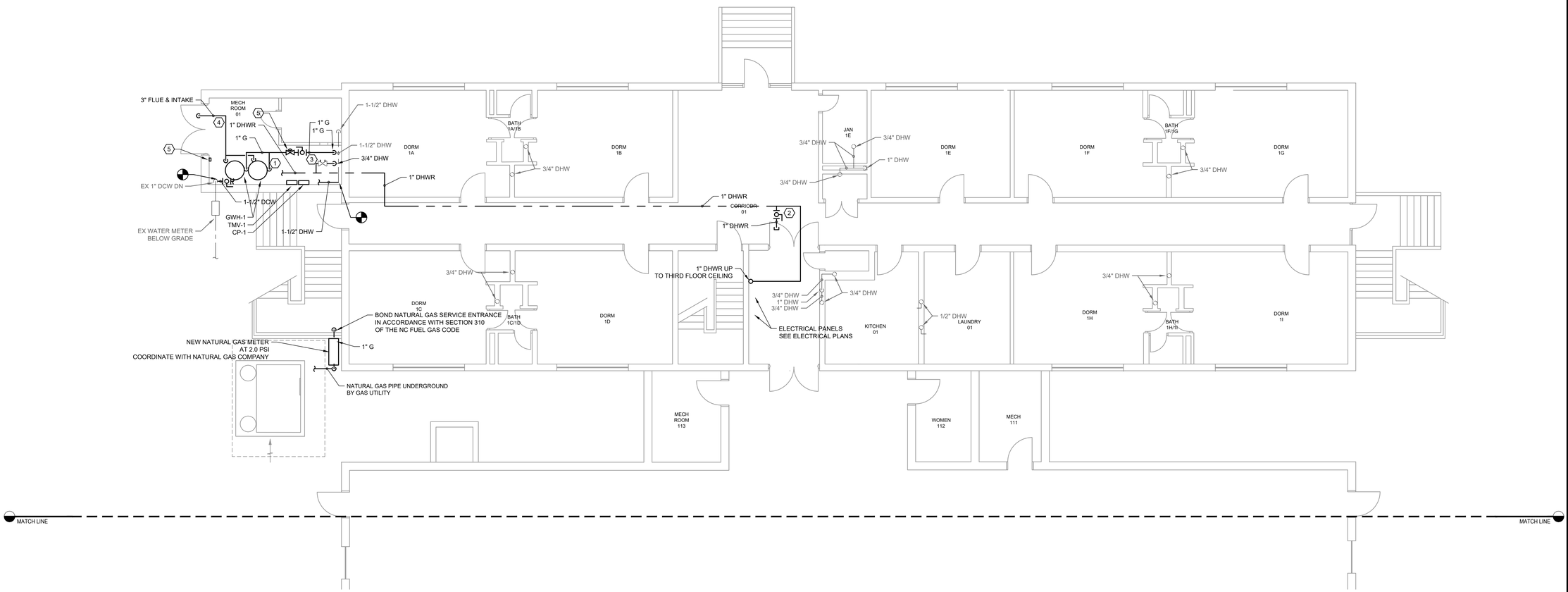
TITLE
CRAWLSPACE DOMESTIC NEW WORK PLAN AREA B

PROJECT NO. 50193045

P-102

SHEET NO.

5/20/2026 9:03:16 AM
P:\50193045\CAD\PLUMBING\50193045 P-102 CRAWLSPACE DOMESTIC NEW WORK PLAN AREA B.DWG



1 FIRST FLOOR DOMESTIC NEW WORK PLAN AREA A

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.
2. ALL HORIZONTAL PIPING TO BE RUN IN OPEN WEB JOIST CAVITIES IN CEILING.

KEYNOTES:

1. PROVIDE NEW WATER HEATER, MIXING VALVE, AND ASSOCIATED ACCESSORIES AS INDICATED. REFER TO SCHEDULE AND DETAIL FOR MORE INFORMATION.
2. PROVIDE 1" DHWR VALVE CAPPED FOR FUTURE USE.
3. PROVIDE MANUAL BALANCING VALVE AS INDICATED TO SERVE RUMLEY HALL. SET TO 2.0 GPM. REFER TO DETAIL FOR MORE INFORMATION.
4. PROVIDE CONCENTRIC FLUE AND INTAKE PIPING AS INDICATED PER MANUFACTURER INSTRUCTIONS. TERMINATE PIPING ABOVE MECHANICAL ROOM DOOR 10'-0" AFF PROVIDE INSECT SCREEN ON OUTLETS AND INLETS.
5. FURNISH GAS WATER HEATER EMERGENCY STOP SWITCH TO ELECTRICAL CONTRACTOR FOR INSTALLATION. MOUNT AT 48" AFF. EMERGENCY STOP SWITCHES SHALL CLOSE SOLENOID NATURAL GAS VALVE. REFER TO SPECS FOR BASIS OF DESIGN. WIRING AND FINAL CONNECTIONS BY ELECTRICAL CONTRACTOR.

NATURAL GAS PIPE SIZING CRITERIA

NEW NATURAL GAS DEMAND = 400,000 BTU/H
LONGEST PIPE LENGTH ~ 90 FT
PIPING SIZED IN ACCORDANCE WITH TABLE 402.4(5) OF THE NC FUEL GAS CODE. EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A PRESSURE REGULATOR.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

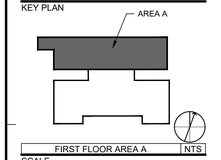
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 039771 ENGINEER CHRISTOPHER CAIN COOK
5/21/2026

KEY PLAN



FIRST FLOOR AREA A | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY VALUE
APPROVED BY VALUE
CHECKED BY VALUE
DATE 05/20/2026

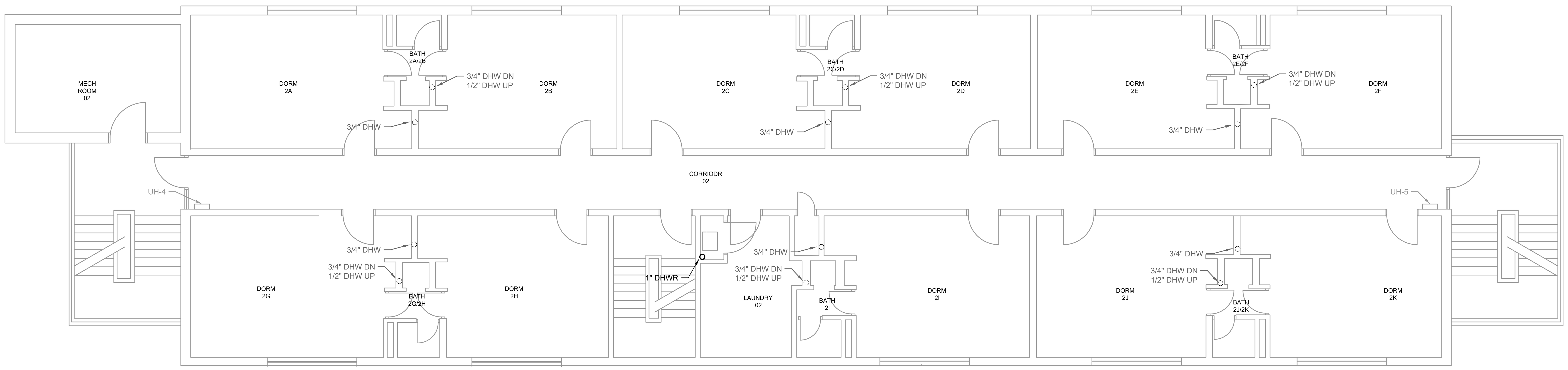
TITLE
FIRST FLOOR DOMESTIC NEW WORK PLAN AREA A

PROJECT NO. 50193045

P-111

SHEET NO.

5/20/2026 9:23:10 AM
P:\50193045\CAD\PLUMBING\50193045 P-111 FIRST FLOOR DOMESTIC NEW WORK PLAN AREA A.DWG



1 SECOND FLOOR DOMESTIC NEW WORK PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.

KEYNOTES:

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

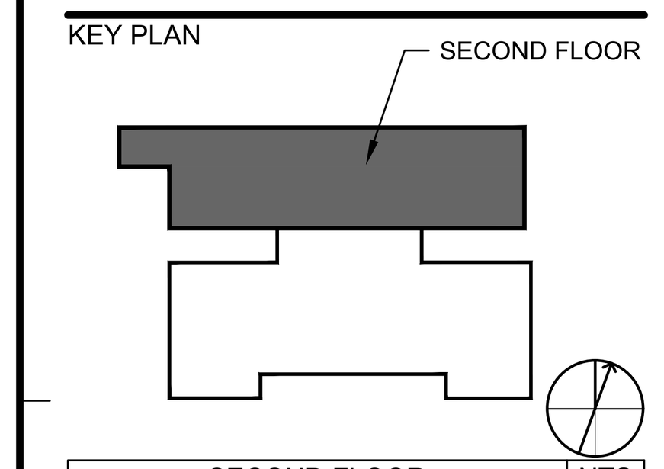
CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 039771 ENGINEER CHRISTOPHER CAIN COOK

5/21/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

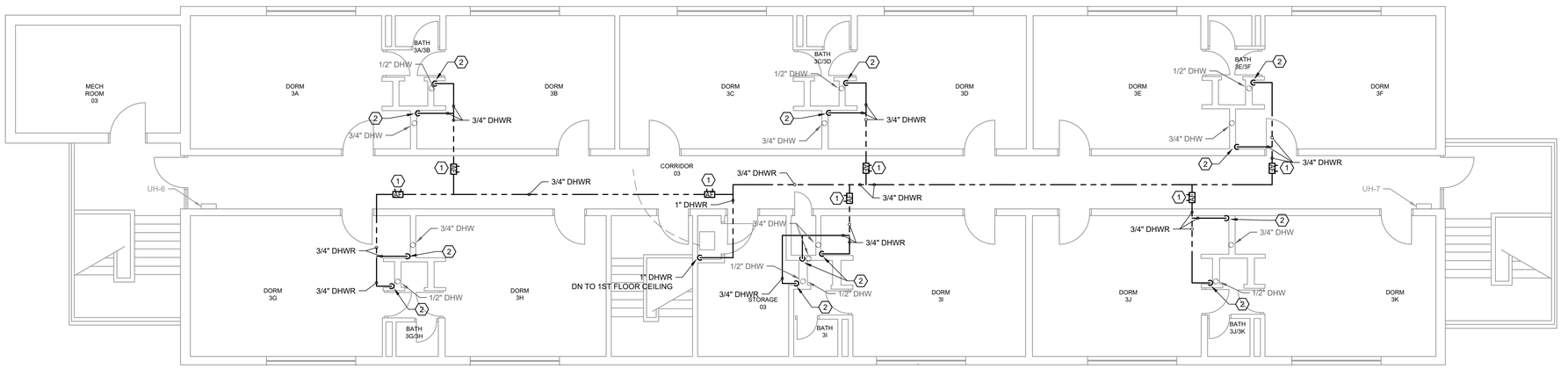
TITLE
SECOND FLOOR DOMESTIC NEW WORK PLAN

PROJECT NO. 50193045

P-121

SHEET NO.

5/20/2026 9:22:47 AM
P:\50193045\CAD\PLUMBING\50193045 P-121 SECOND FLOOR DOMESTIC NEW WORK PLAN.DWG



1 THIRD FLOOR DOMESTIC NEW WORK PLAN

SCALE:3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO P-001 FOR PLUMBING GENERAL NOTES.
2. ALL HORIZONTAL PIPING TO BE RUN IN OPEN WEB JOIST CAVITIES IN CEILING.
3. SUPPORT VERTICAL PIPING WITH SPLIT RING CLAMPS.

(#) KEYNOTES:

1. PROVIDE THERMOSTATIC BALANCING VALVE AS INDICATED. SET TO 110 DEGREES F. REFER TO DETAIL FOR MORE INFORMATION.
2. PROVIDE NEW DHWR PIPING FLUSH AGAINST EXISTING CMU WALL. CONNECT NEW DHWR PIPING CONNECTIONS BELOW EXISTING AIR CHAMBER PIPING. REMOVE EXISTING AIR CHAMBER PIPING OR ABANDON IN PLACE. DO NOT LEAVE AIR CHAMBER PIPING ACTIVE. PIPE CONCEALMENT AND BLOCK REPAIR BY OTHERS. REINSTALL ANY EXISTING SHELVING IN PLACE AND FIELD MODIFY TO FIT WITH NEW PIPING INSTALLATION.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

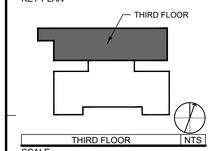
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039771 CHRISTOPHER CAMERON COOK
5/21/2026

KEY PLAN



THIRD FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

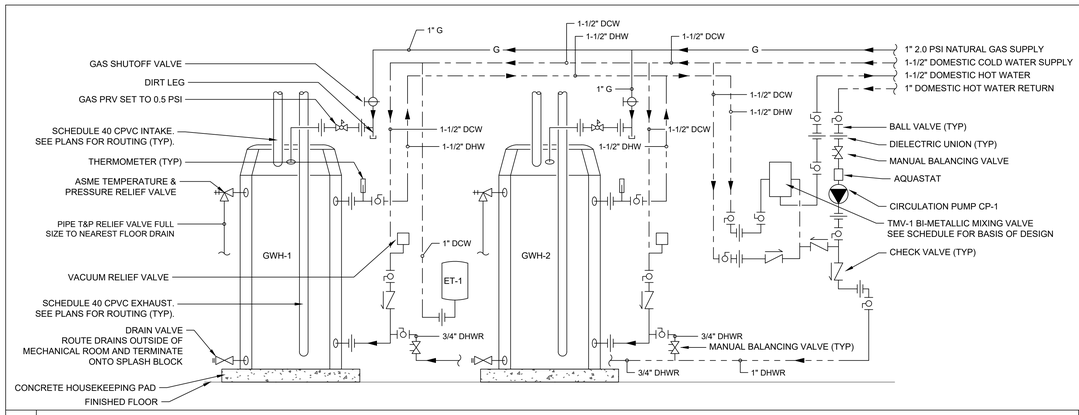
TITLE

THIRD FLOOR DOMESTIC NEW WORK PLAN

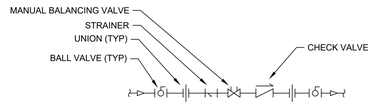
PROJECT NO. 50193045

P-131

SHEET NO.

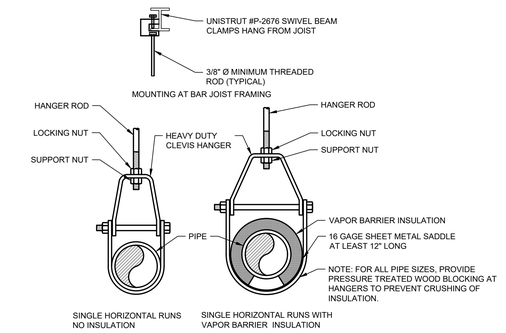


1 GAS WATER HEATER WITH TMV — SCALE: NTS — P120-75



NOTES:
1. SOME AUTOMATIC FLOW CONTROL VALVES ARE THERMOSTATIC AND OTHERS ARE FLOW-CONTROLLED.
2. REFER TO FLOOR PLANS FOR THE LOCATION(S) OF EACH TYPE.
3. REFER TO FLOOR PLANS FOR THE TEMPERATURE OR FLOW RATE FOR EACH INDIVIDUAL AUTOMATIC FLOW CONTROL VALVE.

3 HOT WATER RETURN BALANCING VALVE — SCALE: NTS — P120-66



NOTE: DO NOT SUPPORT PIPING FROM BAR JOIST BRIDGING

2 CLEVIS HANGER — SCALE: NTS — P120-66

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

CONSTRUCTION DOCUMENTS

SEAL

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039771 CHRISTOPHER C. HUNT
5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE
DETAILS

PROJECT NO. 50193045

P-501

SHEET NO.

5/20/2026 9:24:09 AM
P:\50193045\CAD\PLUMBING\50193045 P-501 DETAILS.DWG

PUMP SCHEDULE

MARK	DESCRIPTION	FLOW RATE	DESIGN HEAD	ELECTRICAL DATA				COMMENTS
				AMPS	VOLTS	PHASE	HZ	
CP-1	DHWR INLINE CIRCULATION PUMP	4 GPM	30 FT	2	115	1	60	TACO 0034e-SF2 INLINE ECM STAINLESS STEEL CIRCULATION PUMP. PROVIDE WITH 3/4" CONNECTIONS AND STAINLESS STEEL CASING FOR POTABLE WATER SYSTEMS. PROVIDE WITH TACO COMPATIBLE AQUASTAT. REFER TO DETAIL #1/P-501 FOR MORE INFORMATION.

MODELS LISTED ARE BASIS OF DESIGN (SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS LIST).

THERMOSTATIC MIXING VALVE SCHEDULE

MARK	DESCRIPTION	PIPE SIZES	INLET & OUTLET TEMP	DESIGN FLOW	PRESSURE DROP AT FLOW	COMMENTS
TMV-1	MASTER HIGH-LOW THERMOSTATIC MIXING VALVE	1" IN 1-1/4" OUT	140°F IN 120°F OUT	33 GPM	10 PSI	LEONARD TM-820B-LF-DT-IT, HIGH-LOW BI-METALLIC THERMOSTATIC MIXING VALVE, MINIMUM 1.0 GPM FLOW RATE WITH RECIRCULATION, AND INLET THERMOMETERS. ASSE 1017 CERTIFIED.

GAS-FIRED WATER HEATER SCHEDULE

MARK	DESCRIPTION	STORAGE	RECOVERY @ 100°F	INPUT ENERGY	THERMAL EFFICIENCY	ELECTRICAL	COMMENTS
GWH-1	GAS-FIRED CONDENSING WATER HEATER	100 GALLONS	256 GALLONS PER HOUR	199,000 BTU/HOUR	96%	120 VOLT 1 PHASE 20 AMPS	AO SMITH CYCLONE BTH-199(A). PROVIDE WITH CONDENSATE NEUTRALIZATION KIT.

NOTES:

1. FURNISH 120V, 20A DISCONNECT TO ELECTRICAL CONTRACTOR FOR INSTALLATION. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROVIDE WITH BACNET MS/TP CAPABILITY FOR CONNECTION TO BUILDING AUTOMATION SYSTEM. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. PROVIDE WITH WESSELS T-42V DIAPHRAGM STYLE THERMAL EXPANSION TANK WITH MINIMUM 11 GALLONS ACCEPTANCE VOLUME.
4. PROVIDE WITH OPTIONAL CONDENSATE NEUTRALIZATION KIT FROM MANUFACTURER.
5. PROVIDE WITH CPVC SCHEDULE 40 CONCENTRIC FLUE AND INTAKE PIPE PER MANUFACTURERS RECOMMENDATIONS AND AS ROUTED ON PLANS.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY SDD
APPROVED BY CCC
CHECKED BY CPH
DATE 05/20/2026

TITLE
SCHEDULES

PROJECT NO. 50193045

P-601

SHEET NO.

ABBREVIATIONS - MECHANICAL

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

(E)	EXISTING
AC	AIR CONDITIONING
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AF	AIRFLOW
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
ARCH	ARCHITECTURAL
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS
ATC	AUTOMATIC TEMPERATURE CONTROL
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
BI	BINARY INPUT
BMS	BUILDING MANAGEMENT SYSTEM
BO	BINARY OUTPUT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CHWP	CHILLED WATER PUMP
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
CONT	CONTROLS, CONTINUED
CRU	CONDENSATE RETURN UNIT
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
Cv	VALVE COEFFICIENT
DB	DRY BULB
DBL	DOUBLE
DEG	DEGREE
DI	DIGITAL INPUT
DIA	DIAMETER
DMSS	DUCTLESS MINI-SPLIT SYSTEM
DN	DOWN
DO	DIGITAL OUTPUT
DOAS	DEDICATED OUTDOOR AIR SYSTEM
DP	DIFFERENTIAL PRESSURE
DPS	DIFFERENTIAL PRESSURE (SENSOR)
DP	DEW POINT
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EF	EXHAUST FAN
EHC	ELECTRIC HEATING COIL
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
ETC	ETCETERA
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
F	DEGREES FAHRENHEIT
FD	FIRE DAMPER OR FLOOR DRAIN
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FP	FAN POWERED
FPM	FEET PER MINUTE
FPTD	FAN POWERED TERMINAL DEVICE
FS	FLOW SWITCH
FT	FOOT/FEET
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
GUH	GAS FIRED UNIT HEATER

ABBREVIATIONS - MECHANICAL

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

H	HEIGHT
H2O	WATER
HD	HEAD
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AND AIR-CONDITIONING
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET
M	MOTOR OR MOTORIZED DAMPER OR METER
MBH	1,000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MFR	MANUFACTURER
MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED OR NOISE CRITERIA
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OAT	OUTDOOR AIR TEMPERATURE
OD	OUTSIDE DIAMETER
OS	OCCUPANCY SENSOR
P	PRESSURE OR PRESSURE SENSOR
PD	PRESSURE DROP
PH	PHASE
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
QTY	QUANTITY
R	RADIUS, RISE, OR REMOVE
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RH	RELATIVE HUMIDITY, REHEAT
RF	RETURN AIR FAN
RHC	REHEAT COIL
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAT	SUPPLY AIR TEMPERATURE
SCH	SCHEDULE
SEC	SECONDS
SF	SUPPLY FAN OR SQUARE FOOT
SP	STATIC PRESSURE
SS	SPLIT SYSTEM OR STAINLESS STEEL
T, TEMP	TEMPERATURE
T&P	TEMPERATURE AND PRESSURE
T-STAT	THERMOSTAT
TON	COOLING TONS (12,000 BTUH)
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
V, VOLT	VOLTAGE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VF	VENTILATION FAN
W	WIDTH OR WATTS
W/	WITH
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

MECHANICAL GENERAL NEW WORK NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS. MECHANICAL EQUIPMENT SHALL BE SELECTED TO MEET OR EXCEED THE REQUIREMENTS OF THE ENERGY CONSERVATION CODE. MECHANICAL WORK SHALL COMPLY WITH PROJECT SPECIFICATIONS.
2. FURNISH AND INSTALL ALL INCIDENTAL ACCESSORIES REQUIRED TO MAKE THE MECHANICAL WORK COMPLETE AND OPERATIONAL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING, TESTING AND VERIFYING OPERATION OF THE EQUIPMENT. ALL EQUIPMENT, DAMPERS, ETC. SHALL BE FUNCTIONAL BEFORE PROJECT CLOSEOUT. COORDINATE WITH ELECTRICAL AND TAB CONTRACTORS.
4. THESE DRAWINGS ARE DIAGRAMMATIC. EXACT EQUIPMENT LOCATIONS AND DUCT AND PIPING ROUTING SHALL BE COORDINATED WITH THE BUILDING AND SITE CONDITIONS. THE ACTUAL EQUIPMENT AND MINIMUM CLEARANCE DIMENSIONS SHALL BE VERIFIED WITH THE SUPPLIERS.
5. EQUIPMENT, DUCTWORK, PIPING AND CONDUIT LAYOUT SHALL BE COORDINATED WITH BUILDING COMPONENTS AND OTHER TRADES PRIOR TO INSTALLATION. THE SYSTEM SHALL BE NEATLY ARRANGED TO MAXIMIZE SPACE ABOVE CEILINGS AND WITHIN CHASES. MAINTAIN MINIMUM EQUIPMENT AND DEVICE MAINTENANCE CLEARANCES. DEVICES SHALL BE READILY MAINTAINABLE. METERS AND GAGES SHALL BE ORIENTED FOR BEST VIEW. INSTALLED MATERIALS NOT COORDINATED SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL COST TO THE OWNER.
6. DUCT OFFSETS SHALL BE MADE AT 15 OR 30-DEGREE ANGLES WHERE POSSIBLE BUT AT NEVER MORE THAN 45-DEGREES.
7. EXACT LOCATIONS OF CEILING-MOUNTED EQUIPMENT SHALL BE COORDINATED WITH THE REFLECTED CEILING PLANS AND THE EXISTING CONDITIONS. AIR OUTLETS AND SMOKE DETECTORS SHALL BE COORDINATED TO BE NO LESS THAN 36-INCHES APART.
8. WALL-MOUNTED CONTROL SENSORS SHALL BE INSTALLED AT 48-INCHES ABOVE THE FLOOR TO THE TOP OF BACK-BOX. COORDINATE EXACT LOCATIONS WITH LIGHT SWITCHES. WHEN BOTH ARE INDICATED ADJACENT TO A DOOR, LOCATE THE SWITCH CLOSEST TO THE DOOR AND THE SENSOR WITHIN 12-INCHES OF THE SWITCH.
9. CONTROL AND ALARM DEVICES SHALL BE INSTALLED IN BACK-BOXES WITHIN NEW AND EXISTING WALLS. SURFACE-MOUNTED CONDUIT AND RACEWAY WILL NOT BE ACCEPTED EXCEPT FOR EXISTING SOLID CONCRETE WALLS. DEVICE BACK-BOXES IN FIRE-RATED WALLS SHALL HAVE FIRESTOP PUTTY PADS OR EQUIVALENT UL-LISTED INSTALLATION.
10. INSTALL PENETRATIONS OF LIFE-SAFETY RATED ASSEMBLIES PER APPROVED UL-LISTED DETAIL IN ACCORDANCE WITH THE BUILDING CODE.
11. PROVIDE A DUCT ACCESS DOOR FOR EACH DUCT-MOUNTED DEVICE REQUIRING MAINTENANCE OR INSPECTION. REFER TO SECTION 23 33 00 FOR DOOR SIZING REQUIREMENTS. COORDINATE CEILING AND WALL ACCESS DOORS WITH DUCT ACCESS DOORS.
12. HVAC PIPING SHALL BE NO LESS THAN 3/4-INCH, EXCEPT REFRIGERANT PIPING.
13. ALL MOTORIZED EQUIPMENT SHALL BE CONNECTED TO DUCTWORK OR PIPING WITH FLEXIBLE CONNECTIONS.
14. EXTEND POWER CONDUIT AND WIRING FROM DEDICATED POWER SOURCES TO CONTROL EQUIPMENT AND DEVICES. COORDINATE POWER SOURCES WITH ELECTRICAL CONTRACTOR.
15. DUCT BRANCH DUCT FROM MAIN TAKEOFF TO AIR INLET OR OUTLET SHALL MATCH SCHEDULED NECK SIZE UNLESS OTHERWISE NOTED.
16. MAINTAIN MINIMUM 36-INCH CLEARANCE FOR 120/208V POWER OR 42-INCH CLEARANCE FOR 277/480V POWER AS REQUIRED BY THE NATIONAL ELECTRIC CODE FOR ELECTRICAL EQUIPMENT AND TO PROVIDE MAINTENANCE ACCESS.
17. FIELD VERIFY EXACT PIPING SIZES AND FLOW DIRECTIONS PRIOR TO CONNECTING TO PIPING SYSTEM.
18. SCHEDULE ALL SERVICE DISRUPTIONS AND SHUTDOWNS WITH THE OWNER NO LESS THAN 1 WEEK IN ADVANCE.
19. AIR HANDLING UNIT INTAKES SHALL BE SEPARATED BY MINIMUM 10 FEET FROM EXHAUST FANS, EXHAUST VENTS, FLUES, PLUMBING VENTS, ETC.

