

**SECTION 00 91 14**

**ADDENDUM NUMBER 5**

**PARTICULARS**

- 1.01 DATE: MAY 19, 2021**
- 1.02 PROJECT: RENOVATIONS TO BUCHANAN HALL PHASE II**
- 1.03 PROJECT NUMBER: DCM NO. 2021305**
- 1.04 OWNER: ALABAMA A&M UNIVERSITY**
- 1.05 ARCHITECT: NOLA | VAN PEURSEM ARCHITECTS, PC**



**TO PROSPECTIVE BIDDERS**

- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE BIDDING DOCUMENTS DATED APRIL 7, 2021, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.**
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE PROPOSAL FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.**
- 2.03 THIS ADDENDUM CONSISTS OF 14 PAGES.**

**CHANGES TO THE PROJECT MANUAL**

**3.01 SECTION 23 33 12 – COMBINATION FIRE SMOKE DAMPERS:**

- A. Add this section in its entirety.

**CHANGES TO THE DRAWINGS**

**4.01 SHEET A-1.3 – FIRST & SECOND FLOOR PLANS – RENOVATION:**

- A. Add Renovation General Note F, to read as follows: "The building elevator shall not be used for the transportation of construction materials."

**4.02 SHEET A-6.3 – STAIR SECTIONS:**

- A. Add Note 2 to 7/A-6.3 to read as follows: "New wall brackets evenly spaced as needed at not more than 4'-0" on center."

**4.03 SHEET P-4.1 – PLUMBING SCHEDULES:**

- A. Revise this sheet as follows: Delete the "Interceptor Tank Schedule" in its entirety.

**4.04 SHEETS M-2.1, M-2.3, M-2.4, AND M-2.5:**

- A. Replace these sheets in their entirety. Revisions include:
  - 1. Changed fire dampers to fire/smoke dampers at locations identified on plans.

**4.05 SHEET M-5.4 – MECHANICAL SCHEDULES:**

- A. Replace this sheet in its entirety. Revisions include:
  - 1. Added combination fire/smoke damper with access door to Mechanical Legend.

**4.06 SHEET M-6.1 – MECHANICAL DETAILS:**

- A. Replace this sheet in its entirety. Revisions include:
  - 1. Added Field Line Detail.

**4.07 SHEET E-0.1 - ELECTRICAL LEGEND:**

- A. Replace this sheet in its entirety. Revisions include:
  - 1. Added motorized damper and duct detector associated with damper to fire alarm legend.

**4.08 SHEET E-3.0 - ELECTRICAL FIRST AND SECOND PLAN - POWER AND AUXILIARY:**

- A. Replace this sheet in its entirety. Revisions include:
  - 1. Added motorized damper and duct detector in locations indicated.

**4.09 SHEET E-3.1 - ELECTRICAL THIRD AND ATTIC PLAN – POWER AND AUXILIARY:**

- A. Replace this sheet in its entirety. Revisions include:
  - 1. Added motorized damper and duct detector in locations indicated.

**END OF ADDENDUM NUMBER 5**

## **SECTION 23 33 12**

### **COMBINATION FIRE/SMOKE DAMPERS**

#### **PART 1 – GENERAL**

##### **1.01 WORK INCLUDED**

- A. Provide combination fire/smoke dampers as indicated on the drawings, complete with all accessories specified herein and as required for complete installation.

##### **1.02 REFERENCES**

Air Movement and Control Association (AMCA)

National Fire Protection Association (NFPA)

Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

Underwriters Laboratories, Inc. (UL)

##### **1.03 SUBMITTALS**

- A. Submit catalogue data and shop drawings for all combination fire/smoke dampers and accessories listed under this section.
- B. Submit manufacturer's approved installation instructions for each damper type and application. Submit any supplemental instructions that are required for the installation of the dampers. The installation instructions shall be specific as to the size, quantity and type of all materials required for a UL approved installation.

#### **PART 2 - PRODUCTS**

##### **2.01 COMBINATION FIRE/SMOKE DAMPERS**

- A. Combination fire/smoke dampers shall be factory assembled and shall bear the U.L. label for the fire-resistant rating required at each location. Dampers shall have been constructed and tested in compliance with U.L. Standard 555 and U.L. Standard 555S. Each damper shall have been tested per AMCA 500, to prove closure under the static pressure and dynamic air flow conditions indicated on the drawings. Each damper shall bear an U.L. approved label identifying its classification as a "Dynamic Rated Fire Damper" and shall further be classified by UL as a Leakage Rated Damper for use in smoke control systems.
- B. Dampers blades shall be 16 gage galvanized steel and shall be triple crimped. The blades shall be on 6" centers and shall have edge and jamb seals. The blade linkage shall be concealed in the jamb. Bearings shall be Oilite bronze. Axles shall be ½" plated hex. The control shaft shall be ½" round, extending 3" beyond the frame.
- C. Fusible links shall separate at 165 degrees F.
- D. Provide low resistance type frames. Frames shall be 16 gage galvanized steel and shall provide a free area equal to or exceeding the cross-sectional area of the connecting ductwork when the damper is in the "open" position. Frame styles shall be as required for duct shape and system velocity.
- E. Provide all fire dampers with an integral sleeve welded to the fire damper frame. The sleeve shall extend a minimum of 4" on either side of finished wall.

- F. Operators shall be the electric type, operating on 24 vac or 120 vac, 60hz and shall have spring return such that the damper will close upon power interruption. All wiring and conduit required to interconnect the damper with the detection and/or alarm or other systems shall be furnished by others.
- G. Combination fire/smoke dampers rated for 1-1/2 hours shall be as follows:
  - Ruskin Series FSD60
  - United Air Model D-502
  - Air Balance Inc. Model FS2
- H. Product submittals shall include complete manufacturer's installation instructions. Failure to do so shall be grounds for rejection.

## **2.02 ACCESS DOORS**

- A. Duct Access Doors shall be UL labeled, galvanized steel, double panel construction, internally insulated with minimum 1 inch thick fiberglass insulation complete with gaskets.
- B. Access doors held in place with sheet metal screws are not acceptable.
- C. The location of the access doors shall be coordinated for easy access to the fire damper fusible links.
- D. The following access doors are specified to establish the quality of the products. Other products by prior approved manufacturers will be considered.
  - 1. Rectangular, low pressure duct.
    - Ruskin, Series ADH22, 24 gauge, insulated double skin, with hinged frame connection and cam lock closures. Doors shall be 16" x 16" or large as possible.
  - 2. Rectangular, high pressure duct.
    - Kees Incorporated, Series ADC-HP, 24 gauge galvanized panel, 22 gauge frame with camlock closures on all sides. Provide safety chain.
  - 3. Round, low pressure duct.
    - United Air, Series ADC, 22 gauge, spiral compression with conical springs and hand knobs.
  - 4. Round, high pressure duct.
    - Ductmate Industries, Inc., sandwich access doors with conical springs and hand wheels.

## **PART 3 - EXECUTION**

### **3.01 COMBINATION FIRE/SMOKE DAMPERS**

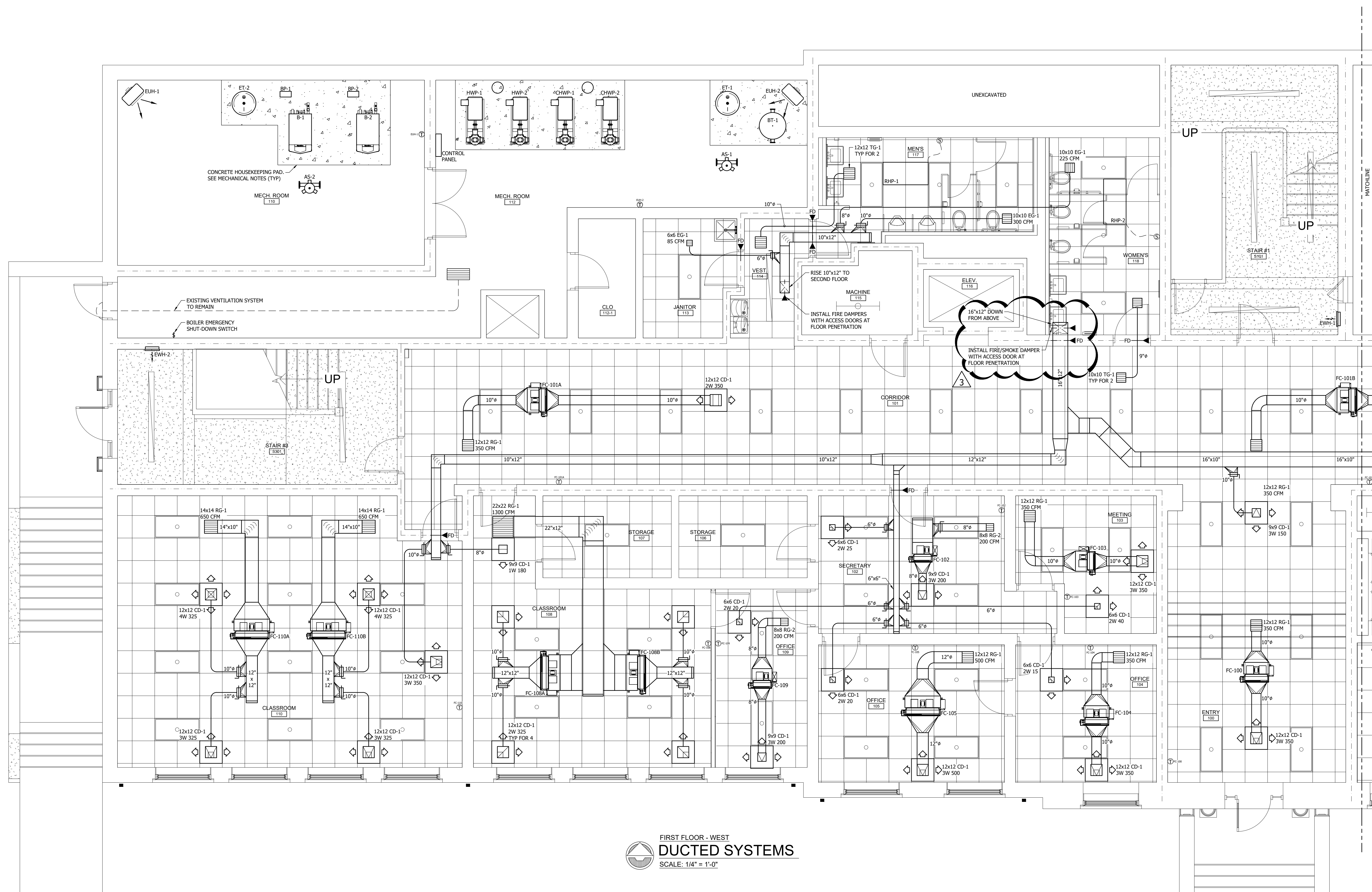
- A. Combination fire/smoke dampers shall be installed in conformance with the manufacturer's installation instructions, UL 555, UL 555S, NFPA 90A, NFPA92A and SMACNA.
- B. Combination fire/smoke dampers shall not be purchased until the shop drawings and installation instructions have been approved.

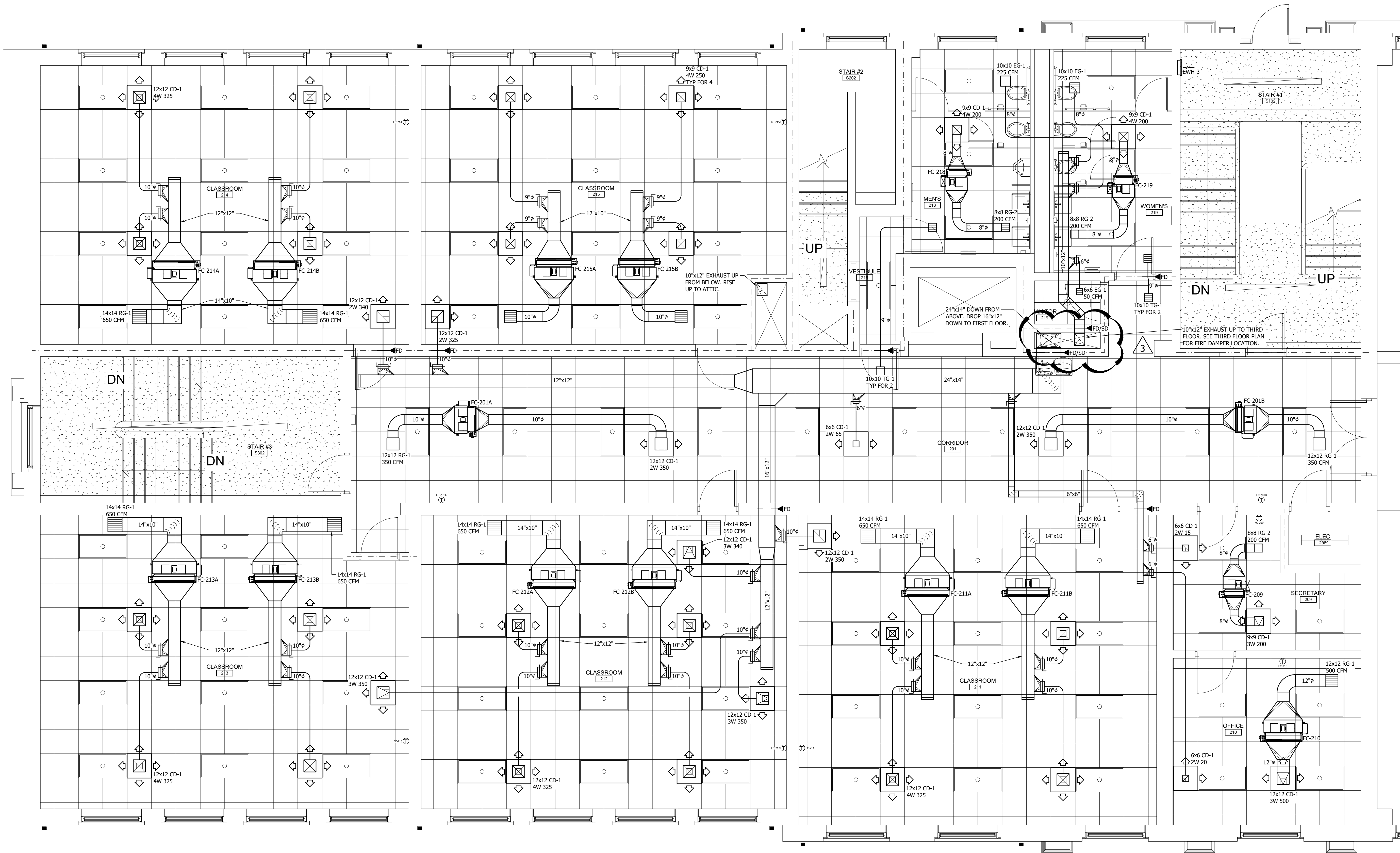
- C. A set of all applicable instructions shall be in a permanent file at the project site and shall be produced upon the request of the Engineer's inspector. Failure to either produce these instructions, or to follow them explicitly for even one (1) combination fire/smoke damper, shall be cause for the contractor to remove all installed dampers.

### **3.02 ACCESS DOORS**

- A. Provide duct access doors where fire/smoke damper fusible links and operators when not accessible through other openings. Location and size shall be sufficient to reset fire dampers, replace fusible links and service the operators. Locations and size of each access panel shall be approved by the Engineer. Where access is deemed inadequate, the Contractor shall correct the situation as directed by the Engineer.

