

RENOVATIONS  
TO THE  
CLAY COUNTY CAREER ACADEMY  
FOR THE  
CLAY COUNTY BOARD of EDUCATION  
ASHLAND, ALABAMA



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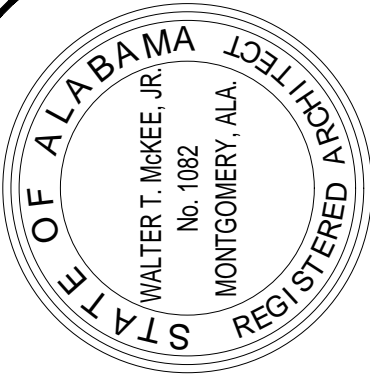
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MCKEE and ASSOCIATES  
ARCHITECTS, INC.

631 SOUTH HULL STREET, MONTGOMERY, ALABAMA 36104 (334) 834-9933

SHEET TITLE : COVER SHEET

MCKEE JOB # : 21.239

PSCA # : XXX

DRAWN BY : CH

DATE: 5.19.2022

REVISED DATE:

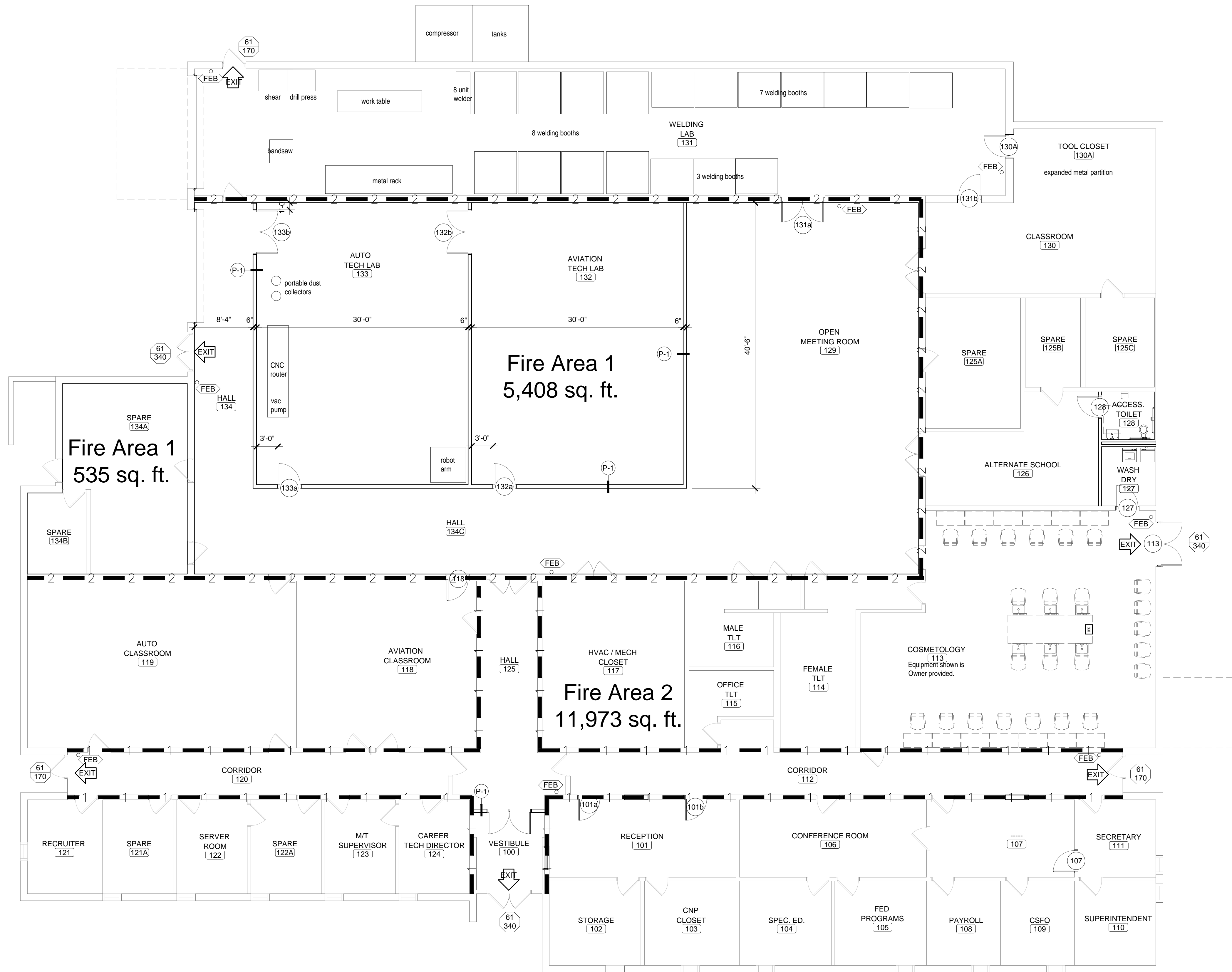
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SHEET NO. : G0.1



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

| CODE LEGEND        |   |
|--------------------|---|
| SYMBOL             | DESCRIPTION   |
| 1                  | ONE HOUR FIRE RATED PARTITION - EXISTING                              |
| 2                  | TWO HOUR FIRE RATED PARTITION - EXISTING                              |
| P-1                | WALL PARTITION TYPES  |
|                    | ONE HOUR FIRE RATED CEILING ASSEMBLY<br>UL# - XXX - SEE SECTION X\X.X |
| EXIT               | PRIMARY BUILDING EXIT   |
| TO 250             | TRAVEL DISTANCE NEAREST TO EXIT                                       |
|                    | HANDICAP ACCESSIBLE   |
| <FEB>              | FIRE EXTINGUISHER with BRACKET  |
| FSD                | FIRE SEPERATION DISTANCE  |
| EWR-10'<br>EWP-34' | EXIT WIDTH REQUIRED<br>EXIT WIDTH PROVIDED                            |
| 168<br>340         | ACTUAL OCCUPANT LOAD SERVED<br>TOTAL EGRESS CAPACITY                  |
| 3/4<br>HOUR        | RATED DOOR ASSEMBLY   |

| CODE REVIEW   |        |
|---|--------|
| XXX   |        |
| CODE: 2015 INTERNATIONAL BUILDING CODE  |        |
| OCCUPANCY TYPE: GROUP 'E' SHOPS & OTHER VOCATIONAL AREAS  |        |
| SPRINKLERED: NO   |        |
| NUMBER OF STORIES: 1<br>CONSTRUCTION TYPE: TYPE 2B  |        |
| TYPE 2B, REQUIRES THE FOLLOWING<br>FIRE RESISTANCE (TABLE 601):   |        |
| STRUCTURAL FRAME:   | 0 HOUR |
| EXTERIOR BEARING WALLS:   | 0 HOUR |
| INTERIOR BEARING WALLS:   | 0 HOUR |
| EXTERIOR NONBEARING WALLS:  | 0 HOUR |
| INTERIOR NONBEARING WALLS:  | 0 HOUR |
| FLOOR CONSTRUCTION:   | 0 HOUR |
| ROOF CONSTRUCTION:  | 0 HOUR |
| OTHER REQUIREMENTS:   |        |
| FIRE WALL RATING (TABLE 706.4): 2 HOUR  |        |
| OCCUPANCY SEPARATION (TABLE 508.4): XXX   |        |
| INCIDENTAL USE AREAS (TABLE 509): XXX   |        |
| CORRIDORS (TABLE 1020.1): CORRIDORS SERVING MORE<br>THAN 30 OCCUPANTS IN UNSPRINKLERED 'E' OCCUPANCY SHALL HAVE A<br>1-HOUR WALL. |        |
| STAIRS & SHAFT ENCLOSURES (707 & TABLE 707.3.10 NOT LEES THAN 508.4<br>IF APPLICABLE): XXX  |        |
| SINGLE OCCUPANCY FIRE BARRIERS<br>(TABLE 707.3.10): 1 HOUR  |        |
| EXIT ACCESS TRAVEL DISTANCE<br>IS 200 FEET FOR E (TABLE 1017.2)   |        |

