#### LEGEND

# **ABBREVIATIONS**

ABOVE CEILING, ABOVE COUNTERTOP, ALTERNATING CURRENT

AFF MOUNTING HEIGHT ABOVE FINISHED FLOOR OR GRADE TO CENTERLINE

ADJACENT TO LIGHT FIXTURE INDICATES FIXTURE TO BE EQUIPPED WITH EMERGENCY BATTERY PACK.

BFC BELOW FINISHED CEILING

CKT CIRCUIT

CLG CEILING, CEILING MOUNTED

CW DEVICE MOUNTS IN CASEWORK BUT NOT FURNISHED WITH CASEWORK.

DC DIRECT CURRENT

EMPTY CONDUIT (3/4" MINIMUM) WITH NYLON PULLWIRE

EM **EMERGENCY** 

EC

EWC ELECTRIC WATER COOLER LOCATION

EXISTING - RECONNECT AS REQUIRED AT EXISTING LOCATION, REMOVE EX AND REINSTALL IF REQUIRED

**EMCS** ENERGY MANAGEMENT CONTROL SYSTEM

ETR **EXISTING TO REMAIN** 

FIRE ALARM

**GROUND FAULT INTERRUPTER** GFI

HORSE POWER

INTERCOM

**PANEL** 

TRANSFORMER, THERMOSTAT

REFRIGERATOR

**AUTOMATIC TRANSFER SWITCH** 

VOLT

**VOLT-AMPS** 

VARIABLE SPEED DRIVE

WATT

WEATHERPROOF (NEMA 3R)

# **CONTROLS & MECHANICAL EQUIPMENT**

MOTOR CONTROLLER WITH VARIABLE SPEED DRIVE AND INTEGRAL DISCONNECT -FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16

DISCONNECT SWITCH, NON-FUSIBLE, SIZE AND NEMA TYPE AS NOTED. 30A

RELAY - CONFIGURATION AND COIL VOLTAGE AS INDICATED

MOTOR - ELECTRICAL CHARACTERISTICS AS NOTED

CONTACTOR - NORMALLY OPEN

CONTACTOR - NORMALLY CLOSED

**BUILDING AUTOMATION SYSTEM PANEL** 

POWER CONNECTION, FA CONTROL OF SMOKE DAMPER, DAMPER PROVIDED BY OTHERS

#### OUTLETS

DUPLEX RECEPTACLE, 20A, 125V, 2 POLE, 3 WIRE, MOUNT 1'-6" AFF, NEMA

DUPLEX RECEPTACLE, 20A, 125V, 2 POLE, 3 WIRE, WITH WEATHERPROOF-IN-USE COVER

DUPLEX RECEPTACLE, 20A, 125V, 2 POLE, 3 WIRE, WITH GROUND FAULT INTERRUPTER, MOUNT 1'-6" AFF

## HOMERUNS TO PANELS

ARROW INDICATES CIRCUIT HOMERUNS IN CONDUIT

THRU CONTACTS OF RELAY

NUMBER OF HOMERUNS SHOWN ON THE PLANS ARE THE NUMBER OF HOMERUNS REQUIRED. DO NOT RUN MORE THAN THREE HOMERUNS IN ONE CONDUIT. DO NOT RUN 2 CIRCUITS ON THE SAME PHASE IN ONE

INDICATES CONTINUATION OF RUN SHOWN ON ANOTHER PLAN VIEW

CIRCUIT SIZE AS SHOWN ON SINGLE LINE DIAGRAM UNLESS OTHERWISE INDICATED.

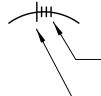
## CIRCUITING AND BRANCH CIRCUITS

INDICATES 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL & 1 #12 GND - 3/4" C. TO 1-POLE BREAKER, SIZED AS SHOWN IN PANEL SCHEDULES, ON CIRCUIT No. 3, IN PANEL 'L2A'.

INDICATES 2 #12 PHASE CONDUCTORS & 1 #12 GND - 3/4" C. TO 2-POLE BREAKER, SIZED AS SHOWN IN PANEL SCHEDULES, ON CIRCUIT No.'s 2 & 4 IN

INDICATES 3 #12 PHASE CONDUCTORS & 1 #12 GND - 3/4" C, TO 3-POLE BREAKER, SIZED AS SHOWN IN PANEL SCHEDULES, ON CIRCUIT No.'S 2,4,6 L2A-2,4,6 IN PANEL 'L2A'.

> INDICATES ALL CONDUCTORS ARE TO BE MINIMUM #10 GAUGE, CONDUIT PER NEC OR AS INDICATED.



SHORTER TICKMARKS INDICATE 2 OR MORE PHASE CONDUCTORS, OR SWITCH LEGS

LONGER TICKMARKS INDICATE GROUNDED CONDUCTOR(S), QUANTITY AS SHOWN.

NEUTRALS SHALL NOT BE SMALLER SIZE THAN PHASE CONDUCTORS UNLESS SPECIFICALLY INDICATED OTHERWISE. PROVIDE THE APPROPRIATE NUMBER OF NEUTRALS IN ACCORDANCE WITH NEC.

INSULATED GROUNDING CONDUCTORS SHALL BE USED IN ALL CIRCUITS, SIZED IN ACCORDANCE WITH NEC ARTICLE 250.

2-#12, 1-#12 GROUND SHALL BE RUN IN 3/4" CONDUIT. 4 OR MORE #12 CONDUCTORS SHALL BE RUN IN 3/4" C. OR AS REQUIRED BY NEC. LARGER THAN #12 CONDUCTORS SHALL BE RUN IN CONDUIT SIZED IN ACCORDANCE WITH NEC.

CONCEALED OVERHEAD OR IN WALLS.

EXPOSED SURFACE MOUNTED METAL RACEWAY.