MECHANICAL GENERAL DEMOLITION WORK NOTES

1. VERIFY PROJECT SITE EXISTING CONDITIONS PRIOR TO BID. EXISTING CONDITIONS INDICATED IN THESE DOCUMENTS ARE APPROXIMATE AND DO NOT INCLUDE EVERY COMPONENT.
2. RECORD EXISTING CONDITIONS PRIOR TO THE START OF WORK. REPAIR DAMAGES RESULTING FROM PROJECT WORK.
3. COORDINATE MATERIALS TO BE RETAINED BY THE OWNER PRIOR TO THE START OF DEMOLITION WORK. RETAINED MATERIALS SHALL BE DELIVERED TO A POINT DESIGNATED BY THE OWNER WITHIN A 10-MILE RADIUS OF THE PROJECT SITE. PROPERLY DISPOSE OF ALL REMAINING DEMOLITION MATERIALS. COMPLY WITH MATERIAL RECYCLING REQUIREMENTS. DO NOT ABANDON IN PLACE ANY ITEMS IDENTIFIED TO BE REMOVED UNLESS OTHERWISE NOTED.
4. THE SCOPE OF DEMOLITION FOR ITEMS TO BE REMOVED INCLUDES ASSOCIATED SUPPORTS, POWER CONNECTIONS, CONTROLS, ETC.
5. PERFORM ALL DEMOLITION INDICATED INCLUDING THAT REQUIRED TO INSTALL NEW WORK. REMOVE AND REINSTALL MATERIALS TO REMAIN AS NEEDED WHERE REQUIRED TO PERFORM DEMOLITION OR TO INSTALL NEW WORK. REPAIR DAMAGED SURFACES TO MATCH EXISTING ADJACENT SURFACES.
6. REMOVE DUCT, PIPING AND CONDUIT BACK TO POINTS INDICATED. PREPARE OPEN ENDS FOR CONNECTION TO NEW WORK INDICATED OR CAP.
7. REPAIR DAMAGE TO ANY OPENINGS IN LIFE-SAFETY RATED ASSEMBLIES CREATED BY THE DEMOLITION WORK PER APPROVED UL-LISTED DETAIL IN ACCORDANCE WITH THE BUILDING CODE.
8. PIPING AND CONDUIT TO BE REMOVED THAT IS LOCATED BELOW CONCRETE SLAB-ON-GRADE FLOORS OR WITHIN CONCRETE SOLID OR BLOCK WALLS MAY BE ABANDONED IN PLACE UNLESS NECESSARY TO INSTALL NEW WORK OR NOTED OTHERWISE. WHEN ABANDONING, CUT PIPING OR CONDUIT BACK AT LEAST 1-INCH BEHIND THE SURFACE, PLUG THE ENDS AND PATCH THE SURFACE WITH SIMILAR MATERIAL.
9. CAPTURE AND RECYCLE REFRIGERANT FROM HVAC EQUIPMENT. COMPLY WITH THE EPA REFRIGERANT RECYCLING AND DISPOSAL REQUIREMENTS.
10. REMOVE AND REINSTALL LAY-IN CEILING TILES AND GRID AS NEEDED TO PERFORM CONTRACT WORK. STORE CEILING MATERIALS IN A CLEAN DRY PLACE. REPLACE DAMAGED TILES WITH NEW TO MATCH. SELECT ONE ROOM TO INSTALL ALL NEW TILE AND GRID TO PROVIDE THE TILES NEEDED TO REPLACE DAMAGED TILES IN OTHER SPACES.

MECHANICAL SCHEMATIC SYMBOLS

GAUGES/SENSORS	
	PRESSURE GAGUE
	TEMPERATURE GAUGE
T	TEMPERATURE SENSOR
HS	HUMIDITY SENSOR
	TEMPERATURE SENSOR (IN AIR FLOW)
FZ	FREEZE SENSOR (IN AIR FLOW)
DPS	DIFFERENTIAL PRESSURE SENSOR
	MAGNEHELIC GAUGE
CT	CURRENT TRANSDUCER (SENSOR)
AFMS	AIR FLOW MONITORING STATION
FS	FLOW SWITCH
ES	END SWITCH
HL	HUMIDITY - HIGH LIMIT SWITCH
S	OVERRIDE SWITCH
BAS	NETWORK POINT FOR BAS
NBAS	NETWORK BUILDING AUTOMATION SYSTEM CONTROL PANEL
ELECTRONIC CONTROLS	
AI AO DI DO	DDC CONTROL POINTS — DESIGNATIONS: "AI" = ANALOG INPUT; "AO" = ANALOG OUTPUT; "DI" = DIGITAL INPUT; "DO" = DIGITAL OUTPUT
	TRANSFORMER
R	RELAY
STR	STARTER
PNEUMATIC SYMBOLS	
EP	ELECTRONIC OR ELECTRIC TO PNEUMATIC SWITCH
EPT	ELECTRONIC OR ELECTRIC TO PNEUMATIC TRANSDUCER

MECHANICAL PIPING SYSTEMS

SYMBOL	DESCRIPTION
AV	ATMOSPHERIC VENT
CD	CONDENSATE DRAIN
D	DRAIN
LPC	LOW PRESSURE CONDENSATE
RD	REFRIGERANT DISCHARGE
RF	REFRIGERANT
RF (L)	REFRIGERANT LIQUID LINE
RF (S)	REFRIGERANT SUCTION LINE
RH	REFRIGERANT HOT GAS
SP	STEAM PIPE

HVAC SYMBOLS

SYMBOL	DESCRIPTION
	GRILLES
CEILING MOUNTED / WALL MOUNTED	
	SUPPLY AIR DEVICE
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
X / 500	AIR DEVICE TAG "TYPE" / "CFM" (SEE SCHEDULE)
	ECCENTRIC TRANSITION
	CONCENTRIC TRANSITION
	RADIUS OFFSET (IN THE VERTICAL)
	MITERED OFFSET (IN THE VERTICAL)
	RADIUS ELBOW
	MITERED ELBOW WITH TURNING VANES
RISE / DROP	SUPPLY DUCT
RISE / DROP	RETURN AIR DUCT
RISE / DROP	EXHAUST AIR DUCT
	FLEX DUCT
	DEMOLITION DUCTWORK OR EQUIPMENT
	EXISTING DUCTWORK OR EQUIPMENT
24x24	NEW DUCTWORK OR EQUIPMENT
	RECTANGULAR TAKE-OFF
	ROUND TAKE-OFF
BOTTOM / TOP / SIDE	ACCESS DOORS

HVAC SYMBOLS CONTINUED

SYMBOL	DESCRIPTION
	DAMPERS
AD	AUTOMATIC/ MOTORIZED
MD	MANUAL DAMPER
BD	GRAVITY BACKDRAFT
	MOTORIZED PARALLEL BLADE
	MOTORIZED OPPOSED BLADE
	FIRE DAMPER
	CONTROLS
T	THERMOSTAT
H	HUMIDITY SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	NON-FUSIBLE SAFETY SWITCH
	FUSIBLE SAFETY SWITCH
	COMBINATION MOTOR STARTER/SAFETY SWITCH, ENCLOSED CIRCUIT BREAKER
	DISCONNECT SWITCH (FURNISHED BY OTHERS)

ABBREVIATIONS
"AD" = AUTOMATIC/MOTORIZED
"MD" = MANUAL VOLUME
"BD" = BACKDRAFT

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057883 WILLIAM E. HOWE, JR.
5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

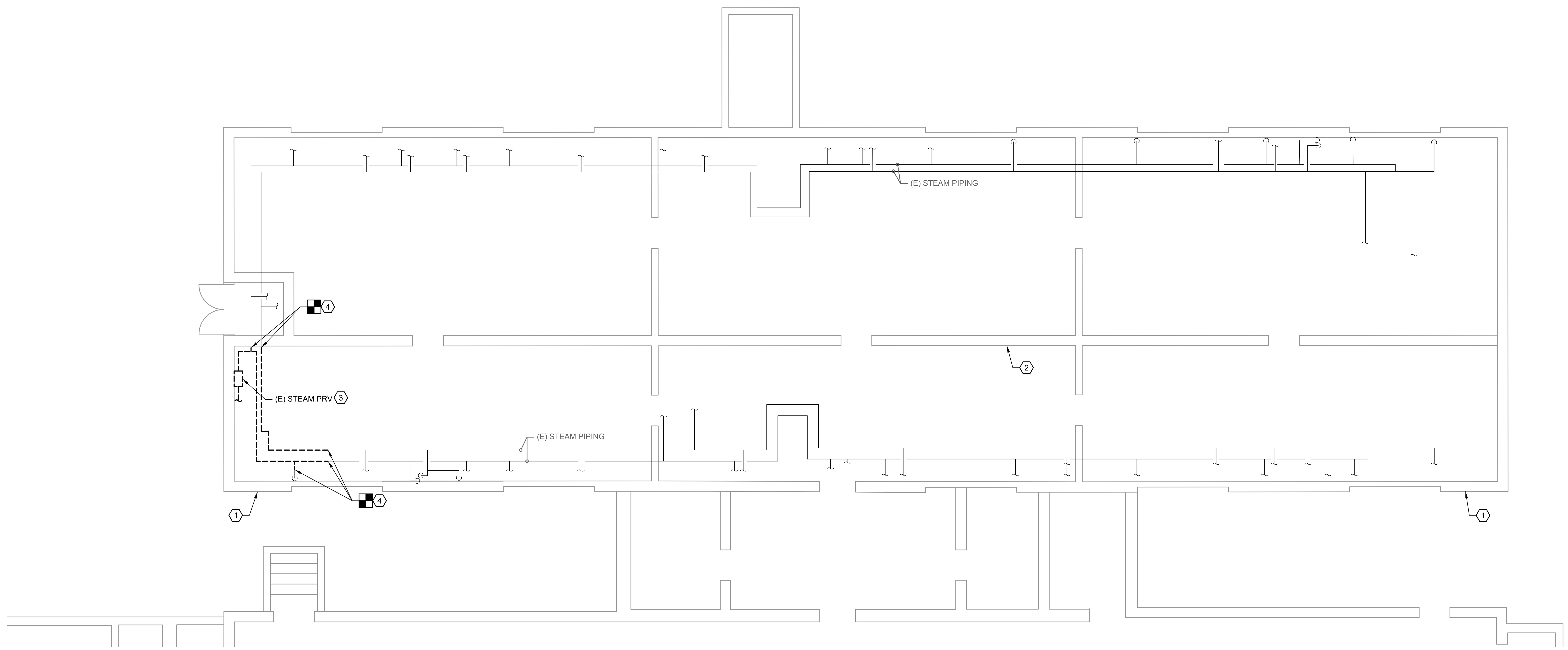
DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
MECHANICAL SYMBOLS & ABBREVIATIONS

PROJECT NO. 50193045

M-001

SHEET NO.



1 CRAWLSPACE MECHANICAL DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. STEAM SUPPLY TO POWELL HALL LOCATED OUTSIDE OF BUILDING. COORDINATE WITH CAMPBELL UNIVERSITY FACILITIES TO SHUT OFF STEAM TO BUILDING.
2. DEMOLISH STEAM PIPING IN CRAWLSPACE AS NEEDED TO MAKE ROOM FOR NEW CONSTRUCTION.

KEYNOTES:

1. CRAWLSPACE ACCESS DOOR LOCATED HERE.
2. REMOVE ALL DRYER LINT IN THE VICINITY OF THE ELECTRICAL PANEL. REPAIR AND REPLACE DRY VENT HOSE AS REQUIRED, CONNECT ALL LOOSE VENT HOSES BACK TO VENT CAPS ON EXTERIOR WALL OF CRAWL SPACE.
3. STEAM PIPING TO BE ABANDONED IN PLACE. AFTER STEAM SUPPLY TO BUILDING IS SHUT OFF, ALLOW STEAM SYSTEM TO COOL AND DRAIN SYSTEM OF CONDENSATE. DISCONNECT STEAM SUPPLY PIPING FROM PRESSURE REDUCING STATION AND CAP PIPING END.
4. DEMOLISH STEAM PIPING FROM POINT INDICATED.

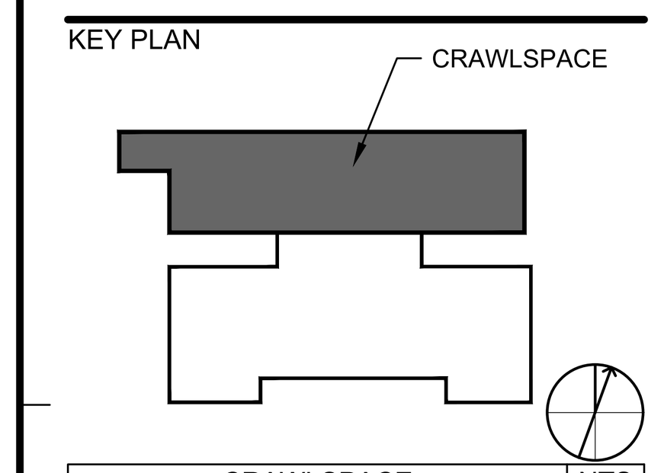
Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL
5/21/2026

KEY PLAN



CRAWLSPACE | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

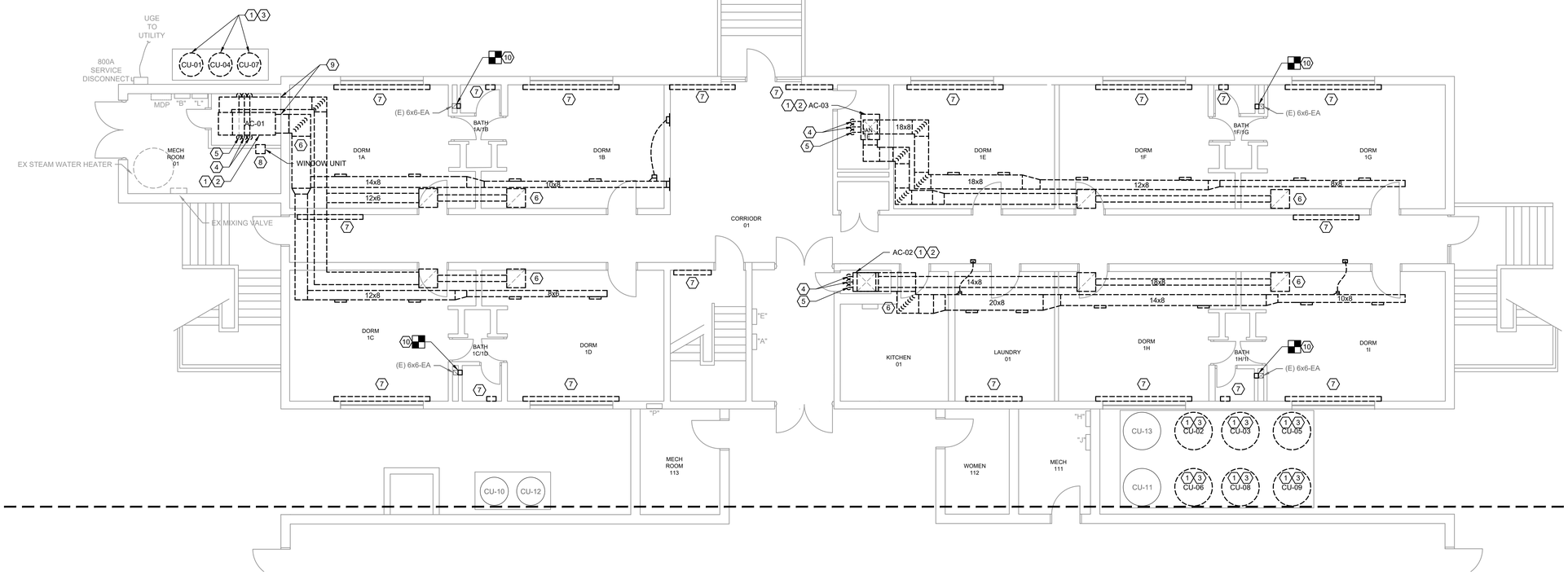
DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
CRAWLSPACE MECHANICAL DEMOLITION PLAN

PROJECT NO. 50193045

MD101
SHEET NO.

5/20/2026 10:23:00 AM
P:\50193045\CAD\MECHANICAL\50193045 MD101 CRAWLSPACE MECHANICAL DEMOLITION PLAN.DWG



1 FIRST FLOOR MECHANICAL DEMOLITION PLAN AREA A

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. ACT CEILING AND SOFFIT TO BE DEMOLISHED BY CAMPBELL UNIVERSITY FACILITIES. REMOVE AND STORE CEILING TILES TO PERFORM WORK, COORDINATE CEILING SCOPE WITH CAMPBELL UNIVERSITY.

KEYNOTES:

1. PRIOR TO DEMOLITION OF SPLIT SYSTEMS, CONTRACTOR SHALL RECOVER AND DISPOSE OF ALL REFRIGERANT IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
2. DEMOLISH AIR CONDITIONING UNIT IN ITS ENTIRETY. DISCONNECT DUCT WORK, PIPING AND LINESET. DEMOLISH POWER AND CONTROL EQUIPMENT AND WIRING, INCLUDING BUT NOT LIMITED TO SPACE THERMOSTATS.
3. DEMOLISH CONDENSING UNIT IN ITS ENTIRETY. DISCONNECT LINESET. DEMOLISH POWER AND CONTROL EQUIPMENT AND WIRING. EXISTING CONCRETE PAD TO REMAIN.
4. DEMOLISH REFRIGERANT LINESET FROM THE INTERIOR UNIT TO THE EXTERIOR UNIT. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS.
5. DEMOLISH CONDENSATE PIPING FROM POINT INDICATED TO LOCATION OF DISCHARGE TO GRADE. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS. REFER TO DETAIL.
6. DEMOLISH DUCT WORK IN ITS ENTIRETY.
7. DEMOLISH STEAM RADIATOR. DEMOLISH STEAM PIPE LEVEL WITH FLOOR SURFACE. PROVIDE FLOOR PLATE TO COVER PIPE, MOUNT FLUSH WITH FLOOR. COORDINATE WITH GENERAL CONTRACTOR TO COVER NEWLY EXPOSED FLOOR AND WALL AREA.
8. REMOVE WINDOW UNIT AND RELINQUISH TO CAMPBELL UNIVERSITY FACILITIES.
9. PATCH MECHANICAL ROOM MASONRY WALL WITH LIKE MATERIALS. PROVIDE SLEEVES FOR WIRING, PIPING, AND OTHER UTILITIES AS NEEDED TO CREATE SMOKE TIGHT WALL.
10. DEMOLISH TOILET ROOM EXHAUST GRILLE AND CAP DUCT. PATCH AND PAINT WALL TO MATCH ADJACENT FINISH.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

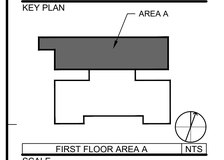
CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN



FIRST FLOOR AREA A | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE

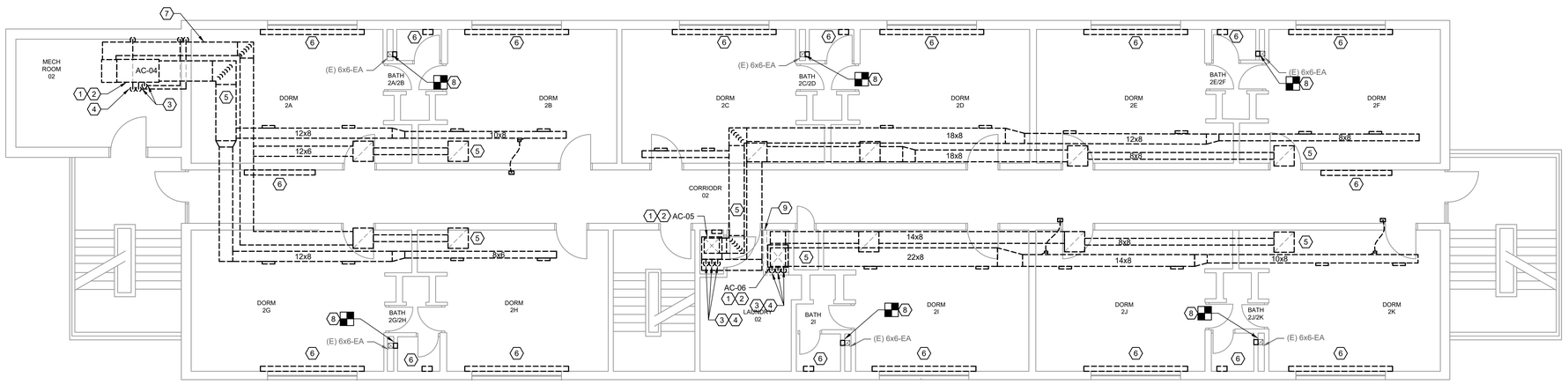
FIRST FLOOR MECHANICAL DEMOLITION PLAN AREA A

PROJECT NO. 50193045

MD111

SHEET NO.

5/20/2026 10:25:21 AM
P:\50193045\CAD\MECHANICAL\50193045 MD111 FIRST FLOOR MECHANICAL DEMOLITION PLAN AREA A.DWG



1 SECOND FLOOR MECHANICAL DEMOLITION WORK PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. ACT CEILING AND SOFFIT TO BE DEMOLISHED BY CAMPBELL UNIVERSITY FACILITIES. REMOVE AND STORE CEILING TILES TO PERFORM WORK, COORDINATE CEILING SCOPE WITH CAMPBELL UNIVERSITY.

KEYNOTES:

1. PRIOR TO DEMOLITION OF SPLIT SYSTEMS, CONTRACTOR SHALL RECOVER AND DISPOSE OF ALL REFRIGERANT IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
2. DEMOLISH AIR CONDITIONING UNIT IN ITS ENTIRETY. DISCONNECT DUCT WORK, PIPING AND LINESET. DEMOLISH POWER AND CONTROL EQUIPMENT AND WIRING, INCLUDING BUT NOT LIMITED TO SPACE THERMOSTATS.
3. DEMOLISH REFRIGERANT LINESET FROM THE INTERIOR UNIT TO THE EXTERIOR UNIT. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS. REFER TO DETAIL.
4. DEMOLISH CONDENSATE PIPING FROM POINT INDICATED TO LOCATION OF DISCHARGE TO GRADE. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS.
5. DEMOLISH DUCTWORK IN ITS ENTIRETY.
6. DEMOLISH STEAM RADIATOR. DEMOLISH STEAM PIPE LEVEL WITH FLOOR SURFACE. PROVIDE FLOOR PLATE TO COVER PIPE, MOUNT FLUSH WITH FLOOR. COORDINATE WITH GENERAL CONTRACTOR TO COVER NEWLY EXPOSED FLOOR AND WALL AREA.
7. PATCH MECHANICAL ROOM MASONRY WALL WITH LIKE MATERIALS. PROVIDE SLEEVES FOR WIRING, PIPING, AND OTHER UTILITIES AS NEEDED TO CREATE SMOKE TIGHT WALL.
8. DEMOLISH TOILET ROOM EXHAUST GRILLE AND CAP DUCT. PATCH AND PAINT WALL TO MATCH ADJACENT FINISH.
9. DEMOLISH PLYWOOD ENCLOSURE AROUND AC. PATCH AND PAINT WALL TO MATCH ADJACENT FINISH.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY

POWELL HALL

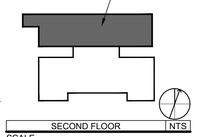
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057883 CHRISTINE E. ROHE-CORP

5/21/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE

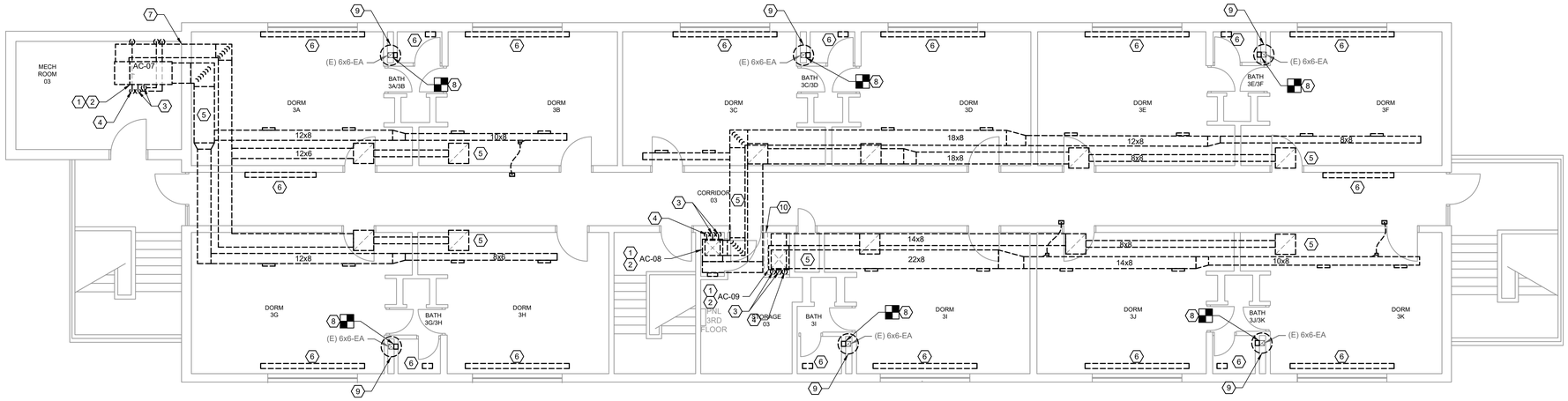
SECOND FLOOR MECHANICAL DEMOLITION PLAN

PROJECT NO. 50193045

MD121

SHEET NO.

5/20/2026 10:04:38 AM
P:\50193045\CAD\MECHANICAL\50193045 MD121 SECOND FLOOR MECHANICAL DEMOLITION PLAN.DWG



1 THIRD FLOOR MECHANICAL DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. ACT CEILING AND SOFFIT TO BE DEMOLISHED BY CAMPBELL UNIVERSITY FACILITIES. REMOVE AND STORE CEILING TILES TO PERFORM WORK COORDINATE CEILING SCOPE WITH CAMPBELL UNIVERSITY.