| EXIT CALCULATIONS   |  |
|---|--|
| TOTAL BUILDING AREA   |  |
| OCCUPANCY TYPE - GROUP 'E'  |  |
| BUILDING TYPE: II-B   |  |
| ALLOWABLE SF: 14,500 SQ FT (TABLE 506.2)                            |  |
| ACTUAL SF - 18,300 SQ FT  |  |
| ALLOWABLE HEIGHT (TABLE 504.3) ALLOWABLE # OF STORIES (TABLE 504.4) |  |
| ALLOWABLE HEIGHT: 55 FT   |  |
| ALLOWABLE NO. OF STORIES: 2   |  |
| ACTUAL BUILDING HEIGHT: ± 20 FT                                     |  |
| ACTUAL NO. OF STORIES: 1  |  |
| BUILDING AREA MODIFICATION (506.3)                                  |  |
| FRONTAGE INCREASE (506.3.3)   |  |
| CALCULATIONS: 1 = [P / P - .25] W / 30                              |  |
| 1 (AREA INCREASE DUE TO FRONTAGE)                                   |  |
| W (WIDTH OF PUBLIC WAY OR OPEN SPACE) = 30                          |  |
| P (BUILDING PERIMETER THAT FRONTS PUBLIC WAY OR OPEN SPACE) = 574   |  |
| P (PERIMETER OF ENTIRE BUILDING) = 574                              |  |
| .100 = [574 / 574 - .25] 30   |  |
| .75 x 14,500 = 10,875 SF  |  |
| ALLOWABLE AREA W / FRONTAGE INCREASE: 25,375 SF                     |  |
| OCCUPANT LOAD   |  |
| OCCUPANT LOAD TOTAL (1004 & TABLE 1004.1.2) =                       |  |
| 18,300 / 50 = 366 PERSONS   |  |
| EXIT REQUIREMENTS   |  |
| EXIT ACCESS (TABLE 1006.2.1 & TABLE 1006.3.1)                       |  |
| NO. OF EXITS REQUIRED: 2  |  |
| NO. OF EXITS FURNISHED: 6   |  |
| MEANS OF EGRESS WIDTH (1006.3)                                      |  |
| SEE PLAN FOR EXIT WIDTHS  |  |
| MINIMUM CORRIDOR WIDTH (TABLE 1020.2) 6'                            |  |

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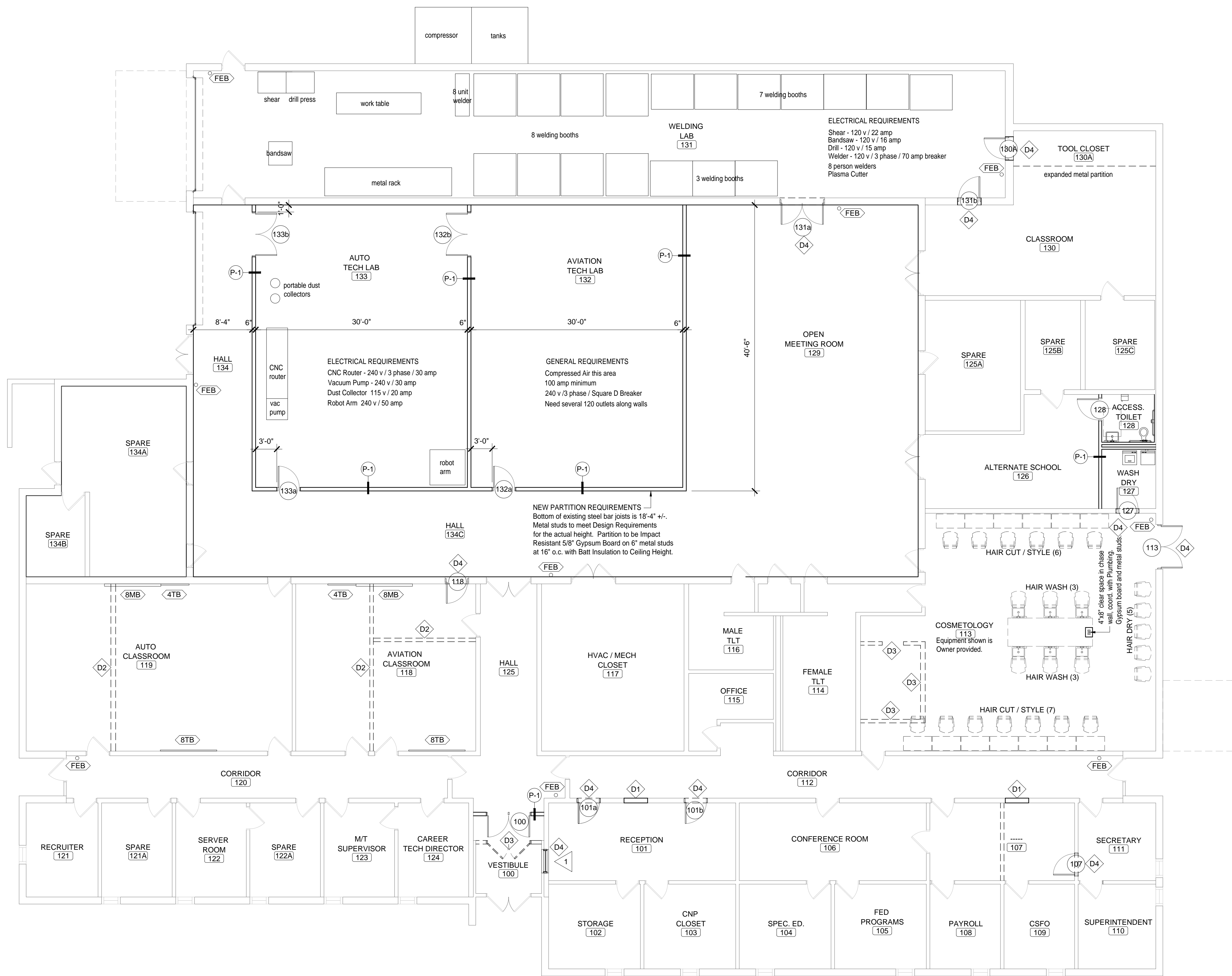
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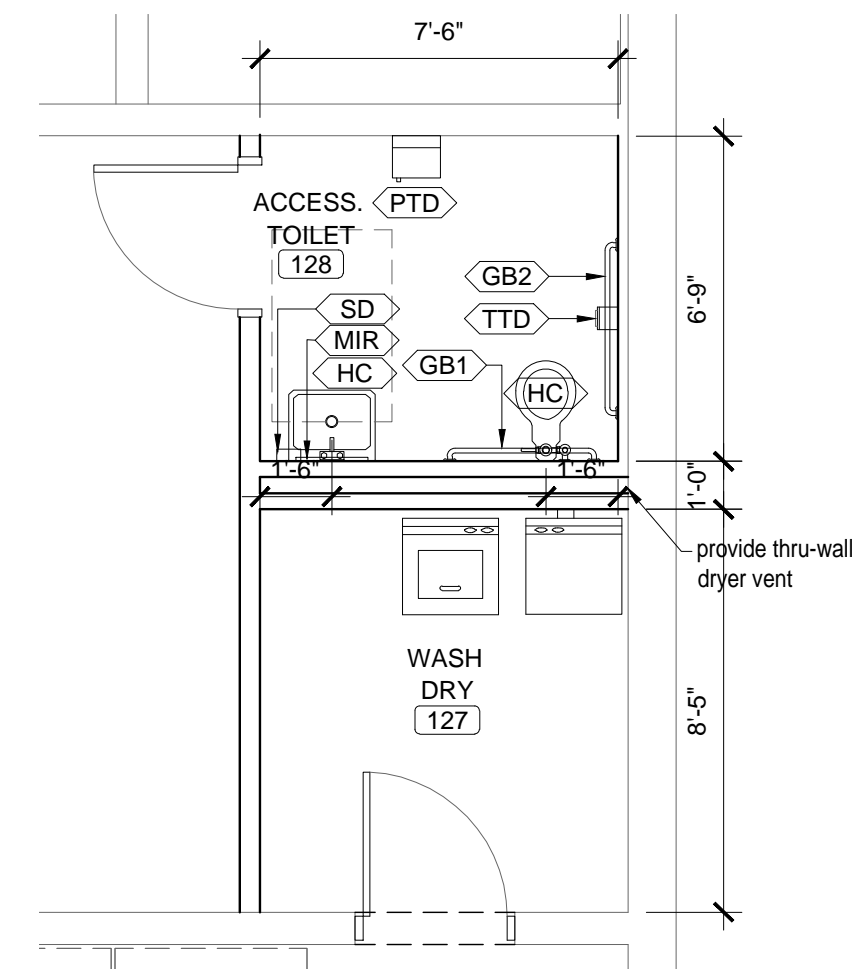
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**GENERAL NOTES**  
EXISTING CMU WALLS HAVE A STRUCTURAL  
GLAZED TILE BASE THAT MUST REMAIN.  
REMOVE PAINT, ETC. and LEAVE BASE CLEAN.