EMPTY CONDUIT WITH NYLON PULLWIRE - 3/4" MINIMUM UNLESS NOTED

#### JUNCTION BOXES

FLEXIBLE CONDUIT TO EQUIPMENT

JUNCTION BOX IN OR ABOVE CEILING

JUNCTION BOX IN WALL - MOUNT 1'-6" UNLESS NOTED OTHERWISE

JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT

JUNCTION BOX EXISTING TO REMAIN

PULL BOX, 6" SQUARE X 4"D OR AS INDICATED

(J)<sub>WE</sub> CAST BOX WITH GASKETED WEATHERPROOF COVER

THERMOSTAT LOCATION - PROVIDE RECESSED METALLIC BOX WITH APPROPRIATE TRIM RING, 1/2" EMT TO ABOVE CEILING WITH INSULATING GROMMET AND PULL STRING. MOUNT 4'-6" AFF HEIGHT TO MATCH WALL

# POWER, PANELS & POWER EQUIPMENT

PANELBOARD 208 VOLT - SURFACE MOUNTED - SEE PANELBOARD SCHEDULE

POWER DISTRIBUTION PANEL OR 480 VOLT - SEE PANELBOARD SCHEDULE

MOLDED CASE CIRCUIT BREAKER

## FIRE ALARM SYSTEM

FIRE ALARM DUCT SMOKE DETECTOR REMOTE LED INDICATING DEVICE. MOUNT 3'-8" AFF TO BOTTOM OF DEVICE OR IN CEILING TILE.

FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR - CEILING MOUNTED

FIRE ALARM CONTROL PANEL

FIRE ALARM DUCT SMOKE DETECTOR



FIRE ALARM SUPERVISED ADDRESSABLE RELAY MODULE

FIRE ALARM CONDUIT RUN, 3/4" UNLESS NOTED OTHERWISE

#### SCOPE OF WORK

INDICATED.

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE ALL WORK AS SHOWN ON THE CONTRACT DRAWINGS.
- THIS SHALL INCLUDE THE INSTALLATION OF A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM. THIS SYSTEM REQUIRED CONSISTS BASICALLY OF, AND IS NOT LIMITED TO, THE FOLLOWING:
- EXTEND THE DISTRIBUTION SYSTEM FOR POWER INCLUDING THE NECESSARY FEEDERS, BRANCH CIRCUITS, PROTECTIONS, INSTALLATION OF AND CONNECTION TO DEVICES, PANELBOARDS, TRANSFORMERS, SWITCHES, AND ALL OTHER EQUIPMENT SHOWN, AND THE CONNECTION TO OTHER POWER LOADS THAT ARE
- EXISTING OR NEW, PROVIDED BY OTHER CONTRACTS OR THE OWNER. EXTEND THE BUILDING GROUND SYSTEM AND PROVIDE SPECIAL GROUNDS AS
- FURNISH AND INSTALL THE ADDITIONAL FIRE ALARM SYSTEM COMPONENTS AND DEVICES INDICATED. FURNISH AND CONNECT COMMUNICATION AND SIGNALLING CIRCUITS TO THE EXISTING CONTROL PANEL PERFORM THE DEMOLITION WORK INDICATED.
- THE BIDDER SHALL INSPECT THE PRESENT JOBSITE CONDITIONS BEFORE PREPARING HIS BID. THE SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE THAT SUCH A VISIT AND INSPECTION WAS PERFORMED BY THE BIDDER AND THAT HE TAKES FULL RESPONSIBILITY FOR ALL FACTORS GOVERNING HIS WORK.
- 4. THE ELECTRICAL WORK SHALL BE COMPLETE, FULLY OPERATIONAL, AND SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE AND DO NOT SHOW ALL DETAILS, DEVICES AND INCIDENTAL MATERIALS NECESSARY TO ACCOMPLISH THEIR INTENT. THEREFORE, IT SHALL BE UNDERSTOOD THAT SUCH DEVICES AND INCIDENTAL MATERIALS REQUIRED SHALL BE FURNISHED AT NO COST TO THE OWNER.

#### **DEMOLITION NOTES - GENERAL**

- ALL ELECTRICAL ITEMS SHOWN ON DEMOLITION PLANS ARE TO BE REMOVED UNLESS NOTED OTHERWISE. REMOVE ALL ELECTRICAL TRADE MATERIALS ASSOCIATED WITH ITEMS SHOWN TO BE REMOVED. THIS SHALL INCLUDE BUT NOT BE LIMITED TO CONDUIT AND RACEWAYS (BOTH SURFACE MOUNTED AND CONCEALED ACCESSIBLE). WIRE, DEVICES AND CONDUIT SUPPORTS, BACK TO SERVING PANEL. THE CONTRACTOR IS DIRECTED TO MECHANICAL DEMOLITION INSTRUCTION TO REVIEW AND DETERMINE WHERE ADDITIONAL DEMOLITION WORK MAY BE REQUIRED.
- ALL REMOVED ELECTRICAL EQUIPMENT, INCLUDING FIXTURES, DISCONNECTS, MOTORS, ETC., SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR AT NO ADDITIONAL COST.

WHERE EXISTING CIRCUITS ARE REWORKED BY THE ADDITION OR REMOVAL OF

- CONDUCTORS, THE OLD WIRE SHALL BE REMOVED, THE CONDUIT SWABBED OUT, AND NEW THWN WIRES REPULLED UNLESS INDICATED OTHERWISE.
- IF ANY EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN BECOMES ISOLATED BY THE REMOVAL OF WALLS, CEILINGS, ELECTRICAL EQUIPMENT, ETC., IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REROUTE AND RECONNECT THE EQUIPMENT SO THAT THE SYSTEM REMAINS OPERABLE. ANY REQUIRED WORK SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
- MOTORS AND HVAC DEVICES SHALL BE REMOVED BY CRAFTSMEN SKILLED IN THE HVAC TRADE. REMOVE ELECTRICAL CONNECTIONS TO SAME. COORDINATE REMOVAL OF CONTROL DEVICES AND ASSOCIATED RACEWAY WITH MECHANICAL TRADE, ALL LINE VOLTAGE WIRING SHALL BE DISCONNECTED AND REMOVED BY A QUALIFIED
- RELOCATE EXISTING ELECTRICAL EQUIPMENT AS REQUIRED TO AVOID NEW CONSTRUCTION. ALL WORK REQUIRED SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS. ENGINEER SHALL BE NOTIFIED BEFORE PERFORMING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OR PATCHING OF WALLS AND CEILINGS REQUIRED. CUTTING AND PATCHING WORK SHALL BE PERFORMED BY SKILLED CRAFTSMEN. RETURN ALL WALLS AND THEIR FINISHES TO ORIGINAL CONDITION. REPAIR PENETRATIONS AND MAINTAIN RATINGS.
- ANY ITEM ABOVE CEILINGS IN EXISTING CORRIDORS OR ROOMS WHICH NEED TO BE RELOCATED FOR INSTALLATION OF NEW ELECTRICAL EQUIPMENT SHALL BE RELOCATED AND RECONNECTED AS REQUIRED. THIS INCLUDES BUT IS NOT LIMITED TO CONDUIT, WIRE, PIPING, AND DUCTWORK, RELOCATION SHALL BE MINIMUM DISTANCE POSSIBLE; CONTRACTING OFFICER SHALL BE NOTIFIED BEFORE BEGINNING
- 9. EXISTING CONDUITS WHICH PENETRATE EXTERIOR WALLS SHALL BE REMOVED AND EXTERIOR WALL PATCHED WITH LIKE MATERIALS.
- 10. ANY AND ALL HOLES OR DAMAGED SURFACES DUE TO DEMOLITION WORK SHALL BE PATCHED BY A SKILLED CRAFTSMAN.
- 11. WHERE ITEMS ARE DESIGNATED EXISTING TO REMAIN, THEY SHALL BE PROTECTED DURING DEMOLITION. RELOCATE AS REQUIRED WHERE ITEMS ARE INSTALLED IN CEILING. WHERE RECEPTACLES ARE NOT EXISTING TO REMAIN, NEW DEVICES AND WALLPLATES SHALL BE INSTALLED AND NEW THHN CONDUCTORS INSTALLED IN EXISTING RACEWAY.