(#) KEYNOTES:

1. PRIOR TO DEMOLITION OF SPLIT SYSTEMS, CONTRACTOR SHALL RECOVER AND DISPOSE OF ALL REFRIGERANT IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
2. DEMOLISH AIR CONDITIONING UNIT IN ITS ENTIRETY. DISCONNECT DUCT WORK, PIPING AND LINESET. DEMOLISH POWER AND CONTROL EQUIPMENT AND WIRING, INCLUDING BUT NOT LIMITED TO SPACE THERMOSTATS.
3. DEMOLISH REFRIGERANT LINESET FROM THE INTERIOR UNIT TO THE EXTERIOR UNIT. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS. REFER TO DETAIL.
4. DEMOLISH CONDENSATE PIPING FROM POINT INDICATED TO LOCATION OF DISCHARGE TO GRADE. PATCH AND PAINT WALL PENETRATIONS WITH LIKE MATERIALS.
5. DEMOLISH DUCT WORK IN ITS ENTIRETY.
6. DEMOLISH STEAM RADIATOR. DEMOLISH STEAM PIPE LEVEL WITH FLOOR SURFACE. PROVIDE FLOOR PLATE TO COVER PIPE, MOUNT FLUSH WITH FLOOR. COORDINATE WITH GENERAL CONTRACTOR TO COVER NEWLY EXPOSED FLOOR AND WALL
7. PATCH MECHANICAL ROOM MASONRY WALL WITH LIKE MATERIALS. PROVIDE SLEEVES FOR WIRING, PIPING, AND OTHER UTILITIES AS NEEDED TO CREATE SMOKE TIGHT WALL.
8. DEMOLISH TOILET ROOM EXHAUST GRILLE AND CAP DUCT. PATCH AND PAINT WALL TO MATCH ADJACENT FINISH.
9. DEMOLISH ROOF MOUNTED EXHAUST FAN. DEMO POWER AND CONTROL WIRE AND DISCONNECT. ROOF CURB TO REMAIN FOR REUSE.
10. DEMOLISH PLYWOOD ENCLOSURE AROUND AC. PATCH AND PAINT WALL TO MATCH ADJACENT FINISH.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

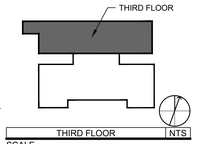
POWELL HALL

HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057983 ENGINEER CHRISTINE E. ROHE
5/21/2026

KEY PLAN



THIRD FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE

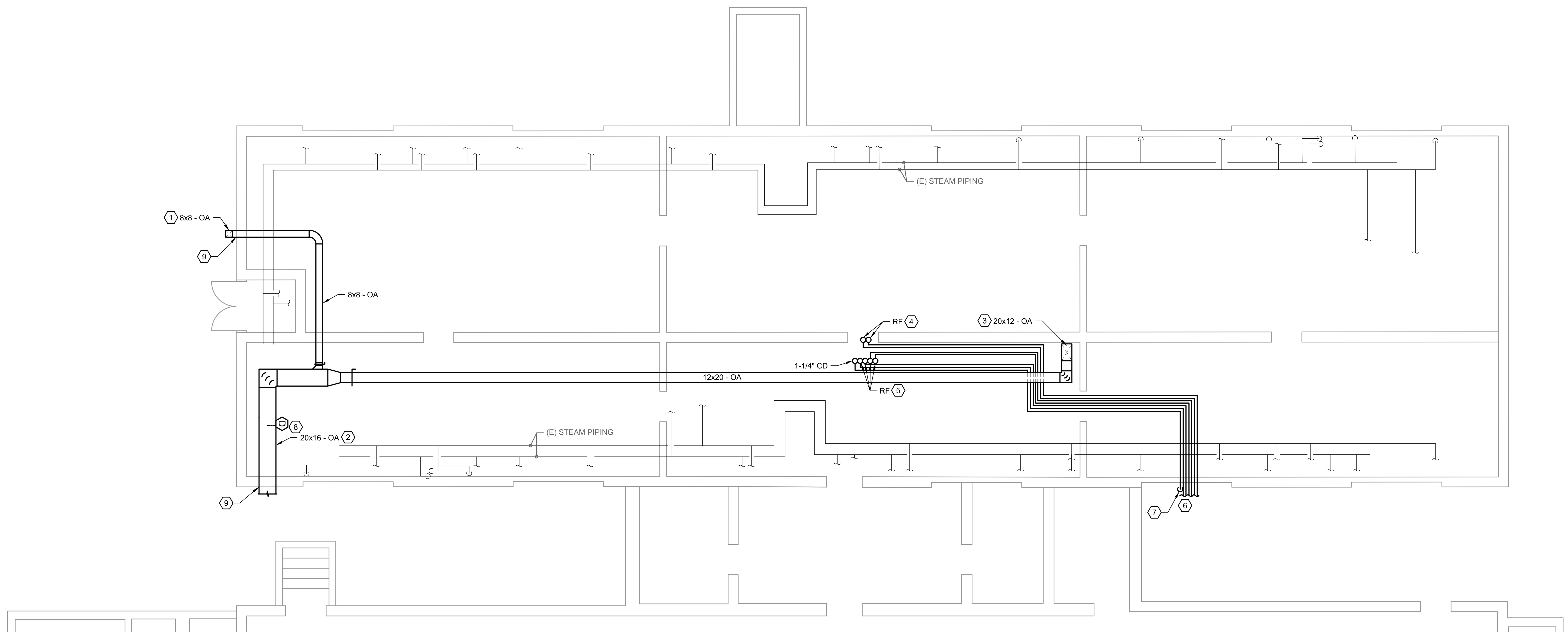
THIRD FLOOR MECHANICAL DEMOLITION PLAN

PROJECT NO. 50193045

MD131

SHEET NO.

5/20/2026 10:24:06 AM
P:\50193045\CAD\MECHANICAL\50193045 MD131 THIRD FLOOR MECHANICAL DEMOLITION PLAN.DWG



1 CRAWLSPACE MECHANICAL NEW WORK PLAN

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. DEMOLISH STEAM AND CONDENSATE PIPING IN CRAWLSPACE AS NEEDED TO MAKE ROOM FOR NEW CONSTRUCTION.

KEYNOTES:

1. OA DUCT UP TO FLOOR ABOVE. COORDINATE WITH GENERAL CONTRACTOR FOR FLOOR PENETRATION.
2. INSULATED OA DUCT FROM DOAS UNIT. PROVIDE HANGER SUPPORTS AND TRANSITIONS TO ROUTE THROUGH CRAWLSPACE TO DUCT RISERS.
3. OA DUCT UP TO 1ST FLOOR.
4. UP TO FCU-1.
5. UP TO FCU-2 AND FCU-3.
6. PROVIDE REFRIGERANT LINESET FROM CONDENSING UNITS TO INDOOR UNITS. SEE FIRST FLOOR FOR CONTINUATION.
7. DISCHARGE CONDENSATE 6" ABOVE GRADE USING EXISTING CRAWLSPACE PENETRATIONS FROM DEMOLISHED UNITS. PROVIDE SPLASH BLOCK.
8. PROVIDE DUCT SMOKE DETECTOR AND HARDWIRE TO DOAS FOR SMOKE SHUTDOWN. PROVIDE WITH 12x12 HINGED ACCESS DOOR.
9. EXTERIOR WALL PENETRATION. COORDINATE WITH GENERAL CONTRACTOR FOR PENETRATION.
10. LOCATE PENETRATION ON EACH FLOOR AND REVIEW WITH OWNER PRIOR TO CUTTING.

5/20/2026 10:24:53 AM
P:\50193045\CAD\MECHANICAL\50193045 M-101 CRAWLSPACE MECHANICAL NEW WORK PLAN.DWG

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

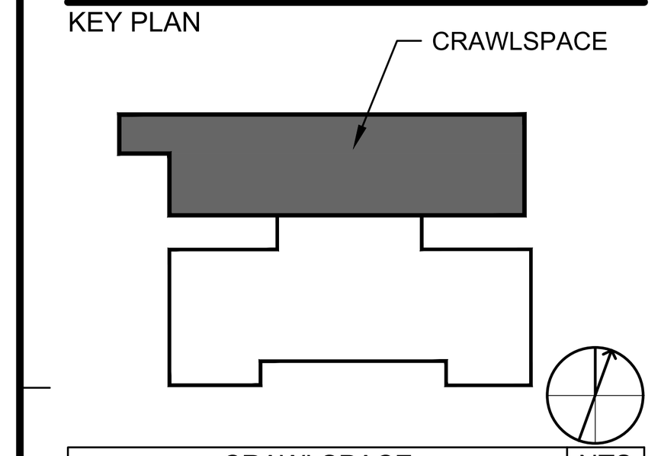
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057983

5/21/2026

KEY PLAN



CRAWLSPACE	NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY: CDB
APPROVED BY: KRC
CHECKED BY: WH
DATE: 05/20/2026

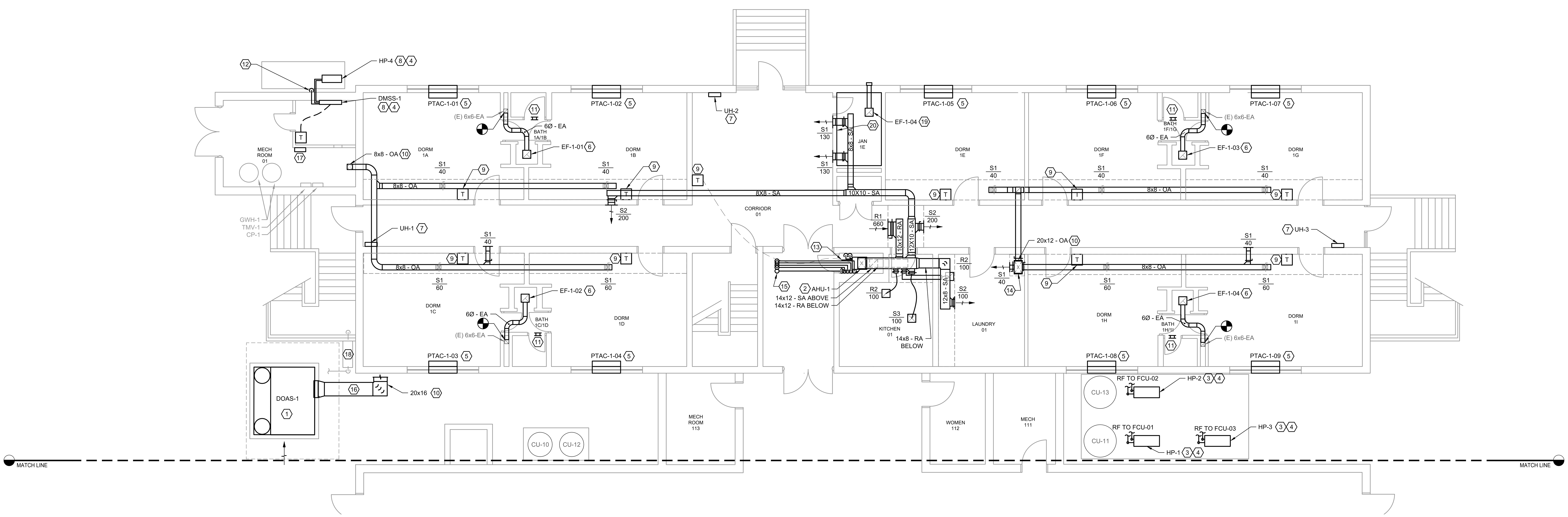
TITLE

CRAWLSPACE MECHANICAL NEW WORK PLAN

PROJECT NO. 50193045

M-101

SHEET NO.



1 FIRST FLOOR MECHANICAL NEW WORK PLAN AREA A

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. COORDINATE WITH GENERAL CONTRACTOR FOR PENETRATIONS, DUCT SHAFTS/SOFFITS, AND CEILINGS.

KEYNOTES:

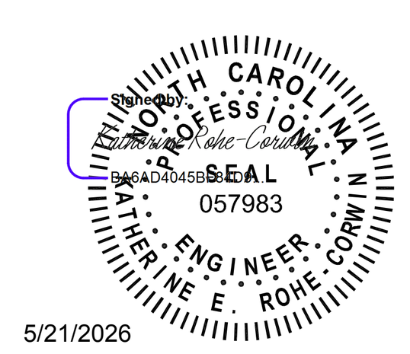
1. PROVIDE DOAS. PROVIDE POWER AND CONTROL WIRING AND DISCONNECTING MEANS. LOCATE DOAS TO MEET ALL EQUIPMENT CLEARANCES. PROVIDE 6" DEEP CONCRETE PAD WITH CRUSHED GRAVEL BASE. PAD SHALL BE 6" LONGER AND WIDER THAN UNIT FOOT PRINT. PROVIDE OA DUCT, ROUTE TO CRAWLSPACE AS SHOWN. PROVIDE BRICK LINTEL, SEE DETAILS FOR MORE INFORMATION.
2. PROVIDE FAN COIL UNIT. PROVIDE DUCTWORK COMPLETE WITH INSULATION, SUPPORTS, AND ACCESSORIES AND ROUTE AS SHOWN.
3. PROVIDE CONDENSING UNIT, MOUNT TO EXISTING CONCRETE PAD. PROVIDE POWER AND CONTROL WIRE AND DISCONNECTING MEANS.
4. PROVIDE REFRIGERANT PIPING LINESET BETWEEN CORRESPONDING INDOOR AND OUTDOOR UNITS. PROVIDE WITH 1-1/2" ELASTOMERIC CLOSED CELL INSULATION. PROVIDE LINESET COVER FOR EXPOSED LINESET.
5. PROVIDE PTAC WITH WALL SLEEVE AND SUBBASE. INSTALL PER MANUFACTURERS INSTRUCTIONS. COORDINATE WITH GENERAL CONTRACTOR FOR WALL PENETRATION LINTEL.
6. PROVIDE EXHAUST FAN. ROUTE DUCT TO EXISTING DUCT RISER LOCATED IN PLUMBING CHASE.
7. PROVIDE UNIT HEATER WITH INTEGRAL THERMOSTAT. SURFACE MOUNT ON CONCRETE BLOCK WALL PER MANUFACTURER'S INSTRUCTIONS.
8. PROVIDE DUCTLESS MINI SPLIT INDOOR AND OUTDOOR UNIT. PROVIDE POWER AND CONTROL WIRING AND DISCONNECTING MEANS. INDOOR UNIT SHALL BE MOUNTED 6' AFF TO BOTTOM OF UNIT. OUTDOOR UNIT SHALL BE MOUNTED ON EXISTING CONCRETE PAD.
9. PROVIDE THERMOSTAT AT 48" AFF. PROVIDE WIRE-MOLD FOR CONTROL WIRING EXPOSED BENEATH THE CEILING.
10. OA DUCT DOWN TO CRAWLSPACE. SEE SHEET M-101 FOR CONTINUATION. OA DUCT UP TO 2ND FLOOR. SEE SHEET M-121 FOR CONTINUATION.
11. PROVIDE OPENING ABOVE TOILET DOOR BY REMOVING THE WOOD PANEL TRANSOM. OR PROVIDE 8x8 TRANSFER GRILLE CENTERED OVER TOILET ROOM FLOOR, 7'-6" AFF.
12. DISCHARGE CONDENSATE 6-INCHES ABOVE GRADE. PROVIDE SPLASH BLOCK.
13. ROUTE CONDENSATE TO CONDENSATE RISER FROM FCU-2,3, PROVIDE WYE INTO RISER. ROUTE CONDENSATE DOWN TO CRAWLSPACE. PROVIDE ESCUTCHEON TO COVER FLOOR PENETRATION.
14. PROVIDE SUPPLY GRILLE AT 6'0" AFF TO BOTTOM OF GRILLE. PROVIDE 6x6 ACCESS DOOR BELOW SUPPLY GRILLE FOR ACCESS TO VOLUME DAMPER. AFTER ALL BRANCHES, TRANSITION TO 18x12. SEE SHEET M-121 FOR CONTINUATION. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE DUCT CHASE AND ACCESS DOOR IN CHASE.
15. UP TO FCU-2,3. ROUTE ABOVE CEILING.
16. PROVIDE EXTERIOR OA DUCT WITH ALUMINUM JACKETING.
17. PROVIDE NETWORK CONTROL PANEL. PROVIDE 120V POWER AND DATA WIRING.
18. GAS METER. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
19. PROVIDE EXHAUST FAN. PROVIDE POWER AND CONTROL WIRE. PROVIDE EXHAUST DUCT, ROUTE TO EXTERIOR WALL AND PROVIDE WALL VENT WITH BIRD SCREEN AND BACKDRAFT DAMPER.
20. PROVIDE FAN SWITCH ADJACENT TO LIGHT SWITCH. MOUNT AT 48" AFF.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

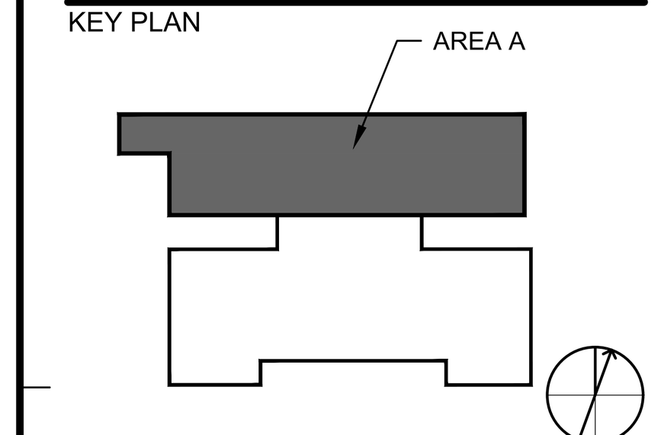
CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL



5/21/2026

KEY PLAN



FIRST FLOOR AREA A	NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

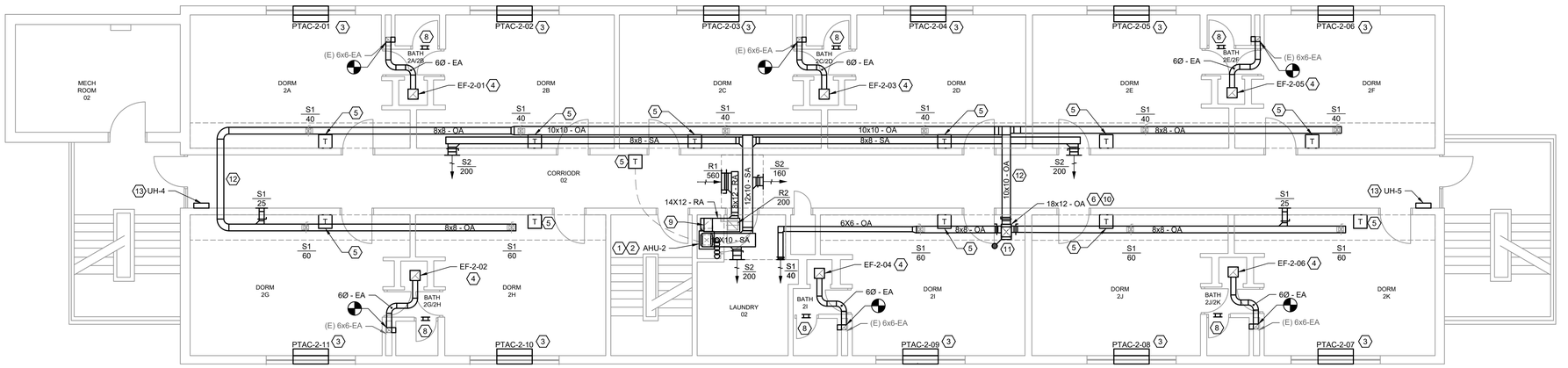
TITLE
FIRST FLOOR MECHANICAL NEW WORK PLAN AREA A

PROJECT NO. 50193045

M-111

SHEET NO.

5/20/2026 10:24:22 AM
P:\50193045\CAD\MECHANICAL\50193045 M-111 FIRST FLOOR MECHANICAL NEW WORK PLAN AREA A.DWG



1 SECOND FLOOR MECHANICAL NEW WORK PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1.

(#) KEYNOTES:

1. PROVIDE FAN COIL UNIT. PROVIDE DUCT WORK FROM FAN COIL UNIT TO SPACES SERVED. PROVIDE FLEXIBLE DUCT CONNECTIONS AND TRANSITIONS AS NECESSARY.
2. PROVIDE REFRIGERANT PIPING LINESET BETWEEN CORRESPONDING INDOOR AND OUTDOOR UNITS. PROVIDE WITH 1-1/2" ELASTOMERIC CLOSED CELL INSULATION. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTION.
3. PROVIDE PTAC. INSTALL PER MANUFACTURERS INSTRUCTIONS. REFER TO DETAIL FOR ADDITIONAL INFORMATION.
4. PROVIDE EXHAUST FAN. ROUTE DUCT TO EXISTING DUCT RISER. LOCATED IN PLUMBING CHASE.
5. PROVIDE THERMOSTAT AT 48" AFF. PROVIDE WIRE-MOLD FOR CABLE EXPOSED BENEATH THE CEILING.
6. DOWN TO 1ST FLOOR & UP TO 3RD FLOOR.
7. ROUTE SHALL WYE INTO CONDENSATE FROM FCU-3. ROUTE DOWN TO CRAWLSPACE USING EXISTING CONDENSATE ROUTE. PROVIDE ESCUTCHEON TO COVER FLOOR PENETRATION.
8. PROVIDE 8x8 TRANSFER GRILLE CENTERED OVER TOILET ROOM DOOR, 7'-6" AFF.
9. RA DUCT 14X12 FROM UNIT, TRANSITION TO 16X10.
10. AFTER ALL BRANCHES, TRANSITION TO 12x12. SEE SHEET M-131 FOR CONTINUATION.
11. PROVIDE FIRE DAMPER WITH ACCESS DOOR AT FLOOR PENETRATION FOR DUCT RISER. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE DUCT CHASE AND ACCESS DOOR IN CHASE.
12. DUCT ROUTED UP BETWEEN JOISTS.
13. PROVIDE UNIT HEATER WITH INTEGRAL THERMOSTAT. SURFACE MOUNT ON CONCRETE BLOCK WALL PER MANUFACTURER'S INSTRUCTIONS.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

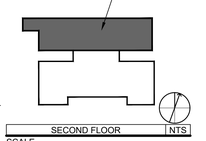
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057983 CHRISTINE E. ROWE, CPEM

5/21/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE

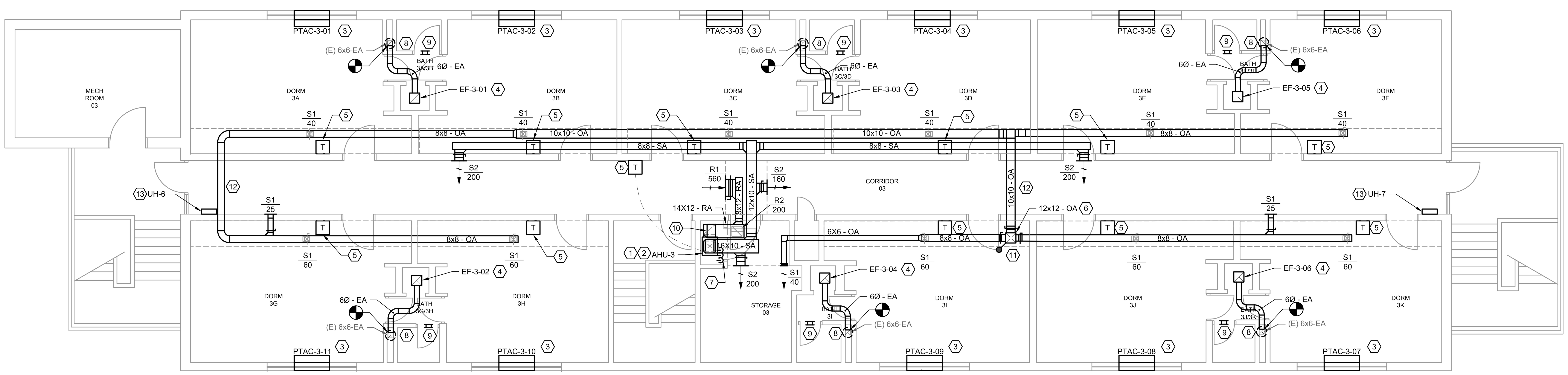
SECOND FLOOR MECHANICAL NEW WORK PLAN

PROJECT NO. 50193045

M-121

SHEET NO.

5/20/2026 10:24:38 AM
P:\50193045\CAD\MECHANICAL\50193045 M-121 SECOND FLOOR MECHANICAL NEW WORK PLAN.DWG



1 THIRD FLOOR MECHANICAL NEW WORK PLAN

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1.