**END OF SECTION**





SECOND FLOOR  
**DUCTED SYSTEMS**  
SCALE: 1/4" = 1'-0"



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**RENOVATIONS TO  
BUCHANAN HALL PHASE II**  
355 BUCHANAN WAY  
NORMAL, AL

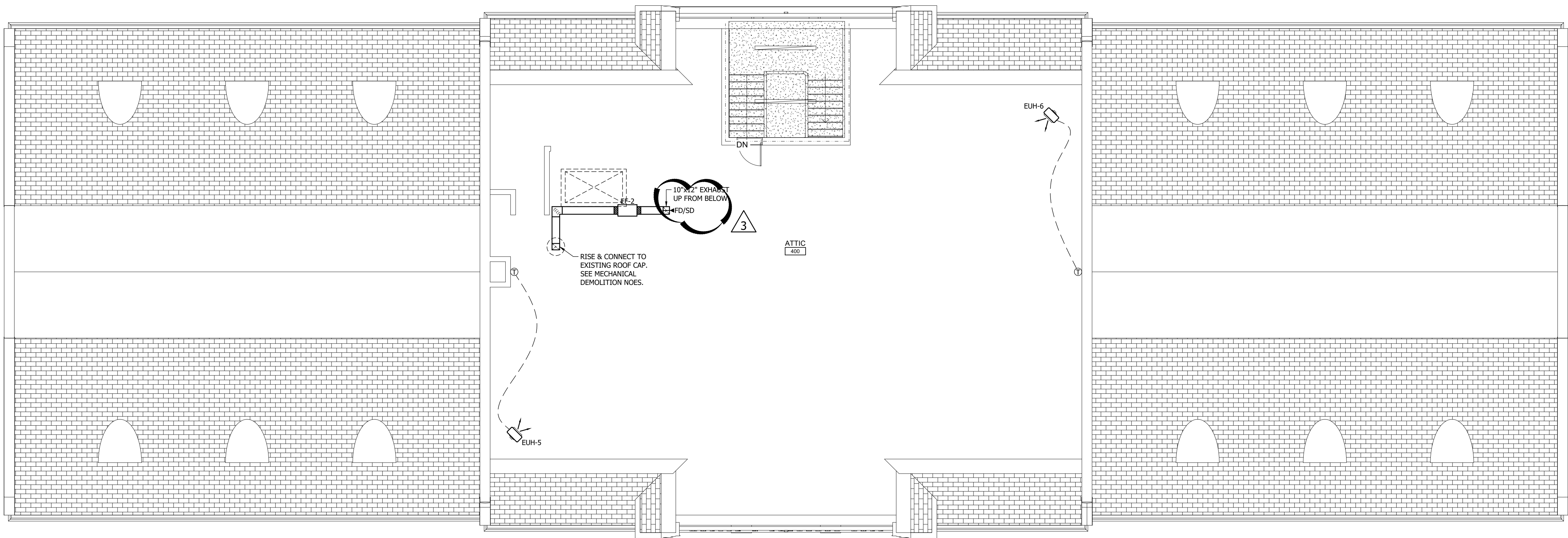
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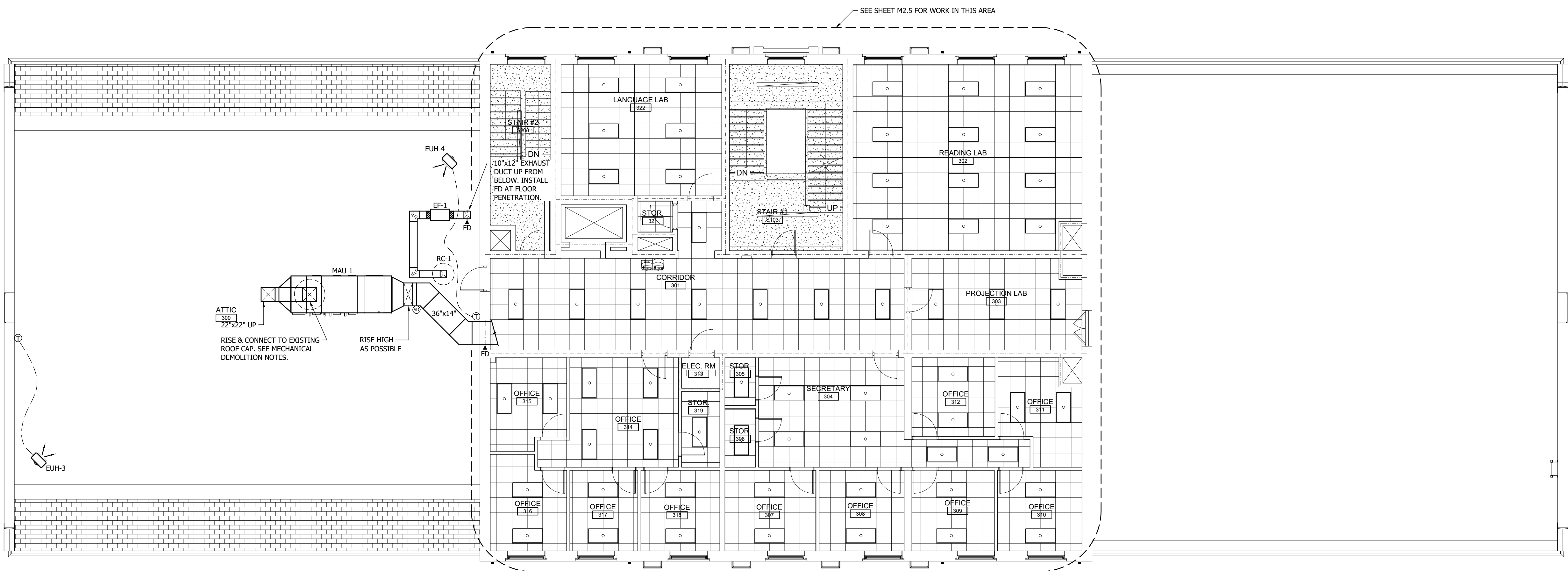
No.	Description	Date
1	ADDENDUM 2	04-21-21
2	ADDENDUM 4	05-17-21
3	ADDENDUM 5	05-18-21

SHEET TITLE  
**THIRD FLOOR  
& ATTIC  
DUCTED SYSTEMS**

SHEET NUMBER  
**M-2.4**  
OF  
19

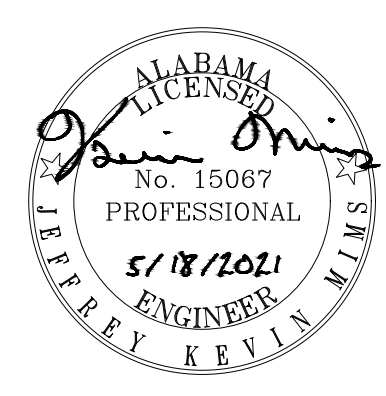


ATTIC  
**DUCTED SYSTEMS**  
SCALE: 1/8" = 1'-0"



THIRD FLOOR  
**DUCTED SYSTEMS**  
SCALE: 1/8" = 1'-0"





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355 BUCHANAN WAY  
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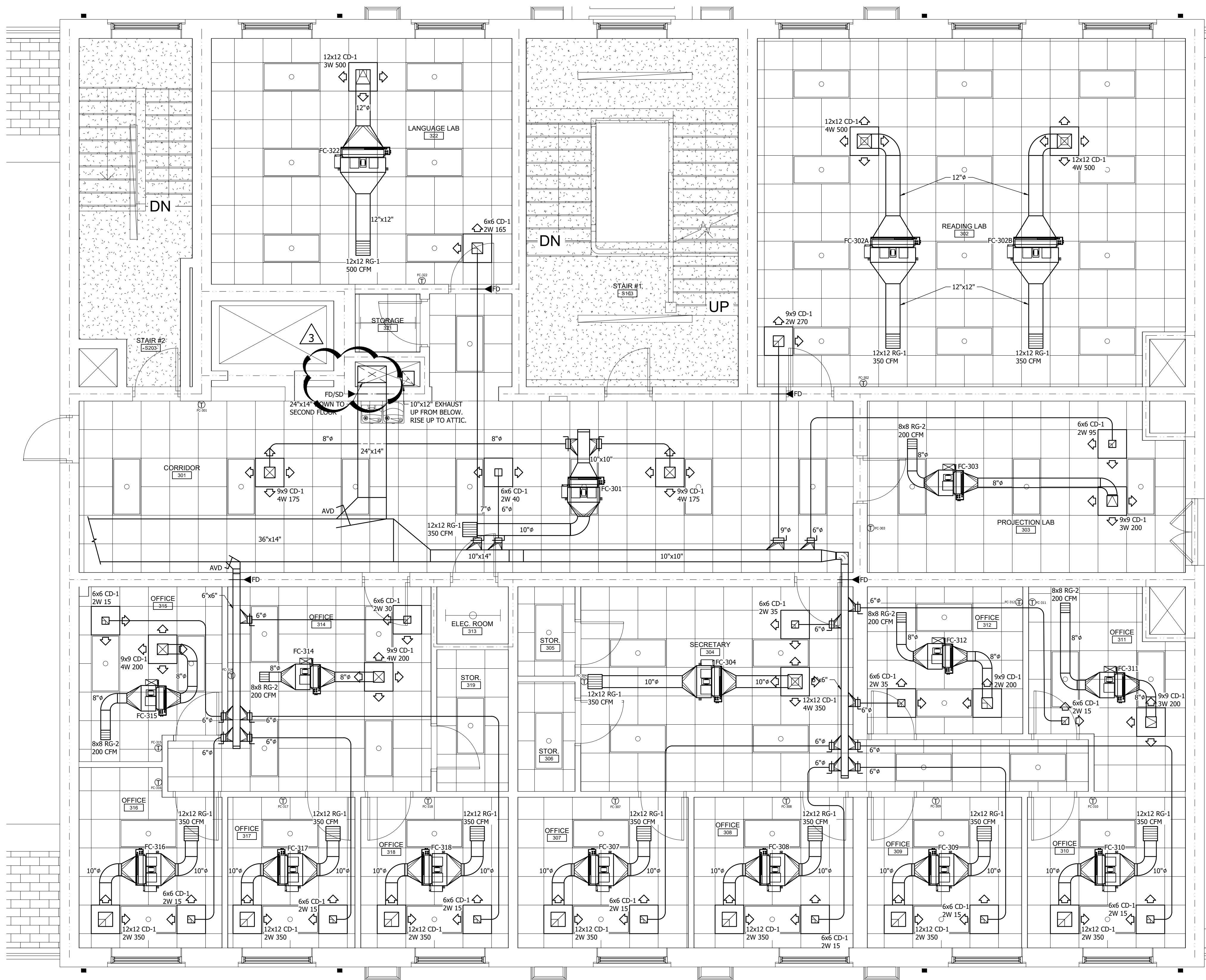
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1	ADDENDUM 2	04-21-21	
2	ADDENDUM 4	05-17-21	
3	ADDENDUM 5	05-18-21	

SHEET TITLE  
**THIRD FLOOR  
DUCTED SYSTEMS**

SHEET NUMBER  
**M-2.5**  
OF  
19



THIRD FLOOR  
**DUCTED SYSTEMS**  
SCALE: 1/4" = 1'-0"

2

MECHANICAL LEGEND

FD

= FIRE DAMPER WITH ACCESS DOOR

FD/SD

= COMBINATION FIRE/SMOKE DAMPER WITH ACCESS DOOR

T

= THERMOSTAT

SD

= SMOKE DETECTOR

S

= TEMPERATURE SENSOR

G

= GAS PIPE

CD

= CONDENSATE DRAIN

HWS

= HOT WATER SUPPLY

HWR

= HOT WATER RETURN

CHWS

= CHILLED WATER SUPPLY

CHWR

= CHILLED WATER RETURN

---

= EXISTING TO REMAIN

----

= HIDDEN EXISTING TO REMAIN

+++++

= EXISTING TO BE REMOVED

----

= HIDDEN EXISTING TO BE REMOVED

O

= NOTE REFERENCE SYMBOL



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BUCHANAN HALL PHASE II

355 BUCHANAN WAY  
NORMAL, AL

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REVISIONS		
No.	Description	Date
1	ADDENDUM 2	04-21-21
2	ADDENDUM 5	05-18-21

SHEET TITLE

MECHANICAL  
SCHEDULES

SHEET NUMBER  
M-5.4  
OF  
19

SEQUENCE OF CONTROL

Substantial Completion for Controls shall not be approved, regardless if Substantial Completion has been approved for the remainder of the project, until the Controls System is complete, fully functional, including graphics.

The Controls Supplier shall be responsible for the correct installation, connection, set up and operation of the controls system. This shall also apply to the Controls Supplier installing the system and also when the controls are supplied to the Mechanical Contractor for installation. If the Mechanical Contractor is not able get the controls to operate correctly, the Supplier shall be responsible for making all necessary corrections to ensure proper operation.

The Mechanical/Controls Contractor shall ensure that the Electrical Contractor provides sufficient sources of 120 volt power, relays and conduit for all devices, VAV boxes, damper actuators and valve actuators, etc. The Mechanical/Controls Contractor shall provide all transformers and coordinate with the Electrical Contractor for the installation of the transformers. The Mechanical/Controls Contractor shall provide all necessary wiring, components and devices such as relays, motor starters, thermostats, sensors, etc. for a complete control system. The Controls Contractor shall have an allowance in the project on the anticipated cost of the Electrical Contractors service when additional power sources are needed. This allowance will be in the Controls Contractors bid price. Failure to include the cost will not constitute a change order.

The Electrical Contractor shall furnish and install all wall boxes and rigid conduit in all walls for all thermostats, CO<sub>2</sub> sensors and other wall mounted devices. The Mechanical/Controls Contractor shall coordinate with the Electrical Contractor for the installation, location and quantity of these boxes. The Mechanical/Controls Contractor shall provide and install wiring in conduit and boxes installed by the Electrical Contractor. The Mechanical/Controls Contractor shall install all rigid conduit, boxes and wire for control devices installed in unfinished areas pending approval from the Architect that conduit, boxes and wire will be allowed to be exposed. These shall be installed in accordance with Division 16 and the box locations shall be coordinated with All Trades.

All control wiring shall be shielded cable. All control wire sheathing shall be one color, orange, or as directed by the Owner's representative.

Two-position dampers shall be controlled with Belimo model NF24-S-US, direct coupled, 24 volt, 60 in-lb torque with 75 second run time, spring return and built in auxiliary switch. Fully modulating dampers shall be controlled with Belimo model NF24-SR-S-US, direct coupled, 24 volt, 60 in-lb torque, spring return and built in auxiliary switch.

All set points shall be adjustable.

Smoke detectors indicated on the mechanical plans shall be provided by the Electrical / Fire Alarm Contractor, installed by the Mechanical Contractor and shall be wired by the Electrical / Fire Alarm Contractor.

The building is protected by a global fire alarm panel. In the event any smoke detector or pull station is activated, a signal is to be sent to disable the HVAC equipment. The HVAC equipment shall be equipped with duct mounted smoke detectors as shown on the drawings. In the event a smoke detector is activated, the associated system shall be completely disabled.

The controls system shall be fully compatible and capable to communicate with Alabama A & M Universities existing Siemens Talon system

Systems

Make Up Air Unit MAU-1

The unit shall be enabled during occupied periods as determined by the BAS. When the unit is enabled during occupied cooling mode, the outside air damper shall open and the chilled water control valves shall modulate as required in order to maintain the cooling coil discharge air set point of 55° F. When the outside air temperature falls below 55° DB then the unit shall modulate the preheat and reheat valves to deliver 70° F air to the space. If the preheat valve is at 100% and the discharge air temperature falls below 70° F then the reheat valve shall be modulated to maintain the discharge air temperature setpoint.

If the preheat discharge air temperature falls below 40°, an alarm shall sound, the fan will cut off, and the outside air damper shall close.

Whenever the humidity rises above 55% the chilled water valve on the make-up air unit shall fully open.

Units shall be shut down and alarm sent to the BAS if any of the factory mounted safeties are tripped or the Duct mounted smoke detector shuts the unit down.

MAUs shall be de-energized during unoccupied hours. When the unit is de-energized the fan shall be de-energized, and the the outside air damper shall fully close.

Air Cooled Chiller

Chiller shall be enabled on during occupied periods and whenever there is a demand for cooling, typically above 55°F. The chiller shall control its own pump. The chiller shall be equipped with electronic controls monitoring and controlling all critical points. It shall be equipped with a BACnet interface that shall be connected to the BAS.

Freeze Protection for Abv. Ground Piping to Air Cooled Chiller

Whenever the outdoor temperature falls below 32°F the lead chilled water pump shall be energized and all cooling valves shall open to 50%. All of the chiller pumps shall be energized. Heating shall become occupied.

Hydronic Boilers (B-1 & B-2)

The BAS shall enable the boilers whenever there is a demand for heating. The boilers shall be controlled by their own microprocessor to control all boiler functions, including outdoor air reset and pumps. A BACnet interface shall be provided and all points readable and writeable shall be mapped into the controls system.

Hydronic Building Loop Pumps

The building loop pumps shall vary flow through a VFD to maintain a differential pressure set point. Pumps will be lead-lag configuration.