#### **GENERAL NOTES**

- ALL WORK SHALL COMPLY WITH THE FLORIDA BUILDING CODE 5TH EDITION INCLUDING THE NATIONAL ELECTRICAL CODE NFPA-70 (2011), AND THESE DRAWINGS.
- 2. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL PROJECT REQUIREMENTS.
- ALL CONDUCTORS SHALL BE INSTALLED IN RIGID METAL CONDUIT OR TUBING. FINAL CONNECTION TO MACHINES OR VIBRATING EQUIPMENT SHALL BE FLEXIBLEMETAL. FLEXIBLE CONDUIT INSTALLED OUT-OF-DOORS, IN ANY MECHANICAL EQUIPMENT ROOM, OR IN NORMALLY WET AREAS, SHALL BE LIQUID TIGHT METALLIC FLEX WITH SUITABLE (UL) FITTINGS.
- COORDINATE WITH ALL MECHANICAL TRADES FOR SPACE REQUIREMENTS IN MECHANICAL ROOMS, CORRIDORS, SHAFTS, ABOVE CEILING, ETC. THIS INCLUDES
- SPACE ABOVE PANELS WHERE DUCTS AND PIPING ARE PROHIBITED. FOR EXACT LOCATIONS AND CONFIGURATIONS OF MECHANICAL EQUIPMENT, SEE MECHANICAL PLANS AND SPECIFICATIONS.
- CONDUIT SHALL BE INSTALLED TIGHT TO DECK WHERE INSTALLED ABOVE CEILING. RELOCATE INCIDENTAL HANGERS, BRACKETS, ETC. WHERE IN CONFLICT. MAXIMIZE USE OF SPACE. SUPPORT CONDUITS FROM BUILDING STRUCTURE.
- PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS. 8. CONDUIT SHALL PASS THROUGH WALLS AT 90 DEGREES AND SHALL BE RUN PARALLEL
- AND PERPENDICULAR TO WALLS. SEAL PENETRATIONS. BRANCH CIRCUITS AND HOMERUNS SHALL BE AS NOTED AND SHALL BE #12 WIRE AND
- 3/4" CONDUIT MINIMUM. EVERY CONDUIT SHALL HAVE A GREEN GROUND WIRE (#12
- SIZE # 8 AWG AND LARGER SHALL BE STRANDED. 11. NO MORE THAN 3 PHASE CONDUCTORS SHALL BE INSTALLED IN ONE CONDUIT UNLESS

10. ALL CONDUCTORS SHALL BE COPPER WITH THHN/THWN INSULATION. CONDUCTORS

- NOTED OTHERWISE.
- 12. MAINTAIN NEC MINIMUM CLEARANCE IN FRONT OF ALL SAFETY SWITCHES AND PANELBOARDS.
- 13. CONDUITS SHALL BE RAN OVERHEAD UNLESS NOTED OTHERWISE. 14. PROVIDE CONDUIT AND OUTLET BOXES AS REQUIRED FOR THERMOSTATS AND SENSORS. THERMOSTATS AND SENSORS ARE SHOWN ON MECHANICAL DRAWINGS. PROVIDE RACEWAYS FOR CONTROLS WHERE INDICATED ON DRAWINGS.
- 15. ALL FIRE ALARM WORK SHALL BE IN ACCORDANCE WITH NFPA 70 (2011) AND NFPA 72 (2010) REQUIREMENTS, AND THE FLORIDA FIRE PREVENTION CODE 2014.
- 16. ALL ITEMS ON PLANS ARE NEW UNLESS NOTED OTHERWISE. 17. EXISTING PANELS TO REMAIN SHALL HAVE THEIR PANEL SCHEDULES UPDATED AND
- RETYPED AFTER COMPLETION OF NEW WORK. 18. DO NOT PENETRATE ROOF UNLESS SO INDICATED ON DRAWINGS. ALL CONDUITS
- PENETRATING ROOF SHALL BE SEALED BY THE ELECTRICAL CONTRACTOR, USING SEALING METHOD APPROVED BY THE ROOFING INSTALLER. 19. ALL WALL PENETRATIONS SHALL BE SEALED USING AN APPROPRIATE UL ASSEMBLY TO
- 20. WHERE RECEPTACLES ARE INDICATED TO BE EQUIPPED WITH GROUND FAULT INTERRUPTING CIRCUITRY, IT SHALL BE INTEGRAL TO THE DEVICE AND HAVE A TEST/RESET MECHANISM INTEGRAL WITH THE DEVICE. REMOTE TEST/RESET OR THE INTERWIRING OF ADDITIONAL RECEPTACLES UTILIZING GF SENSING OF A SINGLE
- RECEPTACLE IS NOT ACCEPTABLE. 21. ALL RACEWAYS SHALL BE CONCEALED UNLESS INSTALLED IN ELECTRICAL OR
- MECHANICAL SPACES. 22. ALL SINGLE POLE CIRCUITS SHALL TERMINATE ON A SINGLE POLE CIRCUIT BREAKER ASSEMBLY. DO NOT USE MULTI-POLE CIRCUIT BREAKER OVERCURRENT PROVISIONS FOR 120 VOLT OR 277 VOLT CIRCUITS. PROVIDE INDIVIDUAL GROUNDED CONDUCTORS

#### FIRE ALARM SYSTEM NOTES

MAINTAIN THE RATING OF THE WALL.