**FLOOR PLAN**  
SCALE: 1/8" = 1'-0"



**TOILET PLAN**  
SCALE: 1/4" = 1'-0"

**FLOOR PLAN LEGEND**

| SYMBOL   | DESCRIPTION                    |
|----------|--------------------------------|
| (A---)   | SCHEDULED DOOR AND FRAME       |
| (△)      | SCHEDULED WINDOW UNIT          |
| CORRIDOR | SCHEDULED ROOM NAME AND NUMBER |
| (P-)     | WALL PARTITION TYPES           |
| (FEB)    | FIRE EXTINGUISHER AND BRACKET  |
| (8MB)    | 8 FT. MARKERBOARD              |
| (4TB)    | 4 FT. TACKBOARD                |
| (8TB)    | 8 FT. TACKBOARD                |

**DEMOLITION PLAN LEGEND**

| SYMBOL | DESCRIPTION   |
|--------|---|
| ---    | EXISTING TO REMAIN  |
| ----   | EXISTING TO BE REMOVED  |
| ---    | NEW CONSTRUCTION  |
| (D1)   | EXISTING DOOR AND FRAME TO BE REMOVED and WALL OPENING CLOSED.                |
| (D2)   | EXISTING WALL TO BE REMOVED   |
| (D3)   | EXISTING WALL, DOOR and FRAME TO BE REMOVED and WALL OPENING CLOSED.          |
| (D4)   | PROVIDE WALL OPENING FOR NEW DOOR OR WINDOW AS SCHEDULED                      |
| (D5)   | EXISTING DOORS and FRAME TO BE REMOVED and REPLACED WITH NEW DOORS and FRAME. |
| (D6)   |   |
| (D7)   |   |

**SITE OF WORK EXAMINATION**

THESE DRAWINGS WERE COMPILED BY THE ARCHITECT FROM THE OWNER'S RECORD DRAWINGS AND FROM ON-SITE OBSERVATIONS TO INDICATE THE BUILDING ARRANGEMENT.

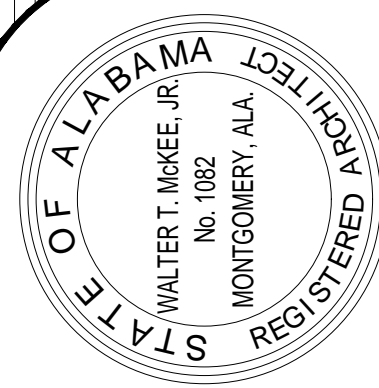
ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL FIRST EXAMINE THE PREMISES AND ALL CONDITIONS THEREIN. ALL PROPOSALS SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY AFFECT THE WORK UNDER THIS CONTRACT.

DRAWINGS ARE DIMENSIONED FOR BIDDING PURPOSES ONLY. CONTRACTORS SHALL MEASURE ALL EXISTING WORK AT THE PREMISES AND VERIFY ALL DIMENSIONS NEEDED TO PROPERLY INTERFACE IMPROVEMENTS WITH ALL EXISTING ELEMENTS WHICH ARE TO REMAIN.

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SHEET TITLE : FLOOR PLAN

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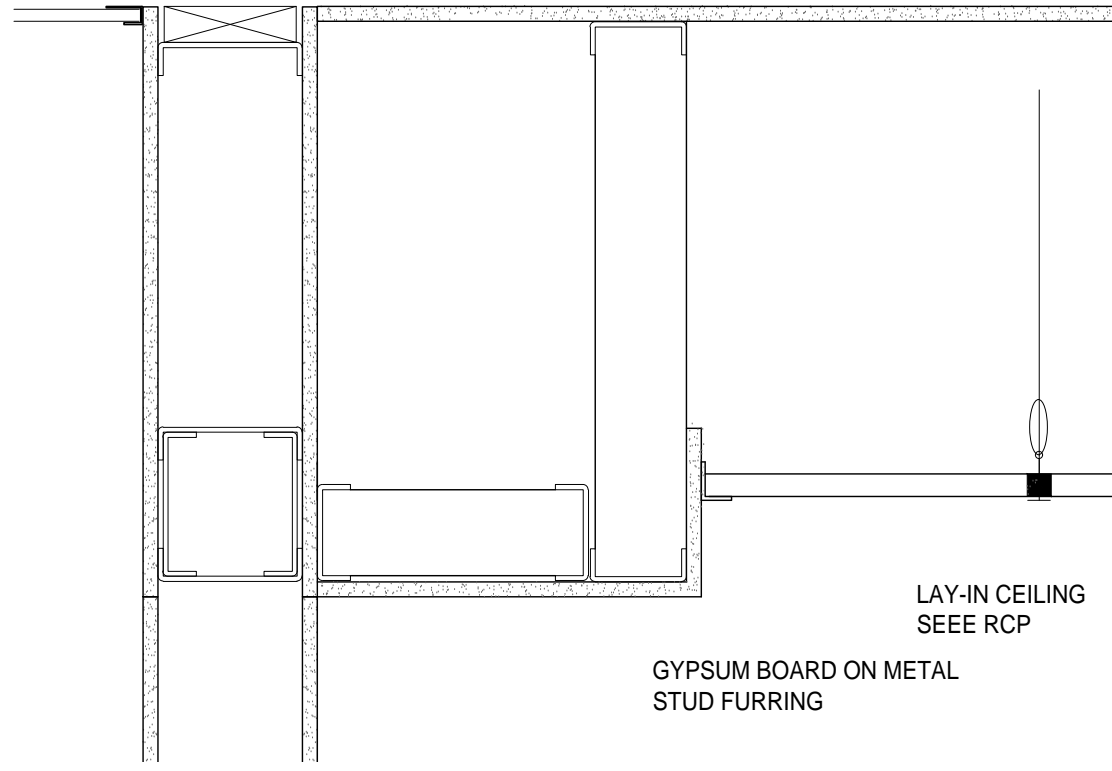
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**CEILING NOTES**  
REPLACE EXISTING SUSPENDED CEILINGS WITH NEW LAY-IN ACOUSTICAL TILE and METAL GRID AS SPECIFIED. INSTALL NEW CEILING at EXISTING CEILING HEIGHT UNLESS NOTED OTHERWISE.