Hydronic Fan Coil Units

System shall be operated and controlled by wall mounted wireless thermostats.

Cooling Mode: When the room temperature rises above set-point temperature, the chilled water valve shall open and the fan shall energize to maintain the discharge air setpoint at 55°F. After the thermostat is satisfied the chilled water valve will close and the fan will de-energize.

Heating Mode: When the room temperature falls below set-point temperature, the hot water valve shall open and the fan shall energize. After the thermostat is satisfied the hot water valve will close and the fan will de-energize.

Rooms Provided w/ Humidistat: When humidity levels rise above 55%, the chilled water valve shall fully open and the ECM fan shall modulate to maintain space temperature setpoint.

Exhaust Fans - Toilets, Continuous

All exhaust fans scheduled continuous shall run continuous at all times or during occupied periods as determined by the BAS.

Main Mechanical Room Exhaust Fan (Existing to be Reused)

Fan shall be controlled via new wall mounted thermostat to replace the existing. Whenever the exhaust fan is energized the the corresponding louver shall open via motorized damper to allow outside air into the space. Whenever setpoint is satisfied, fan shall de-energize and motorized damper on the louver shall close. Whenever the outdoor air temperature falls below 32 degrees this system will be disabled.

Suspended Unit Heaters

All suspended unit heaters shall be scheduled to run on a thermostat shall energize and de-energize with a thermostat.

Domestic Hot Water

The hot water recirculation pumps shall come on whenever the water temperature entering the water heater falls below the setpoint. During unoccupied periods the domestic water pump shall remain off.

Domestic Hot Water Circulation Systems

Circulation system shall be equipped with a pipe mounted immersion aquastat. The aquastat shall send a signal to the building controller which shall energize the circulation pumps. Domestic Boilers shall be integrated in to the building control system including circulation pumps. Hot water circulation pumps must be equipped with automatic clock type controls to turn the system off when hot water is not required.

CONTROLS MONITORING POINT LIST

The following items shall be monitored in addition to those points required to control the systems in accordance with the Sequence of Control:

General

- Outside Air Temperature
- Outside Air Relative Humidity

Makeup Air Units (MAU)

- Fan Status (via adjustable CT / VFD % status)
- Supply Air Quantity (CFM)
- Outside Air Damper Position
- Entering Air Temperature
- Entering Air Relative Humidity
- Leaving Air Temperature
- Leaving Air Relative Humidity
- Preheat Valve Position (3-Way Modulating, Diverting)
- Preheat Entering Water Temperature
- Preheat Leaving Water Temperature
- CW/HW Valve Position (3-Way Modulating, Diverting)
- CW/HW Entering Water Temperature
- CW/HW Leaving Water Temperature
- Reheat Valve Position (3-Way Modulating, Diverting)
- Reheat Entering Water Temperature
- Reheat Leaving Water Temperature
- Auxiliary Drain Pan Liquid Switch

Boilers

- Operating Status
- Entering Water Temperature
- Leaving Water Temperature
- Gas Valve Position
- Pump Status (via CT)

Air Cooled Chiller

- Compressor Status
- Condenser Fan Status
- Evaporator Entering Water Temperature
- Evaporator Leaving Water Temperature
- Pump(s) Status (via CT)

Building VFD Hot & Chilled Water Loop Pumps

- Supply Water Temperature
- Return Water Temperature
- Pump Status (VFD % status)
- Differential Pressure Switch (dP).

Fan Coil Units

- Room Set Point
- Room Temperature
- Space Relative Humidity Set Point
- Leaving Air Temperature
- CW Valve Position (2-Way Modulating)
- HW Valve Position (2-Way Modulating)

Make Up Water (Boiler & Chiller System)

- Meter Activation and Quantity (gal)

Exhaust Fans (Thermostatically Controlled)

- Fan Status (via CT)
- Room Set Point
- Room Temperature

Exhaust Fans (On / Off)

- Fan Status (via CT)

Suspended Electric Unit Heaters

- Unit Operating Status (via CT)
- Room Set Point
- Room Temperature

Domestic Hot Water & Circulation Systems

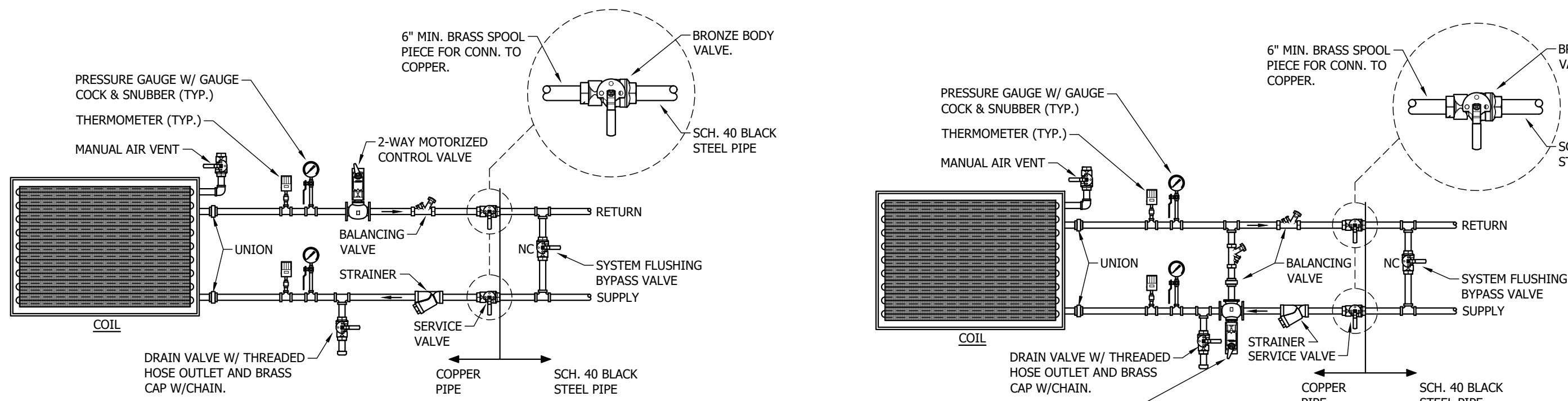
- Water Heater Tank Temperature
- Thermostatic Mixing Valve Discharge Temperature
- Recirculation Loop Temperature
- Recirculation Loop Pump Status (via CT)

Sump Pumps (Elevator, Existing)

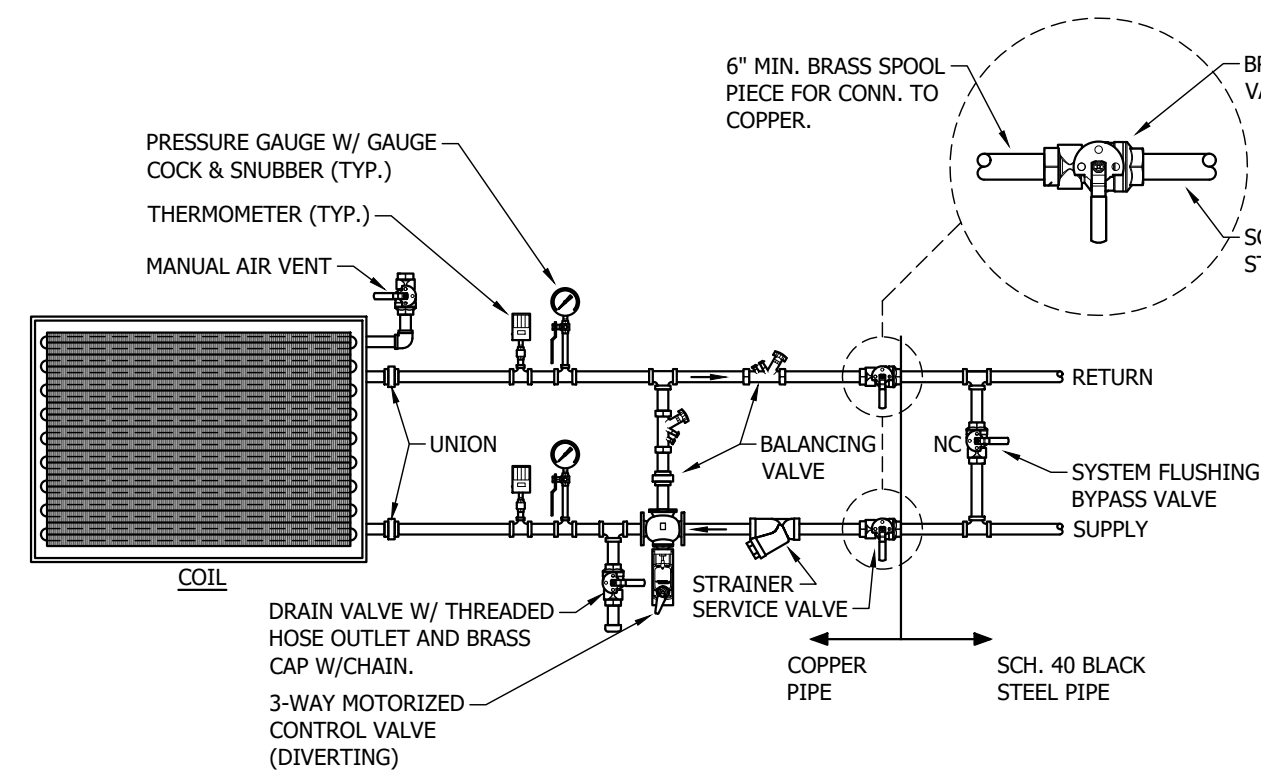
- Pump Alarm Status
- Pump Status (via CT)

MECHANICAL DEVICES & NOTES

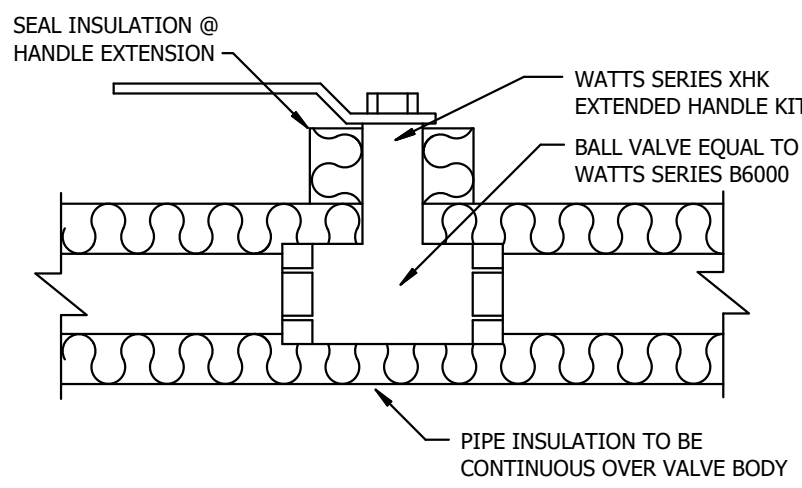
- MAU-1 installation shall be on a raised reinforced platform in the attic. The Mechanical Contractor shall furnish and install the MAU inside a drain pan. The pan shall be fabricated from 18 gauge galvanized sheet metal with a minimum of 2" raised lip around the perimeter with liquid tight seams and extending 6" out from the unit on all sides and 12" out from the unit on the coil connection side. Provide vibration isolation pads between the unit and the pan at all support points. The required liquid switch shall be located in an accessible location inside the pan
  - The Mechanical Contractor review Specification 01 21 00 Allowances to review the controls allowance for both inclusions and exclusions. The Mechanical Contractor shall be responsible for including all excluded controls on this project, for a complete and operational system.
  - All floors and egress corridor walls are rated and require fire dampers. Fire damper access doors shall be installed at every fire damper in an accessible location
  - The chiller pad shall be furnished and installed by other trades. The chiller shall be mounted on vibration isolators at all support points. Piping shall be extended below the concrete drive and rise at the edge of the chiller pad for connection. Heat tracing shall be installed on all piping from 18" below grade to the chiller connection. Coordinate with the General Contractor for any rock removal required for the installation of the below grade piping. Piping exiting the building below grade shall be sleeved, with a link-seal provided for a water tight fit
  - Structural steel furnished for equipment or piping support shall be cleaned and coated with two coats of rust inhibiting primer. Where pre-primed steel is used, primer shall be applied over the cut ends. All welded steel shall be wire brushed to remove any scale, ground smooth where necessary and then primed. Where structural support steel is provided for by Structural Drawings, coordinate with the steel installer with dimensions of all curbs prior to the installation
  - All above ceiling mounted equipment and powered devices shall be mounted no greater than 12" above the ceiling level and in an accessible location for service and routine maintenance. Equipment shall include but not be limited to all indoor HVAC equipment with or without filters, fans, motorized control dampers, controllers, remote control panels, transformers and like devices
  - Cold water make-up unit water backflow preventer to be Watts series 009M2QT-S, sizes as indicated on the floor plans, bronze body with quarter turn ball shut-off valves, bronze strainer and model 909AG air gap. Install with the cold water make up unit as detailed on the drawings
  - Mechanical Contractor shall coordinate the location of all ceiling air distribution devices with the ceiling grid and other disciplines including, but not limited to, electrical, fire protection and architectural
  - Condensate drains inside the building shall be 1" minimum for equipment or devices. Multiple pieces equipment grouped to a single line shall be sized as scheduled on the drawings. Pipe sizes shall increase regardless of size to 2" above the slab. Branch mains below the slab shall all be 2". Combined single main shall be 4". Coordinate with the Plumbing Contractor for the location and elevation necessary for connection and extension to the rain water leader where shown on the drawings. Termination of condensate drains from pumped equipment shall be a 1" line extending up a minimum of 4" at the device for the discharge of the discharge tubing
  - All exterior slab mounted equipment shall have neoprene in-shear isolation pads with crossed double ribs and .25" deflection. Pads shall be molded using oil resistant 25,000 PSI tensile strength neoprene
  - Mechanical Contractor shall be responsible for installing a roll type filter media over any return grilles or open return ducts as a temporary measure to block infiltration of construction dust and debris into any active returns serving existing or new HVAC systems until the completion of construction. Any tape or clips used to secure the media shall not leave permanent marks on the grilles
  - The floor mounted makeup air unit shall be mounted on a structural wood platform spanning the corridor walls. Coordinate with the General Contractor for the location required. Isolators shall be installed between the pad and platform. Isolators shall be neoprene in-shear isolation pads with crossed double ribs and .25" deflection. Pads shall be molded using oil resistant 25,000 PSI tensile strength neoprene
- MECHANICAL GAS SYSTEM NOTES
- Gas pressure regulators shall be installed as indicated on the floor plan and Gas Regulator Schedule. The regulators shall be provided by the Boiler Manufacturer and shall be ventless
  - All equipment shall be connected with a dirt leg extension as detailed on the drawings