FOR ALL SINGLE POLE CIRCUITS.

THE FIRE ALARM SYSTEM CONTRACTOR SHALL SUBMIT A SEPARATE PERMIT APPLICATION AND PLANS FOR REVIEW IN ACCORDANCE WITH NFPA 1, 1.14 AND FBC 2014 EDITION

PROVIDE ADDITIONAL PROTECTIVE SIGNALING SYSTEM COMPONENTS SUITABLE FOR TYPE OCCUPANCY AS DEFINED BY LOCAL BUILDING CODE AND AS APPROVED BY STATE FIRE MARSHALL. THESE COMPONENTS SHALL CONSIST OF, BUT NOT BE LIMITED TO, SMOKE DETECTORS, DUCT SMOKE DETECTORS, RELAYS, AND INDICATORS STATIONS. INCLUDE INSTALLATION AND TESTING IN BASIC PRICE.

PROVIDE COMPLETE WIRING IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. COLOR CODE WIRING AND INSTALL PER MANUFACTURER'S WIRING DIAGRAMS. INSTALLATION SHALL BE SUPERVISED BY A DULY LICENSED CERTIFIED CONTRACTOR AND INSTALLED BY PERSONNEL SKILLED IN THE TRADE. OUTER JACKET OF ALL MULTI-CONDUCTOR CABLES SHALL BE BRIGHT RED.

EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN PLACE AND OPERATIVE AT ALL TIMES.

WIRING SHALL CONFORM TO NFPA 72 AND 90A (AS APPLICABLE) AND ARTICLE 760 OF THE NEC. WIRING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AS NECESSARY TO PERFORM THE REQUIRED FUNCTION.

WIRING REQUIREMENTS: ALL WIRING SHALL BE IN STEEL CONDUIT AND SHALL BE

WIRING SHALL BE COLOR CODED AND COLOR CODING SHALL BE UNIFORM THROUGHOUT.

IN JUNCTION BOXES, TERMINAL CABINETS, CONTROL PANEL, OUTLET BOXES, DEVICES, ETC., WIRING SHALL TERMINATE ON IDENTIFIED TERMINAL STRIPS. WIRE NUTS OR OTHER SIMILAR SPLICING DEVICES SHALL NOT BE ACCEPTABLE IN ANY PART OF THE SYSTEM.

EACH JUNCTION BOX AND TERMINAL CABINET WILL BE PAINTED RED WITH "FIRE"

STENCILED IN WHITE LETTERS ON THE COVER.

OF THE ENGINEER.

AT THE CONTROL PANEL.

JUNCTION BOXES AND TERMINAL CABINETS SHALL BE SIZED 40 PERCENT GREATER THAN IS REQUIRED BY THE NATIONAL ELECTRICAL CODE, ARTICLE 370. AUXILIARY RELAYS (RATED FOR 120 VAC AT 3 AMPS RESISTIVE) SHALL BE PROVIDED TO

SHUT DOWN AIR HANDLERS AND CONTROL OTHER POWER LOADS AS REQUIRED. THE COMPLETED SYSTEM SHALL BE INSPECTED AND DEMONSTRATED IN THE PRESENCE

THE APPROVED SYSTEM SHALL BE TESTED IN ACCORDANCE WITH NFPA 72 AND RE-CERTIFIED AT THE COMPLETION OF THE PROJECT. THE COMPLETED AND RE-CERTIFIED SYSTEM SHALL BE INSPECTED IN THE PRESENCE OF

THE STATE FIRE MARSHALL. IF SYSTEM SHUTDOWN IS REQUIRED, IT SHALL BE LESS THAN 4 HOURS IN ANY GIVEN 24 HOUR PERIOD. IF THIS IS IMPOSSIBLE, THE LOCAL FIRE DEPARTMENT SHALL BE NOTIFIED AND AN APPROVED FIRE WATCH INITIATED IN ACCORDANCE WITH NFPA 101, SECTION

INSTALL DUCT DETECTORS DOWNSTREAM OF AIR FILTERS AND AHEAD OF BRANCH CONNECTIONS IN AIR SUPPLY SYSTEMS. AIR HANDLERS SHALL SHUT DOWN UPON GENERAL ALARM. DUCT DETECTORS SHALL

SHUTDOWN THE CORRESPONDING AIR HANDLER UNIT AND ISSUE A SUPERVISORY SIGNAL

POWER CIRCUITS TO FIRE ALARM SYSTEM CONTROL PANEL, AUXILIARY POWER SUPPLIES, COMMAND CENTER CONSOLE AND ANY OTHER FIRE ALARM SYSTEM COMPONENT REQUIRING LINE VOLTAGE POWER SHALL BE DEDICATED BRANCH CIRCUITS. CIRCUIT DISCONNECTING MEANS SHALL BE IDENTIFIED AS FOLLOWS: BRANCH CIRCUIT BREAKERS SHALL HAVE AN ENGRAVED NAMEPLATE PERMANENTLY ATTACHED ADJACENT TO THE CIRCUIT BREAKER, READING "FIRE ALARM CONTROL PANEL", "FIRE ALARM AUXILIARY POWER SUPPLY", OR OTHER SUITABLE WORDING.