**REFLECTED CEILING PLAN**  
SCALE: 1/8" = 1'-0"



**FURRING DETAIL**  
SCALE: 1 1/2" = 1'-0"  
COORDINATE DETAIL WITH CEILING PLAN and LIGHTING PLAN

**REFLECTED CEILING PLAN LEGEND**

| SYMBOL   | DESCRIPTION  |
|--|--|
| 0'-0"  | HEIGHT ABOVE FINISHED FLOOR ELEVATION                              |
| 2x2 LAY-IN ACOUSTICAL CEILING                                      | 2x2 LAY-IN ACOUSTICAL CEILING                                      |
| 2x2 VINYL CLAD LAY-IN ACOUSTICAL CEILING                           | 2x2 VINYL CLAD LAY-IN ACOUSTICAL CEILING                           |
| 5/8" HARD/SOFT ACOUSTICAL TILE TREATMENT IN SUSPENDED CEILING GRID | 5/8" HARD/SOFT ACOUSTICAL TILE TREATMENT IN SUSPENDED CEILING GRID |
| GYPSUM BOARD (SUSPENDED AS REQUIRED)                               | GYPSUM BOARD (SUSPENDED AS REQUIRED)                               |
| MOISTURE RESISTANT GYPSUM BOARD (SUSPENDED AS REQUIRED)            | MOISTURE RESISTANT GYPSUM BOARD (SUSPENDED AS REQUIRED)            |
| METAL SOFFIT PANELS (SUSPENDED AS REQUIRED)                        | METAL SOFFIT PANELS (SUSPENDED AS REQUIRED)                        |
| EIFS   | EXTERIOR INSULATED FINISH SYSTEM (SUSPENDED AS REQUIRED)           |
| OTA  | OPEN TO ABOVE  |
| 2x4 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     | 2x4 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     |
| 2x2 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     | 2x2 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     |
| 1x4 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     | 1x4 RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)     |
| 1x4 SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)                 | 1x4 SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)                 |
| RECESSED ROUND LIGHT FIXTURE (SEE ELECTRICAL)                      | RECESSED ROUND LIGHT FIXTURE (SEE ELECTRICAL)                      |
| HVAC SUPPLY AIR GRILLE (SEE MECHANICAL)                            | HVAC SUPPLY AIR GRILLE (SEE MECHANICAL)                            |
| HVAC RETURN AIR GRILLE (SEE MECHANICAL)                            | HVAC RETURN AIR GRILLE (SEE MECHANICAL)                            |
| EXHAUST FAN GRILLE (SEE MECHANICAL)                                | EXHAUST FAN GRILLE (SEE MECHANICAL)                                |
| CASSETTE HEAT PUMP (SEE MECHANICAL)                                | CASSETTE HEAT PUMP (SEE MECHANICAL)                                |
| ESP  | EXPOSED STRUCTURE - PAINT  |
| ES   | EXPOSED STRUCTURE - NO PAINT                                       |
| NWR  | NO WORK REQUIRED   |
| SLP  | STEEL LINTEL - PAINT   |
| GBF  | GYPSUM BOARD FURRING   |
| DS   | DISAPPEARING STAIR   |
| EDP  | EXPOSED DUCTWORK - PAINT   |
| ED   | EXPOSED DUCTWORK - NO PAINT  |
| GBP  | GYPSUM BOARD - PAINT   |
| GB   | GYPSUM BOARD - NO PAINT  |
| MGBB   | MOISTURE RESISTANT GYPSUM BOARD - PAINT                            |
| MGB  | MOISTURE RESISTANT GYPSUM BOARD - NO PAINT                         |
| MSPV   | METAL SOFFIT PANELS - VENTED                                       |
| MSP  | METAL SOFFIT PANELS - NON VENTED                                   |
| SGS  | SPECIALTY SUSPENDED GRID SYSTEM "CLOUD"                            |

**Coordination Note**

LIGHT FIXTURES, CEILING GRILLES, DIFFUSERS, ETC. ARE INDICATED ON THIS PLAN AS A GUIDE FOR LOCATING THESE ITEMS IN THE SUSPENDED CEILING GRID. THE CONTRACTOR SHALL INSURE THAT ALL ITEMS SHOWN AND / OR SPECIFIED BY THE ELECTRICAL AND MECHANICAL DISCIPLINES FOR INSTALLATION IN WALLS OR CEILINGS ARE PROVIDED, WHETHER SPECIFICALLY SHOWN ON THIS PLAN OR NOT. IF A PARTICULAR ITEM IS NOT SHOWN ON THE REFLECTED CEILING PLAN, PREPARE A DRAWING AND PRESENT IT TO THE ARCHITECT FOR REVIEW AND / OR APPROVAL.

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SHEET TITLE : REFLECTED CEILING PLAN