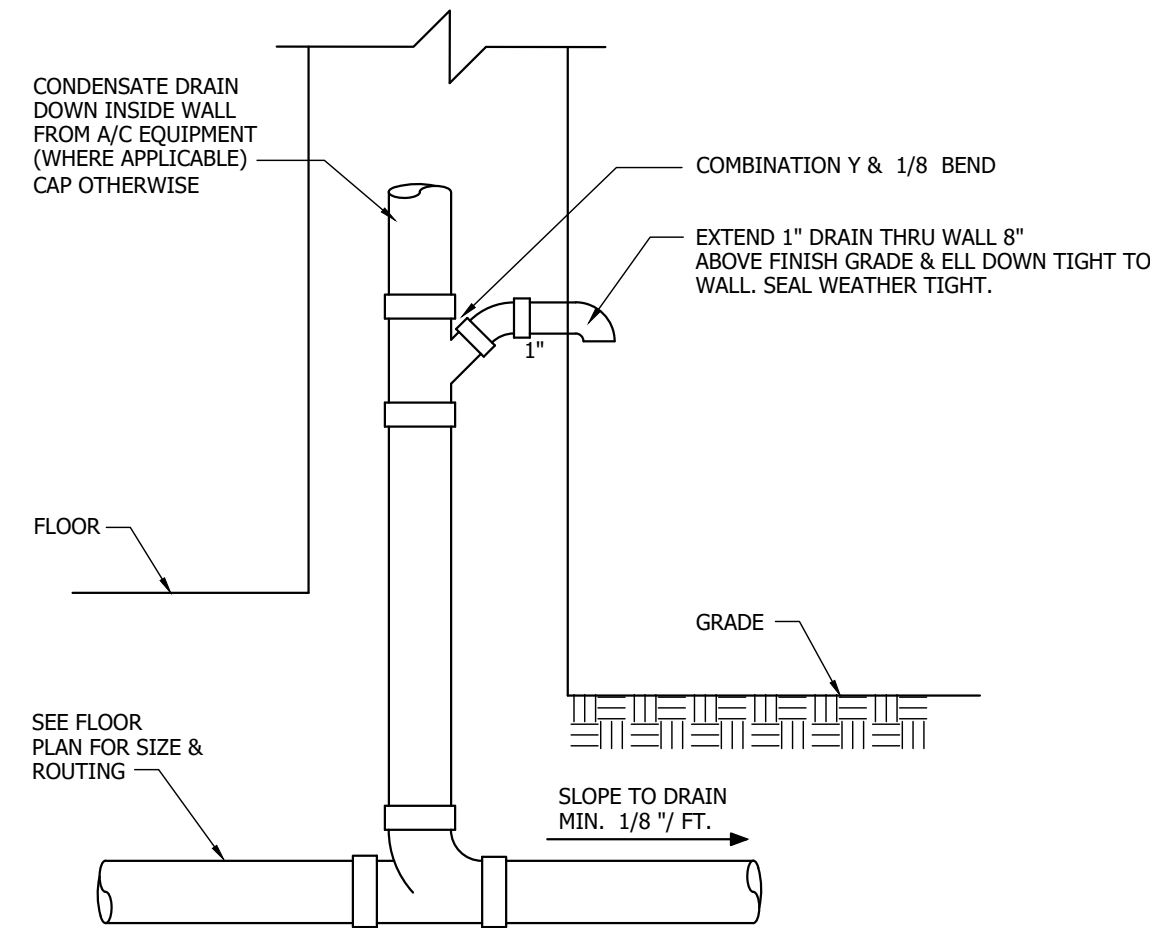
2-WAY AT FAN/COIL UNITS  
COIL ASSEMBLY PIPING DETAIL  
NOT TO SCALE



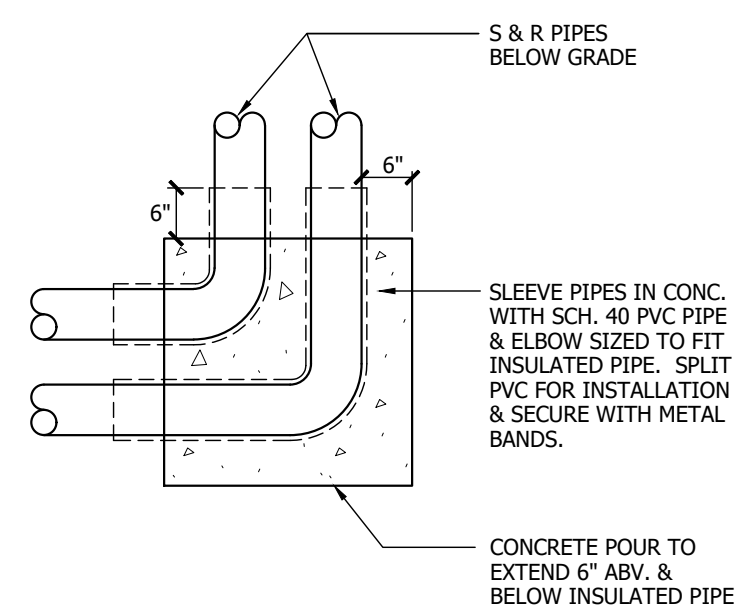
3-WAY AT MAKEUP AIR UNIT  
COIL ASSEMBLY PIPING DETAIL  
NOT TO SCALE



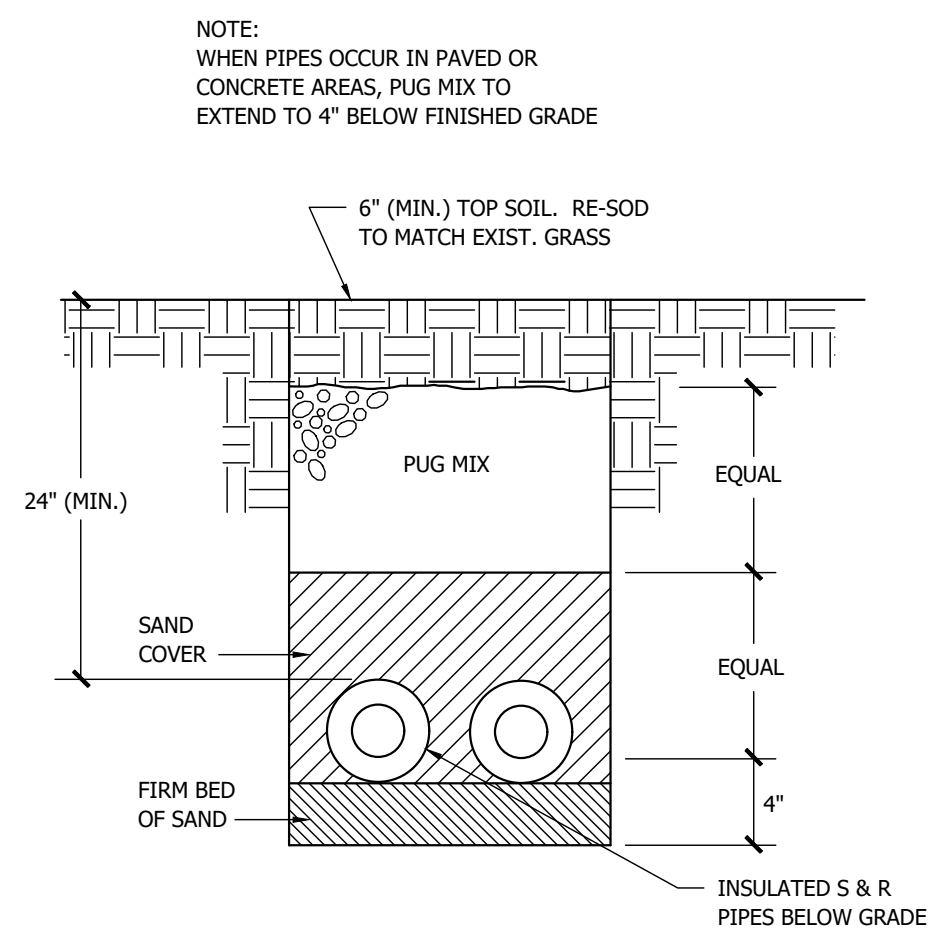
HOT & CHILLED WATER  
SERVICE VALVE DETAIL  
NOT TO SCALE



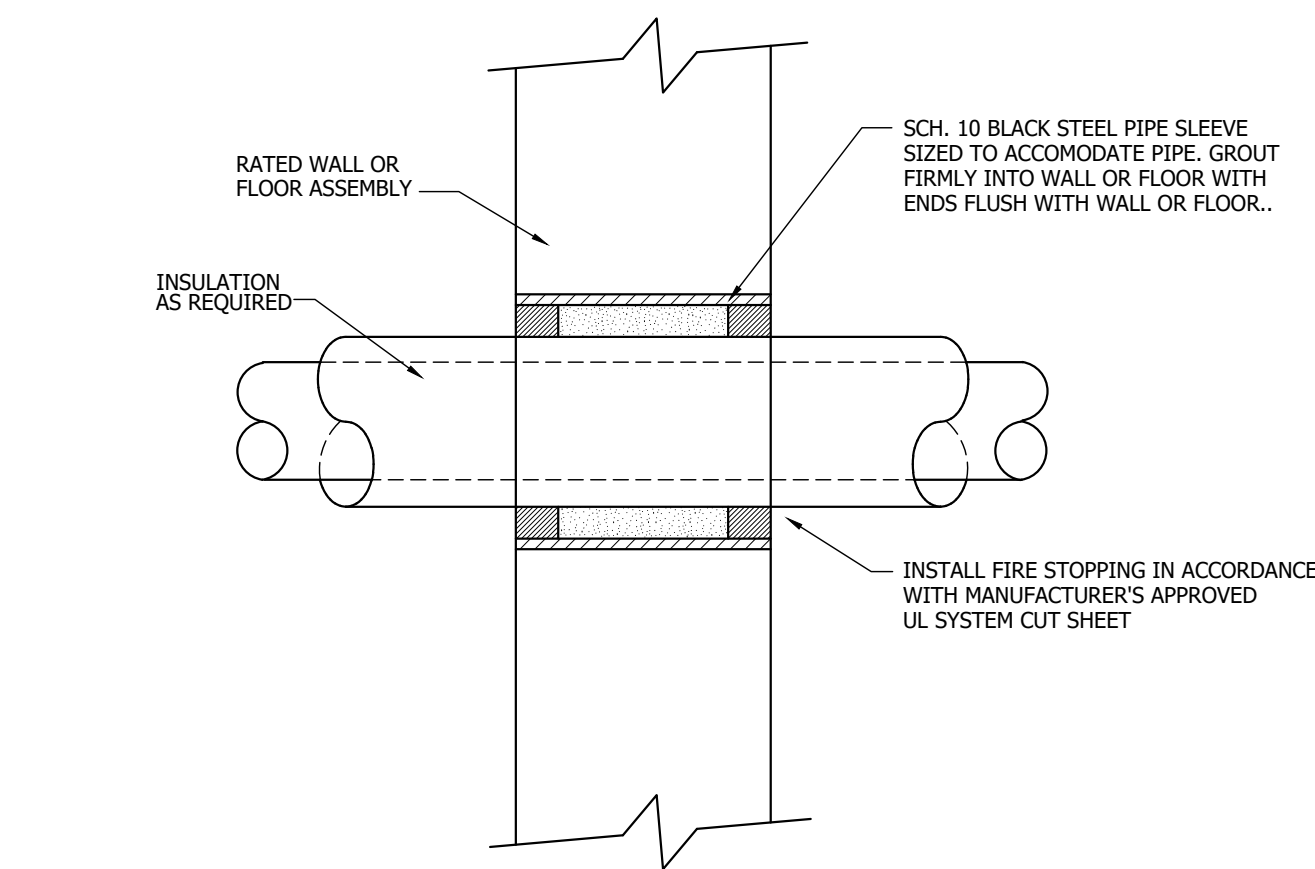
CONDENSATE DRAIN OVERFLOW DETAIL  
NOT TO SCALE