KEYNOTES:

1. PROVIDE FAN COIL UNIT. PROVIDE DUCT WORK FROM FAN COIL UNIT TO SPACES SERVED. PROVIDE FLEXIBLE DUCT CONNECTIONS AND TRANSITIONS AS NECESSARY.
2. PROVIDE REFRIGERANT PIPING LINEST BETWEEN CORRESPONDING INDOOR AND OUTDOOR UNITS. PROVIDE WITH 1-1/2" ELASTOMERIC CLOSED CELL INSULATION. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTION.
3. PROVIDE PTAC. INSTALL PER MANUFACTURERS INSTRUCTIONS. REFER TO DETAIL FOR ADDITIONAL INFORMATION.
4. PROVIDE EXHAUST FAN. ROUTE DUCT TO EXISTING DUCT RISER LOCATED IN PLUMBING CHASE.
5. PROVIDE THERMOSTAT AT 48" AFF. PROVIDE WIRE-MOLD FOR CABLE EXPOSED BENEATH THE CEILING.
6. DOWN TO 2ND FLOOR.
7. ROUTE CONDENSATE DOWN EXISTING FLOOR PENETRATION. PROVIDE ESCUTCHEON TO COVER FLOOR PENETRATION.
8. PROVIDE GRAVITY VENT ON ROOF, CONNECT TO EXISTING EXHAUST-DUCT RISER. MOUNT ON EXISTING ROOF CURB.
9. PROVIDE 8x8 TRANSFER GRILLE CENTERED OVER TOILET ROOM DOOR, 7'-6" AFF.
10. RA DUCT 14X12 FROM UNIT, TRANSITION TO 16X10.
11. PROVIDE FIRE DAMPER WITH ACCESS DOOR AT FLOOR PENETRATION FOR DUCT RISER. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE DUCT CHASE AND ACCESS DOOR IN CHASE.
12. DUCT ROUTED UP BETWEEN JOISTS.
13. PROVIDE UNIT HEATER WITH INTEGRAL THERMOSTAT. SURFACE MOUNT ON CONCRETE BLOCK WALL PER MANUFACTURER'S INSTRUCTIONS.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

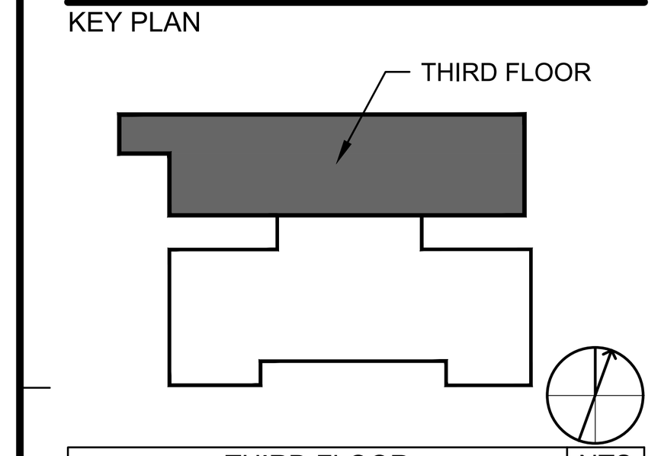
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

5/21/2026

KEY PLAN



THIRD FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

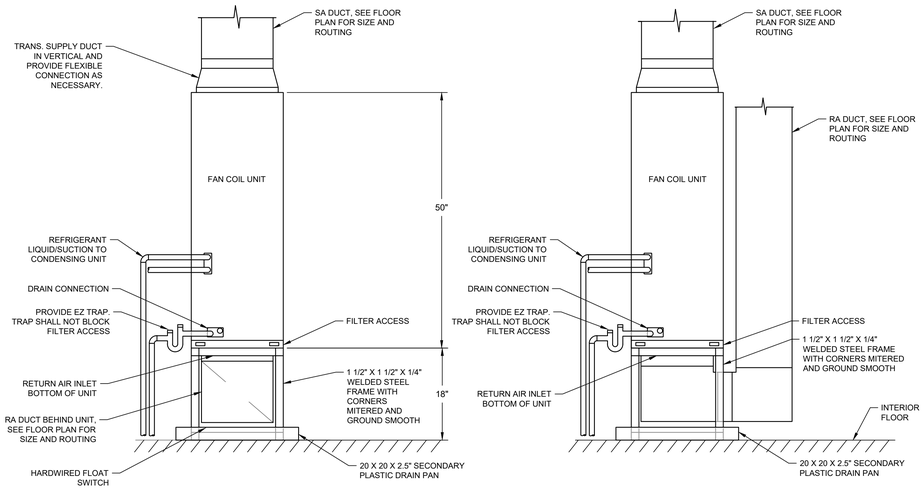
DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
THIRD FLOOR MECHANICAL NEW WORK PLAN

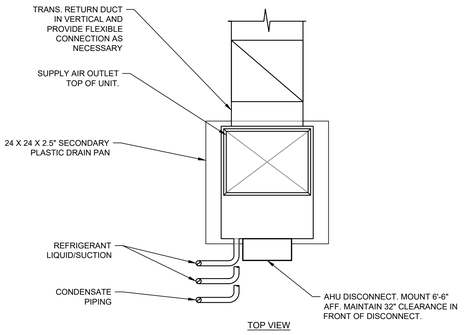
PROJECT NO. 50193045

M-131

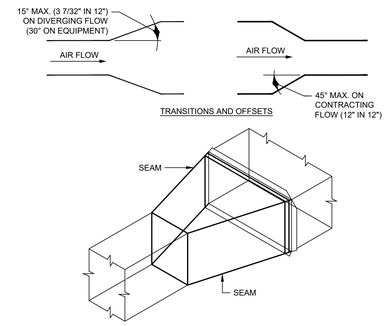
SHEET NO.



1 FCU TYPICAL SECTION VIEW — SCALE: NTS — 237313



2 FCU TYPICAL TOP VIEW — SCALE: NTS — 237313



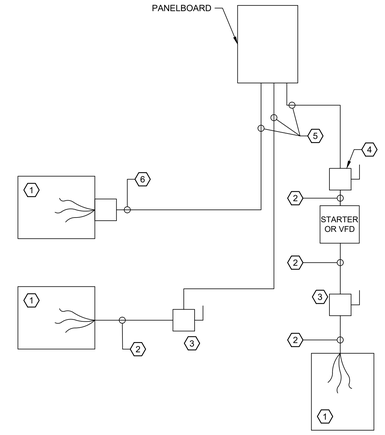
3 DUCT TRANSITION — SCALE: NTS — 233113-009

GENERAL NOTES:

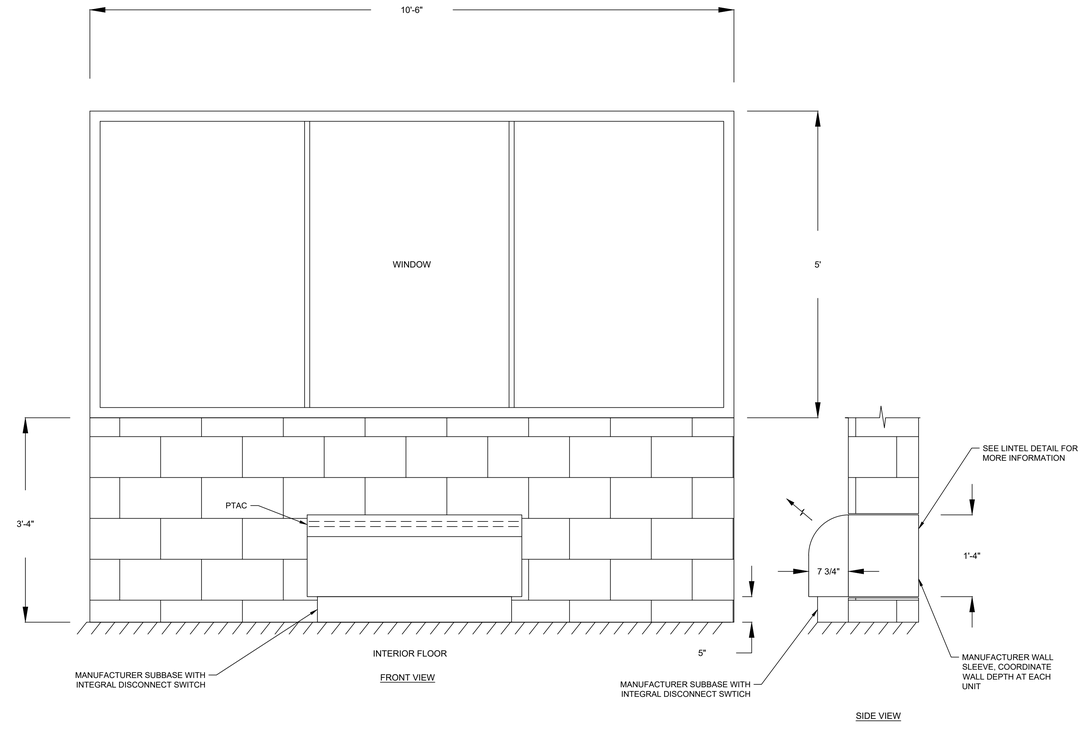
1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND OTHER TRADES.
2. ELECTRICAL CONTRACTOR PROVIDES DISCONNECT SWITCH IF NEEDED FOR OWNER FURNISHED EQUIPMENT.

KEYNOTES:

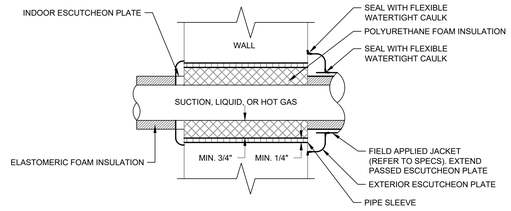
1. EQUIPMENT BY MECHANICAL CONTRACTOR.
2. CONDUIT & WIRING BY ELECTRICAL CONTRACTOR.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC IT SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. A COMBINATION STARTER MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. DISCONNECT SWITCH AND STARTER PROVIDED BY ELECTRICAL CONTRACTOR. LOCATE DISCONNECT SWITCH ADJACENT TO STARTER.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULE FOR BREAKER SIZES AND BRANCH OR FEEDER SCHEDULES FOR WIRE/CONDUIT SIZES.
6. EQUIPMENT PROVIDED WITH INTEGRAL DISCONNECTING MEANS BY MECHANICAL CONTRACTOR.
7. MECHANICAL CONTRACTOR SUPPLYING THE EQUIPMENT SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.



4 MECHANICAL TO ELECTRICAL EQUIPMENT — SCALE: NTS — ME002-02



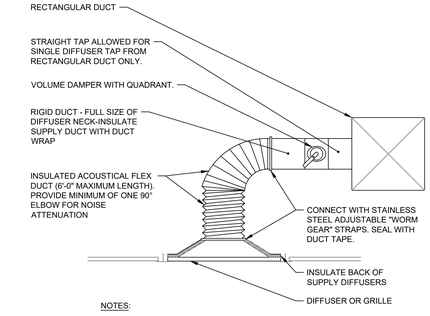
5 PTAC FRONTAL AND SIDE VIEW TYPICAL INSTALLATION — SCALE: NTS — -



NOTES:

1. SEAL OPENING WITH POLYURETHANE FOAM. TRIM OFF EXCESS FOAM.

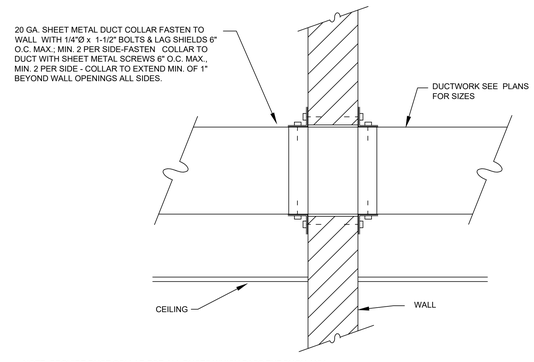
6 REFRIGERANT LINE - WALL PENETRATION — SCALE: NTS — 232300-002



NOTES:

1. PROVIDE VOLUME DAMPERS ON RUNOUTS TO ALL DIFFUSERS AND GRILLES EXCEPT DO NOT INSTALL A VOLUME DAMPER ON A SUPPLY WHEN THERE IS ONLY ONE SUPPLY OUTLET ON TERMINAL BOX.
2. LOCATE DAMPER WHERE ACCESSIBLE.
3. STANDOFF REQUIRED FOR DAMPER HANDLE ON ALL INSULATED DUCT.

7 GRILLE AND DIFFUSER ASSEMBLY — SCALE: NTS — 233713-001



NOTE: PROVIDE DUCT COLLAR FOR ALL DUCTS WHICH PASS THROUGH ANY NON-RATED WALLS. SEE ARCH. FLOOR PLANS FOR WALL LOCATIONS.

8 DUCT SLEEVE WITH COLLAR — SCALE: NTS — M587-11

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

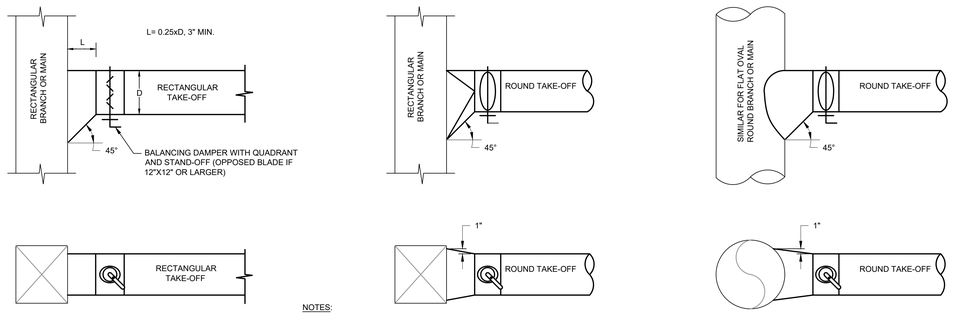
DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
DETAILS

PROJECT NO. 50193045

M-501

SHEET NO.

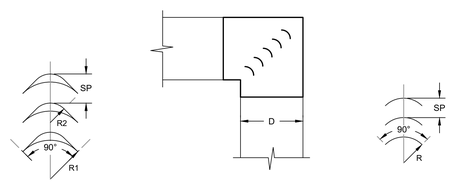


NOTES:

1. PROVIDE 45° LATERAL WYE TAKE-OFFS.
2. WHEN SPACE DOES NOT ALLOW 45° LATERAL WYE TAKE-OFF, USE 90° CONICAL TEE CONNECTIONS.
3. STRAIGHT IN FACTORY BUILT CONNECTIONS ARE PERMITTED FOR:
   A. SINGLE DIFFUSER, GRILLE OR REGISTER RUNOUTS FOR EXHAUST OR RETURN AIR APPLICATIONS.
   B. SINGLE DIFFUSER, GRILLE OR REGISTER RUNOUTS ON THE LOW PRESSURE SIDE OF TERMINAL BOXES.
4. STANDOFF REQUIRED FOR DAMPER HANDLE ON ALL INSULATED DUCT.

1 DUCT 45° LATERAL TAKE-OFF

SCALE: NTS
233113-005



DOUBLE VANE SCHEDULE						
	D	H	R1	R2	SP	GA
LARGE	>18"	>18"	4-1/2"	2-1/4"	3-1/4"	24

SINGLE VANE SCHEDULE					
	D	H	R	SP	GA
SMALL	≤18"	≤18"	2"	1-1/2"	24

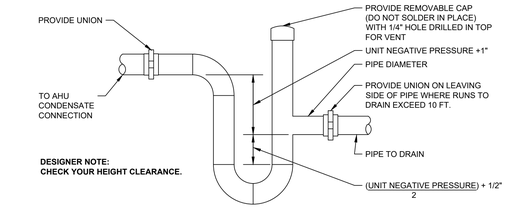
MAXIMUM UNSUPPORTED VANE LENGTH LARGE DOUBLE VANE 72"

NOTES:

1. SINGLE VANES ALLOWED IN ELBOWS LESS THAN OR EQUAL TO 18" X 18".
2. TURNING VANES NOT REQUIRED IN ELBOWS SMALLER THAN 12" X 12"

2 DUCT MITERED 90° ELBOW

SCALE: NTS
233113-007



EQUIPMENT CAPACITY	MIN. PIPE DIAMETER
UP TO 20 TONS OF REFRIGERATION	0'-0 3/4"
OVER 20 TONS TO 40 TONS OF REFRIGERATION	0'-1"
OVER 40 TONS TO 90 TONS OF REFRIGERATION	0'-1 1/4"
OVER 90 TONS TO 125 TONS OF REFRIGERATION	0'-1 1/2"
OVER 125 TONS TO 250 TONS OF REFRIGERATION	0'-2"

NOTES:

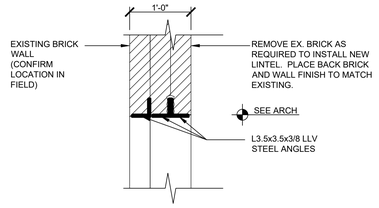
1. ALL CONDENSATE PIPING SHALL BE TYPE L HARD COPPER. SIZED TO MATCH AHU OUTLET. RUN FULL SIZE TO DRAIN.
2. INSULATE DRAIN PIPING WITH CLOSED CELL INSULATION. SEE SPECIFICATIONS

3 AHU DRAIN TRAP - DRAW THROUGH

SCALE: NTS
237300-001

LINTEL NOTES:

1. MINIMUM MASONRY END BEARING FOR ANGLES SHALL BE 8". CUT BRICK AT BEARINGS AS REQUIRED TO INSTALL LINTELS.
2. SEE MECHANICAL DRAWINGS FOR SIZE AND HEIGHT OF NEW WALL OPENING.
3. CONTRACTOR SHALL ADEQUATELY AND SAFELY SHORE EXISTING BRICK ABOVE NEW WALL OPENING DURING DEMOLITION OF EXISTING WALL AND UNTIL NEW STEEL ANGLE LINTELS ARE FULLY INSTALLED.
4. USE FOR CLEAR SPANS LESS THAN 4'-0".
5. ANGLES SHALL BE GALVANIZED AT EXTERIOR WALL LOCATIONS.

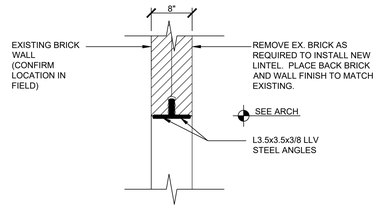


4 BRICK LINTELS

SCALE: NTS
237300-001

LINTEL NOTES:

1. MINIMUM MASONRY END BEARING FOR ANGLES SHALL BE 8". CUT BRICK AT BEARINGS AS REQUIRED TO INSTALL LINTELS.
2. SEE MECHANICAL DRAWINGS FOR SIZE AND HEIGHT OF NEW WALL OPENING.
3. CONTRACTOR SHALL ADEQUATELY AND SAFELY SHORE EXISTING BRICK ABOVE NEW WALL OPENING DURING DEMOLITION OF EXISTING WALL AND UNTIL NEW STEEL ANGLE LINTELS ARE FULLY INSTALLED.
4. USE FOR CLEAR SPANS LESS THAN 4'-0".
5. ANGLES SHALL BE GALVANIZED AT EXTERIOR WALL LOCATIONS.



5 BRICK LINTELS

SCALE: NTS
237300-001

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
DETAILS

PROJECT NO. 50193045

M-502

SHEET NO.

DEDICATED OUTDOOR AIR UNIT SCHEDULE

		SUPPLY AIR FAN					SINGLE FAN		DEHUMIDIFICATION	COOLING CAPACITY						HEATING CAPACITY						REHEAT CAPACITY		ELECTRICAL				MAX.	DIMENSIONS AND WEIGHT			
				CAPACITY	CONNECT.		MAX. BRAKE	NOMINAL	MOIS. REM.	EAT	LAT	TOTAL	SENSIBLE		NUMBER	EAT	LAT	AIR SOURCE HEAT PUMP		ELECTRIC		EAT	LAT	HOT GAS	MCA	MOCP	VOLTAGE/	SOUND				
MARK	MANUFACTURER / MODEL	TYPE	DRIVE TYPE	AIR FLOW (CFM)	AIR FLOW (CFM)	ESP (IN WG)	MOTOR (HP)	MOTOR (HP)	CAPACITY (LBS/HR)	(Fdb/Fwb)	(Fdb/Fwb)	CAPACITY (MBH)	CAPACITY (MBH)	IEER (BTUH/W)	OF COMP.	(F)	(F)	CAPACITY (MBH)	COP	DESIGN (KW)	MAX (KW)	(F)	(F)	CAPACITY (MBH)	(A)	(A)	PHASE	LEVEL (dBA)	FOOTPRINT (IN x IN)	HEIGHT (IN)	WEIGHT (LBS)	NOTES
DOAS-1	CAPTIVEAIRE / CAS-HVAC3-E.382-18015T-DOAS	PLENUM	DIRECT	2,000	1,820	1.00	1.6	2.0	104.5	88.5 / 79.9	50.3 / 50.3	201.5	83.1	18.8	1	40.0	80.0	86.8	3.5	36.0	38.0	50.3	70.0	42.7	115.2	125	208/3		90 X 99	69	2,484	1,2,3,4,5,6,7,8

NOTES:
1. REFER TO SECTION 237433 FOR ADDITIONAL REQUIREMENTS. REFER TO UNIT DETAILS AND DIAGRAMS FOR COMPLETE CONFIGURATION AND DIMENSIONAL DETAILS.
2. MAX. COOLING COIL FACE VELOCITY = 500 FPM.
3. PROVIDE SINGLE-POINT ELECTRICAL CONNECTION AND FUSED-DISCONNECT.
4. PROVIDE SCR CONTROLLER FOR ELECTRIC HEATING COILS.
5. PROVIDE LOW AMBIENT COOLING OPERATION DOWN TO -20 DEG F. OUTFIT WITH HIGH OUTPUT CONDENSING FANS AND LOW ANBIANT REFRIGERANT CIRCUIT.
6. PROVIDE HAIL GUARD FOR CONDENSING COIL.
7. PROVIDE CONCRETE PAD THAT IS 6-INCHES LONGER AND WIDER THAN UNIT FOOTPRINT AND 6-INCHES DEEP WITH 4-INCHES DEEP CRUSHED STONE BASE.
8. PROVIDE MODULATING INVERTER COMPRESSOR CIRCUIT FOR MAINTAINING DEWPOINT CONTROL OF 50°F WITH HOT GAS REHEAT TO MAINTAIN 65°F

FAN COIL UNIT SCHEDULE

			SUPPLY AIR FAN					OUTSIDE	COOLING COIL						REHEAT COIL						FILTRATION		DIMENSIONS AND WEIGHT			
				FAN		NOMINAL			AIR			DX			AIR			ELECTRIC								
MARK	TYPE	MANUFACTURER / MODEL	AIR FLOW (CFM)	SPEED (HI/MED/LO)	ESP (IN WG)	MOTOR (HP)	VOLTAGE/ PHASE	AIR FLOW (CFM)	EAT (Fdb/Fwb)	LAT (Fdb/Fwb)	MAX. APD (IN WG)	COND. UNIT MARK	TOT. CAP. (MBH)	SENS. CAP. (MBH)	EAT (F)	LAT (F)	MAX. APD (IN WG)	MIN. CAP. (KW)	DESIGN (KW)	VOLTAGE/ PHASE	TYPE & THICKNESS	EFF. (MERV)	FOOTPRINT (IN x IN)	HEIGHT (IN)	WEIGHT (LBS)	NOTES
AHU-1	VERT. CONCEALED	LG / KSSLB301A	875	HIGH	0.80	3.4 (AMPS)	208/1	0	78.0 / 65.0	56.0 / 55.0	0.10	CU-1	32.5	22.8	56	65	0.10	2.5	3.0	208/1	1" PLEATED PANEL	5	21 X 21	56	139	1,2,3,4,5,6,7,8
AHU-2	VERT. CONCEALED	LG / KSSLB301A	875	HIGH	0.60	3.4 (AMPS)	208/1	0	78.0 / 65.0	56.0 / 55.0	0.10	CU-1	32.5	22.8	56	65	0.10	2.5	3.0	208/1	1" PLEATED PANEL	5	21 X 21	56	139	1,2,3,4,5,6,7,8
AHU-3	VERT. CONCEALED	LG / KSSLB301A	875	HIGH	0.60	3.4 (AMPS)	208/1	0	78.0 / 65.0	56.0 / 55.0	0.10	CU-1	32.5	22.8	56	65	0.10	2.5	3.0	208/1	1" PLEATED PANEL	5	21 X 21	56	139	1,2,3,4,5,6,7,8

NOTES:
1. REFER TO SECTION 238219 FOR ADDITIONAL REQUIREMENTS.
2. MAX. COOLING COIL FACE VELOCITY = 500 FPM.
3. PROVIDE MOTOR-RATED DISCONNECT SWITCH.
3. PROVIDE COMBINATION MOTOR-STARTER AND DISCONNECT SWITCH.
4. PROVIDE AUXILLARY HEATER KIT PRARH1.
5. PROVIDE WIRED THERMOSTAT. REMOTE THERMOSTAT NOT ACCEPTABLE.
6. REFER TO CONDENSING UNIT SCHEDULE FOR ASSOCIATED DX COIL CONDENSING UNIT.

CONDENSING UNIT SCHEDULE

				COOLING			HEAT PUMP			NUMBER	MAX.	ELECTRICAL			DIMENSIONS AND WEIGHT		
				TOT. CAP.	SEER2/EER2	AMB.	CAPACITY		AMB.	OF	SOUND	MCA	MOCP	VOLTAGE/	FOOTPRINT	HEIGHT	
MARK	SERVICE	TYPE	MANUFACTURER / MODEL	(MBH)	(BTUH/W)	(F)	(MBH)	HSPF2	(F)	COMP.	(dBA)	(A)	(A)	PHASE	(IN x IN)	(IN)	NOTES
HP-1	AHU-1	HEAT PUMP	LG / ARUN024GSS4	24.0	18.15 / 14.80	95	27.0	10.2	47	1	50	19.6	30	208/1	38x 12	33	1,2,3,4,5,6,7
HP-2	AHU-2	HEAT PUMP	LG / ARUN024GSS4	24.0	18.15 / 14.80	95	27.0	10.2	47	1	50	19.6	30	208/1	38 x 12	33	1,2,3,4,5,6,7
HP-3	AHU-3	HEAT PUMP	LG / ARUN024GSS4	24.0	18.15 / 14.80	95	27.0	10.2	47	1	50	19.6	30	208/1	38 x 12	33	1,2,3,4,5,6,7

NOTES:
1. REFER TO SECTION 236223 FOR ADDITIONAL REQUIREMENTS.
2. SOUND PERFORMANCE IS BASED ON SOUND PRESSURE LEVELS MEASURED AT 3 FEET FROM UNIT AT FULL CAPACITY IN ACCORDANCE WITH AHRI 270.
3. ALL UNITS SHALL MEET OR EXCEED SEASONAL ENERGY EFFICIENCY RATIO (SEER) FOR NOMINAL COOLING SIZES LESS THAN 65,000 BTUH.
4. HEAT PUMPS SHALL MEET OR EXCEED HEATING SEASONAL PERFORMANCE FACTOR (HSPF) FOR NOMINAL COOLING SIZES LESS THAN 65,000 BTUH.
5. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE FUSED-DISCONNECT SWITCH.
7. PROVIDE LOW AMBIENT TEMPERATURE OPTION.

FIRST FLOOR PACKAGE TERMINAL HEAT PUMP SCHEDULE

				SUPPLY AIR FAN				COOLING COIL			HEATING COIL		HEATING COIL		DIMENSIONS AND WEIGHT			
								DX			DX		ELECTRIC					
MARK	MANUFACTURER / MODEL	REFRIG. TYPE	REFRIG. CHARGE (LBS)	AIR FLOW (CFM)	FAN SPEED (HI/MED/LO)	NOMINAL MOTOR (HP)	VOLTAGE/ PHASE	TOT. CAP. (MBH)	SENS. CAP. (MBH)	EER (BTUH/W)	TOT. CAP. (MBH)	COP (W/W)	CAP. (KW)	VOLTAGE/ PHASE	FOOTPRINT (IN x IN)	HEIGHT (IN)	WEIGHT (LBS)	NOTES
PTAC-1-01	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-02	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-03	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-04	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-05	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-06	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-07	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-08	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-1-09	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6

NOTES:
1. PROVIDE UNIT BY ONE OF THE FOLLOWING MANUFACTURERS: FRIEDRICH OR AMANA.
2. PROVIDE MANUFACTURER UNIT SUBBASE WITH INTEGRAL MOTOR-RATED DISCONNECT SWITCH.
3. PROVIDE WITH MANUFACTURER WALL SLEEVE, COORDINATE WALL SLEEVE WITH WALL THICKNESS EAST EACH LOCATION. WALL THICKNESS VARIES.
4. PROVIDE WALL-MOUNTED, WIRED, NON-PROGRAMMABLE THERMOSTAT. WIRELESS THERMOSTATS ARE NOT ACCEPTABLE.
5. PROVIDE ARCHITECTURAL EXTERIOR GRILLE. COORDINATE COLOR WITH OWNER.
6. PROVIDE 2 EXTRA FRONT-END AIR FILTERS FOR EACH UNIT. DELIVER TO OWNER PRIOR TO PROJECT CLOSEOUT.