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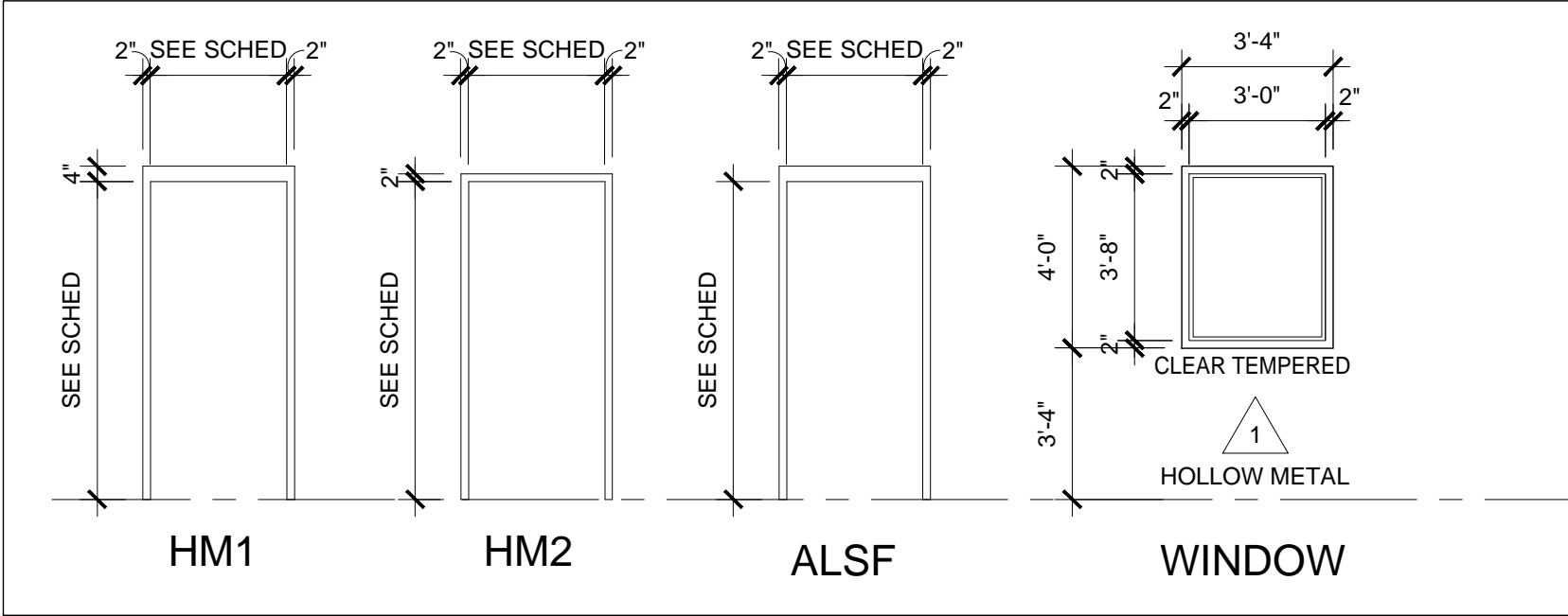
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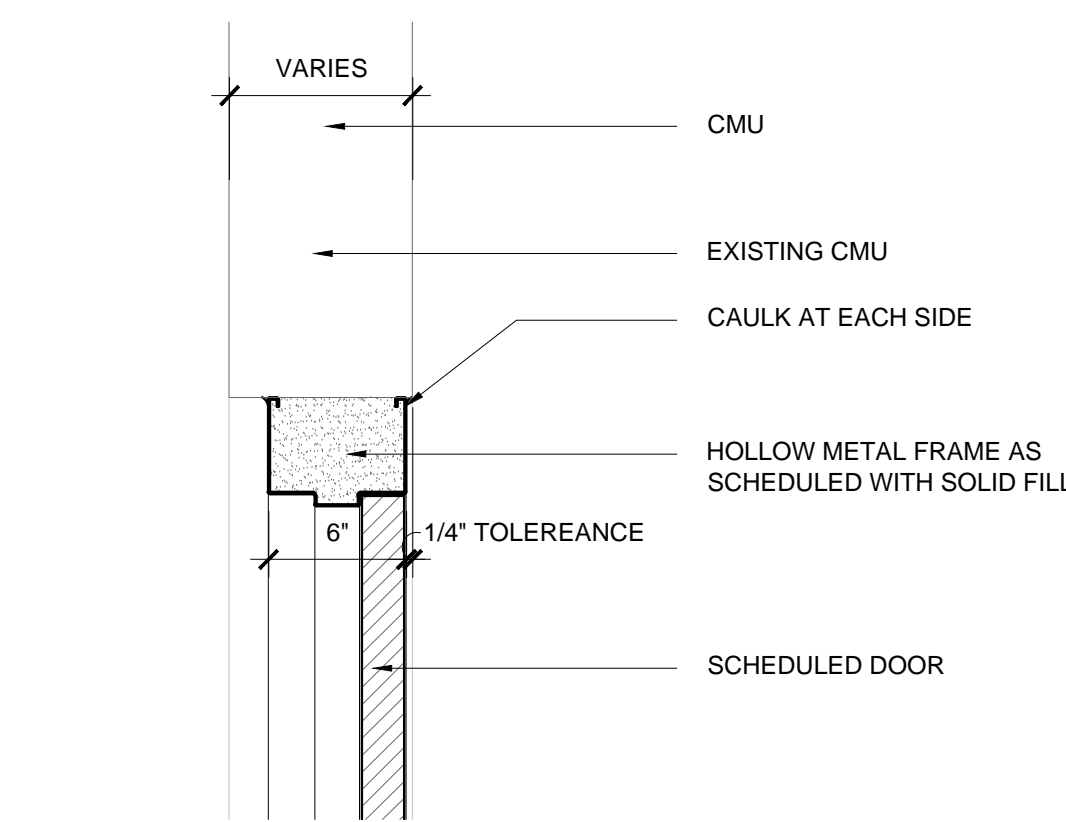
|        |                          | CMUP - CONCRETE MASONRY UNIT - PAINT<br>CMU - CONCRETE MASONRY UNIT - NO PAINT<br>MWP - INTERIOR METAL WALL PANELS<br>PLP - PLASTIC LAMINATE WALL PANELS<br>AWC - ACOUSTICAL WALL COVERING<br>CT - CERAMIC TILE<br>PT - PORCELAIN TILE |            |       |       | TR - TERRAZO<br>SC - SEALED CONCRETE<br>RFT - RUBBER FLOOR TILES<br>RSF - ROLL RUBBER SPORTS FLOORING<br>VCT - VINYL COMPOSITE TILE<br>LVT - LUXURY VINYL FLOORING<br>C - CARPET |         |              |        | PF - POLYMER FLOORING<br>RB - RUBBER BASE<br>W - WOOD BASE<br>VCB - VENTILATED COVE BASE<br>EMP - EXPANDED METAL PARTITION |  |
|--------|--------------------------|--|------------|-------|-------|--|---------|--------------|--------|--|--|
| ROOM # | ROOM NAME                | FLOOR  | BASE       | WALLS |       |  | CEILING |              | WAINS. | HEIGHT   | REMARKS                                      |
|        |                          |  |            | NORTH | SOUTH | EAST   | WEST    | TYPE         |        |  |  |
| 100    | VESTIBULE                | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN | ---    | ---  | ---  |
| 101    | RECEPTION                | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 102    | STORAGE                  | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 103    | CNP CLOSET               | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 104    | SPECIAL EDUCATION        | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 105    | FEDERAL PROGRAMS         | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 106    | CONFERENCE ROOM          | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 107    | SPARE                    | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 108    | PAYROLL                  | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 109    | CSFO                     | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 110    | SUPERINTENDENT           | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 111    | SECRETARY                | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 112    | CORRIDOR                 | LVT  | EXISTING   | CMUP  | ---   | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 113    | COSMETOLOGY              | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 114    | FEMALE TOILET            | EXISTING   | EXISTING   | ---   | ---   | ---  | ---     | SEE RCP PLAN |        |  | PAINT PLASTER CEILING and CMU ABOVE WAINSCOT |
| 115    | OFFICE TOILET            | EXISTING   | EXISTING   | ---   | ---   | ---  | ---     | SEE RCP PLAN |        |  | PAINT PLASTER CEILING and CMU ABOVE WAINSCOT |
| 116    | MALE TOILET              | EXISTING   | EXISTING   | ---   | ---   | ---  | ---     | SEE RCP PLAN |        |  | PAINT PLASTER CEILING and CMU ABOVE WAINSCOT |
| 117    | HVAC / MECHANICAL CLOSET | EXISTING   | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  | CLEAN EXISTING CONCRETE FLOOR                |
| 118    | AVIATION CLASSROOM       | LVT  | EXISTING   | GBP   | GBP   | GBP  | CMUP    | SEE RCP PLAN |        |  |  |
| 119    | AUTO CLASSROOM           | LVT  | EXISTING   | GBP   | GBP   | GBP  | CMUP    | SEE RCP PLAN |        |  |  |
| 120    | CORRIDOR                 | LVT  | EXISTING   | ---   | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 121    | RECUITER                 | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 121A   | SPARE                    | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 122    | SERVER ROOM              | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 122A   | SPARE                    | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 123    | M/T SUPERVISOR           | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 124    | CAREER TECH DIRECTOR     | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 125    | HALL                     | LVT  | EXISTING   | CMUP  | CMUP  | ---  | CMUP    | SEE RCP PLAN |        |  |  |
| 125A   | SPARE                    | CONC   | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 125B   | SPARE                    | CONC   | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 125C   | SPARE                    | CONC   | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 126    | ALTERNATE SCHOOL         | LVT  | EXIST / RB | CMUP  | GBP   | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 127    | WASH / DRY               | LVT  | EXIST / RB | GBP   | CMUP  | GBP  | CMUP    | SEE RCP PLAN |        |  |  |
| 128    | ACCESSIBLE TOILET        | PT   | EXIST / RB | GBP   | CMUP  | GBP  | PT      | SEE RCP PLAN |        |  | PORCELAIN TILE ON WET WALL                   |
| 129    | OPEN MEETING ROOM        | LVT  | EXIST / RB | GBP   | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 130    | CLASSROOM                | EXISTING   | EXISTING   | CMUP  | CMUP  | CMUP   | EMP     | SEE RCP PLAN |        |  | CLEAN EXISTING CONCRETE FLOOR                |
| 130A   | TOOL CLOSET              | EXISTING   | EXISTING   | CMUP  | GBP   | EMP  | CMUP    | SEE RCP PLAN |        |  | CLEAN EXISTING CONCRETE FLOOR                |
| 131    | WELDING LAB              | EXISTING   | EXISTING   | CMUP  | GBP   | CMUP   | CMUP    | SEE RCP PLAN |        |  | CLEAN EXISTING CONCRETE FLOOR                |
| 132    | AVIATION TECH LAB        | CONC   | EXIST / RB | GBP   | GBP   | GBP  | CMUP    | SEE RCP PLAN |        |  |  |
| 133    | AUTO TECH LAB            | CONC   | EXIST / RB | GBP   | GBP   | GBP  | CMUP    | SEE RCP PLAN |        |  |  |
| 134    | HALL                     | LVT  | EXIST / RB | CMUP  | GBP   | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 134A   | SPARE                    | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |
| 134B   | SPARE                    | LVT  | EXISTING   | CMUP  | CMUP  | CMUP   | CMUP    | SEE RCP PLAN |        |  |  |