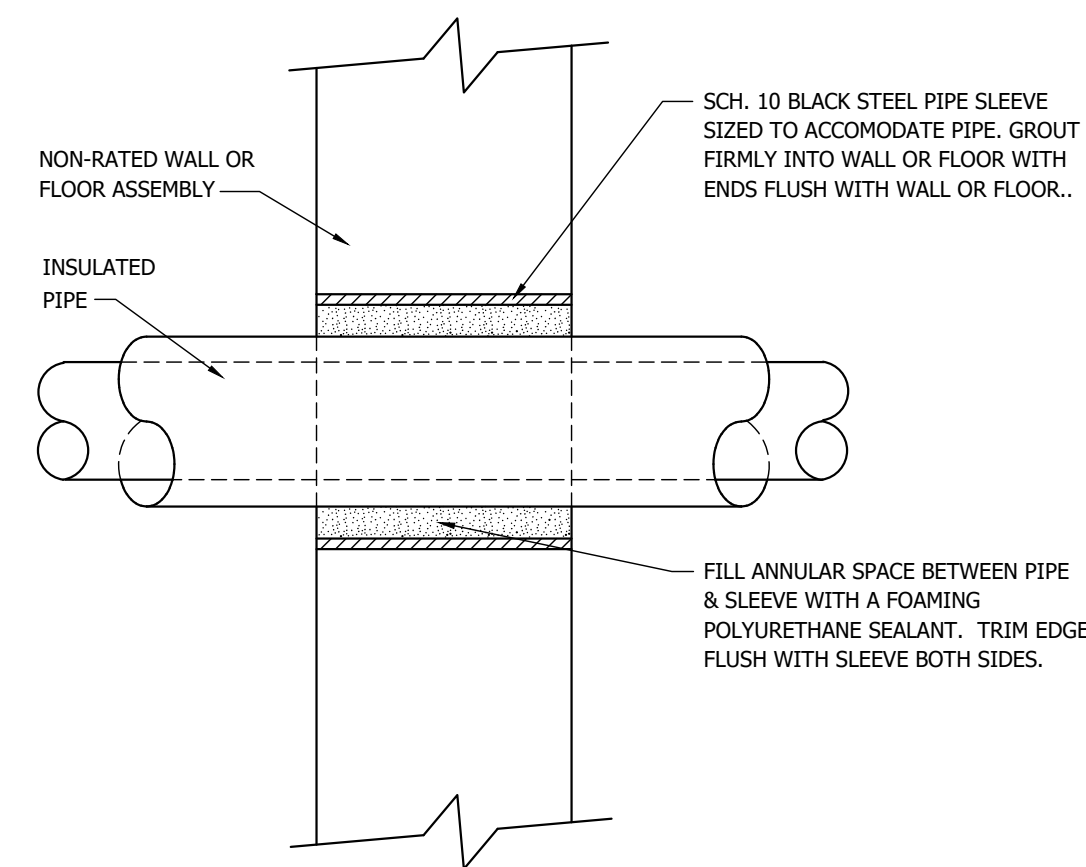
THRUST BLOCK DETAIL  
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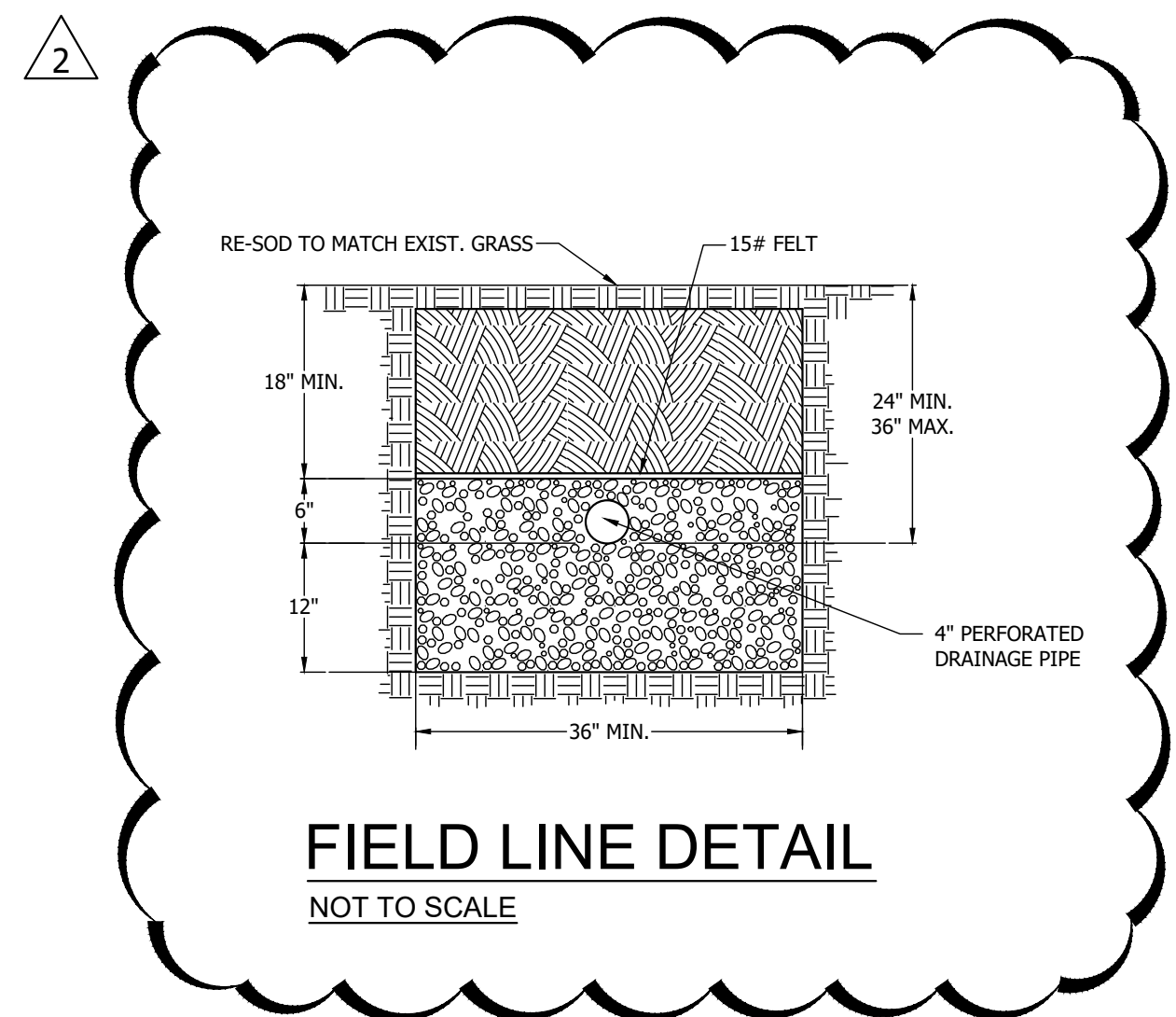
S&R  
PIPES BELOW GRADE & GRASSY AREAS  
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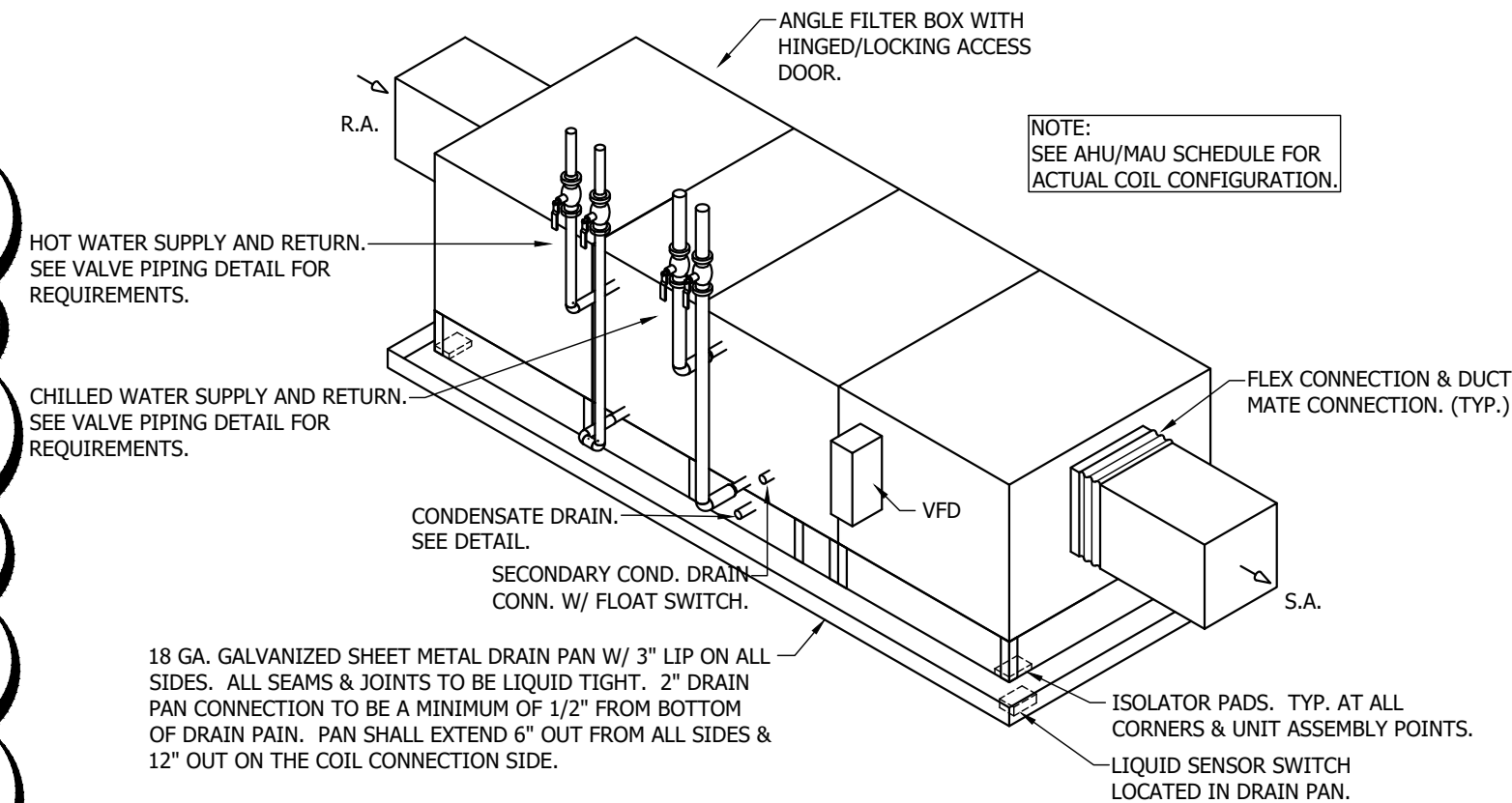
RATED-U.L. LISTED  
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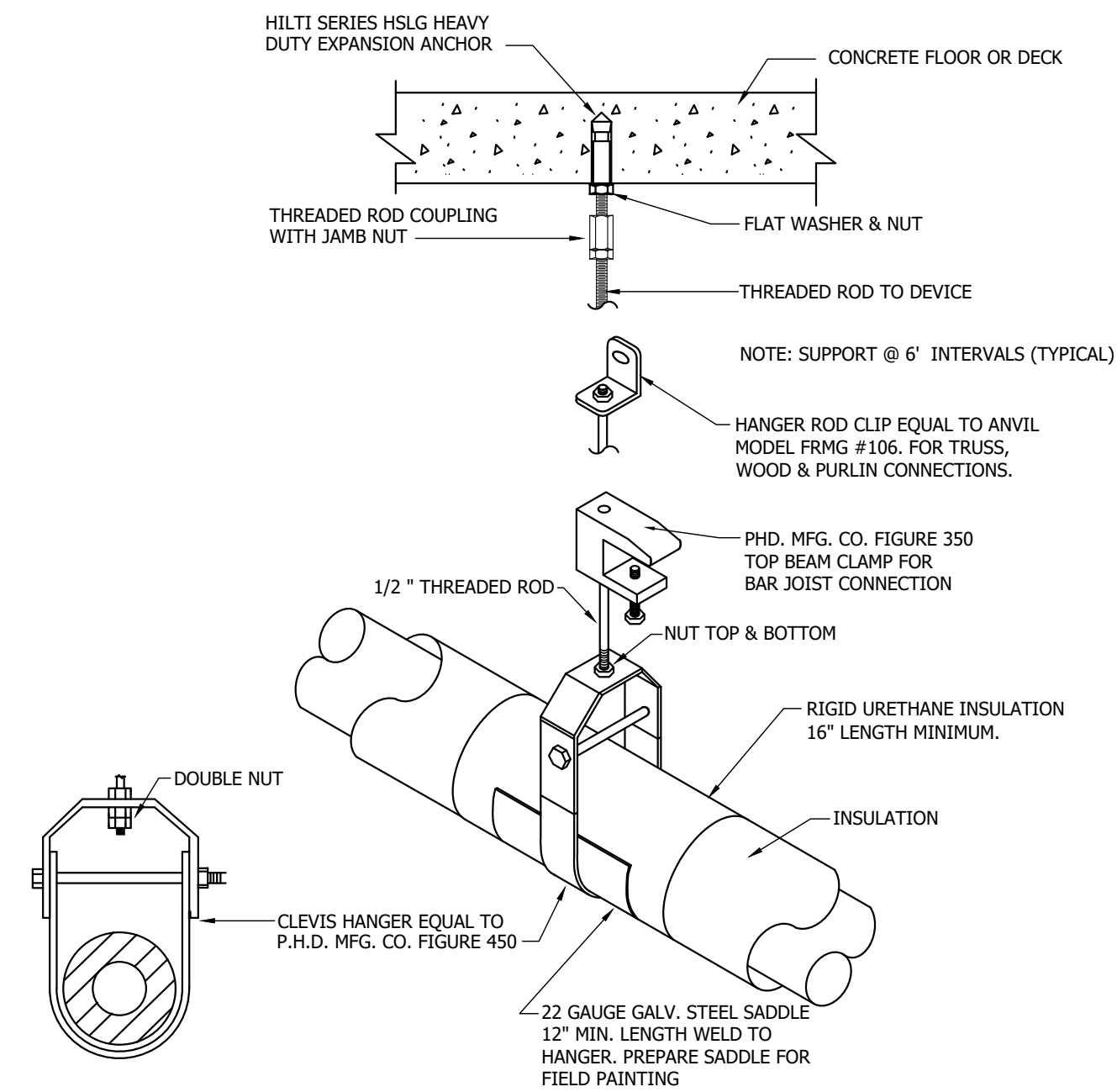
NON-RATED  
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NOT TO SCALE



FIELD LINE DETAIL  
NOT TO SCALE



HOT & CHILLED WATER AHU/MAU  
INDOOR UNIT DETAIL  
NOT TO SCALE









HOT & CHILLED WATER  
PIPE HANGER DETAIL  
NOT TO SCALE



## ELECTRICAL LEGEND

### LIGHTING

	SURFACE OR RECESSED CEILING OUTLET - FIXTURE TYPE 'A'
	CEILING OUTLET - FIXTURE SINGLE OR CONTINUOUS LENGTHS
	CEILING OUTLET - FIXTURE SINGLE OR CONTINUOUS LENGTHS
	SINGLE SIDE EXIT SIGN - WITH DIRECTIONAL CHEVRONS AS SHOWN.
	BATTERY BACKUP. SEE LIGHTING FIXTURE SCHEDULE
	CEILING OR WALL MOUNTED EMERGENCY LIGHT, BATTERY BACKUP.

### LIGHTING CONTROLS






\$	1-POLE, 20A, 125/277V, SEE SPECIFICATIONS.
3\$	3-WAY, 20A, 125/277V, SEE SPECIFICATIONS.
4\$	4-WAY, 20A, 125/277V, SEE SPECIFICATIONS.
MC\$	MOMENTARY CONTACT, 15A, 3-POSITION, SEE SPECIFICATIONS.
\$B	A.C. TYPE WITH DUPLEX RECEPTACLE, SEE SPECIFICATIONS.
o\$	CONTROLS OUTLET "o" ETC.
LV\$	LOW VOLTAGE SWITCH BY MANUFACTURER
EX\$	EXISTING.

#### SWITCH INSTALLATION NOTES:

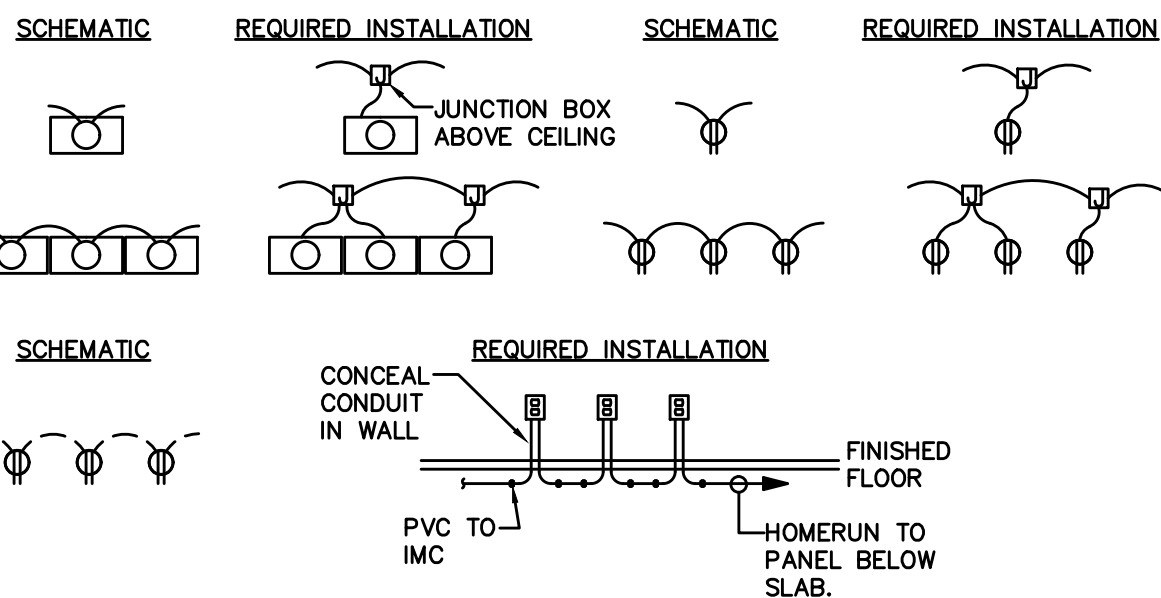
COORDINATE SWITCH LOCATIONS WITH DOOR SWINGS AS SHOWN ON THE ARCHITECTURAL PLANS PRIOR TO ANY ROUGHING. NOTIFY ENGINEER OF PLAN DISCREPANCIES PRIOR TO ROUGHING.

### ABBREVIATIONS

A	AMPERES
AA	AMBIENT AIR COOLED
AC	DEVICE SHALL BE MOUNTED AT 4 INCHES ABOVE COUNTER/ BACKSPASH TO BOTTOM OF BOX.
AD	ABOVE DOOR, 8" TO BOTTOM.
AIC	AMPERES INTERRUPTING CAPACITY
AF	ABOVE FINISHED FLOOR
AFG	MOUNTING HEIGHT ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT RACEWAY
CU	COPPER
CFI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFI	CONTRACTOR FURNISHED OWNER INSTALLED
CKTS	CIRCUITS
CTTS	CLOSED TRANSITION TRANSFER SWITCH
DIA	DIAMETER
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EP	EXPLOSION PROOF
EX	EXISTING DEVICE AND BOX TO REMAIN COMPLETE
FA	FORCED AIR COOLED
FAD	SWITCH TO BE FUSED AS DIRECTED BY MANUFACTURER OF CONNECTED EQUIPMENT.
FMC	FLEXIBLE METAL CONDUIT
FLA	FULL LOAD AMPERES
G	GROUND
H	MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE.
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
KVA	KILOVOLT-AMPERES
KW	KILOWATT
L	LIQUID TIGHT FLEXIBLE METAL CONDUIT
KCMIL	THOUSAND CIRCULAR MILS
MCA	MINIMUM CIRCUIT AMPACITY
MV	MEDIUM VOLTAGE
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
OFI	OWNER FURNISHED CONTRACTOR INSTALLED
OFI	OWNER FURNISHED OWNER INSTALLED
P	POLES
PF	POWER FACTOR
PH	PHASES
PVC	POLYVINYL CHLORIDE RACEWAY
q	CUT OFF EXISTING CONDUIT AT WALL OR ABOVE CEILING
RGS	RIGID GALVANIZED STEEL
RT	RAINTIGHT ENCLOSURE
SFC	INDICATES SURFACE MOUNTED DEVICE. SEE DETAILS.
TOUT	WIRE SIZE AND CONDUIT SIZE TO BE PROVIDED THROUGHOUT ENTIRE CIRCUIT
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WIRES
WP	WEATHERPROOF, NEMA 3R.
*x	STUB-OUT ABOVE ACCESSIBLE CEILING AND BUSH
*y	STUB-UP 6" ABOVE ROOF AND CAP FOR FUTURE
XR	EXISTING - REMOVE
XRB	EXISTING - REMOVE DEVICE AND INSTALL BLANK COVER
XRC	EXISTING - REMOVE AND CAP OUTLET
XRL	EXISTING - RELOCATED
XRP	EXISTING - REPLACE AS SHOWN
XRR	EXISTING - REMOVE AND RELOCATE
*y	STUB-UP 6" ABOVE ROOF AND CAP FOR FUTURE













DRAWING CONVENTIONS	
	NEW WORK
	EXISTING TO REMAIN
	EXISTING TO REMOVE
	DETAIL NUMBER
	SHEET NUMBER UPON WHICH DETAIL IS SHOWN

BRANCH CIRCUIT WIRING FOR LIGHTING AND POWER IS SHOWN SCHEMATICALLY. EACH ELECTRICAL DEVICE TO BE INSTALLED WITH AN INDIVIDUAL CONDUIT CONNECTION. FOR EXAMPLE:













NOTE: ALL CONDUITS THIS PROJECT SHALL BE A MINIMUM OF 3/4" C. BALANCE ALL ELECTRICAL LOADS FOR EACH CIRCUIT/HOMERUN THIS PROJECT.