SECOND FLOOR PACKAGE TERMINAL HEAT PUMP SCHEDULE

				SUPPLY AIR FAN				COOLING COIL			HEATING COIL		HEATING COIL		DIMENSIONS AND WEIGHT			
								DX			DX		ELECTRIC					
MARK	MANUFACTURER / MODEL	REFRIG. TYPE	REFRIG. CHARGE (LBS)	AIR FLOW (CFM)	FAN SPEED (HI/MED/LO)	NOMINAL MOTOR (HP)	VOLTAGE/ PHASE	TOT. CAP. (MBH)	SENS. CAP. (MBH)	EER (BTUH/W)	TOT. CAP. (MBH)	COP (W/W)	CAP. (KW)	VOLTAGE/ PHASE	FOOTPRINT (IN x IN)	HEIGHT (IN)	WEIGHT (LBS)	NOTES
PTAC-2-01	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-02	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-03	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-04	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-05	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-06	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-07	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-08	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-09	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-10	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-2-11	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6

NOTES:
1. PROVIDE UNIT BY ONE OF THE FOLLOWING MANUFACTURERS: FRIEDRICH OR AMANA.
2. PROVIDE MANUFACTURER UNIT SUBBASE WITH INTEGRAL MOTOR-RATED DISCONNECT SWITCH.
3. PROVIDE WITH MANUFACTURER WALL SLEEVE, COORDINATE WALL SLEEVE WITH WALL THICKNESS EAST EACH LOCATION. WALL THICKNESS VARIES.
4. PROVIDE WALL-MOUNTED, WIRED, NON-PROGRAMMABLE THERMOSTAT. WIRELESS THERMOSTATS ARE NOT ACCEPTABLE.
5. PROVIDE ARCHITECTURAL EXTERIOR GRILLE. COORDINATE COLOR WITH OWNER.
6. PROVIDE 2 EXTRA FRONT-END AIR FILTERS FOR EACH UNIT. DELIVER TO OWNER PRIOR TO PROJECT CLOSEOUT.

GRAVITY ROOF VENTILATOR SCHEDULE

MARK	TYPE	MANUFACTURER / MODEL	AIR FLOW (CFM)	APD (IN WG)	VENT. SIZE (IN Ø)	THROAT SIZE (IN Ø)	MAX HEIGHT (IN)	DAMPER TYPE	NOTES
V-1	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2
V-2	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2
V-3	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2
V-4	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2
V-5	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2
V-6	DOME VENTILATOR	GREENHECK / GRSR-08	150	0.04	21	8	18	GRAVITY	1,2

NOTES:
1. REFER TO SECTION 233723 FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE FACTORY-FABRICATED ROOF CURB. COORDINATE EXACT LOCATION AND SIZE OF EXISTING ROOF CURBS PRIOR TO ORDERING. MATCH EXISTING CURB SIZE OR PROVIDE CURB ADAPTER.

THIRD FLOOR PACKAGE TERMINAL HEAT PUMP SCHEDULE

				SUPPLY AIR FAN				COOLING COIL			HEATING COIL		HEATING COIL		DIMENSIONS AND WEIGHT			
								DX			DX		ELECTRIC					
MARK	MANUFACTURER / MODEL	REFRIG. TYPE	REFRIG. CHARGE (LBS)	AIR FLOW (CFM)	FAN SPEED (HI/MED/LO)	NOMINAL MOTOR (HP)	VOLTAGE/ PHASE	TOT. CAP. (MBH)	SENS. CAP. (MBH)	EER (BTUH/W)	TOT. CAP. (MBH)	COP (W/W)	CAP. (KW)	VOLTAGE/ PHASE	FOOTPRINT (IN x IN)	HEIGHT (IN)	WEIGHT (LBS)	NOTES
PTAC-3-01	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-02	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-03	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-04	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-05	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-06	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-07	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-08	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-09	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-10	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6
PTAC-3-11	FRIEDRICH / PDH15K5SGR3	R-32	1.9	340	HIGH	0.08	208/1	14,300	10,825	10.4	1250	3.10	5.0	208/1	16 X 42	21	120	1,2,3,4,5,6

NOTES:
1. PROVIDE UNIT BY ONE OF THE FOLLOWING MANUFACTURERS: FRIEDRICH OR AMANA.
2. PROVIDE MANUFACTURER UNIT SUBBASE WITH INTEGRAL MOTOR-RATED DISCONNECT SWITCH.
3. PROVIDE WITH MANUFACTURER WALL SLEEVE, COORDINATE WALL SLEEVE WITH WALL THICKNESS EAST EACH LOCATION. WALL THICKNESS VARIES.
4. PROVIDE WALL-MOUNTED, WIRED, NON-PROGRAMMABLE THERMOSTAT. WIRELESS THERMOSTATS ARE NOT ACCEPTABLE.
5. PROVIDE ARCHITECTURAL EXTERIOR GRILLE. COORDINATE COLOR WITH OWNER.
6. PROVIDE 2 EXTRA FRONT-END AIR FILTERS FOR EACH UNIT. DELIVER TO OWNER PRIOR TO PROJECT CLOSEOUT.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
SCHEDULES

PROJECT NO. 50193045

M-601

SHEET NO.

FAN SCHEDULE

MARK	TYPE	MANUFACTURER / MODEL	AIR FLOW (CFM)	ESP (IN WG)	EC MOTOR (Y or N)	DRIVE TYPE	SPEED (RPM)	BRAKE MOTOR (HP)	NOMINAL MOTOR (HP)	MAX SOUND (SONES)	DAMPER TYPE	VOLTAGE/ PHASE	STARTER/ DSCNNCT MEANS	NOTES
EF-1-01	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-1-02	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-1-03	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-1-04	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-1-05	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.25	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-01	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-02	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-03	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-04	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-05	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-2-06	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-01	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-02	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-03	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-04	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-05	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4
EF-3-06	CEILING CABINET	GREENHECK / SP-LP0511L	50	0.40	YES	DIRECT	720	0.01	0.29 (AMPS)	1.4	BACKDRAFT	120/1	MRS	1,2,3,4

NOTES:
1. REFER TO SECTION 233400 FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE STARTING AND DISCONNECTING MEANS AS SCHEDULED. (MRS = MOTOR RATED SWITCH; MS/D = COMBINATION MOTOR-STARTER AND DISCONNECT; VFD = VARIABLE FREQUENCY DRIVE; AND DISC = DISCONNECT)
3. PROVIDE CEILING CASSETTE FAN WITH INTEGRAL LIGHT.
4. BATHROOM EXHAUST FAN OPERATION SHALL BE TIED TO BATHROOM LIGHT SWITCH. WHEN LIGHT TURNS ON, FAN SHALL TURN ON.

DUCTLESS MINI-SPLIT UNIT SCHEDULE

MARK (INDOOR UNIT)	MARK (OUTDOOR UNIT)	TYPE	MANUFACTURER / MODEL INDOOR & OUTDOOR	REFRIG. TYPE	REFRIG. CHARGE (LBS)	SUPPLY AIR FLOW (CFM)	OUTSIDE AIR FLOW (CFM)	COOLING TOT. CAP. (MBH)	COOLING SENS. CAP. (MBH)	COOLING SEER/EER (BTUH/W)	COOLING AMB. (F)	HEAT PUMP CAPACITY (MBH)	HEAT PUMP HSPF2	HEAT PUMP AMB. (F)	MAX. SOUND INDOOR (dBA)	MAX. SOUND OUTDOOR (dBA)	ELECTRICAL - INDOOR UNIT MCA (A)	ELECTRICAL - INDOOR UNIT FLA (A)	ELECTRICAL - INDOOR UNIT VOLTAGE/ PHASE	MAX. EQUIV. PIPE LENGTHS HEIGHT (FT)	MAX. EQUIV. PIPE LENGTHS LENGTH (FT)	NOTES
DMSS-1	HP-4	WALL MOUNTED / HEAT PUMP	LG / KSSAC091A	R-32	2	400	0	11,980.0	8,300.0	21.0 / 12.5	95	12,930.0	9.2	47	42	50	10.0	15	208/1	23	49	1,2,3,4,5,6,7,8,9,10

NOTES:
1. REFER TO SECTION 238116 FOR ADDITIONAL REQUIREMENTS.
2. SOUND PERFORMANCE IS BASED ON SOUND PRESSURE LEVELS MEASURED AT 3 FEET FROM UNIT AT FULL CAPACITY IN ACCORDANCE WITH AHRI 270 AND 350.
3. ALL UNITS SHALL MEET OR EXCEED SEASONAL ENERGY EFFICIENCY RATIO (SEER) FOR NOMINAL COOLING SIZES LESS THAN 65,000 BTUH.
4. HEAT PUMPS SHALL MEET OR EXCEED HEATING SEASONAL PERFORMANCE FACTOR (HSPF) FOR NOMINAL COOLING SIZES LESS THAN 65,000 BTUH.
5. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE SINGLE-POINT POWER CONNECTION. PROVIDE FUSED-DISCONNECT SWITCH FOR OUTDOOR UNIT. PROVIDE MOTOR-RATED DISCONNECT SWITCH FOR INDOOR UNIT.
8. PROVIDE LOW AMBIENT TEMPERATURE OPTION.
9. PROVIDE WIRED THERMOSTAT / TEMPERATURE SENSOR AS INDICATED. WIRELESS REMOTE CONTROLS ARE NOT ACCEPTABLE.
10. SEE CONDENSING UNIT SCHEDULE FOR OUTDOOR UNIT INFORMATION.
11. PROVIDE POWER AND CONTROL WIRING FROM OUTDOOR UNIT TO INDOOR UNIT.

AIR DISTRIBUTION SCHEDULE

MARK	SERVICE	TYPE	MANUFACTURER / SERIES	MATERIAL	COLOR	PATTERN	MAX. AIR FLOW (CFM)	FACE SIZE (IN x IN)	NECK SIZE (IN x IN)	APD (IN WG)	MAX. SOUND (NC)	NOTES
S1	SUPPLY	STANDARD BLADE GRILLE	TITUS 300	ALUMINUM	WHITE	90 DEG.	115	8 x 8	6 x 6	0.05	20	1,2,3,4
S2	SUPPLY	STANDARD BLADE GRILLE	TITUS 300	ALUMINUM	WHITE	90 DEG.	200	12 x 8	10 x 6	0.05	20	1,2,3,4
S3	SUPPLY	SQUARE LOUVER FACE	TITUS TMSA	ALUMINUM	WHITE	360-DEG.	100	12 x 12	6	0.1	20	1,2,3,4
R1	RETURN	STANDARD BLADE GRILLE	TITUS 350	ALUMINUM	WHITE	N/A	600	20 X 10	18 X 8	0.1	30	1,2,3,4
R2	RETURN	SQUARE PERFORATED FACE	TITUS PAR	ALUMINUM	WHITE	N/A	130	12 x 12	6	0.1	20	1,2,3,4
EX	EXISTING DIFFUSER BALANCE TO AIRFLOW INDICATED.											

NOTES:
1. REFER TO SECTION 233713 FOR ADDITIONAL REQUIREMENTS.
2. SOUND LEVELS SHALL BE BASED ON ASHRAE 70.
3. VERIFY MOUNTING FRAME STYLE WITH ARCHITECTURAL REFLECTED CEILING PLANS, FINISH SCHEDULES AND EXISTING CEILINGS.
4. DUCT BRANCH FROM MAIN TAKEOFF TO AIR INLET / OUTLET SHALL MATCH SCHEDULED NECK SIZE UNLESS OTHERWISE NOTED.

UNIT HEATER SCHEDULE

MARK	TYPE	MANUFACTURER / MODEL	FAN AIR FLOW (CFM)	FAN MOTOR (HP)	FAN VOLTAGE/ PHASE	AIR EAT (F)	AIR LAT (F)	ELECTRIC MIN. CAP. (KW)	ELECTRIC DESIGN (KW)	ELECTRIC VOLTAGE/ PHASE	NOTES
UH-1	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-2	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-3	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-4	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-5	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-6	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6
UH-7	HORIZ. EXPOSED CABINET HEATER	TRANE / UHWA-03	200	0.008	208/3	60	100	2.5	3.0	208/3	1,2,3,4,5,6

NOTES:
1. REFER TO SECTION 238239 FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE MOTOR-RATED DISCONNECT SWITCH.
3. PROVIDE FACTORY-FABRICATED WALL SUPPORT AND EXTESNSION SLEEVE FOR SURFACE-MOUNTING. MOUNT AT 12" AFF TO BOTTOM OF HEATER UNLESS OTHERWISE NOTED ON PLANS.
4. PROVIDE WITH INTEGRAL THERMOSTAT SET TO 65°F.
5. PROVIDE SINGLE-STEP CONTROLLER FOR ELECTRIC COILS. COIL CAPACITIES SHALL BE NO LESS THAN MINIMUM AND NO MORE THAN THE ELECTRICAL DESIGN BASIS SCHEDULED.
6. PROVIDE TAMPER-RESISTANT THERMOSTAT COVER PLATE.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057983 CHRISTINE E. RONG, COMPANY
5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

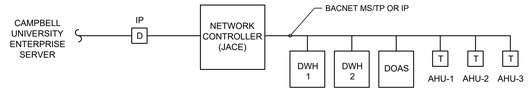
DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
SCHEDULES

PROJECT NO. 50193045

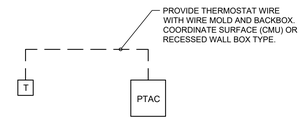
M-602

SHEET NO.



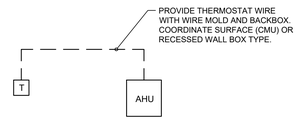
NOTES:
1. PROVIDE BAS NETWORK CONTROL PANEL IN GROUND FLOOR MECHANICAL ROOM. SEE FLOOR PLANS FOR LOCATION.
2. PROVIDE DATA DROP WIRING (CAT 6) FROM NETWORK CONTROL PANEL TO FT PAT SERVER FOR FINAL TERMINATIONS BY CAMPBELL IT GROUP.
3. PROVIDE NEW PLENUM RATED COMMUNICATION CABLE THROUGHOUT BUILDING TO EACH EQUIPMENT CONTROLLER.

BUILDING CONTROL DETAIL



NOTES:
1. WIRED WALL CONTROLLER WITH OCCUPANCY SENSOR, TEMPERATURE, AND HUMIDITY. FRIEDRICH VRPXEMRT2 OR SIMILAR.
2. SET FAN TO OPERATE ON DEMAND FOR HEATING AND COOLING.

PTAC CONTROL DETAIL



NOTES:
1. WIRED WALL CONTROLLER WITH OCCUPANCY SENSOR, TEMPERATURE, AND HUMIDITY. HONEYWELL TC300 OR SIMILAR.

AHU CONTROL DETAIL

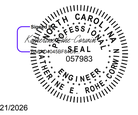
Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL



5/21/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY CDB
APPROVED BY KRC
CHECKED BY WH
DATE 05/20/2026

TITLE
CONTROLS

PROJECT NO. 50193045

M-701

SHEET NO.

5/20/2026 10:29:49 AM
P:\50193045\CAD\MECHANICAL\50193045 M-701 CONTROLS.DWG

ABBREVIATIONS - ELECTRICAL

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

A, AMP	AMPERE
AC	ALTERNATING CURRENT
AC	ABOVE CEILING
AC	ARMORED CABLE
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FRAME
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERES INTERRUPTING CAPACITY
AL, ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AWS	ABOVE WORK SURFACE
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BRKR, BKR	BREAKER
C	CONDUIT
C/B, CB	CIRCUIT BREAKER
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
cd	CANDELA
CKT	CIRCUIT
CL	CENTERLINE
CLF	CURRENT LIMITING FUSE
CLG	CEILING
COL	COLUMN
COMM	COMMUNICATION
CONV	CONVENIENCE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CU	COPPER
DB	DUCTBANK
dB	DECIBEL
DC	DIRECT CURRENT
DIA	DIAMETER
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
E, EX	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EC	EMPTY CONDUIT
ECB	ENCLOSED CIRCUIT BREAKER
EGB	EARTH, ELECTRICAL OR EQUIPMENT GROUND BAR
EGC	EQUIPMENT GROUNDING CONDUCTOR
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EM, EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRONICALLY OPERATED
EOL	END OF LINE RESISTOR
EPO	EMERGENCY POWER OFF
EQ, EQP	EQUIPMENT
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
FA	FIRE ALARM
FC	FOOT-CANDLE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE CONDUIT CONNECTION
FLR	FLOOR
FO	FIBER OPTIC
FSS	FUSED SAFETY SWITCH
FTL	FEED-THRU LUGS
FU	FUSE
FURN	FURNITURE
FVNR	FULL VOLTAGE NON-REVERSING
G, GND	GROUND
GALV	GALVANIZED
GEN	GENERATOR
GFCI, GF	GROUND FAULT CIRCUIT INTERRUPTER
GFEP	GROUND FAULT EQUIPMENT PROTECTION
GFP	GROUND FAULT PROTECTION
GRC, GRMC	GALVANIZED RIGID METALLIC CONDUIT
HCF MC	HEALTHCARE FACILITY METAL-CLAD
HID	HIGH INTENSITY DISCHARGE
HL	HORN LIGHT
HOA	HAND OFF AUTO
HORIZ	HORIZONTAL
HP	HORSE POWER
HT	HEIGHT
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HWP	HOT WATER PUMP
Hz	HERTZ, FREQUENCY
IDF	NTERMEDIARY DISTRIBUTION FRAME
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
INCAN	INCANDESCENT
INT	INTERLOCK
IPC	INTEGRATED POWER CENTER
IS	INTRINSICALLY SAFE

ABBREVIATIONS - ELECTRICAL

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

ISO	ISOLATED
JB, JBOX	JUNCTION BOX
K	KELVIN
KCMIL	THOUSAND CIRCULAR MILLS
KV	KILOVOLT
KVA	KILOVOLT-AMPERES
KVAR	KILOVOLT-AMPERES REACTIVE
KW	KILOWATT
KWH	KILOWATT-HOUR
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LFMC	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT
LP	LIGHTING PANEL
LRA	LOCKED ROTOR AMPS
LS	LIFE SAFETY
LS	LIMIT SWITCH
LSIG	LONG, SHORT, INSTANTANEOUS & GROUND
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
MC	METAL CLAD CABLE
MCA	MAXIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFR	MANUFACTURER
MI	MINERAL INSULATED
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTG	MOUNTING
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MW	MEGAWATT
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NOT FUSED / NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHTING
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
O.L.	OVERLOAD
OCPD	OVERCURRENT PROTECTIVE DEVICE
P	POLE
PB	PULL BOX
PH, Ø	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
R	REMOVE
RCP	REFLECTED CEILING PLAN
REC, RECP	RECEPTACLE
REQ, REQ'D	REQUIRED
RMC	RIGID METALLIC CONDUIT
RNC	RIGID NON-METALLIC CONDUIT
RP	RECEPTACLE PANEL
RTS	REMOTE TEST SWITCH
SBD, SWBD	SWITCHBOARD
SDP	SECONDARY DISTRIBUTION PANEL
SGR, SWGR	SWITCHGEAR
SP	SINGLE POLE
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	SAFETY SWITCH
ST	SHUNT TRIP
STD	STANDARD
STR	MOTOR STARTER
SW	SWITCH
SYM	SYMMETRICAL
TEL, TELE	TELEPHONE
TEMP	TEMPORARY
TGB	TELECOMMUNICATIONS GROUND BAR
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTABLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS
V	VOLTS
VA	VOLT AMPERES
VAR	VOLT AMPERES REACTIVE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOIP	VOICE OVER INTERNET PROTOCOL
W	WIRE

ABBREVIATIONS - ELECTRICAL

THIS IS A MASTER ABBREVIATIONS LIST. SOME ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.

W	WATT
WG	WIRE GUARD
XFR, XFMR	TRANSFORMER

GENERAL NOTES - ELECTRICAL

1. ELECTRICAL PLANS ARE GENERALLY DIAGRAMMATIC IN NATURE AND DO NOT CONVEY ALL DETAILS REQUIRED FOR A COMPLETE INSTALLATION. HOWEVER, THESE PLANS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE FOR GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, DIMENSIONS AND MOUNTING METHODS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL VERIFY STRUCTURAL AND FINISH CONDITIONS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL ARRANGE WORK TO MEET THESE CONDITIONS AND PROVIDE SUCH EQUIPMENT AND ACCESSORIES AS MAY BE REQUIRED. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY FOUND WITHIN THE PLANS OR SPECIFICATIONS, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO COMMENCING WORK.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES, THE AMERICANS WITH DISABILITIES ACT, ANSI A117.1, THE NATIONAL ELECTRICAL CODE, THE NATIONAL FIRE ALARM AND SIGNALING CODE AND ALL OTHER APPLICABLE LOCAL AND STATE CODES AS ADOPTED AND MODIFIED BY THE AUTHORITIES HAVING JURISDICTION.
3. AN ELECTRICAL FOREMAN SHALL BE ON-SITE, SUPERVISING ALL WORK PERFORMED.
4. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ACCESS TO AREA OF WORK AND FOLLOW ALL OWNER ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY PROTOCOLS.
5. ALL WORK SHALL BE PHASED IN ACCORDANCE WITH CONTRACT PLANS, SPECIFICATIONS AND OWNER'S REQUIREMENTS.
6. ALL MATERIALS AND EQUIPMENT FURNISHED FOR THIS PROJECT SHALL BE NEW AND SHALL BE LISTED AND LABELED BY A THIRD PARTY NATIONALLY RECOGNIZED TESTING LABORATORY AS REQUIRED AND PERMITTED BY AUTHORITIES HAVING JURISDICTION. WHERE MULTIPLE PIECES OF EQUIPMENT AND/OR COMPONENTS ARE INSTALLED IN A COMMON ENCLOSURE, THE ENTIRE ASSEMBLY SHALL BE LISTED AND LABELED AS AN ASSEMBLY. MODIFICATIONS OR ADDITIONS TO EXISTING EQUIPMENT SHALL MATCH EXISTING TO MAINTAIN ANY ASSEMBLY LISTING.
7. CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL FIRE AND/OR SMOKE RATED WALLS, BARRIERS, CEILINGS, FLOORS, PARTITIONS, AND ROOFS PRIOR TO AND DURING CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE NATIONALLY RECOGNIZED TESTING LABORATORY LISTED THROUGH-PENETRATION DRAFT, FIRE AND SMOKE STOP SYSTEMS FOR ALL NEW FIRE AND/OR SMOKE-RATED WALL, BARRIER, CEILING, FLOOR AND ROOF PENETRATIONS WITHIN THE AREA OF WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, NATIONALLY RECOGNIZED TESTING LABORATORY LISTED REQUIREMENTS AND APPLICABLE BUILDING CODES. PROVIDE PENETRATION ASSEMBLIES SUITABLE FOR PARTICULAR CONSTRUCTION.
9. CONTRACTOR SHALL MAINTAIN INTEGRITY OF VAPOR BARRIER AND INSULATION FOR ALL ELECTRICAL WORK AND DEVICES ON EXTERIOR AND PERIMETER WALLS.
10. CONTRACTOR SHALL COORDINATE ELECTRICAL WORK WITH ALL OTHER TRADES PRIOR TO COMMENCING WORK TO ENSURE ELECTRICAL WORK DOES NOT INTERFERE WITH OTHER TRADES. LINES AND SYSTEMS THAT REQUIRE SLOPE SHALL TAKE PRECEDENCE OVER ELECTRICAL WORK.
11. CONTRACTOR SHALL REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES FOR LOCATIONS OF THEIR EQUIPMENT. CONTRACTOR SHALL COORDINATE AND VERIFY ELECTRICAL REQUIREMENTS WITH OTHER TRADES PRIOR TO COMMENCING WORK.
12. PRIOR TO EQUIPMENT INSTALLATION, CONTRACTOR SHALL CONDUCT FIELD MEASUREMENTS TO ENSURE ALL ELECTRICAL EQUIPMENT AND ACCESSORIES WILL FIT INTO LOCATION(S) AS INDICATED ON PLANS. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY, CONTRACTOR SHALL PROVIDE A PROPOSED SKETCH OF REVISED ARRANGEMENT TO ENGINEER OF RECORD FOR ACCEPTANCE PRIOR TO COMMENCING WORK.
13. PROPERLY SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT PLUMB AND PARALLEL WITH BUILDING LINES. STUDY ALL GENERAL, STRUCTURAL, PLUMBING, HVAC, AND ELECTRICAL DRAWINGS, SHOP DRAWINGS, AND CATALOG DATA TO DETERMINE HOW EQUIPMENT, ACCESSORIES, PIPING, FIXTURES, AND RELATED ITEMS ARE TO BE SUPPORTED, MOUNTED, OR SUSPENDED. PROVIDE ALL BOLTS, INSERTS, PIPE STANDS, BRACKETS, STRUCTURAL SUPPORTS, AND ACCESSORIES FOR PROPER SUPPORT OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
14. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORT FOR DEVICE BACK BOXES, EQUIPMENT, LUMINAIRES AND RACEWAY WHERE BUILDING CONSTRUCTION IS NOT SUITABLE FOR DIRECT MOUNTING.
15. CONTRACTOR SHALL VERIFY CEILING SYSTEMS AND PROVIDE MOUNTING ACCESSORIES, TRIMS AND ALL REQUIRED MOUNTING HARDWARE TO SUIT THE PARTICULAR INSTALLATION.
16. CONTRACTOR SHALL NOT BACKFILL EXCAVATIONS, INSTALL COVERPLATES AND ENCLOSURES OR GENERALLY SEAL OR OBSCURE ELECTRICAL INSTALLATIONS PRIOR TO INSPECTION AND ACCEPTANCE BY AUTHORITIES HAVING JURISDICTION.
17. CONTRACTOR SHALL REMOVE ALL DIRT AND DEBRIS FROM ALL ELECTRICAL ENCLOSURES AND DEVICE, JUNCTION AND PULL BOXES PRIOR TO INSTALLATION OF DEVICES, COVERPLATES AND LIDS.
18. CONTRACTOR SHALL LABEL ALL COVERPLATES, EQUIPMENT, JUNCTION BOXES, AND PULL BOXES WITH CIRCUIT AND PANEL DESIGNATIONS. REFER TO DETAILS AND SPECIFICATIONS FOR SPECIFIC LABEL AND IDENTIFICATION REQUIREMENTS.
19. CONTRACTOR SHALL PROVIDE NEW, TWO COLUMN, TYPED, COMPLETED AND REMOVABLE DIRECTORIES INDICATING CIRCUIT DESCRIPTIONS AND ROOM NUMBERS (AS INDICATED BY FINAL ROOM SIGNAGE), FOR ALL AFFECTED CIRCUITS WITHIN ELECTRICAL DISTRIBUTION EQUIPMENT. ALL SPACES SHALL BE INDICATED AS SUCH. ALL SPARES SHALL BE INDICATED AS SUCH AND PLACED IN THE "OFF" POSITION.
20. MINIMUM RACEWAY SIZE OF 3/4", UNLESS NOTED OTHERWISE.
21. ALL RACEWAYS SHALL BE INSTALLED CONCEALED ABOVE CEILINGS, WITHIN WALLS OR BELOW FLOORS EXCEPT WITHIN UNFINISHED SPACES AND ON CEILINGS OF AREAS WITH EXPOSED STRUCTURE. WITHIN PUBLIC SPACES, EXPOSED CONDUIT SHALL BE FACTORY OR FIELD PAINTED TO MATCH ADJACENT STRUCTURE. ALL CONDUITS SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO BUILDING STRUCTURE. ALL CONDUITS ROUTED IN PARALLEL SHALL UTILIZE CONCENTRIC BEND RADII FOR ALL TURNS.
22. ALL EMPTY RACEWAYS SHALL BE PROVIDED WITH PULL STRINGS INSTALLED PER SPECIFICATIONS.