EXISTING CMU WALLS HAVE A STRUCTURAL  
GLAZED TILE BASE THAT MUST REMAIN.  
REMOVE PAINT, ETC. and LEAVE BASE CLEAN

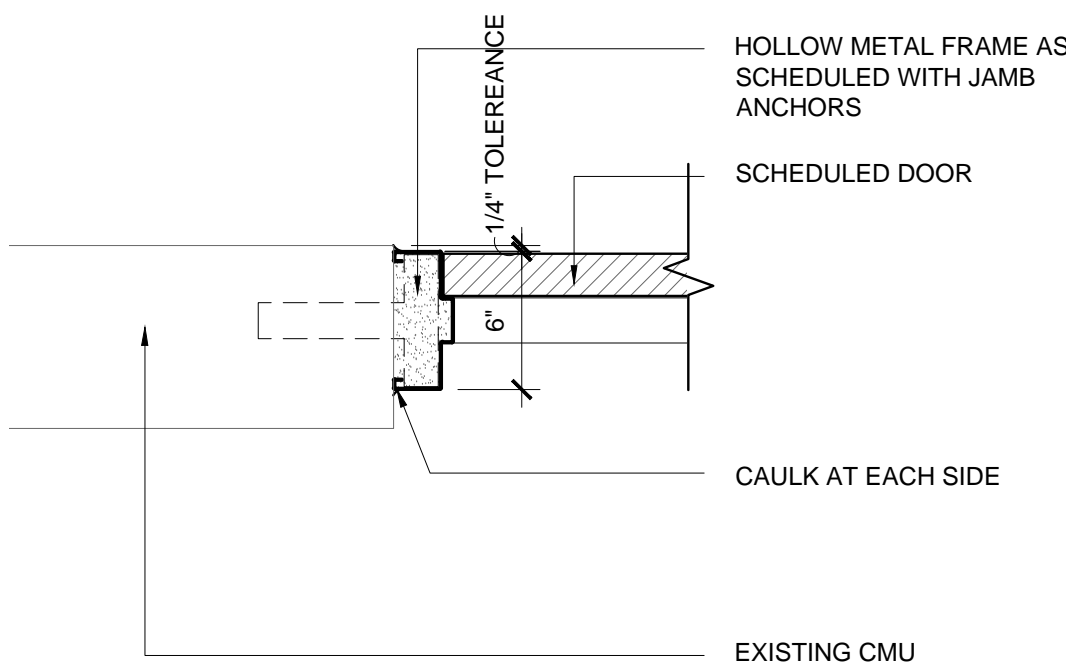
**703.4.1 HEIGHT ABOVE FINISH FLOOR OF GROUND**  
TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 mm) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 mm) MAXIMUM ABOVE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER.  
EXCEPTION: BRAILLE PROVIDED ON ELEVATOR CAR CONTROLS SHALL BE SEPARATED  $\frac{5}{8}$  INCHES (4.8 mm) MINIMUM AND SHALL BE LOCATED EITHER DIRECTLY BELOW OR ADJACENT TO THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS.

WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED AT THE LATCH SIDE OF THE ACTIVE LEAF. WHERE A TACTILE SIGN IS AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT THE CLEAR FLAT SURFACE OF 18 INCHES (455 mm) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS UNOBSTRUCTED BY HANDLES, KNOBS OR DOOR SWING BETWEEN THE CLOSEST POSITION AND 45 DEGREE OPEN POSITION.

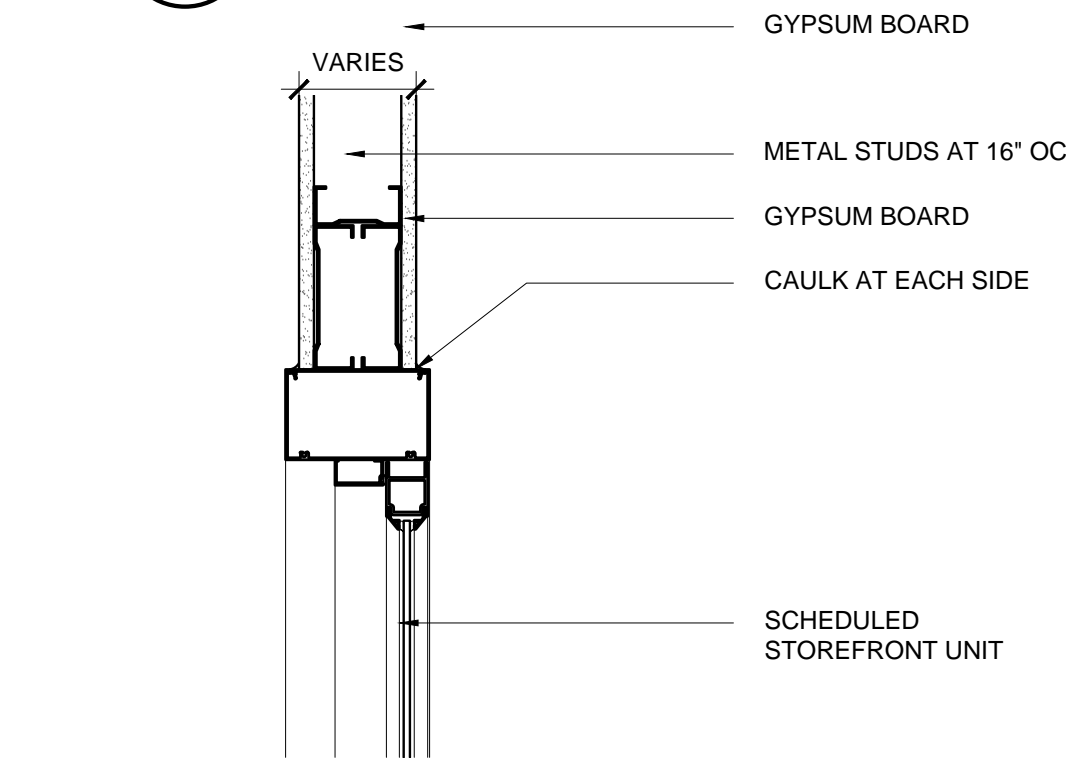
EXCEPTION: SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.