### POWER

	POWER PANEL - SEE SCHEDULE AND SPECIFICATIONS
	RECESSED MOUNTED POWER PANEL - SEE SCHEDULE AND SPECIFICATIONS, PROVIDE 4 EA. 1" EMPTY CONDUIT TO ABOVE CEILING FOR FUTURE USE.
	LIGHTING PANEL - SEE SCHEDULE AND SPECIFICATIONS
	RECESSED MOUNTED LIGHTING PANEL - SEE SCHEDULE AND SPECIFICATIONS, PROVIDE 4 EA. 1" EMPTY CONDUIT TO ABOVE CEILING FOR FUTURE USE.
	TRANSFORMER - SEE SCHEDULE AND SPECIFICATIONS, 80°C RISE, FLOOR MOUNTED ON FACTORY SPRING VIBRATION.
	MOTOR-HORSEPOWER AS SHOWN (HP) HORSEPOWER (TYPICAL)
	FAN - CEILING/ROOF MOUNTED EXHAUST FAN
	FUSIBLE PULLOUT TYPE DISCONNECT SWITCH - SEE SPECIFICATIONS FOR IDENTIFICATION.
	FUSED DISCONNECT SWITCH - 600V - HEAVY DUTY TYPE, RATING AND ENCLOSURE AS SHOWN. SEE SPECIFICATIONS FOR IDENTIFICATION. FURNISH AND INSTALL NAME PLATES PER DETAIL. FUSE PER EQUIPMENT MANUFACTURER.
	NON-FUSED DISCONNECT SWITCH - 600V - HEAVY DUTY TYPE, RATING AND ENCLOSURE AS SHOWN. SEE SPECIFICATIONS FOR IDENTIFICATION. FURNISH AND INSTALL NAME PLATES PER DETAIL.
	CIRCUIT BREAKER WITH ENCLOSURE (BREAKER SIZE AS INDICATED) - 600V - RATING AND ENCLOSURE AS SHOWN - SEE SPECIFICATIONS. FOR IDENTIFICATION. FURNISH AND INSTALL NAMEPLATES PER DETAIL.
	MANUAL MOTOR STARTER - HORSEPOWER RATED, WITH THERMAL OVERLOAD UNITS AND ENCLOSURE CONSISTENT WITH ENVIRONMENT.




### BRANCH CIRCUITS

	BRANCH CIRCUIT - ROUTED ABOVE CEILING OR IN WALL (SEE SPECIFICATIONS)
	BRANCH CIRCUIT - ROUTED IN FLOOR (SEE SPECIFICATIONS)
	HOMERUN TO PANELBOARD - NUMBER OF CIRCUITS/CONDUCTORS AS REQUIRED, CONDUIT SIZE AS REQUIRED (3/4" C MINIMUM). INDIVIDUAL NEUTRAL CONDUCTOR REQUIRED PER CIRCUIT. FURNISH AND INSTALL PER NEC REQUIREMENTS.
	BRANCH CIRCUIT - EXPOSED (SEE SPECIFICATIONS).
	EQUIPMENT HOMERUN - NUMBER OF CIRCUITS/CONDUCTORS AS REQUIRED, CONDUIT SIZE AS REQUIRED (3/4" C MINIMUM. FURNISH AND INSTALL PER NEC REQUIREMENTS.
	EMPTY CONDUIT WITH NO. 14 IRON FISH WIRE
	FEEDER - OVERHEAD
	FEEDER - UNDERGROUND
	BRANCH CIRCUIT - #10 PHASE CONDUCTORS WITH #10 GROUND THROUGHOUT. CONDUIT SIZE AS REQUIRED (MINIMUM 3/4" C)
	BRANCH CIRCUIT - #8 PHASE CONDUCTORS WITH #8 GROUND THROUGHOUT. CONDUIT SIZE AS REQUIRED (MINIMUM 3/4" C)





### RECEPTACLES

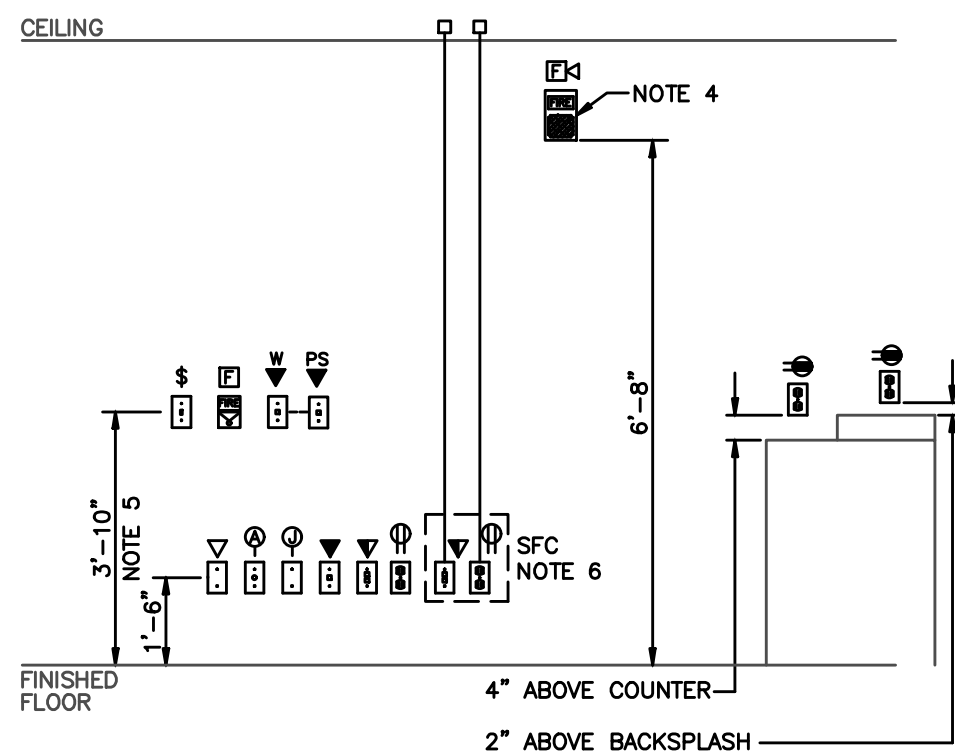
	DUPLEX RECEPTACLE, NEMA 5-20R, SEE SPECIFICATIONS.
	DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT INTERRUPTER, WEATHERPROOF. (IN USE TYPE WHERE REQUIRED.)
	QUADRAPLEX, NEMA 5-20R WITH SINGLE PLATE.

### TELECOM:

	DIVISION 269000 CONTRACTOR SHALL FURNISH AND INSTALL CONVERTERS, FIBER, ETC AS REQUIRED FOR ANY/ ALL CAT6A CABLES WHOSE ROUTING EXCEEDS THE FUNCTIONAL/ MANUFACTURERS RECOMMENDED DISTANCES FOR GUARANTEED 10GB THROUGHPUT.
	DATA/VOICE OUTLET - SEE AUXILIARY OUTLET DETAIL.
	CEILING DATA OUTLET FOR WIRELESS ACCESS POINT - SEE AUXILIARY OUTLET DETAIL.

### RACEWAY COMPONENTS

	2-COMPARTMENT, SURFACE METAL RACEWAY (WIREMOLD 4000), LENGTHS AS SHOWN. FURNISH AND INSTALL FLAT ELBOW ON END OF EACH RUN OF RACEWAY. ROUTE 2-COMPARTMENT, SURFACE METAL FROM ELBOW TO ACCESSIBLE CEILING. PROVIDE RACEWAY ENTRANCE END FITTING AND TRANSITION TO EMT CONDUIT (3/4" FOR POWER, 1" FOR COMMUNICATION). SEE DEVICE LEGEND FOR REQUIRED DEVICES AT EACH LOCATION. COORDINATE MOUNTING HEIGHT OF RACEWAY WITH ARCHITECT PRIOR TO ANY ROUGH-IN.
	DUPLEX RECEPTACLE, NEMA 5-20R MOUNTED IN 4" SQUARE BOX WITH SINGLE GANG COVER, SEE SPECIFICATIONS.
	QUAD RECEPTACLE - 2 EACH 20A DUPLEX RECEPTACLES FLUSH MOUNTED IN 2-GANG BOX WITH PLASTER RING AND FACEPLATE.
	DATA OUTLET - 2 EACH CAT6 RJ45 CONNECTORS IN FLUSH MOUNTED 4" SQUARE BOX WITH SINGLE GANG PLASTER RING AND 4-PORT FACEPLATE. FURNISH AND INSTALL 1" C FROM BOX TO ABOVE NEAREST ACCESSIBLE CEILING. FURNISH AND INSTALL 2" EACH CAT6 CABLES FROM CONNECTORS TO EXISTING MDF AND CONNECT AS REQUIRED.













### DETAIL - DEVICE MOUNTING

NOT TO SCALE

#### NOTES:

- INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET BOX, UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.
- INSTALL OUTLETS THAT ARE IN CLOSE PROXIMITY ON THE SAME CENTERLINE.
- THE ENTIRE LENS OF ALL VISUAL DEVICES SHALL BE MOUNTED BETWEEN 80" AND 96" ABOVE FINISHED FLOOR.
- INDICATED DEVICES MOUNTED IN A BLOCK WALL SHALL BE 3'-10" TO CENTER OF BOX.
- SEE PLANS AND DETAILS FOR REQUIRED ROUGHING.

### FIRE ALARM LEGEND

	MANUAL PULL STATION - TO MATCH EXISTING SYSTEM. SURFACE MOUNTED FACTORY BACK BOX (4" SQUARE BOX WITH SINGLE GANG RAISED COVER) MOUNTED 4" + 44" A.F.F. TO BOTTOM.
	CEILING MOUNTED FIRE ALARM SPEAKER STROBE - TO MATCH EXISTING SYSTEM (CLEAR STROBE WITH SPEAKER) - ON FLUSH MOUNTED FACTORY BACK BOX 4" SQUARE BOX WITH 1-1/2" EXTENSION RING.
	CEILING MOUNTED FIRE ALARM HORN - TO MATCH EXISTING SYSTEM (HORN ONLY) - ON FLUSH MOUNTED FACTORY BACK BOX 4" SQUARE BOX WITH 1-1/2" EXTENSION RING.
	DUCT DETECTOR - TO MATCH EXISTING SYSTEM - WITH BASE/CEILING MOUNTED ON SURFACE MOUNTED FACTORY BACK BOX 4" SQUARE BOX
	DUCT DETECTOR (PROVIDED IN SUPPLY AND RETURN DUCT) - TO MATCH EXISTING SYSTEM W/ SAMPLING TUBE, EST. MODEL SIGA-CR RELAY, AND REMOTE TEST STATION FURNISHED BY ELECTRICAL, INSTALLED IN DUCT BY MECHANICAL, FINAL CONNECTIONS BY FIRE ALARM CONTRACTOR.
	HEAT DETECTOR - TO MATCH EXISTING SYSTEM - WITH BASE/CEILING MOUNTED ON SURFACE MOUNTED FACTORY BACK BOX 4" SQUARE BOX
	FIRE ALARM CONDUIT & WIRE - SEE FIRE SYSTEM NOTES.
	ZAM - ZONE ADDRESSABLE MODULE, MONITOR (INPUT TO FIRE ALARM PANEL FROM A DEVICE OR SYSTEM)
	ZAM - ZONE ADDRESSABLE MODULE, CONTROL (OUTPUT FROM FIRE ALARM PANEL TO A DEVICE OR SYSTEM)
	INTERPOSING RELAY FOR USE WITH CONTROL ZAM, 20 AMP CONTACTS




DUCT DETECTOR (ASSOCIATED WITH SMOKE DAMPER OR FIRE/ SMOKE DAMPER AT PENETRATION) - TO MATCH EXISTING SYSTEM DNR HOUSING W/ SAMPLING TUBE & RELAY FURNISHED BY ELECTRICAL, INSTALLED IN DUCT BY MECHANICAL, FINAL CONNECTIONS BY FIRE ALARM CONTRACTOR. A DETECTOR IS REQUIRED ON EACH SIDE OF DAMPER.

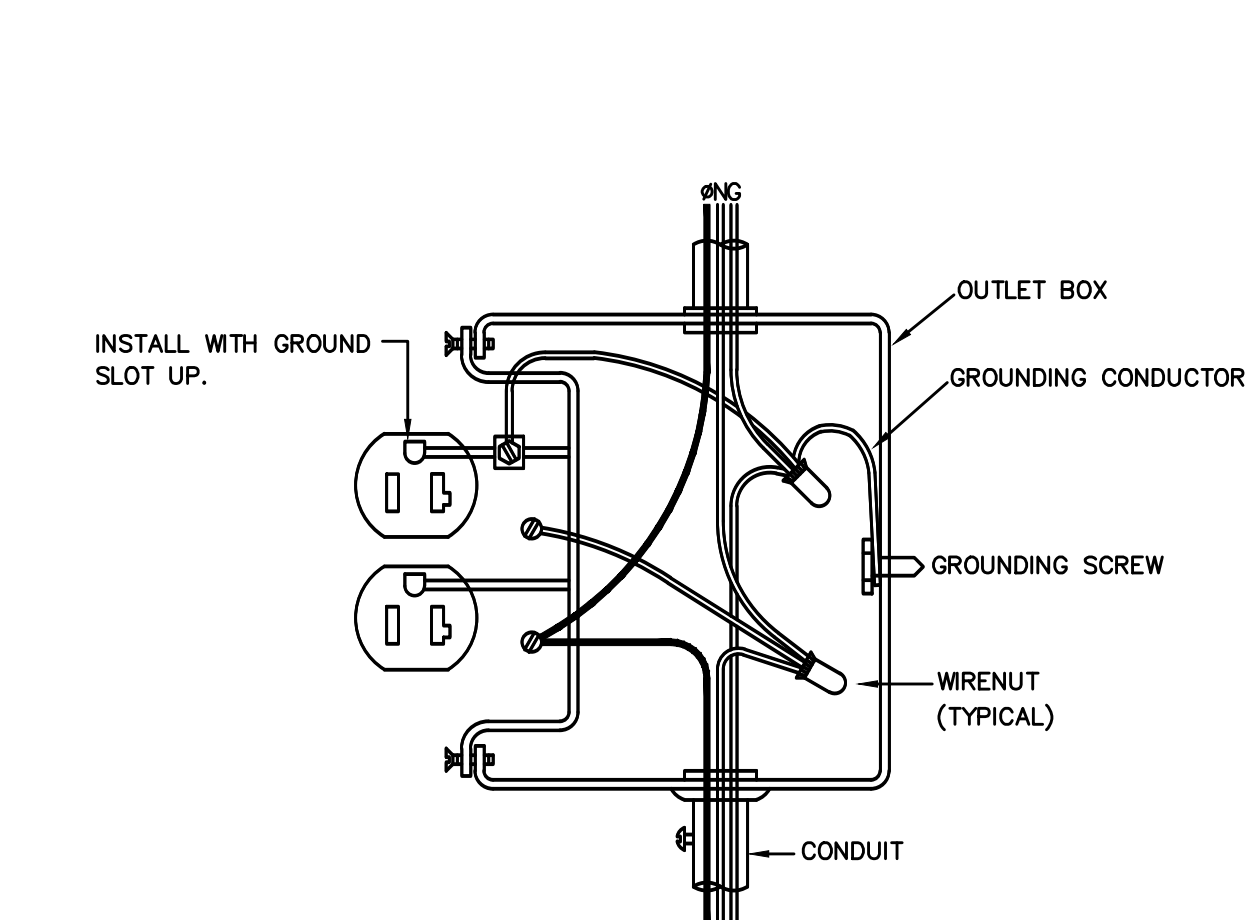
MOTORIZED DAMPER - WITH DUCT DETECTOR, CONTROL ZAM, TO CLOSE UPON ACTIVATION OF FIRE ALARM. FURNISH AND INSTALL DUCT-MOUNTED SMOKE DETECTORS ON EACH SIDE OF ALL SMOKE, FIRE/ SMOKE DAMPERS, CONNECT DAMPER AND DETECTORS AS REQUIRED FOR FIRE ALARM ACTIVATION AND DAMPER CLOSURE, PROVIDE CONTROL POWER XFMR AS REQUIRED (120/24V) AND 120V CONNECTION AS SHOWN ON PLANS. PROVIDE MOTOR RATED SWITCH AT EACH LOCATION