GENERAL NOTES - ELECTRICAL

23. ALL EXPOSED RACEWAY ENDS SHALL BE PROVIDED WITH PLASTIC BUSHINGS.
24. ALL ELECTRICAL CONDUCTORS, EQUIPMENT AND TERMINALS SHALL BE 75°C RATED UNLESS NOTED OTHERWISE.
25. MINIMUM CONDUCTOR SIZE OF #12AWG, COPPER, THHN/THWN, FOR BRANCH CIRCUITS, UNLESS NOTED OTHERWISE.
26. ALL BRANCH AND FEEDER CIRCUITS SHALL ORIGINATE FROM PANELS AND SERVE DEVICES AND EQUIPMENT AS INDICATED ON PLANS AND SCHEDULES. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO COMMENCING WORK.
27. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR, UNLESS NOTED OTHERWISE. THE USE OF A COMMON NEUTRAL FOR MULTIPLE BRANCH CIRCUITS IS STRICTLY PROHIBITED.
28. ALL RACEWAYS CONTAINING A FEEDER OR BRANCH CIRCUIT SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUNDING CONDUCTOR. FOR RACEWAYS CONTAINING MORE THAN ONE BRANCH CIRCUIT, SIZE OF EQUIPMENT GROUNDING CONDUCTOR SHALL BE BASED ON THE LARGEST CIRCUIT'S OVERCURRENT PROTECTIVE DEVICE.
29. ALL DEVICE BACK BOXES SHALL BE RECESSED WITHIN WALLS, FURRING, OR CASEWORK, UNLESS NOTED OTHERWISE. USE OF EXPOSED SURFACE MOUNTED DEVICE BACK BOXES IS PROHIBITED EXCEPT WITHIN UNFINISHED SPACES AND ON CEILINGS OF AREAS WITH EXPOSED STRUCTURE. WITHIN PUBLIC SPACES, EXPOSED DEVICE BACK BOXES SHALL BE FACTORY OR FIELD PAINTED TO MATCH ADJACENT STRUCTURE.
30. DEVICE BACK BOXES INDICATED ON PLANS AS ADJACENT TO ONE ANOTHER SHALL BE MOUNTED 8" APART, CENTER-TO-CENTER, UNLESS NOTED OTHERWISE.
31. DEVICE BACK BOXES LOCATED ON OPPOSITE SIDES OF FIRE OR SMOKE RATED PARTITIONS SHALL NOT BE MOUNTED WITHIN THE SAME WALL CAVITY. WALL PENETRATIONS SHALL BE SEPARATED BY MOUNTING BOXES ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBER INSIDE THE WALL.
32. CONTRACTOR SHALL COORDINATE EXACT HEIGHT AND LOCATION OF ALL WALL MOUNTED DEVICE BACK BOXES WITH ARCHITECTURAL INTERIOR ELEVATIONS AND CASEWORK SHOP DRAWINGS PRIOR TO INSTALLATION. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ARCHITECT AND ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO COMMENCING WORK. MINOR ADJUSTMENTS IN ANY DIRECTION FOR DEVICE LOCATION, I.E. 5'-0" OR LESS, SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
33. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE BACK BOX AND EQUIPMENT LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO COMMENCING WORK. MINOR ADJUSTMENTS IN ANY DIRECTION FOR DEVICE LOCATION, I.E. 5'-0" OR LESS, SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
34. CONTRACTOR SHALL PROVIDE MINIMUM 4" HOUSEKEEPING PAD WITH CHAMFERED EDGES FOR ALL FLOOR MOUNTED EQUIPMENT, UNLESS NOTED OTHERWISE. REFER TO DETAILS, IF APPLICABLE.
35. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LUMINAIRES AND DEVICES.
36. EXACT HEIGHTS AND LOCATIONS OF LUMINAIRES WITHIN UNFINISHED SPACES SHALL BE COORDINATED AND DETERMINED IN THE FIELD. LUMINAIRES SHALL NOT BE SUPPORTED FROM DUCTWORK OR PIPING. CHAIN OR TRAPEZE-TYPE HANGERS SHALL BE PROVIDED WHERE LUMINAIRES CAN NOT BE MOUNTED DIRECTLY TO STRUCTURE OR CEILING. LUMINAIRES SHALL BE LOCATED TO MAXIMIZE ACCESSIBILITY AND ILLUMINATION.
37. ORIENT VERTICALLY MOUNTED RECEPTACLES WITH GROUND PIN UP. ORIENT HORIZONTALLY MOUNTED RECEPTACLES WITH GROUND PIN TO LEFT (NEUTRAL UP).
38. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL FLOOR-MOUNTED BOXES WITH ARCHITECT PRIOR TO INSTALLATION.
39. ALL AV, DATA, SECURITY AND TELECOMMUNICATIONS CABLING SHALL BE INSTALLED CONCEALED FROM VIEW ABOVE CEILINGS, IN WALLS OR BELOW FLOORS EXCEPT WITHIN UNFINISHED SPACES AND ON CEILINGS OF AREAS WITH EXPOSED STRUCTURE. ALL CABLING SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO BUILDING STRUCTURE.
40. SMOKE DETECTORS SHALL BE LOCATED MINIMUM 3'-0" FROM HVAC SUPPLY AND RETURN OPENINGS.
41. WHERE MULTIPLE VISUAL NOTIFICATION DEVICES CAN BE SEEN FROM A SINGLE LOCATION DURING NORMAL FACILITY OPERATION, ALL STROBES SHALL BE SYNCHRONIZED TO ALLOW FOR SIMULTANEOUS OPERATION.

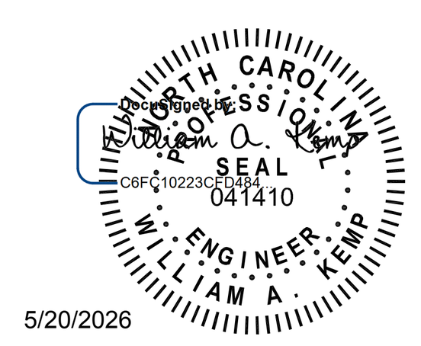
RENOVATION NOTES - ELECTRICAL

1. NEW WORK SHOWN BOLD AND CONTINUOUS. EXISTING TO REMAIN WORK SHOWN LIGHT AND CONTINUOUS.
2. NOT ALL ELECTRICAL DEVICES AND EQUIPMENT ARE SHOWN. LOCATIONS AND ASSOCIATED CIRCUITS OF EXISTING DEVICES AND EQUIPMENT SHOWN ARE BASED IN PART UPON PREVIOUS DRAWINGS, FIELD OBSERVATIONS AND INFORMATION FURNISHED BY OTHERS AND SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
3. ALL EXISTING DEVICES AND EQUIPMENT SHALL REMAIN IN PLACE AND OPERATIONAL UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUITY OF ALL EXISTING CIRCUITS AND SYSTEMS TO REMAINING DEVICES AND EQUIPMENT WHICH MAY BE AFFECTED BY AREA OF WORK. MATCH AND EXTEND CONDUIT, CONDUCTORS, CABLES, ETC. AS NECESSARY TO MAINTAIN CIRCUIT INTEGRITY.
5. ALL EXISTING RACEWAY AND WIRING THAT ARE TO REMAIN IN THE AREA OF WORK SHALL BE RELOCATED AS REQUIRED TO PROVIDE OR MAINTAIN ACCESSIBILITY AND TO ACCOMMODATE THE PROPOSED CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY ALL RACEWAY AND WIRING TO REMAIN PRIOR TO COMMENCING WORK. ALL RELOCATION SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE. PROVIDE TEMPORARY CONNECTIONS TO EQUIPMENT AND DEVICES TO MAINTAIN EQUIPMENT AND SYSTEMS IN SERVICE. ALL DOWNTIME REQUIRED FOR INSTALLATION OF TEMPORARY CONNECTIONS SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE.
6. IN AREAS WHERE EXISTING CEILINGS ARE NOT SLATED TO BE REPLACED, CONTRACTOR SHALL WORK THROUGH EXISTING CEILINGS. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR AREA OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPLACING CEILING SYSTEM DAMAGED AS A RESULT OF THEIR WORK.
7. CONTRACTOR SHALL COORDINATE POWER SHUTDOWN REQUIREMENTS WITH OWNER OR OWNER'S REPRESENTATIVE AT LEAST 7 DAYS IN ADVANCE OF DEMOLITION AND/OR TIE-IN WORK. SHUTDOWN WORK SHALL BE MINIMIZED TO AVOID INTERFERENCE WITH OWNER'S NORMAL OPERATING SCHEDULE.
8. CONTRACTOR SHALL VERIFY NO DEVICES OR EQUIPMENT ARE SERVED BY BREAKERS CURRENTLY LABELED "SPARE" TO BE UTILIZED FOR NEW WORK WITHIN AFFECTED ELECTRICAL DISTRIBUTION EQUIPMENT. IN THE EVENT OF A CONFLICT, DEVIATION OR DISCREPANCY, CONTRACTOR SHALL TRACE AND IDENTIFY SUSPECT LOAD(S) AND PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO COMMENCING WORK.
9. CONTRACTOR SHALL CLEAN AND RE-LAMP ALL REMAINING LUMINARIES AND REPLACE DAMAGED LENSES IN AFFECTED WORK AREAS.
10. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FIRE ALARM SYSTEM TYPE. IF DETERMINED THAT THE EXISTING SYSTEM IS A CONVENTIONAL-ZONED OR HYBRID TYPE, OR IF THE EXISTING SYSTEM IS DISPLAYING A TROUBLE OR SUPERVISORY SIGNAL, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD PRIOR TO COMMENCING WORK.
11. CONTRACTOR SHALL COORDINATE FIRE ALARM SYSTEM DOWNTIME REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION AND OWNER'S REPRESENTATIVE AT LEAST 7 DAYS IN ADVANCE OF TIE-IN WORK. DOWNTIME WORK SHALL BE MINIMIZED TO AVOID INTERFERENCE WITH OWNER'S NORMAL OPERATING SCHEDULE. FIRE WATCH SHALL BE PROVIDED DURING FIRE ALARM SYSTEM DOWNTIME. NOTIFY AUTHORITY HAVING JURISDICTION FOR ANY INTERRUPTION EXTENDING BEYOND EIGHT HOURS.
12. NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH AND CONNECTED TO EXISTING FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS TO MAKE NEW FIRE ALARM SYSTEM FULLY FUNCTIONAL. CONTRACTOR SHALL VERIFY EXISTING FIRE ALARM SYSTEM HAS AVAILABLE CAPACITY FOR NEW DEVICES. IF CAPACITY IS NOT AVAILABLE, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER OF RECORD PRIOR TO COMMENCING WORK.
13. FIRE ALARM CIRCUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF NEC ARTICLE 760. CONTRACTOR SHALL PROVIDE NEW RACEWAY AND BOXES TO CONNECT NEW FIRE ALARM DEVICES TO EXISTING INITIATING DEVICE CIRCUITS, SIGNALING LINE CIRCUITS OR NOTIFICATION APPLIANCE CIRCUITS. PROVIDE UPSTREAM AND DOWNSTREAM CONDUCTORS AND RACEWAYS AS REQUIRED TO MAINTAIN EXISTING WIRING CLASSIFICATION AND SERVICE TO EXISTING DEVICES NOT ASSOCIATED WITH THIS PROJECT. CABLE SPLICES ARE STRICTLY PROHIBITED, UNLESS NOTED OTHERWISE.
14. CONTRACTOR SHALL SUBMIT UPDATED FIRE ALARM BATTERY CALCULATIONS AND PROVIDE ANY ADDITIONAL POWER SUPPLIES, BATTERIES, NAC PANELS OR COMPONENTS REQUIRED TO ACCOMPLISH CHANGES SHOWN ON DRAWINGS OR SPECIFICATIONS.
15. CONTRACTOR SHALL COMPLY WITH REACCEPTANCE TESTING AS ESTABLISHED WITHIN THE NATIONAL FIRE ALARM AND SIGNALING CODE, AS ADOPTED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION. IF APPLICABLE, EXISTING FIRE ALARM PANEL SHALL BE (RE)TESTED FOR INTERCONNECTIONS TO ELEVATOR SYSTEM PRIOR TO FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION. OWNERS OF BUILDINGS WHERE FIRE ALARM SYSTEMS ARE UPGRADED OR CHANGED WILL ALSO BE REQUIRED TO FILE AN APPLICATION FOR ALTERATION WITH NC DOL ELEVATOR DIVISION PRIOR TO COMMENCING WORK ON ANY SYSTEM DIRECTLY RELATED TO THE OPERATION OF ANY ELEVATOR WITHIN THE STRUCTURE.
16. CONTRACTOR SHALL UPDATE ZONE MAPS. ZONE MAPS SHALL INCLUDE LOCATIONS OF ALL INITIATING DEVICES, REMOTE ANNUNCIATORS AND THE FIRE ALARM CONTROL PANEL. ROOM NUMBERS SHALL REFLECT FINAL ROOM SIGNAGE.

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL



5/20/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

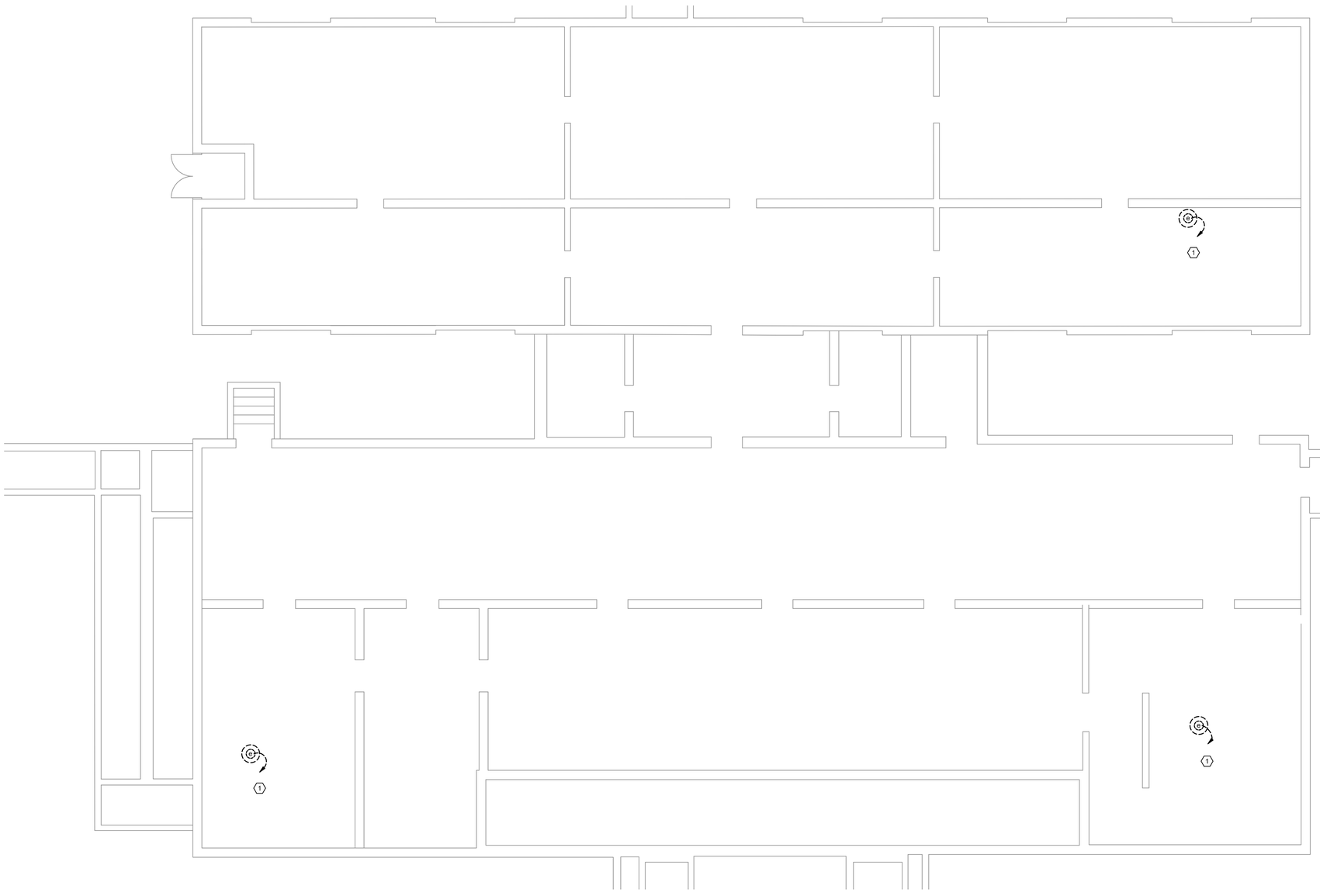
DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE
ELECTRICAL SYMBOLS & ABBREVIATIONS

PROJECT NO. 50193045

E-001

SHEET NO.



1 CRAWLSPACE ELECTRICAL DEMOLITION PLAN
SCALE: 3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO SHEET E-001 FOR ADDITIONAL DEMO NOTES.

KEYNOTES:

1. UNKNOWN SOURCE. CONTRACTOR TO VERIFY BRANCH CIRCUIT SOURCE IN FIELD.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

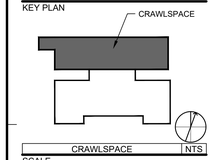
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KEMP
5/20/2026

KEY PLAN



CRAWLSPACE | NTS
SCALE

REVISIONS

NO.	DESCRIPTION	DATE

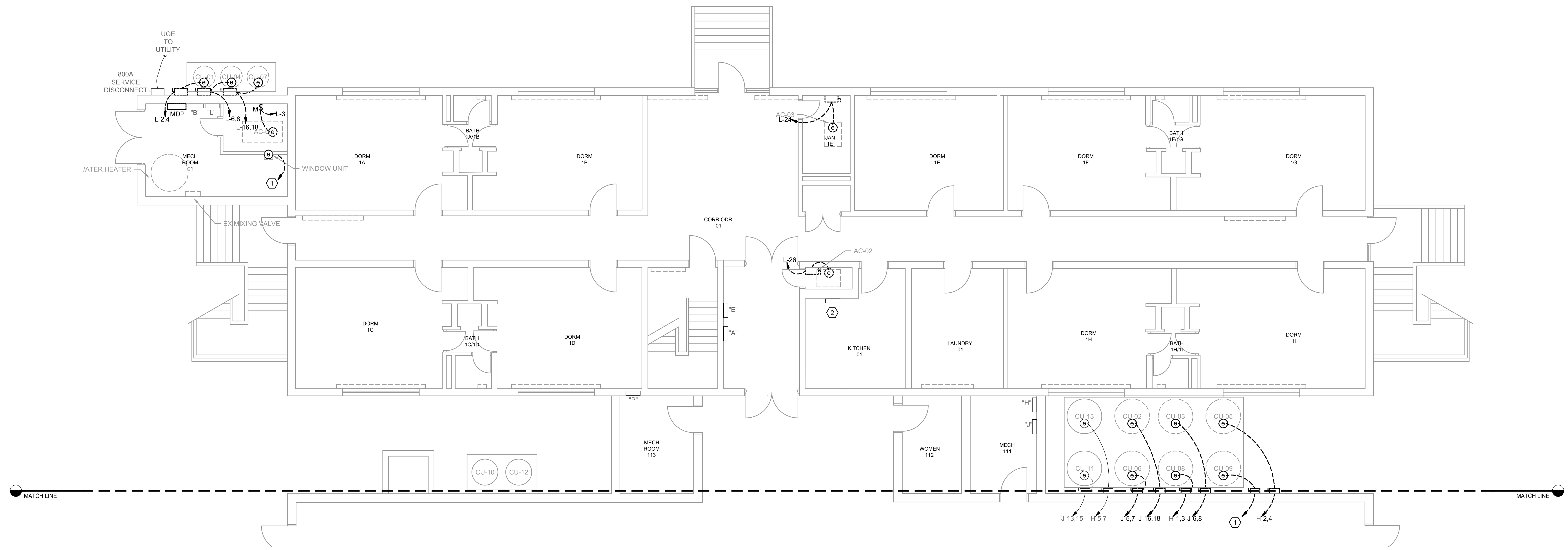
DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE
CRAWLSPACE ELECTRICAL DEMOLITION PLAN

PROJECT NO. 50193045

ED101
SHEET NO.

5/20/2026 10:16:39 AM
P:\50193045\CAD\ELECTRICAL\50193045 ED101 CRAWLSPACE ELECTRICAL DEMOLITION PLAN.DWG



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN AREA A

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. DEMOLISH ALL BRANCH CIRCUIT WIRING INDICATED BACK TO SOURCE. UNUSED PORTIONS OF CONDUIT TO BE REMOVED OTHERWISE RETAIN FOR REUSE.

KEYNOTES:

1. UNKNOWN SOURCE. CONTRACTOR TO VERIFY BRANCH CIRCUIT SOURCE IN FIELD.
2. CRAWL SPACE PANEL (BELOW).

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

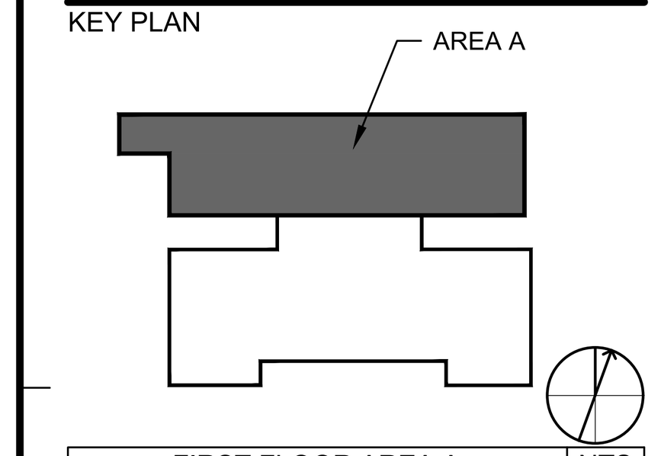
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

5/20/2026

KEY PLAN



FIRST FLOOR AREA A | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

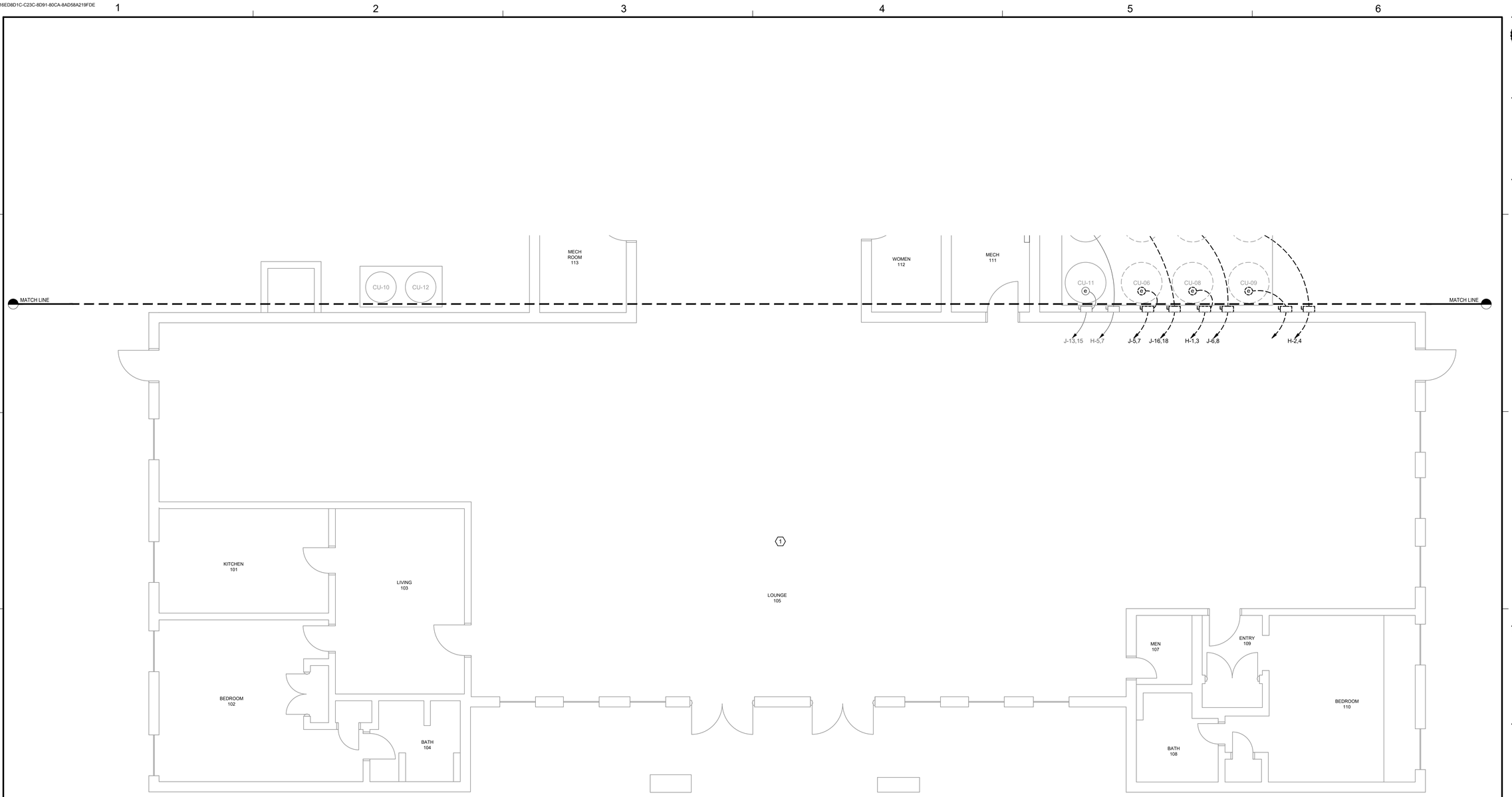
TITLE

FIRST FLOOR ELECTRICAL DEMOLITION PLAN AREA A

PROJECT NO. 50193045

ED111

SHEET NO.