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Tallahassee, Florida 32308 CA #05990 ROOFTOP HVAC REPLACEMENT

DOYLE CONNER LAB ADMIN BUILDING

FL. DEPT. OF AGRICULTURE & **CONSUMER SERVICES** 

TALLAHASSEE, FLORIDA

November 10, 2017

DATE:

DESIGNED BY: **DRAWN BY:** 

SUBMITTAL:

CONSTRUCTION DOCUMENTS SHEET TITLE: **ELECTRICAL** 

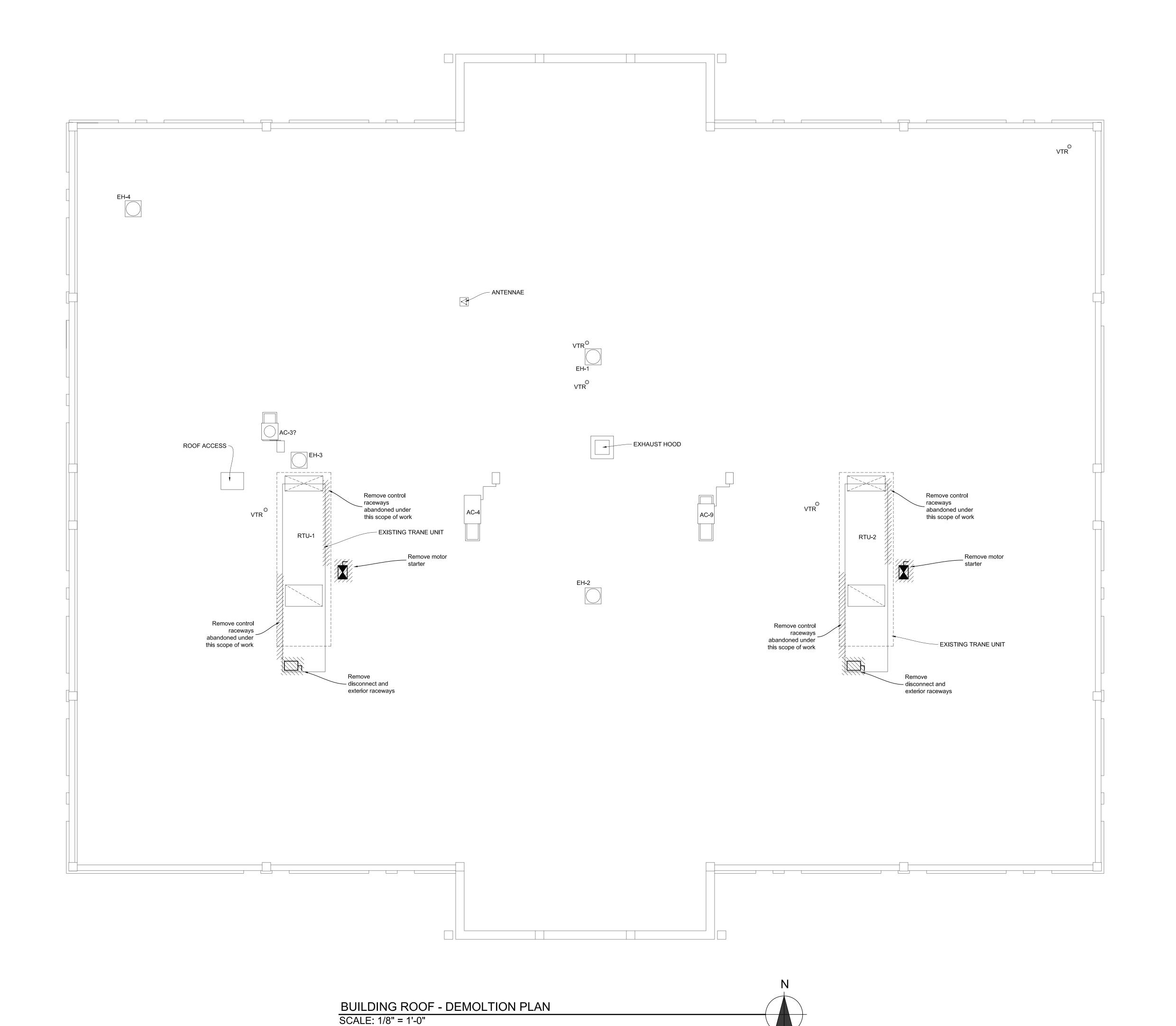
**GENERAL NOTES AND** 

LEGEND SHEET:

JOB NUMBER:

1712

Charles K. Fleming, PE #48107





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DESIGNED BY:

SIGNED BY: DRAWN BY: TEB

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CONSTRUCTION DOCUMENTS

SHEET TITLE: ELECTRICAL

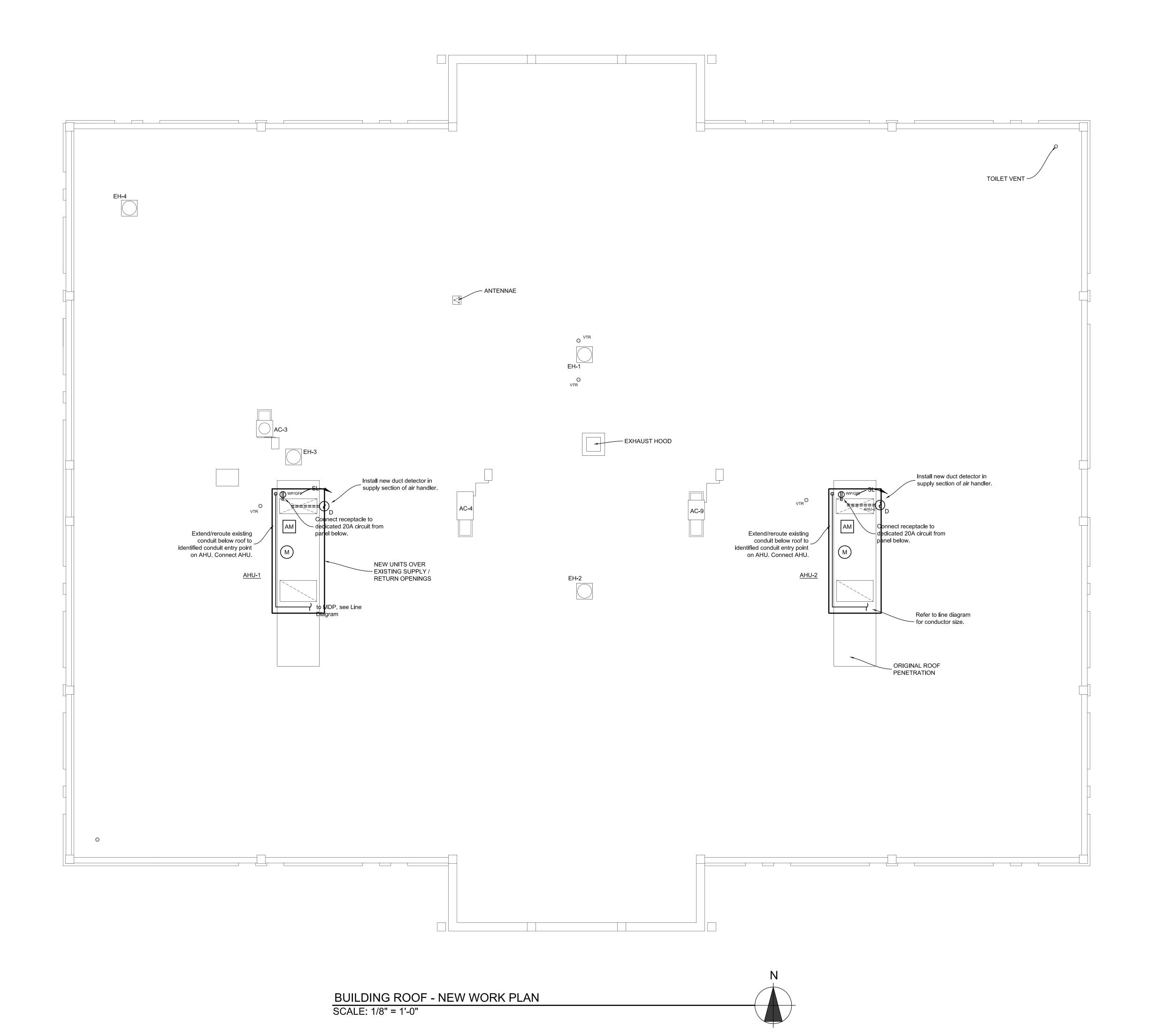
BUILDING ROOF

**DEMOLITION PLAN** 

E2.1

JOB NUMBER:

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SHEET:

BUILDING ROOF

NEW WORK PLAN

E3.1

JOB NUMBER:

1712

Install conventional smoke

— detector in new ductwork Install convention smoke - detector in new ductwork Outline of AHU on roof Existing duct detector. Install new duct detector. ======<u></u>D =======D 



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FL. DEPT. OF AGRICULTURE & CONSUMER SERVICES

DATE:

November 10, 2017

DESIGNED BY: CKF

SUBMITTAL:

CONSTRUCTION DOCUMENTS

SHEET TITLE:
ELECTRICAL

SECOND FLOOR LEVEL

**NEW WORK** 

SHEET:

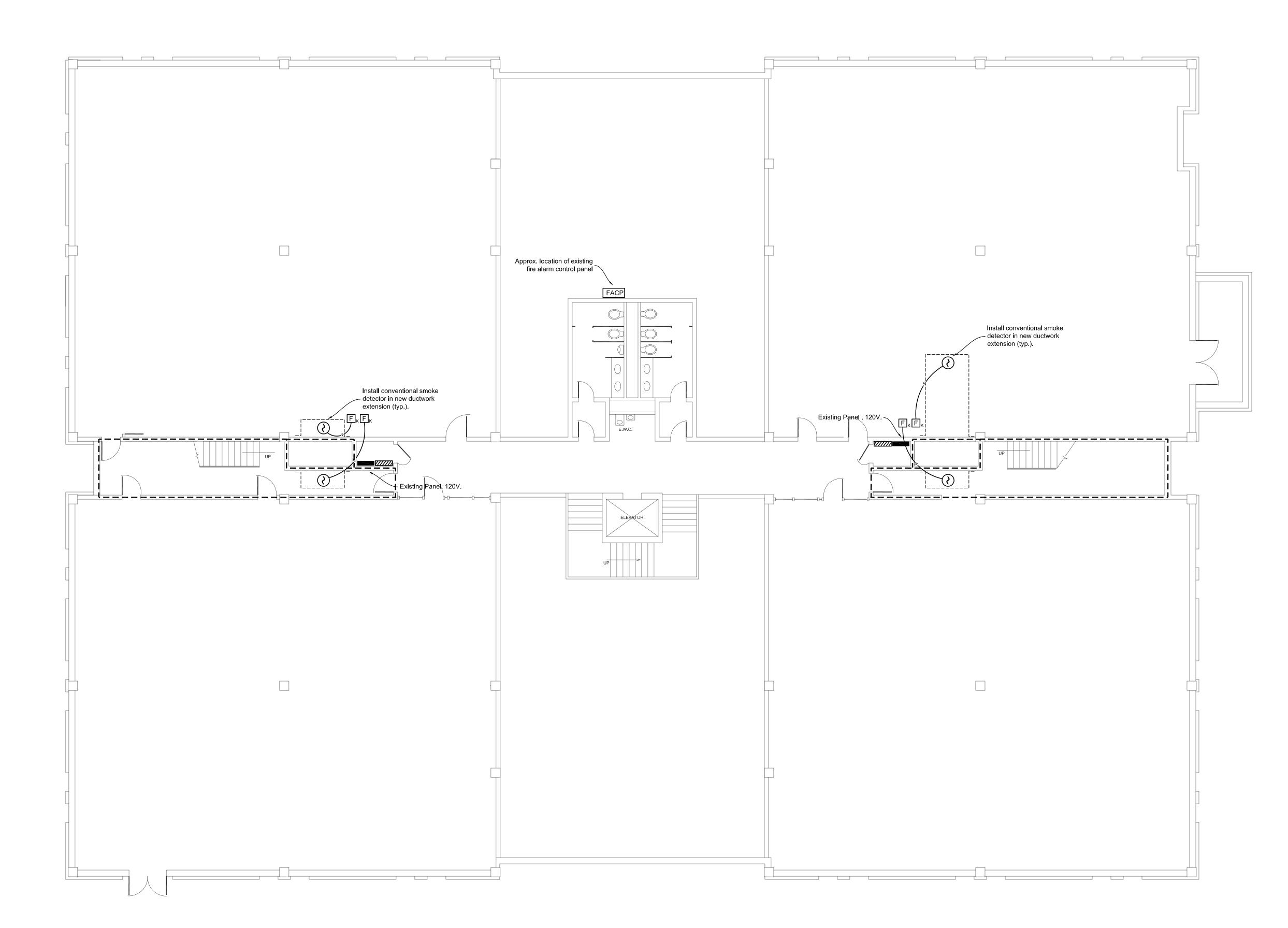
E3.2

JOB NUMBER:

=R: 1712

SECOND FLOOR PLAN - NEW WORK

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





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DATE:

November 10, 2017

DESIGNED BY: DRAWN BY:

SUBMITTAL:

CONSTRUCTION DOCUMENTS

SHEET TITLE: ELECTRICAL

FIRST FLOOR LEVEL

NEW WORK

SHEET:

JOB NUMBER:

1712

FIRST FLOOR PLAN - NEW WORK

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

Approximate location of existing branch circuit to RTU-1/AHU-1. Existing raceways may be reused at Contractor's discretion. Approximate location of existing branch circuit to RTU-2/AHU-2. Existing raceways may be reused at Contractor's discretion. Existing raceways to RTU's and new air handler locations. Modify as Existing Square D I-Line panelboard - replace existing RTU breakers. 