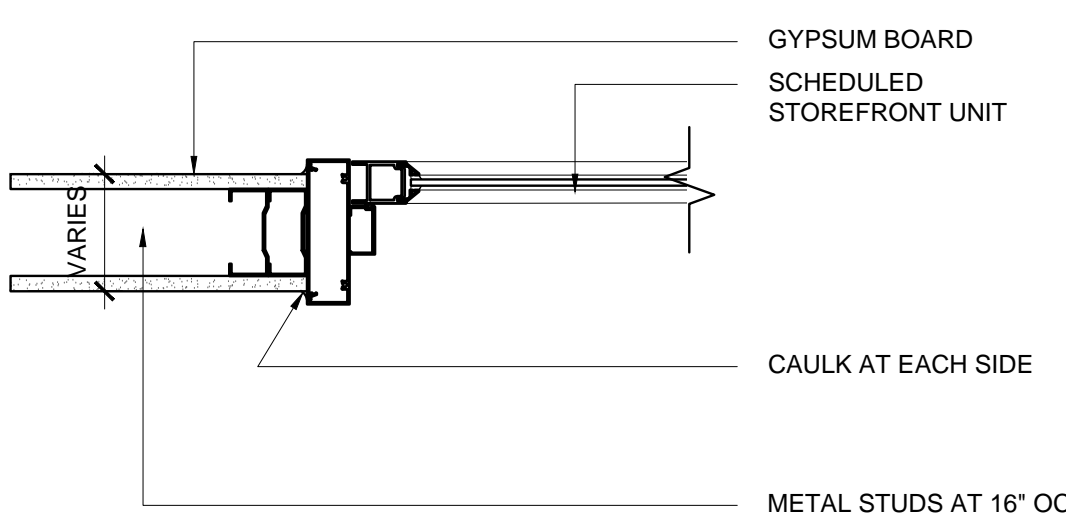
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(2)



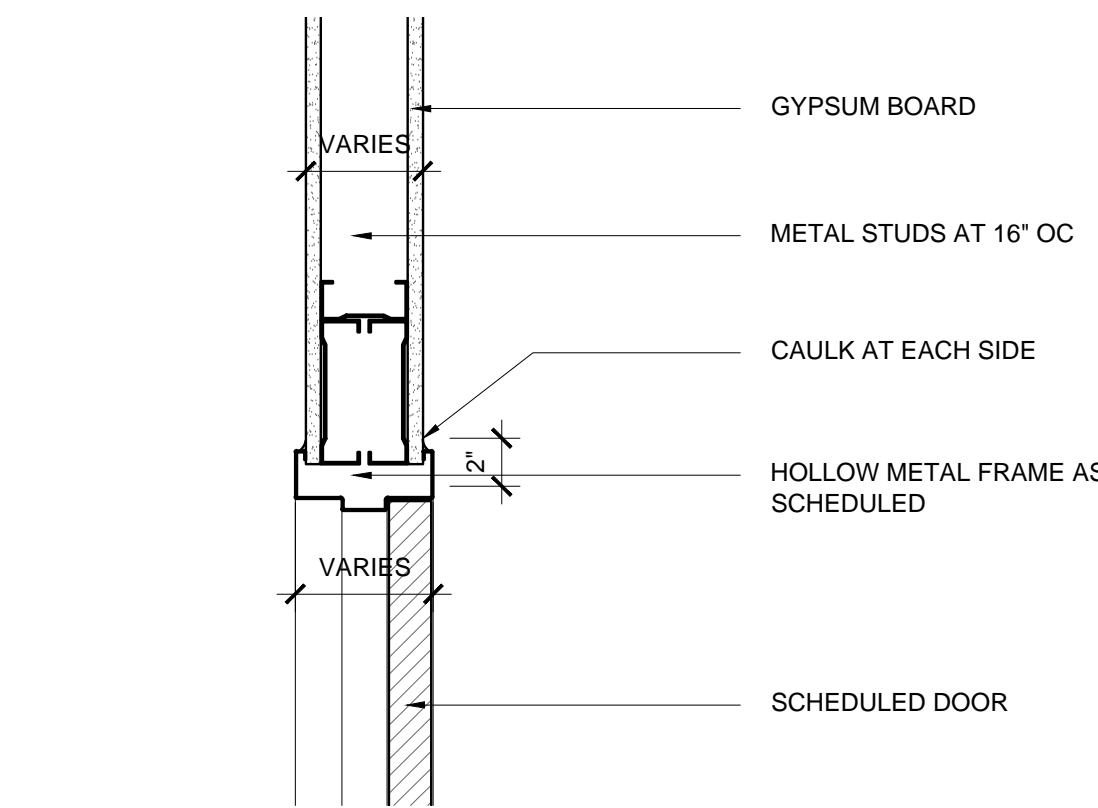
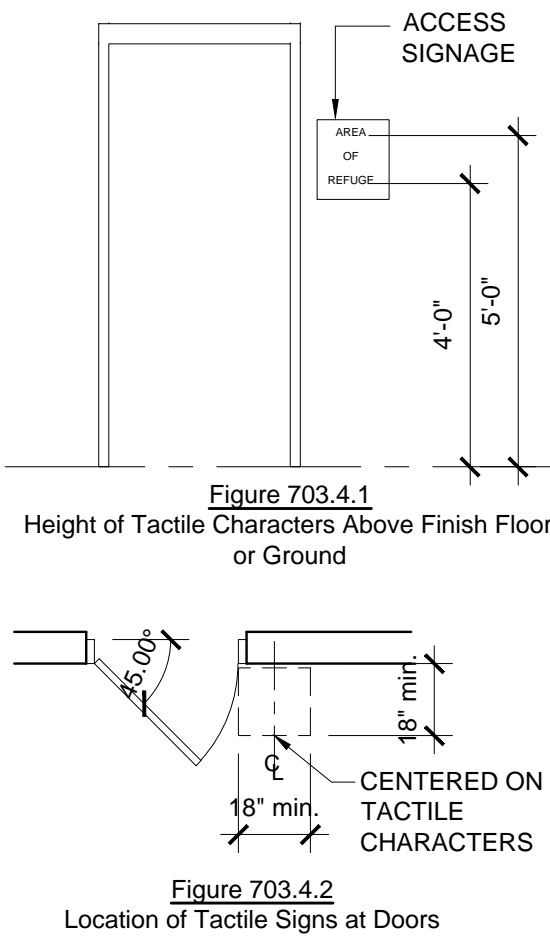
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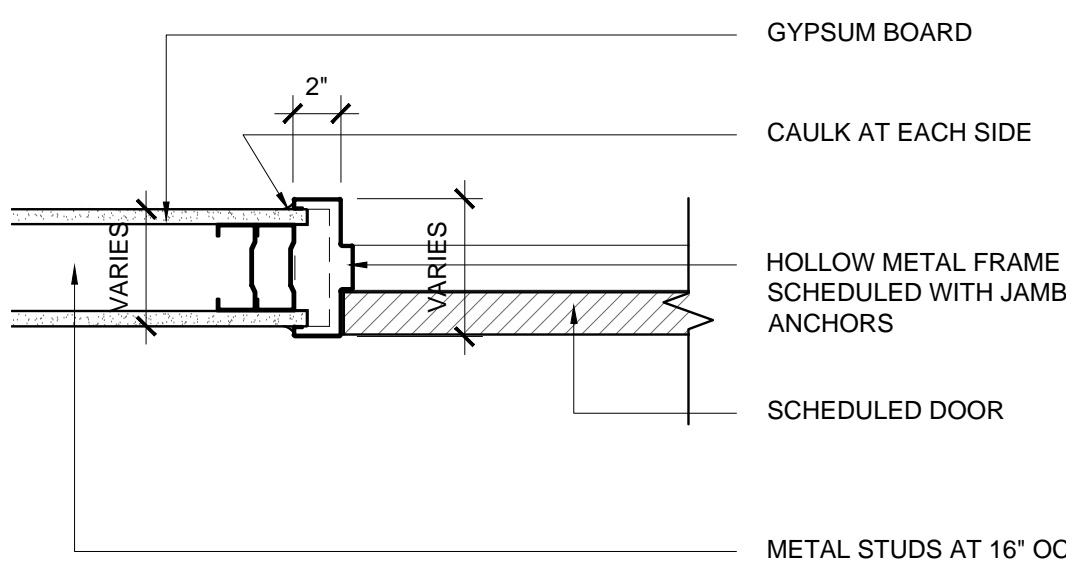
(4)