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN AREA B

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

0' 2' 4' 8'

GENERAL NOTES:

1. DEMOLISH ALL BRANCH CIRCUIT WIRING INDICATED BACK TO SOURCE. UNUSED PORTIONS OF CONDUIT TO BE REMOVED OTHERWISE RETAIN FOR REUSE.

(#) KEYNOTES:

1. EXISTING SINGLE STORY ADDITION FED FROM PANELS "P", "H", AND "J".

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

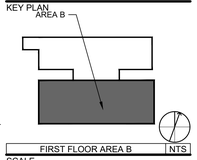
CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KEMP

5/20/2026

KEY PLAN



FIRST FLOOR AREA B | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE

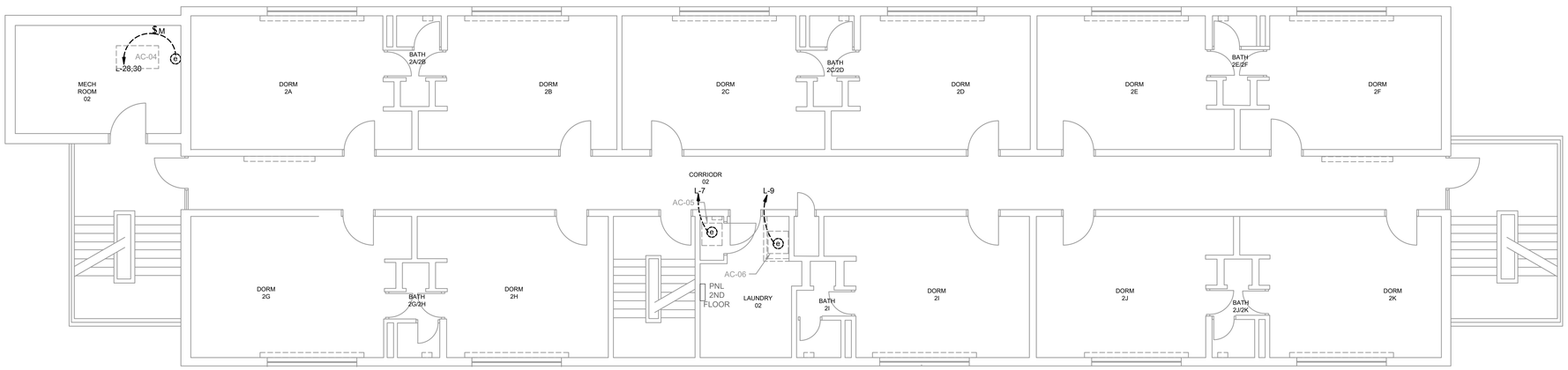
FIRST FLOOR ELECTRICAL DEMOLITION PLAN AREA B

PROJECT NO. 50193045

ED112

SHEET NO.

5/20/2026 10:10:56 AM
P:\50193045\CAD\ELECTRICAL\50193045 ED112 FIRST FLOOR ELECTRICAL DEMOLITION PLAN AREA B.DWG



1 SECOND FLOOR ELECTRICAL DEMOLITION WORK PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. DEMOLISH ALL BRANCH CIRCUIT WIRING INDICATED BACK TO SOURCE. UNUSED PORTIONS OF CONDUIT TO BE REMOVED OTHERWISE RETAIN FOR REUSE.

(#) KEYNOTES:

1.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

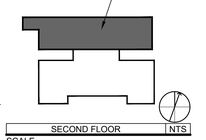
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

5/20/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE

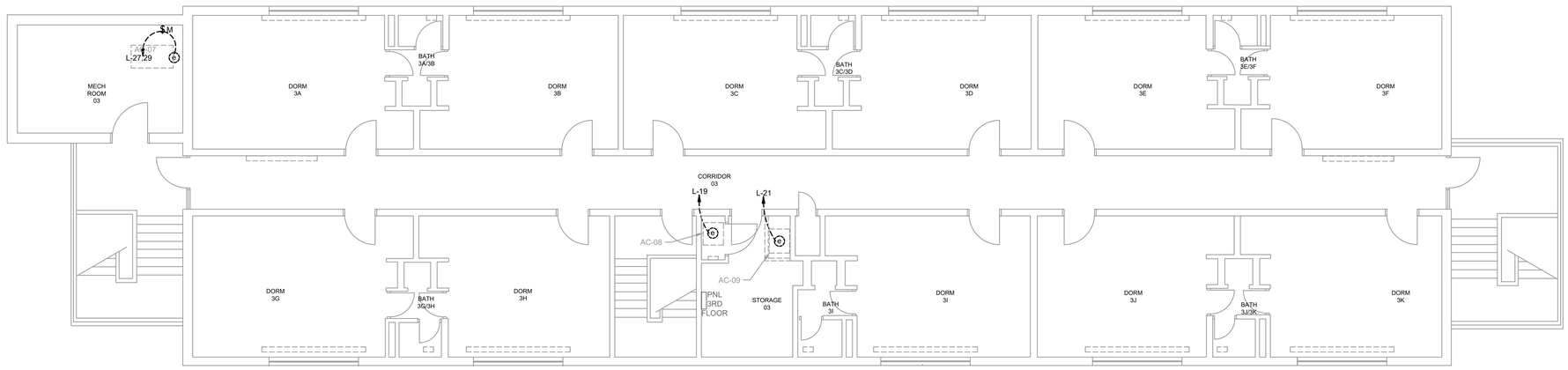
SECOND ELECTRICAL DEMOLITION PLAN

PROJECT NO. 50193045

ED121

SHEET NO.

5/20/2026 10:17:47 AM
P:\50193045\CAD\ELECTRICAL\50193045 ED121 SECOND ELECTRICAL DEMOLITION PLAN.DWG



1 THIRD FLOOR ELECTRICAL DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. DEMOLISH ALL BRANCH CIRCUIT WIRING INDICATED BACK TO SOURCE. UNUSED PORTIONS OF CONDUIT TO BE REMOVED OTHERWISE RETAIN FOR REUSE.

(#) KEYNOTES:

1.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

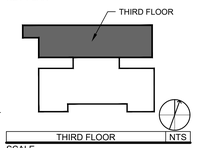
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 — WILLIAM A. KEMP

5/20/2026

KEY PLAN



THIRD FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS

APPROVED BY WAK

CHECKED BY POA

DATE 05/20/2026

TITLE

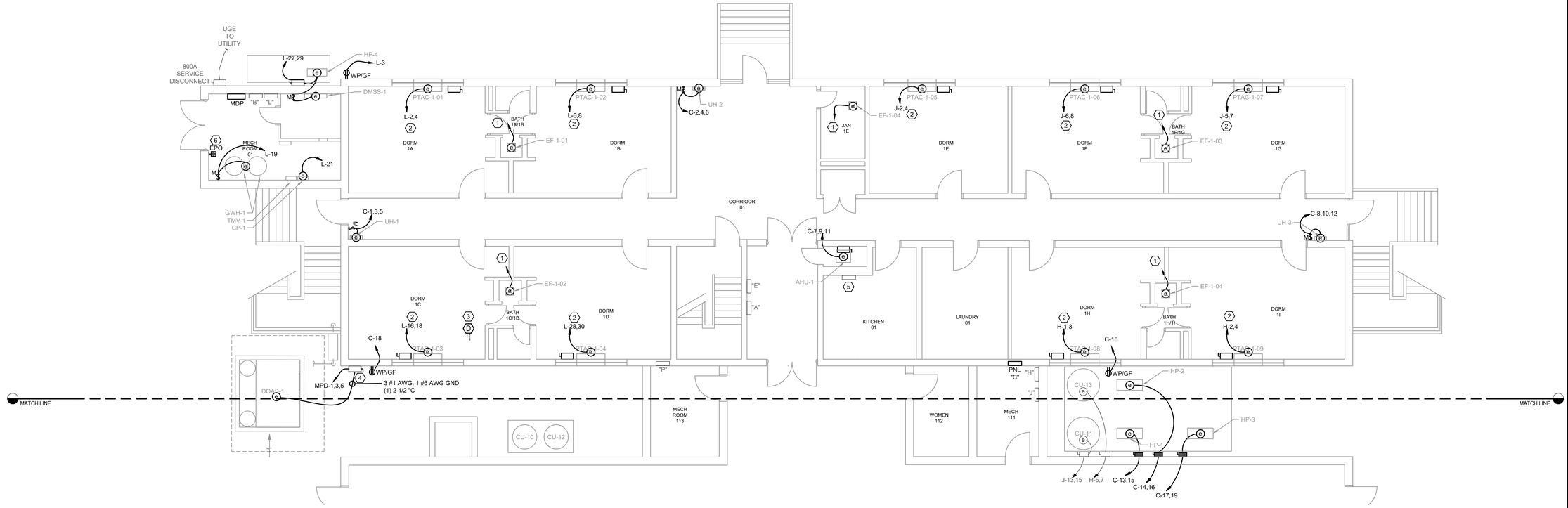
THIRD FLOOR ELECTRICAL DEMOLITION PLAN

PROJECT NO. 50193045

ED131

SHEET NO.

5/20/2026 10:17:24 AM
P:\50193045\CAD\ELECTRICAL\50193045 ED131 THIRD FLOOR ELECTRICAL DEMOLITION PLAN.DWG



1 FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA A

SCALE: 3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO SHEET E-001 FOR ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.

(#) KEYNOTES:

1. FAN PROVIDED WITH AN INTEGRAL LIGHT. BOTH OPERATE FROM EXISTING FAN WALL SWITCH. RECONNECT TO EXISTING FAN CIRCUIT.
2. PTAC INCLUDES INTEGRAL DISCONNECT IN BASE. NEATLY INSTALL EXPOSED CONDUIT ALONG WALL TO DISCONNECT WITH BENDS NOT BOXES. CONTRACTOR TO PAINT EXPOSED CONDUIT (TYP EACH PTAC).
3. PROVIDE DOAS DUCT DETECTOR IN CRAWL SPACE. REFER TO MECHANICAL PLAN. MECHANICAL CONTROLS TO SHUTDOWN DOAS. CONNECT TO EXISTING FIRE ALARM SYSTEM FOR SUPERVISORY ALARM. PROVIDE UPDATED NFPA 72 RECORD OF COMPLETION FOR ENGINEER REVIEW.
4. PROVIDE 3P-200A FUSED DISCONNECT, NEMA 3R FUSED AT 125A.
5. CRAWL SPACE PANEL (BELOW).
6. ELECTRICAL CONTRACTOR TO INSTALL AND WIRE A 120V EPO SWITCH FOR PLUMBING EQUIPMENT. FURNISHED BY PLUMBING CONTRACTOR, COORDINATE LOCATION WITH PLUMBING.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

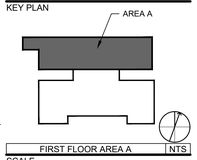
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KING

5/20/2026

KEY PLAN



FIRST FLOOR AREA A | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE

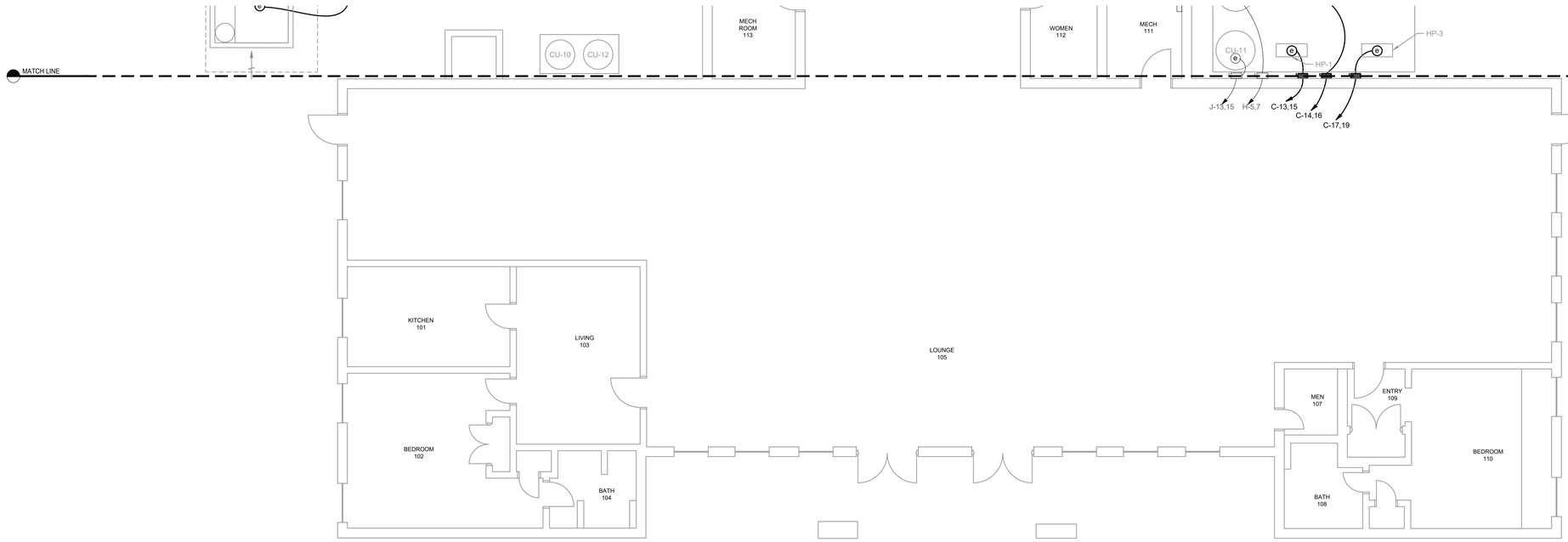
FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA A

PROJECT NO. 50193045

E-111

SHEET NO.

5/20/2026 10:17:06 AM
P:\50193045\CAD\ELECTRICAL\50193045 E-111 FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA A.DWG



1 FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA B
SCALE: 3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO SHEET E-001 FOR ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.

(#) KEYNOTES:

1.

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

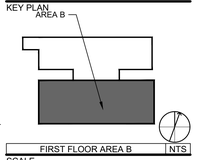
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047410 WILLIAM A. KEMP

5/20/2026

KEY PLAN



FIRST FLOOR AREA B NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE

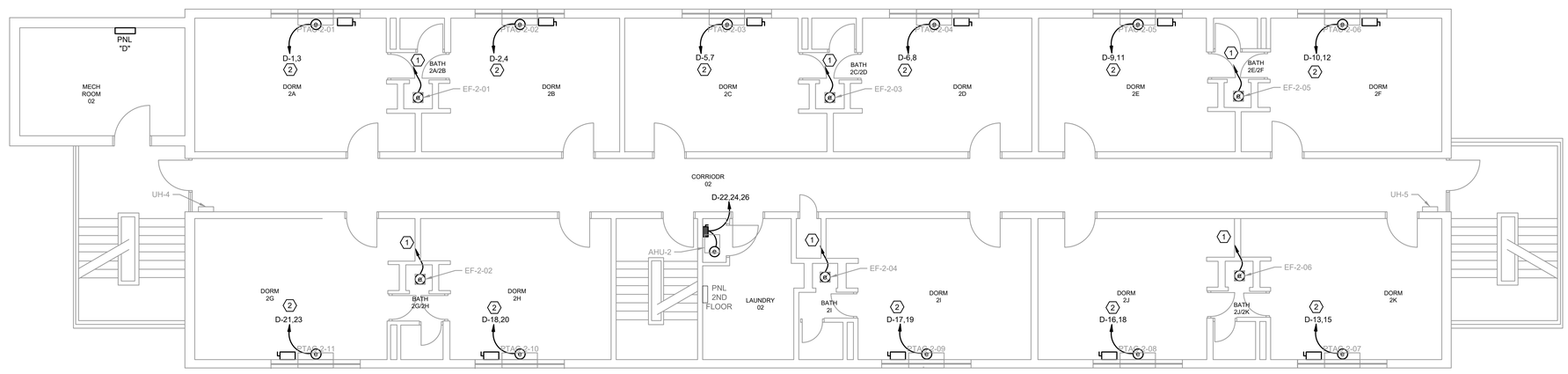
FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA B

PROJECT NO. 50193045

E-112

SHEET NO.

5/20/2026 10:17:57 AM
P:\50193045\CAD\ELECTRICAL\50193045 E-112 FIRST FLOOR ELECTRICAL NEW WORK PLAN AREA B.DWG



1 SECOND FLOOR ELECTRICAL NEW WORK PLAN

SCALE:3/16" = 1'-0"

0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO SHEET E-001 FOR ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.

(#) KEYNOTES:

1. FAN PROVIDED WITH AN INTEGRAL LIGHT. BOTH OPERATE FROM EXISTING FAN WALL SWITCH. RECONNECT TO EXISTING FAN CIRCUIT.
2. PTAC INCLUDES INTEGRAL DISCONNECT IN BASE. NEATLY INSTALL EXPOSED CONDUIT ALONG WALL TO DISCONNECT WITH BENDS NOT BOXES. CONTRACTOR TO PAINT EXPOSED CONDUIT (TYP EACH PTAC).

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

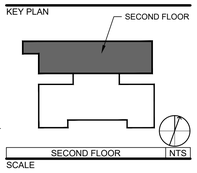
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KEMP

5/20/2026

KEY PLAN



SECOND FLOOR | NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS

APPROVED BY WAK

CHECKED BY POA

DATE 05/20/2026

TITLE

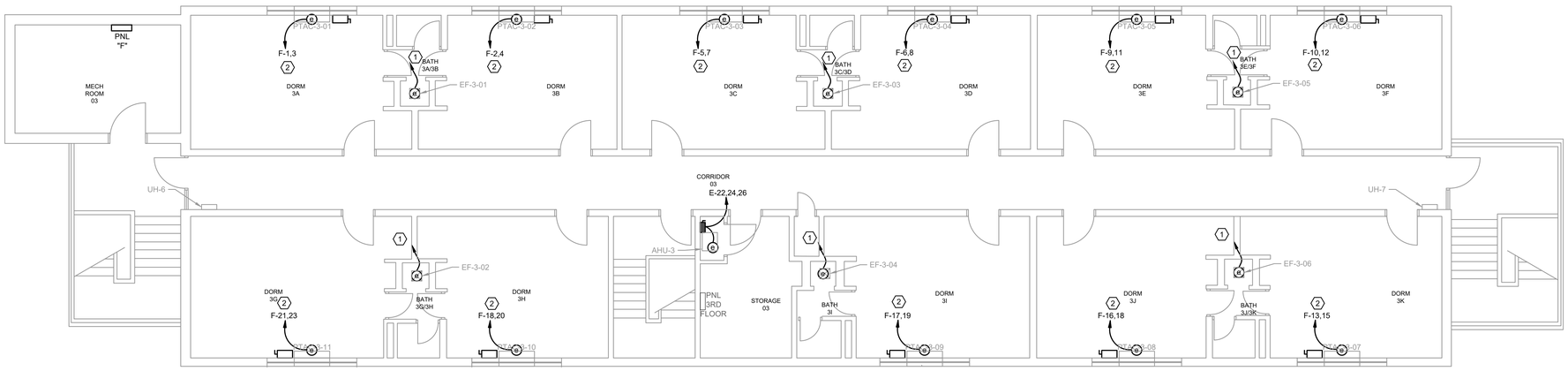
SECOND ELECTRICAL NEW WORK PLAN

PROJECT NO. 50193045

E-121

SHEET NO.

5/20/2026 10:17:16 AM
P:\50193045\CAD\ELECTRICAL\50193045 E-121 SECOND ELECTRICAL NEW WORK PLAN.DWG



1 THIRD FLOOR ELECTRICAL NEW WORK PLAN
SCALE:3/16" = 1'-0"
0' 2' 4' 8'

GENERAL NOTES:

1. REFER TO SHEET E-001 FOR ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS.

KEYNOTES:

1. FAN PROVIDED WITH AN INTEGRAL LIGHT. BOTH OPERATE FROM EXISTING FAN WALL SWITCH. RECONNECT TO EXISTING FAN CIRCUIT.
2. PTAC INCLUDES INTEGRAL DISCONNECT IN BASE. NEATLY INSTALL EXPOSED CONDUIT ALONG WALL TO DISCONNECT WITH BENDS NOT BOXES. CONTRACTOR TO PAINT EXPOSED CONDUIT (TYP EACH PTAC).

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

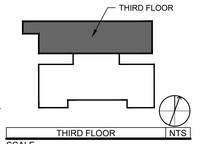
CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047410 WILLIAM A. KEMP
5/20/2026

KEY PLAN



THIRD FLOOR NTS

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY VALUE
APPROVED BY VALUE
CHECKED BY VALUE
DATE 05/20/2026

TITLE
THIRD FLOOR ELECTRICAL NEW WORK PLAN

PROJECT NO. 50193045

E-131

SHEET NO.

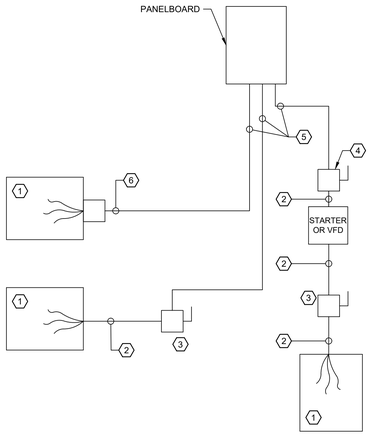
5/20/2026 10:17:46 AM
P:\50193045\CAD\ELECTRICAL\50193045 E-131 THIRD FLOOR ELECTRICAL NEW WORK PLAN.DWG

GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND OTHER TRADES.
2. ELECTRICAL CONTRACTOR PROVIDES DISCONNECT SWITCH IF NEEDED FOR ELEVATORS, KITCHEN EQUIPMENT, OR OWNER FURNISHED EQUIPMENT.

KEYNOTES:

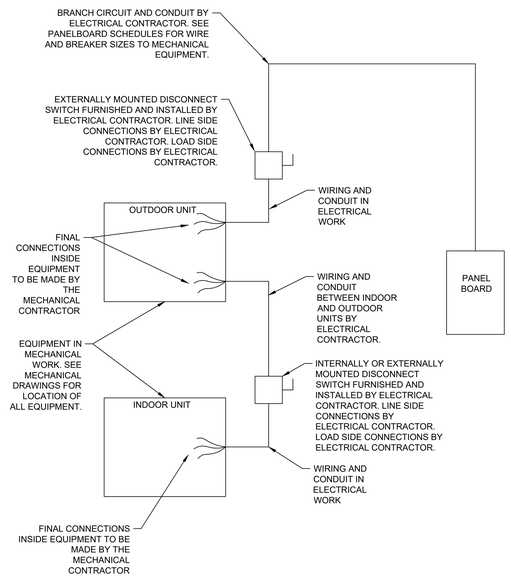
1. EQUIPMENT BY TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY ELECTRICAL CONTRACTOR.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC IT SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER / VFD. DISCONNECT SWITCH AND STARTER/VFD PROVIDED BY ELECTRICAL CONTRACTOR. LOCATE DISCONNECT SWITCH ADJACENT TO VFD.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULE FOR BREAKER SIZES AND BRANCH OR FEEDER SCHEDULES FOR WIRE/CONDUIT SIZES.
6. EQUIPMENT PROVIDED WITH INTEGRAL DISCONNECTING MEANS.
7. IN ALL CASES THE CONTRACTOR SUPPLYING THE EQUIPMENT SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.



1 ELECTRICAL TO MECHANICAL EQUIPMENT

SCALE: NTS

ME002-01



2 ELECTRICAL CONNECTIONS FOR DMSS EQUIPMENT

SCALE: NTS

E002-12

NOTE:

1. THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110.26(A) AND 110.26(F) OF THE NATIONAL ELECTRICAL CODE.

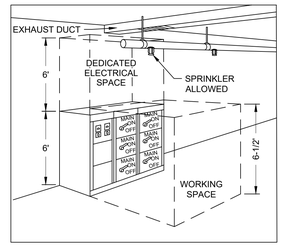
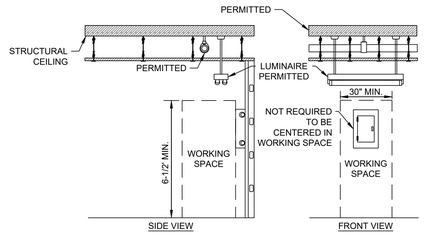
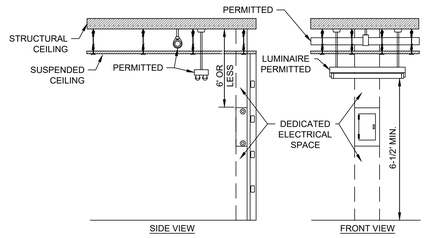


TABLE A - WORKING SPACES				
VOLTAGE TO GROUND NOMINAL	CONDITION:	MINIMUM CLEAR DISTANCE FEET 1	2	3
0-150		3	3	3
151-600		3	3-1/2	4

WHERE THE "CONDITIONS" ARE AS FOLLOWS

1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300V TO GROUND SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE. (CONCRETE BRICK OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.)
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

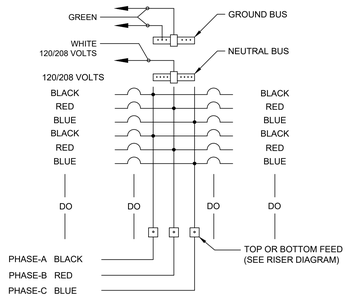




3 WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT

SCALE: NTS

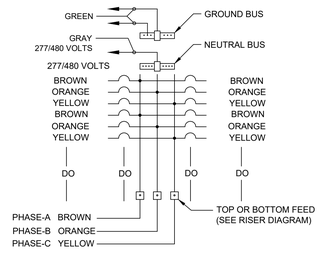
E002-09



4 WIRE COLOR CODING 120/208V

SCALE: NTS

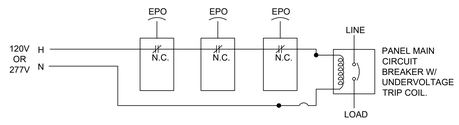
E002-07



5 WIRE COLOR CODING 277/480V

SCALE: NTS

E002-08



NOTE:

1. FLOOR PLANS DENOTE QUANTITIES OR EPO BUTTONS
2. SAFETY TECHNOLOGY INTERNATIONAL (STI) (STOPPER STATION SERIES) RED EMERGENCY PUSH-BUTTON IN WHITE POLYCARBONATE PLASTIC ENCLOSURE WITH CLEAR FLIP-UP COVER AND STAINLESS STEEL BACKPLATE OR APPROVED EQUAL.

6 TYPICAL EPO BUTTON SHUT DOWN

SCALE: NTS

E012-06

Dewberry

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY

POWELL HALL

HVAC AND PLUMBING RENOVATION

84 DAY DORM ROAD
BUIES CREEK, NC 27506

CONSTRUCTION DOCUMENTS

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KIM

5/20/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS

APPROVED BY WAK

CHECKED BY POA

DATE 05/20/2026

TITLE

DETAILS

PROJECT NO. 50193045

E-501

SHEET NO.