### FIRE ALARM SYSTEM NOTES

- FIRE ALARM CONTRACTOR TO INCLUDE IN BID PRICE REQUIRED PROGRAMMING SERVICES SUCH THAT THE FINAL ROOM NUMBERS (PER THE APPROVED OWNERS SIGNAGE SCHEME) FOR EACH F.A. SYSTEM DEVICE SUCH THAT ALARMS AND DEVICE LOCATIONS MATCH BUILDING SIGNAGE.
- ELECTRICAL CONTRACTOR TO FURNISH POINT TO POINT WIRING DIAGRAM BY THE FIRE ALARM MANUFACTURER WITH FIRE ALARM SYSTEM SUBMITTALS. POINT TO POINT WIRING DIAGRAMS SHALL INCLUDE ALL WIRING INFORMATION AND CONDUIT SIZES. REQUIRED WIRING DIAGRAMS SHALL BE FURNISHED WITH THE ELECTRICAL SUBMITTAL PACKAGE, SUBMITTAL PACKAGES WITHOUT THESE DRAWINGS AND THE REQUIRED MAINTENANCE AND EXPANSION INFORMATION (SEE SPECIFICATIONS) WILL NOT BE ACCEPTED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WIRING REQUIREMENTS WITH THE FIRE ALARM SYSTEM SUBCONTRACTOR PRIOR TO BIDDING AND/OR ROUGHING. FURNISH AND INSTALL ALL REQUIRED 120V. CIRCUITS FOR AMPLIFIERS, FIELD CHARGING PANELS, RELAY PANELS, ETC.
- FIRE ALARM CABLING FOR NEW WALL-MOUNTED DEVICES SHALL BE ROUTED IN SURFACE METAL RACEWAY TO ABOVE NEAREST CEILING. FIRE ALARM CABLING ROUTED ABOVE HARD CEILING SHALL BE ROUTED IN EMT, 3/4" MINIMUM. FIRE ALARM CABLING ROUTED ABOVE L.A.T. CEILING MAY BE RUN OPEN AND SUPPORTED WITH J-HOOKS (4FT OC MAXIMUM).
- FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND INSTALL REMOTE TEST STATION(S) FOR ALL DUCT MOUNTED SMOKE DETECTORS. THESE STATIONS SHALL BE LABELED WITH THE DEVICE NUMBER AND THE UNIT NUMBER. THE REMOTE TEST STATION(S) SHALL BE LOCATED IN AN ACCESSIBLE LOCATION IN THE CORRIDORS.
- DUCT MOUNTED SMOKE DETECTORS FURNISHED BY THE ELECTRICAL CONTRACTOR. LOCATIONS SHOWN ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION WITH THE MECHANICAL AND PLUMBING EQUIPMENT PLANS AND RESPECTIVE CONTRACTOR(S). PROVIDE ALL EQUIPMENT REQUIRED FOR SHUTDOWN OF THE UNITS BY THE FIRE ALARM CONTROL PANEL AS REQUIRED.
- CONTRACTOR SHALL PROVIDE WITH THE FIRE ALARM SUBMITTAL PACKAGE THE FOLLOWING INFORMATION PER IBC 2009, SECTION 907.1.1:
  - COPY OF STATE OF ALABAMA FIRE ALARM CONTRACTOR LICENSE/PERMIT
  - LOCATION OF ALARM INITIATING DEVICES CONDUCTOR TYPES AND SIZES AND TERMINATING EQUIPMENT
  - MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT DEVICES AND MATERIALS
- THE NEW FIRE ALARM SYSTEMS WILL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES:
  - INTERNATIONAL BUILDING CODE 2015
  - INTERNATIONAL FIRE CODE 2015
  - NFPA 72 LATEST REVISION
  - ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION
- THE CERTIFIED FIRE ALARM ACT REQUIRES THAT EVERY BUSINESS WHO INSTALLS FIRE ALARM SYSTEMS IN COMMERCIAL OCCUPANCIES MUST BE LICENSED AS A CERTIFIED FIRE ALARM CONTRACTOR. THE CONTRACTOR MUST HAVE A NICET LEVEL III TECHNICIAN IN A POSITION OF RESPONSIBILITY, AND THE LICENSE WILL BE ISSUED IN THE NAME OF THE CERTIFICATE HOLDER AND THE CONTRACTOR. THE CERTIFIED FIRE ALARM ACT ALSO REQUIRES THAT TECHNICIANS WORKING FOR THE CERTIFIED CONTRACTOR MUST HOLD A CURRENT NICET LEVEL II, OR EQUIVALENT, CERTIFICATION. CONTRACTORS TO SHOW EVIDENCE WITH SUBMITTAL PACKAGE THAT HE/SHE MEETS THE CERTIFICATION REQUIREMENTS OF THE ACT AND HOLDS A PERMIT ISSUED BY THE STATE FIRE MARSHALL.
- PROVIDE A CABINET AT THE SYSTEM CONTROL UNIT (OR OTHER APPROVED LOCATION) FOR STORING RECORD DOCUMENTATION. PER THE NFPA 72 (2013) 7.7.2.
- CONTRACTOR SHALL TEST/EVALUATE EXISTING FIRE ALARM PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL DOCUMENT, IN WRITING, ANY/ALL DEFICIENCIES/MALFUNCTIONS IN EXISTING FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE FIRE ALARM SYSTEM EVALUATION DOCUMENTATION TO OWNER/ARCHITECT/ENGINEER PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR SHALL TEST AND RE-CERTIFY ENTIRE FIRE ALARM SYSTEM AFTER ALL NEW DEVICE HAVE BEEN INSTALLED/CONNECTED. NEW CERTIFICATION SHALL BE FURNISHED WITH CLOSE-OUT DOCUMENTS.
- ANY/ ALL EXISTING FIRE ALARM DEVICES REMOVED SHALL BE DISPOSED ACCORDING TO ADEM AND LOCAL CODES.

### SECURITY

	WIRELESS CARD READER - SEE SPECIFICATIONS AND DETAILS. CONNECT TO ACCESS CONTROL SYSTEM AS REQUIRED
	WIRELESS DOOR MONITOR/ DOOR POSITION SWITCH - SEE SPECIFICATIONS AND DETAILS. CONNECT TO ACCESS CONTROL SYSTEM AS REQUIRED
	VIDEO SURVEILLANCE CAMERA - SEE DETAILS



### RECEPTACLE INSTALLATION

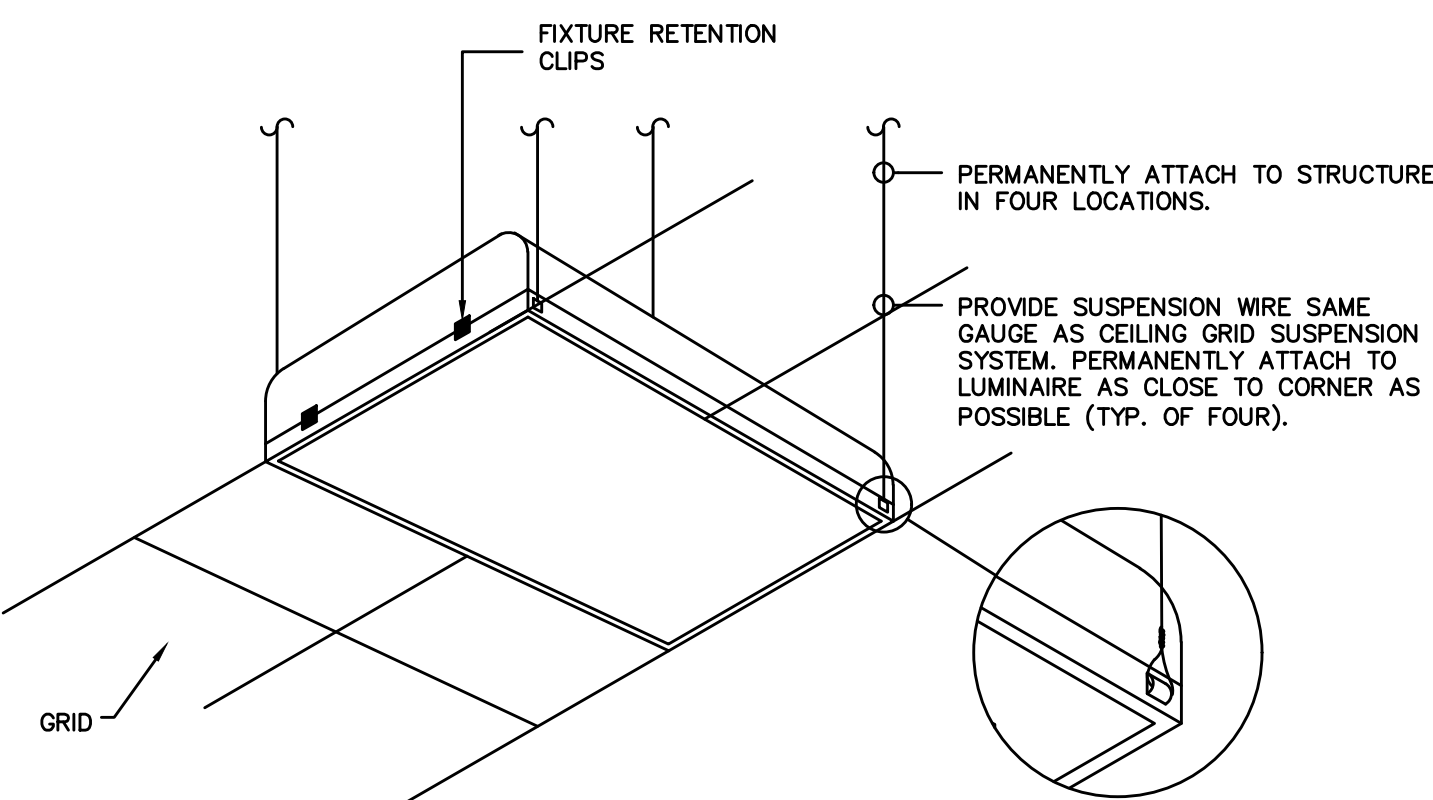
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### ELECTRICAL NOTES

- THESE DRAWINGS ARE A PART OF A COMPLETE SET OF ARCHITECTURAL/ENGINEERING CONTRACT DOCUMENTS. ELECTRICAL CONTRACTOR SHOULD REFER TO THE ARCHITECTURAL PLANS FOR WALL DEFINITIONS, ELEVATIONS, CASEWORK, REFLECTED CEILING PLAN, ETC.
- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEC 2014 AND LOCAL ORDINANCES. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS.
- ALL SYMBOLS SHOWN ON THIS LEGEND MAY NOT BE USED.
- ALL CIRCUIT BREAKERS AND SWITCHES ARE 3-POLE UNLESS OTHERWISE NOTED.
- ALL TRANSFORMERS ARE 480V, 3PH, 3W DELTA PRIMARY, 208Y/120V, 3PH, 4W WYE SECONDARY, UON. SEE WIRING DIAGRAM.
- ALL PANELBOARDS ARE 3PH, 4W UNLESS OTHERWISE NOTED.
- ALL BRANCH CIRCUIT CONDUIT SHALL BE GALVANIZED EMT, JOINED AND TERMINATED WITH SET SCREW STEEL FITTINGS, 3/4" CONDUIT MINIMUM.
- ALL CIRCUITS SHOWN CONCEALED SHALL BE RUN IN FURRED CEILING SPACES AND SHALL BE CONCEALED IN CONCRETE SLAB ONLY WHEN NO FURRED CEILING SPACE IS PROVIDED.
- ALL CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION TYPE FITTINGS.
- ALL OUTLET BOXES MOUNTED BACK-TO-BACK IN WALLS SHALL HAVE FIREPROOF SOUND INSULATING MATERIAL INSTALLED BETWEEN THE BOXES TO PREVENT SOUND TRANSMISSION FROM ONE ROOM TO THE OTHER.
- ALL FLUSH MOUNTED PANELS SHALL HAVE 3-1" EMPTY CONDUITS STUBBED OUT ABOVE CEILING FOR FUTURE CIRCUITS.
- VERIFY LOCATION OF ALL FLOOR OUTLETS BEFORE INSTALLATION.
- ALL WALL OUTLETS NOT PROVIDED WITH A DEVICE BY THIS CONTRACTOR SHALL BE PROVIDED WITH BLANK WALL PLATES.
- ALL BRANCH CIRCUITS SHALL INCLUDE A GREEN COVERED GROUND WIRE SIZED PER NEC OR AS SHOWN. CONNECT TO EACH DEVICE AND OUTLET BOX ON THE CIRCUIT AND TO THE PANELBOARD GROUND BUS. MULTIPLE WIRE BRANCH CIRCUITS WITH COMMON NEUTRAL REQUIRE ONLY ONE GROUND WIRE. NUMBER OF WIRES SHOWN ON DRAWINGS DOES NOT INCLUDE GROUND WIRE.
- SEE TYPICAL DETAIL THIS SHEET FOR MOUNTING HEIGHTS OF ALL OUTLETS.
- ALL CONDUIT TO BE CONCEALED U.N.O.
- WHERE FIXTURES/DEVICES SHOWN PLASTERERS, ABOVE DOORS, ETC. IT IS INTENDED TO BE CENTERED U.N.O. COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
- ALL RACEWAYS AND CABLING SHALL BE CONCEALED IN WALLS OR ABOVE CEILING WHERE POSSIBLE. WHERE COMPLETED FINISHES ARE DISTURBED, CONTRACTOR SHALL REPAIR/ REPLACE SURFACES TO MATCH ORIGINAL AT NO ADDITIONAL EXPENSE TO OWNER.
- ANY/ ALL EXPOSED RACEWAY/ CONDUIT (WHERE ALLOWED IN CEILING AREAS WITH EXPOSED STRUCTURE) SHALL BE PAINTED TO MATCH ADJACENT SURFACE.
- ALL ROOF PENETRATIONS SHALL BE KEPT TO AN ABSOLUTE MINIMUM. SECURITY CONTRACTOR SHALL COORDINATE WITH THE ROOFING MANUFACTURER CONTRACTOR FOR ALL ROOF PENETRATIONS. NO ROOF PENETRATIONS SHALL BE PERMITTED THAT WOULD VOID THE ROOF WARRANTY. SECURITY CONTRACTOR SHALL BE RESPONSIBLE FOR ANY/ ALL CHARGES RELATED TO COORDINATION FOR PENETRATIONS.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL BRACKETS, HARDWARE AND ENVIRONMENTALLY APPROPRIATE ENCLOSURES AS REQUIRED FOR ALL EQUIPMENT.
- CONTRACTOR SHALL REVIEW AND MAINTAIN ALL FIRE RATINGS.

### SPECIAL ELECTRICAL NOTE

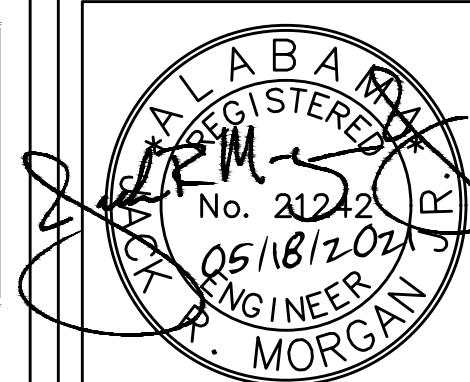
A. BUILDING CLASSIFIED AS A HISTORICAL BUILDING. POWER AND LIGHTING CONTROLS ARE EXEMPT FROM SECTIONS 8 AND 9 FROM ASHRAE 90.1 2013.