Provide new circuit breakers ELECTRICAL/TELEPHONE ROOM



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DATE:

November 10, 2017

•

DESIGNED BY: DRAWN BY: CKF TEB

SUBMITTAL:

CONSTRUCTION DOCUMENTS

SHEET TITLE: ELECTRICAL

BASEMENT LEVEL DEMOLITION PLAN

SHEET:

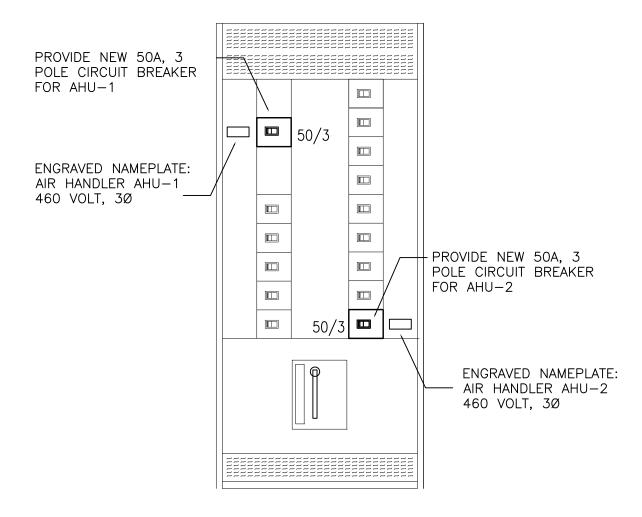
E3.4

JOB NUMBER:

: 1712

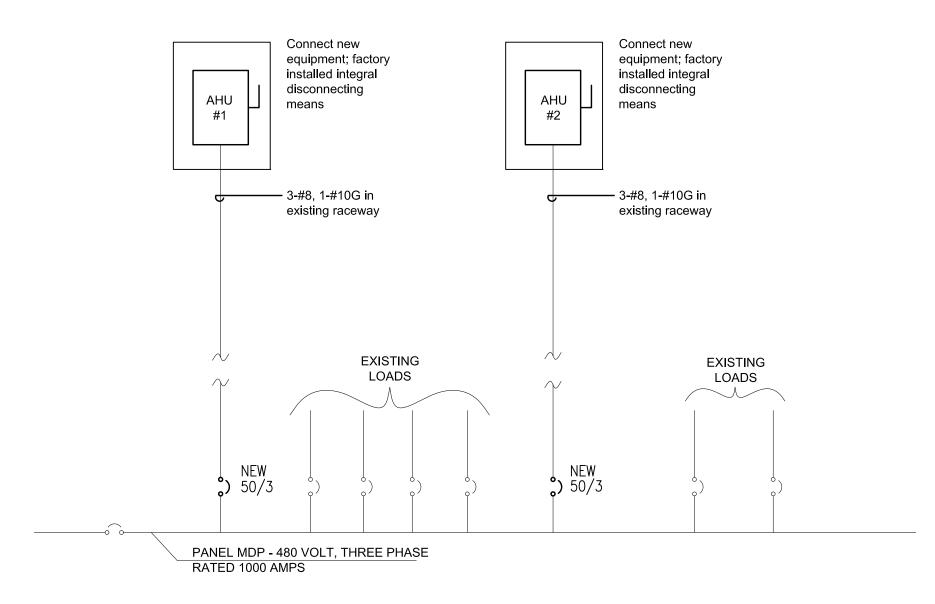
BASEMENT FLOOR PLAN - NEW WORK

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



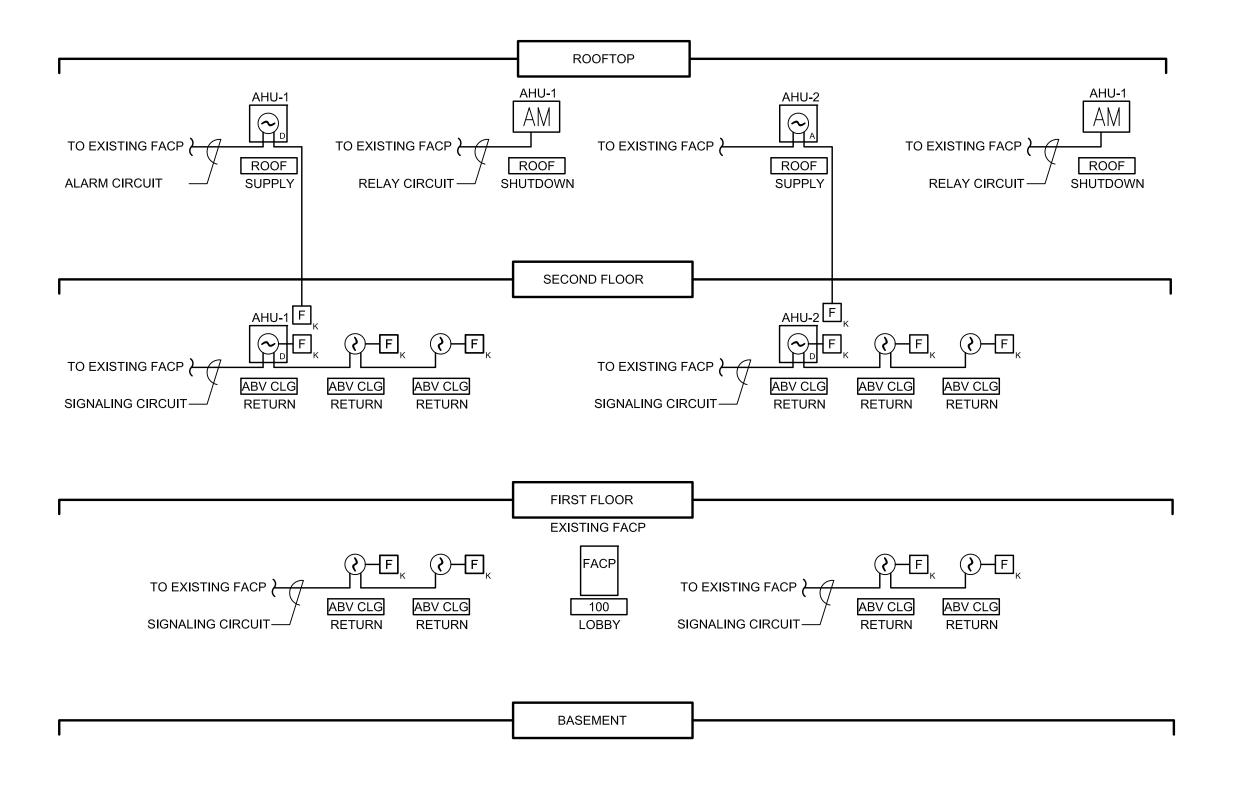
# PANEL MDP ELEVATION

NOT TO SCALE



# POWER ONE-LINE NEW WORK

NOT TO SCALE

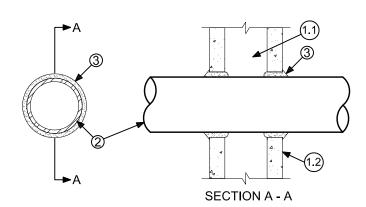


- 1. PROVIDE END-OF-LINE RESISTORS AS REQUIRED. 2. FACP IS EXISTING TO REMAIN.
- 3. EACH CONCEALED SMOKE DETECTOR SHALL HAVE A REMOTE INDICATOR STATION INSTALLED IN CEILING OR WALL.
- 4. ACTIVATION OF ANY SMOKE DETECTOR SHALL INDICATE AS
- TROUBLE ON THE FACP AND CAUSE THE RESPECTIVE AHU TO STOP.

## FIRE ALARM LINE DIAGRAM - NEW WORK

NOT TO SCALE

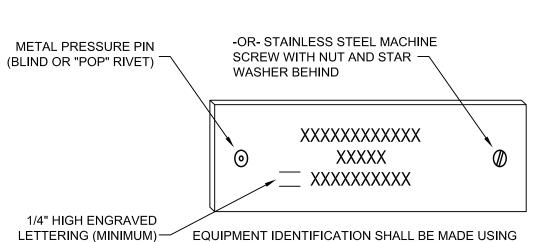
SYSTEM NO. W-L-1001 (FORMERLY SYSTEM NO. 147) F RATINGS - 1, 2, 3 AND 4 HOUR (SEE ITEMS 2 & 3) T RATING - 0, 1, 2, 3 AND 4 HOUR (SEE ITEM 3) L RATING AT AMBIENT - LESS THAN 1 CFM/SQ FT L RATING AT 400°F - LESS THAN 1 CFM/SQ FT



- 1. WALL ASSEMBLY THE 1, 2, 3 OR 4 HOUR FIRE-RATED GYPSUM WALLBOARD / STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- 1.1. STUDS WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAXIMUM 2 HOUR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2"x4" LUMBER SPACED 16" O.C. WITH NOMINAL 2"x4" LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MINIMUM 3-5/8" WIDE BY 1-3/8" DEEP CHANNELS SPACED MAXIMUM OF 24" O.C.
- 1.2. WALLBOARD, GYPSUM NOMINAL 1/2" OR 5/8" THICK, 4' WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAXIMUM DIAMETER OF OPENING IS 13-1/2".
- 2. PIPE OR CONDUIT NOMINAL 12" DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOMINAL 12" DIAMETER (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOMINAL 12" DIAMETER (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE, NOMINAL 6" DIAMETER (OR SMALLER) STEEL CONDUIT, NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING, NOMINAL 6" DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING OR NOMINAL 1" DIAMETER (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE IS USED, MAXIMUM F RATING OF FIRESTOP SYSTEM (ITEM 3) IS 2 HOUR. STEEL PIPES OR CONDUITS LARGER THAN NOMINAL 4" DIAMETER MAY ONLY BE USED IN WALLS CONSTRUCTED USING STEEL CHANNEL STUDS. A MAXIMUM OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL
- 3. FILL, VOID OR CAVITY MATERIAL CAULK CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MINIMUM 1/4" DIAMETER BEAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAXIMUM PIPE DIAMETER (INCHES)	ANNULAR SPACE (INCHES)	F RATING (HOURS)	T RATING (HOURS)
4	0 - 1-1/2	1 OR 2	0

# PENETRATION DETAIL



EQUIPMENT IDENTIFICATION SHALL BE MADE USING ENGRAVED LAMINATED PLASTIC PLATES (INDENTED TAPE LABELS WILL NOT BE PERMITTED). CHARACTERS SHALL BE WHITE ON A BLACK BACKGROUND AND 1/4" HIGH MINIMUM. USE RED ON WHITE BACKGROUND FOR EMERGENCY SYSTEM. PLATES SHALL BE SECURED TO THE PANELS BY MEANS OF SCREWS OR METAL PRESSURE PINS. ADHESIVES FASTENING ALONE WILL NOT BE ACCEPTABLE. ALL NAMEPLATES SHALL BE MOUNTED ON THE OUTSIDE SURFACE OF THE PIECE OF EQUIPMENT.

# NAMEPLATE DETAIL

NOT TO SCALE



McGinniss & Fleming Engineering, Inc.

Mechanical • Electrical • Fire Protection • Plumbing

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ROOFTOP HVAC REPLACEMENT DOYLE CONNER LAB ADMIN BUILDING TALLAHASSEE, FLORIDA

CA #05990

FL. DEPT. OF AGRICULTURE & CONSUMER SERVICES

DATE:

November 10, 2017

DESIGNED BY: **DRAWN BY:** 

SUBMITTAL:

CONSTRUCTION DOCUMENTS

SHEET TITLE: ELECTRICAL

**DETAILS** 

SHEET:

JOB NUMBER:

1712

Charles K. Fleming, PE #48107