5/20/2026 10:16:57 AM
P:\50193045\CAD\ELECTRICAL\50193045 E-501 DETAILS.DWG

1 2 3 4 5 6

EXISTING PANEL L — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	0	EXHAUST FAN MAIN PANEL ROOM		EX	20	2500		30		2	**PTAC-1-01 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	2
3	100	**CONDENSOR YARD REC**			20		2600					2500	4
5	0	SPARE		EX	20	2500		30		2	**PTAC-1-02 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	6
7	0	**SPARE**	3		20		2500					2500	8
9	0					0		20			ROOF FAN	0	10
11	0	FIRE ALARM AND HVAC POWER SUPPLY		EX	20		0	20			ROOF FAN	0	12
13	0	A/H 2ND FLOOR			20	0		20			C-PUMP	0	14
15	0	EXIT LIGHTS JONES SIDE		EX	20		2500	30		2	**PTAC-1-03 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	16
17	0	ENERGY MAN		EX	20	2500						2500	18
19	750	**GWH-1**	2		20		750	20	EX		ENERGY MAN. 3RD FLOOR	0	20
21	180	**CP-1**	2		20	180		20	EX		SPARE	0	22
23	0	SPACE					0	20			**SPARE**	0	24
25	0	METYSIS SYSTEM		EX	20	0		20			**SPARE**	0	26
27	2206	**DMSS-1, CU-1 (2 #10 AWG + 1 #10GND, 3/4"C)**	2		30		4706	30		1	**PTAC-1-04 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	28
29	2206					4706						2500	30
31	0	SPARE		EX	20		0				SPACE	0	32
33	0	SPACE				0					SPACE	0	34
35	0	SPACE					0				SPACE	0	36
37	0	SPACE				0					SPACE	0	38
39	0	SPACE					0				SPACE	0	40
41	0	SPACE				0					SPACE	0	42

240/120	V	225	BUS RATING
1	PHASE	MLO	MAINS TYPE
3	WIRE	225	MCB RATING
10	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	100	100%	100
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	24412	100%	24412
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	930	100%	930
TOTAL	25442	100%	25442

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

NOTES:
1. PROVIDE NEW BREAKER IN EXISTING SPACE
2. PROVIDE NEW CIRCUIT. CONNECT TO EXISTING BREAKER
3. MAKE EXISTING SPARE
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	12386	VA	103.2	AMP
PH. B	13056	VA	108.8	AMP

EXISTING PANEL J — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	0	SPARE		EX	15	2500		60		2	**PTAC-1-05 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	2
3	0						2500					2500	4
5	2500	**PTAC-1-07 (2 #10 AWG + 1 #10GND, 3/4"C)**	2		40	5000		40		2	**PTAC-1-06 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	6
7	2500						5000					2500	8
9	0	NIGHT LIGHTS		EX	20	0		20	EX		RECEPTACLES/BATHROOMS	0	10
11	0	LIGHTS		EX	20		0	30		3	**SPARE**	0	12
13	0	A/C FAN #11		EX	20	0						0	14
15	0						0	40		3	**SPARE**	0	16
17	0	RECEPTACLES/BATHROOMS		EX	30	0						0	18
19	0	A/C #13 FAN			20		0	40	EX		BASE BOARD RECEPT	0	20
21	0	SPARE	S	EX	30	0						0	22
23	0						0	20	EX		OUTSIDE RECEPTACLES	0	24
25	0	10KW HEAT		EX	60	0		20	EX		LIGHTS UNDER FLOOR	0	26
27	0						0	20			SPARE	0	28
29	0	5KW HEAT		EX	30	0						0	30
31	0						0				SPACE	0	32
33	0	SPACE				0					SPACE	0	34
35	0	SPACE					0				SPACE	0	36
37	0	SPACE				0					SPACE	0	38
39	0	SPACE					0				SPACE	0	40
41	0	SPACE				0					SPACE	0	42

240/120	V	225	BUS RATING
1	PHASE	MLO	MAINS TYPE
3	WIRE	225	MCB RATING
10	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	0	100%	0
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	15000	100%	15000
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	0	100%	0
TOTAL	15000	100%	15000

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

NOTES:
1. PROVIDE NEW BREAKER IN EXISTING SPACE
2. PROVIDE NEW CIRCUIT. CONNECT TO EXISTING BREAKER
3. MAKE EXISTING SPARE
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	7500	VA	62.5	AMP
PH. B	7500	VA	62.5	AMP

EXISTING PANEL H — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	2500	**PTAC-1-08 (2 #10 AWG + 1 #10GND, 3/4"C)**	2		40	5000		40		2	**PTAC-1-09 (2 #10 AWG + 1 #10GND, 3/4"C)**	2500	2
3	2500						5000					2500	4
5	0	**A/C #13 - LITE LINE**		EX	40	0		40		3	**SPARE**	0	6
7	0						0					0	8
9	0	SPACE				0					SPACE	0	10
11	0	SPACE					0				SPACE	0	12
13	0	SPACE				0					SPACE	0	14
15	0	SPARE		EX	20		0	20	EX		SPARE	0	16
17	0	SPARE		EX	20	0		20	EX		SPARE	0	18
19	0	SPARE		EX	20		0	20	EX		SPARE	0	20
21	0	SPACE				0					SPACE	0	22
23	0	SPACE					0				SPACE	0	24
25	0	SPACE				0					SPACE	0	26
27	0	SPACE					0				SPACE	0	28
29	0	SPACE				0					SPACE	0	30
31	0	SPACE					0				SPACE	0	32
33	0	SPACE				0					SPACE	0	34
35	0	SPACE					0				SPACE	0	36
37	0	SPACE				0					SPACE	0	38
39	0	SPACE					0				SPACE	0	40
41	0	SPACE				0					SPACE	0	42

240/120	V	225	BUS RATING
1	PHASE	MLO	MAINS TYPE
3	WIRE	225	MCB RATING
10	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	0	100%	0
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	10000	100%	10000
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	0	100%	0
TOTAL	10000	100%	10000

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

NOTES:
1. PROVIDE NEW BREAKER IN EXISTING SPACE
2. PROVIDE NEW CIRCUIT. CONNECT TO EXISTING BREAKER
3. REUSE EXISTING BREAKER
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	5000	VA	41.7	AMP
PH. B	5000	VA	41.7	AMP

NEW PANEL D — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	PHASE C	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	2500	PTAC-2-01 (2 #10 + 1 #10 GND, 3/4"C)			30	5000			30			PTAC-2-02 (2 #10 + 1 #10 GND, 3/4"C)	2500	2
3	2500						5000						2500	4
5	2500	PTAC-2-03 (2 #10 + 1 #10 GND, 3/4"C)			30			5000	30			PTAC-2-04 (2 #10 + 1 #10 GND, 3/4"C)	2500	6
7	2500					5000							2500	8
9	2500	PTAC-2-05 (2 #10 + 1 #10 GND, 3/4"C)			30		5000		30			PTAC-2-06 (2 #10 + 1 #10 GND, 3/4"C)	2500	10
11	2500							5000					2500	12
13	2500	PTAC-2-07 (2 #10 + 1 #10 GND, 3/4"C)			30	5000			30			PTAC-2-08 (2 #10 + 1 #10 GND, 3/4"C)	2500	14
15	2500						5000						2500	16
17	2500	PTAC-2-09 (2 #10 + 1 #10 GND, 3/4"C)			30			5000	30			PTAC-2-10 (2 #10 + 1 #10 GND, 3/4"C)	2500	18
19	2500					5000							2500	20
21	2500	PTAC-2-11 (2 #10 + 1 #10 GND, 3/4"C)			30		3500		20			FCU-2 (3 #12 + 1 #12 GND, 3/4"C)	1000	22
23	2500							3500					1000	24
25	0	SPACE				1000							1000	26
27	0	SPACE					0					SPACE	0	28
29	0	SPACE						0				SPACE	0	30
31	0	SPACE				0						SPACE	0	32
33	0	SPACE					0					SPACE	0	34
35	0	SPACE						0				SPACE	0	36
37	0	SPACE				0						SPACE	0	38
39	0	SPACE					0					SPACE	0	40
41	0	SPACE						0				SPACE	0	42

208Y/120	V	225	BUS RATING
3	PHASE	MCB	MAINS TYPE
4	WIRE	225	MCB RATING
10	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	0	100%	0
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	58000	100%	58000
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	0	100%	0
TOTAL	58000	100%	58000

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

PROVIDE DOOR WITH LOCK AND HINGED TRIM. PROVIDE COPPER BUSS BARS AND BOLT ON BREAKERS.

NOTES:
1.
2.
3.
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	21000	VA	175.0	AMP
PH. B	18500	VA	154.2	AMP
PH. C	18500	VA	154.2	AMP

NEW PANEL F — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	PHASE C	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	2500	PTAC-3-01 (2 #10 + 1 #10 GND, 3/4"C)			30	5000			30			PTAC-3-02 (2 #10 + 1 #10 GND, 3/4"C)	2500	2
3	2500						5000						2500	4
5	2500	PTAC-3-03 (2 #10 + 1 #10 GND, 3/4"C)			30			5000	30			PTAC-3-04 (2 #10 + 1 #10 GND, 3/4"C)	2500	6
7	2500					5000							2500	8
9	2500	PTAC-3-05 (2 #10 + 1 #10 GND, 3/4"C)			30		5000		30			PTAC-3-06 (2 #10 + 1 #10 GND, 3/4"C)	2500	10
11	2500							5000					2500	12
13	2500	PTAC-3-07 (2 #10 + 1 #10 GND, 3/4"C)			30	5000			30			PTAC-3-08 (2 #10 + 1 #10 GND, 3/4"C)	2500	14
15	2500						5000						2500	16
17	2500	PTAC-3-09 (2 #10 + 1 #10 GND, 3/4"C)			30			5000	30			PTAC-3-10 (2 #10 + 1 #10 GND, 3/4"C)	2500	18
19	2500					5000							2500	20
21	2500	PTAC-3-11 (2 #10 + 1 #10 GND, 3/4"C)			30		3500		20			FCU-3 (3 #12 + 1 #12 GND, 3/4"C)	1000	22
23	2500							3500					1000	24
25	0	SPACE				1000							1000	26
27	0	SPACE					0					SPACE	0	28
29	0	SPACE						0				SPACE	0	30
31	0	SPACE				0						SPACE	0	32
33	0	SPACE					0					SPACE	0	34
35	0	SPACE						0				SPACE	0	36
37	0	SPACE				0						SPACE	0	38
39	0	SPACE					0					SPACE	0	40
41	0	SPACE						0				SPACE	0	42

208Y/120	V	225	BUS RATING
3	PHASE	MCB	MAINS TYPE
4	WIRE	225	MCB RATING
18	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	0	100%	0
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	58000	100%	58000
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	0	100%	0
TOTAL	58000	100%	58000

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

PROVIDE DOOR WITH LOCK AND HINGED TRIM. PROVIDE COPPER BUSS BARS AND BOLT ON BREAKERS.

NOTES:
1.
2.
3.
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	21000	VA	175.0	AMP
PH. B	18500	VA	154.2	AMP
PH. C	18500	VA	154.2	AMP

NEW PANEL C — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CB NOTE	CB FUNCTION	CB TRIP	PHASE A	PHASE B	PHASE C	CB TRIP	CB FUNCTION	CB NOTE	DESCRIPTION	LOAD VA	CKT
1	1000	UNIT HEATER 1 (3 #12 + 1 #12 GND, 3/4"C)			20	2000			20			UNIT HEATER 2 (3 #12 + 1 #12 GND, 3/4"C)	1000	2
3	1000						2000						1000	4
5	1000							2000					1000	6
7	1000	FCU-1 (3 #12 + 1 #12 GND, 3/4"C)			20	2000			20			UNIT HEATER 3 (3 #12 + 1 #12 GND, 3/4"C)	1000	8
9	1000						2000						1000	10
11	1000							2000					1000	12
13	2306	CU-1 (2 #10 + 1 #10 GND, 3/4"C)			30	4612			30			CU-2 (2 #10 + 1 #10 GND, 3/4"C)	2306	14
15	2306						4612						2306	16
17	2306	CU-3 (2 #10 + 1 #10 GND, 3/4"C)			30			2486	20			CONDENSOR YARD REC	180	18
19	2306					2306						SPACE	0	20
21	0	SPACE					0					SPACE	0	22
23	0	SPACE						0				SPACE	0	24
25	0	SPACE				0						SPACE	0	26
27	0	SPACE					0					SPACE	0	28
29	0	SPACE						0				SPACE	0	30
31	0	SPACE				0						SPACE	0	32
33	0	SPACE					0					SPACE	0	34
35	0	SPACE						0				SPACE	0	36
37	0	SPACE				0						SPACE	0	38
39	0	SPACE					0					SPACE	0	40
41	0	SPACE						0				SPACE	0	42

208Y/120	V	225	BUS RATING
3	PHASE	MCB	MAINS TYPE
4	WIRE	225	MCB RATING
18	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	180	100%	180
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	25836	100%	25836
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	0	100%	0
TOTAL	26016	100%	26016

FED FROM: MDP
MOUNT: SURFACE
NEMA: 1
MAN / MODEL #: SQUARE D

PROVIDE DOOR WITH LOCK AND HINGED TRIM. PROVIDE COPPER BUSS BARS AND BOLT ON BREAKERS.

NOTES:
1.
2.
3.
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB — SFCB: SUBFEED CB — L: LONG TIME
CB: CIRCUIT BREAKER — SFL: SUBFEED LUGS — S: SHORT TIME
EX: EXISTING — SR: SEE RISER — I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA) — ST: SHUNT TRIP — G: GROUND FAULT
GFCB: GND FAULT CB (6mA) — UV: UNDERVOLTAGE TRIP — A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH

PANEL DEMAND TOTALS				
PH. A	10918	VA	91.0	AMP
PH. B	8612	VA	71.8	AMP
PH. C	6486	VA	54.1	AMP

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 041410 ENGINEER WILLIAM A. KEMP
5/20/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

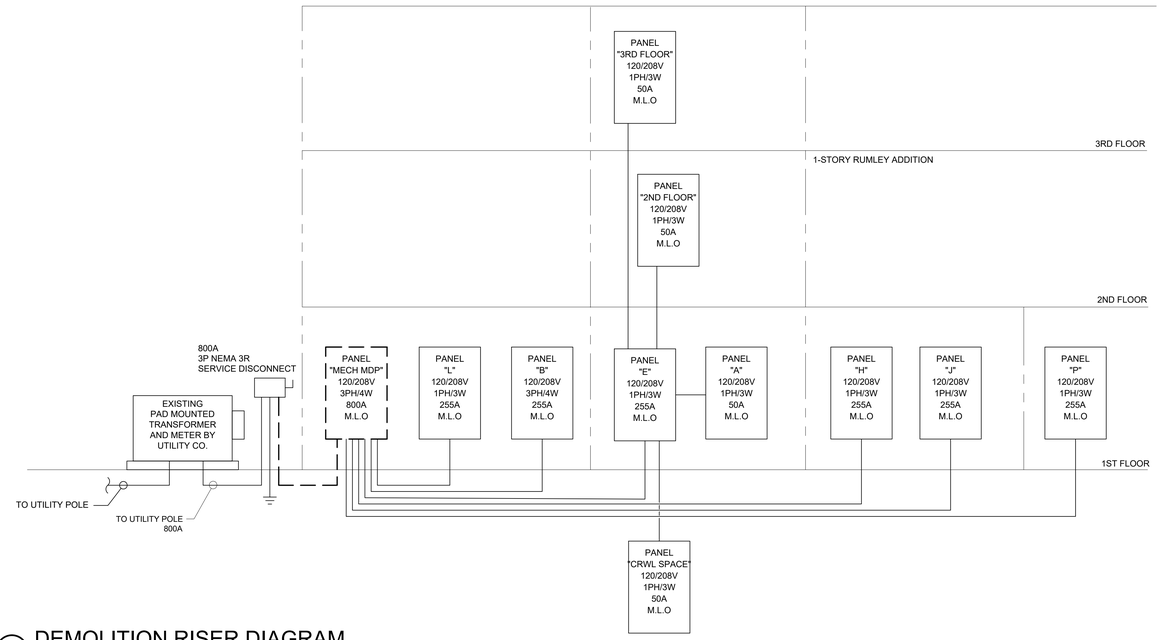
DRAWN BY: BRS,KMS
APPROVED BY: WAK
CHECKED BY: POA
DATE: 05/20/2026

TITLE
SCHEDULES

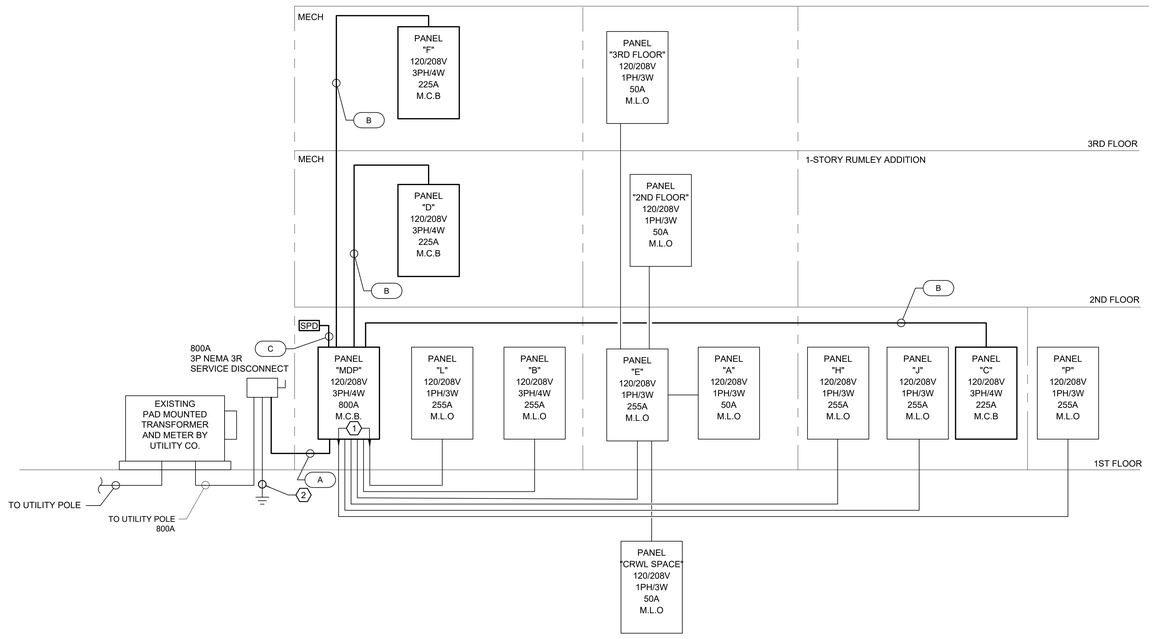
PROJECT NO. 50193045

E-601
SHEET NO.

F E D C B A



1 DEMOLITION RISER DIAGRAM
SCALE: N.T.S



2 NEW WORK RISER DIAGRAM
SCALE: N.T.S

NEW PANEL MDP — BRANCH: NORMAL — NEW WORK

CKT	LOAD VA	DESCRIPTION	CIRCUIT BREAKER NOTE	CIRCUIT BREAKER FUNCTION	CIRCUIT BREAKER TRIP	PHASE A	PHASE B	PHASE C	CIRCUIT BREAKER TRIP	CIRCUIT BREAKER FUNCTION	CIRCUIT BREAKER NOTE	DESCRIPTION	LOAD VA	CKT
1	13823					27794							13971	2
3	13823	DOAS			125		27794		225			PANEL L	13971	4
5	13823							18823					5000	6
7	3333					8333			225			PANELS E AND A	5000	8
9	3333	PANEL B			225		10833						7500	10
11	3333							10833	225			PANEL J	7500	12
13	8612					13612							5000	14
15	8612	PANEL C			225		13612		225			PANEL P	5000	16
17	8612							13612					5000	18
19	19333					24333			225			PANEL H	5000	20
21	19333	PANEL D			225		38667						19333	22
23	19333							38667	225			PANEL F	19333	24
25	0					19333							19333	26
27	0	SPACE					0						0	28
29	0							0				SPACE	0	30
31	0					0							0	32
33	0	SPACE					0						0	34
35	0							0				SPACE	0	36
37	0					0							0	38
39	0	SPD			60		0						0	40
41	0							0				SPACE	0	42

208Y/120	V	800	BUS RATING
3	PHASE	MCB	MAINS TYPE
4	WIRE	800	MCB RATING
42	KAIC	-	TRIP UNIT
N/A	SE LABEL		

LOAD TYPE	CONNECTED		DEMAND
EXISTING	0	125%	0
RECEPTACLES	0	100%	0
MOTOR	0	100%	0
LARGEST MOTOR	0	125%	0
HVAC	41470	100%	41470
LIGHTING	0	125%	0
KITCHEN	0	100%	0
OTHER	224778	100%	224778
TOTAL	266248	100%	266248

FED FROM: UTLITY OUTDOOR SERVICE DISC
MOUNT: SURFACE
NEMA: 1
MAN / MODEL # SQUARE D

PROVIDE DOOR WITH LOCK AND HINGED TRIM. PROVIDE COPPER BUSS BARS AND BOLT ON BREAKERS.

NOTES:
1.
2.
3.
4.

FUNCTIONS AND ABBREVIATIONS

AFCB: ARC FAULT CB	SFCB: SUBFEED CB	L: LONG TIME
CB: CIRCUIT BREAKER	SFL: SUBFEED LUGS	S: SHORT TIME
EX: EXISTING	SR: SEE RISER	I: INSTANTANEOUS
GFEP: GND FAULT CB (30ma/100mA)	ST: SHUNT TRIP	G: GROUND FAULT
GFCB: GND FAULT CB (6mA)	UV: UNDERVOLTAGE TRIP	A: ALARM
ARMS: ARC FLASH REDUCTION MAINTENANCE SWITCH		

PANEL DEMAND TOTALS			
PH. A	93406 VA	778.4	AMP
PH. B	90906 VA	757.6	AMP
PH. C	81935 VA	682.8	AMP

FEEDER SCHEDULE

MARK	SETS	CONDUCTORS	CONDUIT	AMPACITY	REMARKS
A	3	4 #300 KCMIL	3"	800A	
B	1	3 #4/0 AWG + 1 #4 AWG GND	3"	225A	
C	1	3 #6 AWG + 1 #10 AWG GND	3/4"	60A	

GENERAL NOTES:
1.

(#) DEMO KEYNOTES:
1.

(#) NEW WORK KEYNOTES:
1. PROVIDE CONDUIT BONDING BUSHINGS AT EACH EXISTING FEEDER CONNECTION TO NEW MDP PANEL SINCE EXISTING FEEDERS LACK EGC. MEGGER TEST THE EXISTING MDP FEEDERS AND PROVIDE TEST REPORT. RESISTANCE TEST EXISTING MDP FEEDER CONDUIT AND PROVIDE TEST REPORT.
2. VERIFY EXISTING N-G, SE RATED BOND AT EXISTING SERVICE DISCONNECT. REMOVE ANY OTHER EXISTING N-G BONDS IN SYSTEM. TEST EXISTING SERVICE GROUNDING ELECTRODE SYSTEM. REPORT RESISTANCE TEST.

Dewberry
Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607-3073
919.881.9939
NC License No. F-0929

CAMPBELL UNIVERSITY
POWELL HALL
HVAC AND PLUMBING RENOVATION
84 DAY DORM ROAD
BUIES CREEK, NC 27506
CONSTRUCTION DOCUMENTS

SEAL
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 041410 WILLIAM A. KEMP
5/20/2026

KEY PLAN

SCALE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWN BY BRS,KMS
APPROVED BY WAK
CHECKED BY POA
DATE 05/20/2026

TITLE
RISER DIAGRAMS

PROJECT NO. 50193045

E-901

SHEET NO.

VENTILATION CALCULATION

AHU NO.	ROOM NO.	NAME	AREA (SQFT)	Occupancy Class - FACILITY TYPE	LOAD CALC ASSIGNED SA (CFM)	LOAD CALC DOAS SA (CFM)	OCCUPANCY DENSITY (#/1000 SQFT)	OCCUPANCY NUMBER OF OCC.	OCCUPANCY OA OA RATE (CFM/OCC.)	OCCUPANCY OA OA RATE (CFM)	FLOOR AREA OA OA RATE (CFM/SQFT)	FLOOR AREA OA OA RATE (CFM)	VENTILATION Vbz (CFM)	VENTILATION Voz (CFM)	Zp	EXHAUST EA RATE (BASIS)	EXHAUST EA RATE (CFM)
	-	Dorm 1A	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 1B	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 1C	245	Bedroom/living room		60	10	3	5	15	0.06	15	30	37		—	0
	-	Dorm 1D	245	Bedroom/living room		60	10	3	5	15	0.06	15	30	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 1E	225	Bedroom/living room		40	10	3	5	15	0.06	14	29	36		—	0
	-	BATHROOM	45	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 1F	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 1G	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 1H	245	Bedroom/living room		60	10	3	5	15	0.06	15	30	37		—	0
	-	Dorm 1I	245	Bedroom/living room		60	10	3	5	15	0.06	15	30	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Kitchen (no cooking)	135	Storage rooms	100	0	—	0	—	0	0.12	16	16	20		—	0
	-	LAUNDRY 1	135	Coin-operated laundries	100	40	20	3	7.5	23	0.06	8	31	38		—	0
	-	CORRIDOR 1	1,000	Corridors	660	80	—	0	—	0	0.06	60	60	75		—	0
		JAN CLOSET	50	_SELECT OR CUSTOM	0	0	—	0	—	0	—	0	0	0		50	50
	-	Dorm 2A	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 2B	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 2C	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 2D	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 2E	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 2F	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Form 2G	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 2H	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 2I	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 2J	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 2K	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	LAUNDRY 2	120	Coin-operated laundries	200	40	20	3	7.5	23	0.06	7	30	37		—	0
	-	CORRIDOR 2	640	Corridors	560	50	—	0	—	0	0.06	38	38	48		—	0
	-	Dorm 3A	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 3B	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 3C	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 3D	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 3E	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 3F	240	Bedroom/living room		40	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 3G	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 3H	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 3I	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	Dorm 3J	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	Dorm 3K	240	Bedroom/living room		60	10	3	5	15	0.06	14	29	37		—	0
	-	BATHROOM	40	Bathrooms/toilet - private g		0	—	0	—	0	—	0	0	0		25/50 f	50
	-	LAUNDRY 3	120	Coin-operated laundries	200	40	20	3	7.5	23	0.06	7	30	37		—	0
	-	CORRIDOR 3	640	Corridors	560	50	—	0	—	0	0.06	38	38	48		—	0
	-	ROOM NAME		_SELECT OR CUSTOM			—	0	—	0	—	0	0	0		—	0