### RECESSED FIXTURE SUPPORTS

NOT TO SCALE

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RENOVATIONS TO  
BUCHANAN HALL PHASE II

355 BUCHANAN WAY  
NORMAL, AL

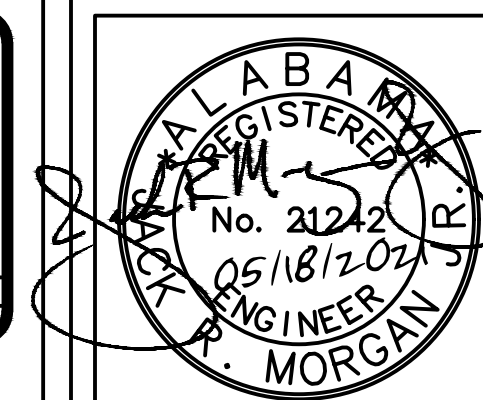
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20115

JRP / JRM / 05/18/21  
DRAWN - CHECKED - DATE

REVISIONS  
No. Description Date  
1 ADD#5 05/18/2021

SHEET TITLE  
ELECTRICAL  
LEGEND

SHEET NUMBER  
E-0.1  
OF



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**RENOVATIONS TO  
BUCHANAN HALL PHASE II**  
355 BUCHANAN WAY  
NORMAL, AL

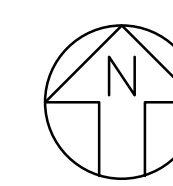
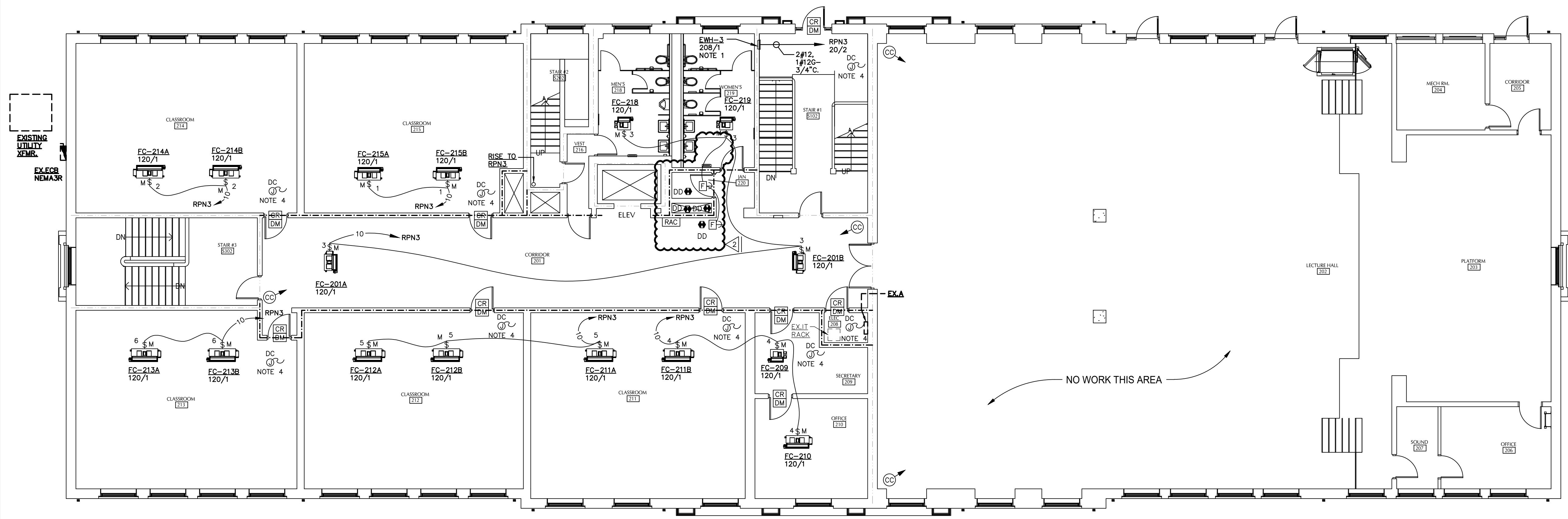
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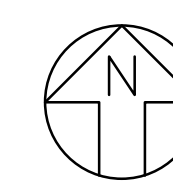
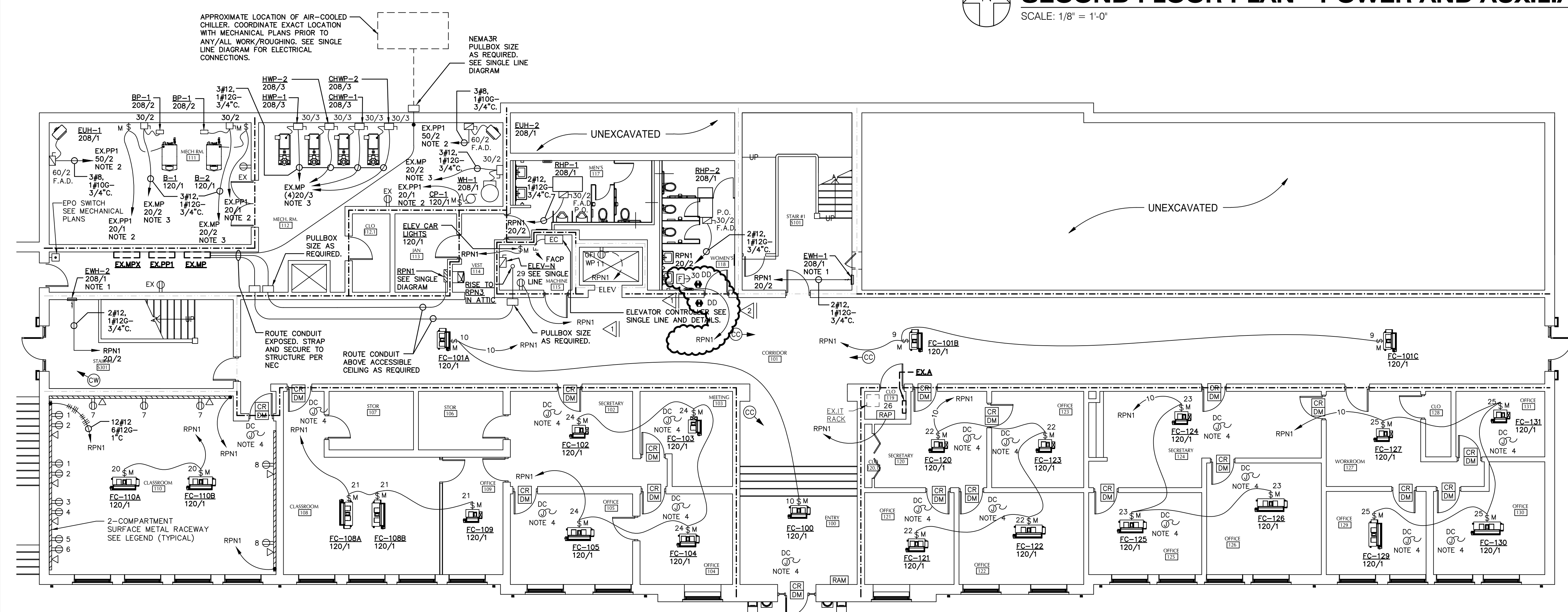
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	2	ADD#5	05/18/2021

SHEET TITLE  
**ELECTRICAL  
FIRST AND  
SECOND PLAN -  
POWER AND  
AUXILIARY**

SHEET NUMBER  
**E-3.0**  
OF



**SECOND FLOOR PLAN - POWER AND AUXILIARY**  
SCALE: 1/8" = 1'-0"

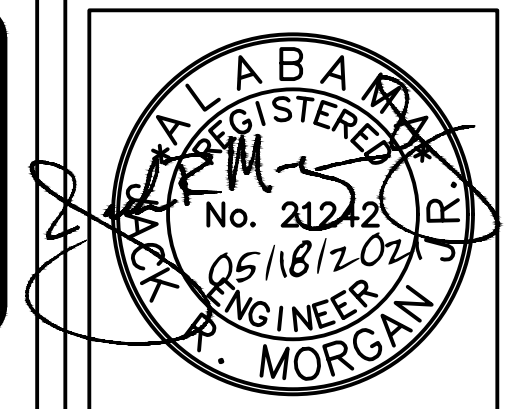


**FIRST FLOOR PLAN - POWER AND AUXILIARY**  
SCALE: 1/8" = 1'-0"

**NOTES THIS SHEET:**

- MECHANICAL EQUIPMENT FURNISHED WITH INTEGRAL SAFETY SWITCH. REFER TO MECHANICAL PLANS AND SCHEDULES FOR MORE INFORMATION.
- INSTALL NEW BREAKER(S) (AS SPECIFIED ON PLANS) IN SPACE OF EXISTING PANELBOARD NOTED. NEW BREAKER(S) SHALL MATCH EXISTING MANUFACTURER. NEW BREAKER(S) TO HAVE A MINIMUM 29,000 AIC RATING.
- INSTALL NEW BREAKER(S) (AS SPECIFIED ON PLANS) IN SPACE OF EXISTING PANELBOARD NOTED. NEW BREAKER(S) SHALL MATCH EXISTING MANUFACTURER. NEW BREAKER(S) TO HAVE A MINIMUM 29,000 AIC RATING.
- CONNECT TO EXISTING 120V UN-SWITCHED CIRCUIT THIS AREA AS REQUIRED FOR DOOR CONTROLLER POWER.

BUILDING CLASSIFIED AS A HISTORICAL BUILDING.  
POWER AND LIGHTING CONTROLS ARE EXEMPT FROM  
SECTIONS 8 AND 9 FROM ASHRAE 90.1 2013.



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**RENOVATIONS TO  
BUCHANAN HALL PHASE II**  
355 BUCHANAN WAY  
NORMAL, AL

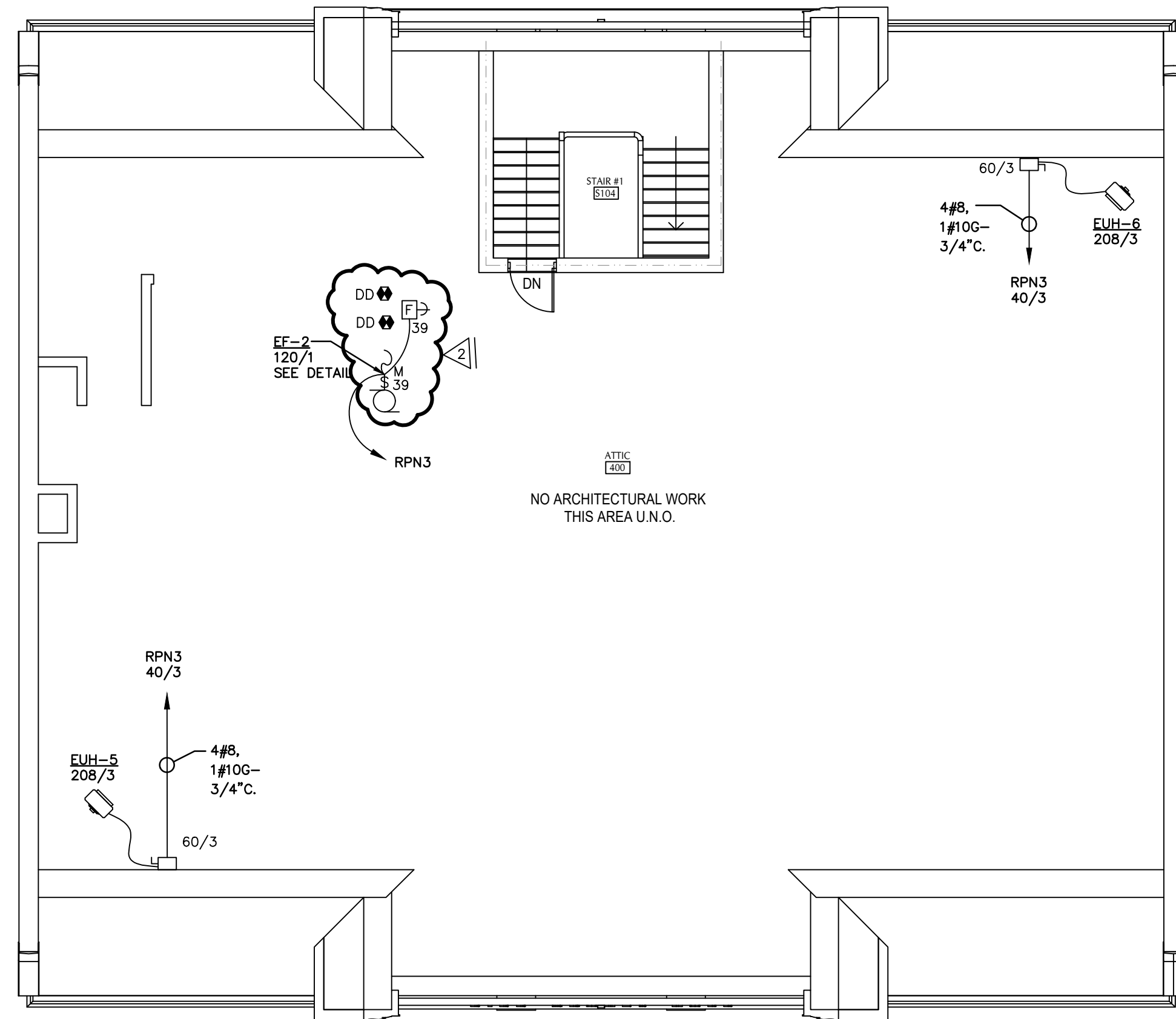
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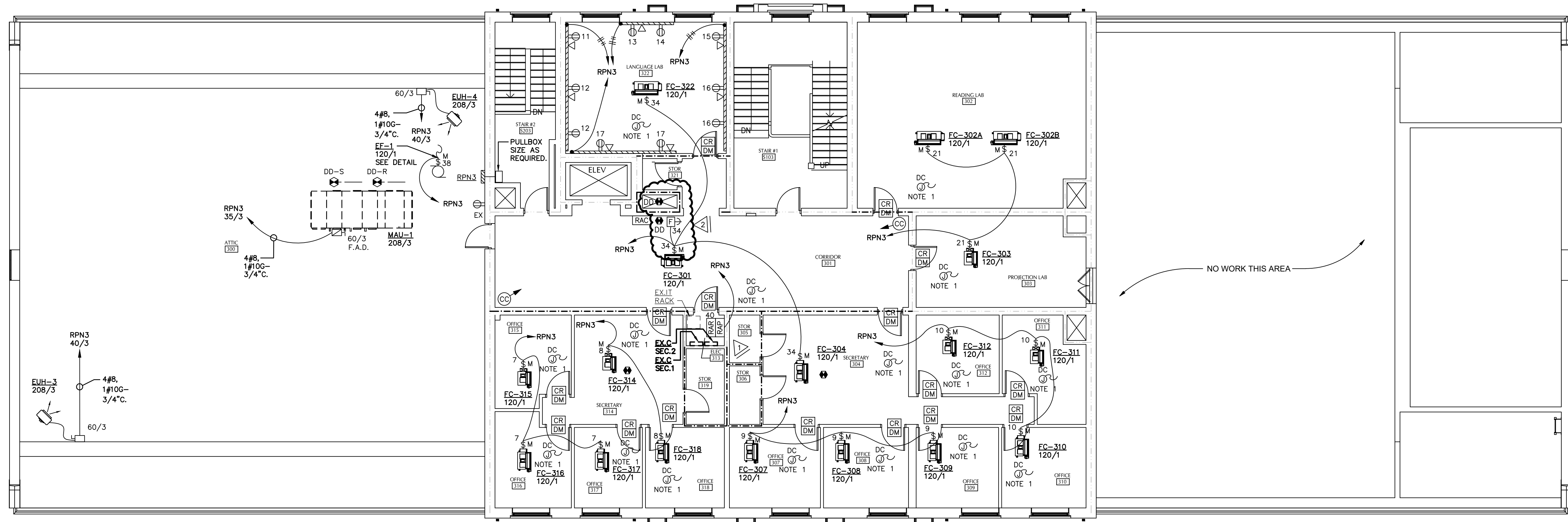
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**ELECTRICAL  
THIRD AND ATTIC  
PLAN - POWER  
AND AUXILIARY**

SHEET NUMBER  
**E-3.1**  
OF



**ATTIC FLOOR PLAN - POWER AND AUXILIARY**

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



**THIRD FLOOR PLAN - POWER AND AUXILIARY**

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

**NOTES THIS SHEET:**

1. CONNECT TO EXISTING 120V UN-SWITCHED CIRCUIT THIS AREA AS REQUIRED FOR DOOR CONTROLLER POWER.

BUILDING CLASSIFIED AS A HISTORICAL BUILDING.  
POWER AND LIGHTING CONTROLS ARE EXEMPT FROM  
SECTIONS 8 AND 9 FROM ASHRAE 90.1 2013.