FURNISH INDIVIDUAL PLASTIC LAMINATE SIGNAGE SYSTEM WITH ROOM OR OCCUPANT'S NAME AND ROOM NUMBER. FINAL WORDING TO BE FURNISHED WHEN SHOP DRAWINGS FOR SIGNAGE SYSTEM ARE SUBMITTED. FURNISH INDIVIDUAL PLASTIC LAMINATE RESTROOM SIGNS FOR DOOR(S) AND HANDICAPPED ACCESS SIGN TO BE PLACED ON WALL BESIDE RESTROOM DOOR(S) -SEE DIAGRAM.

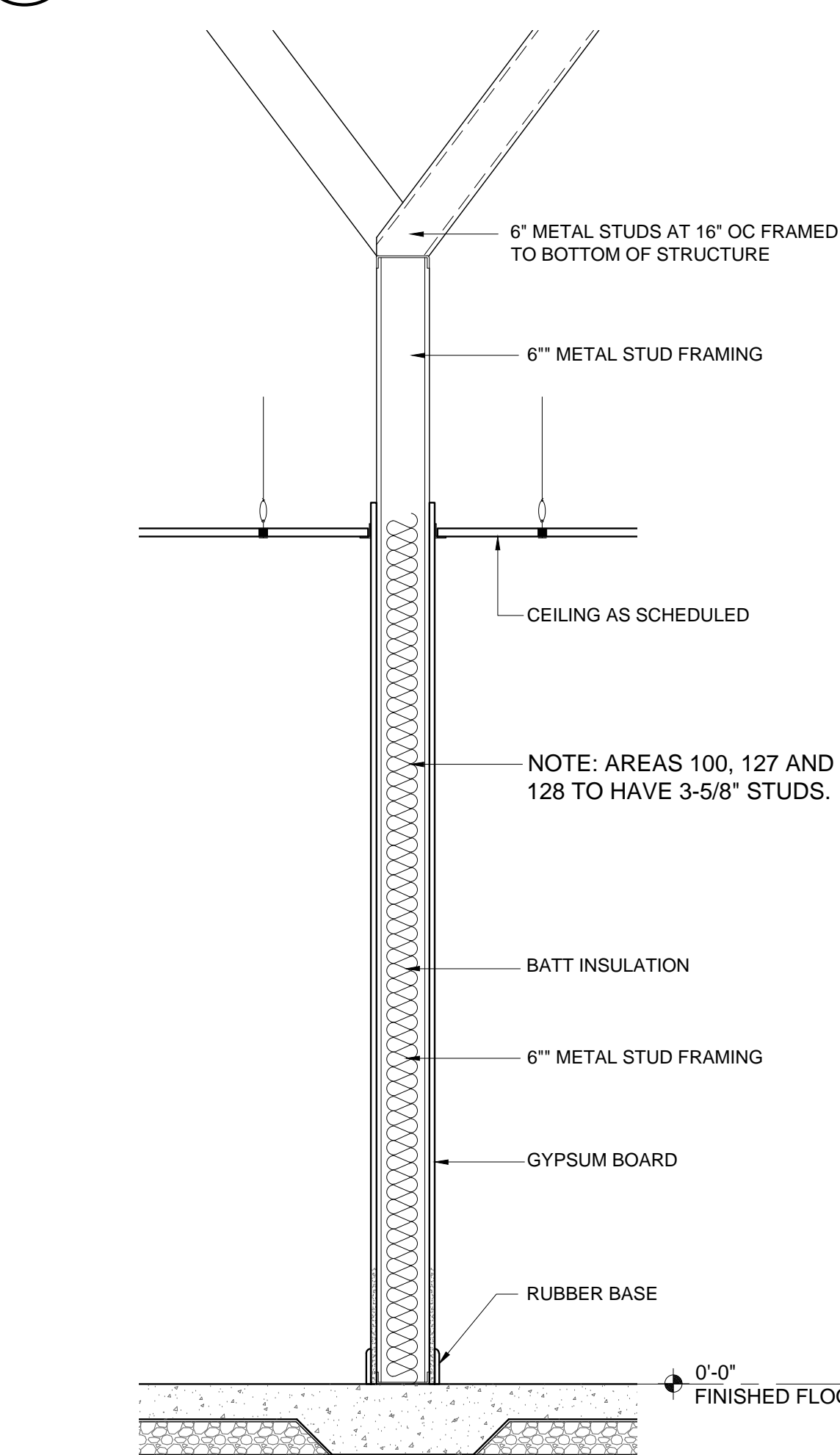
HOURLY RATING DESIGNATIONS AND / OR ALPHABETICAL LETTER DESIGNATIONS ARE GIVEN WHERE PROTECTED OPENINGS ARE REQUIRED IN RATED PARTITIONS. THESE OPENING PROTECTIVE ASSEMBLIES SHALL INCLUDE THE FRAME, DOOR, HARDWARE, CLOSING DEVICE, SILL AND ANCHORAGE. CONTRACTOR SHALL SEE THAT NO CRACKING OR CURING OR SUBSTANTIAL DISCOLORATION OF THE SURFACE OF THE EFFECTIVENESS OF THE ENTIRE OPENING AS A FIRE OR SMOKE BARRIER MIGHT BE JEOPARDIZED. DOORS AND FRAMES SHALL BE FURNISHED WITH UNDERWRITER'S LABORATORIES OR WARNOCKHERSEY LABELS WITH APPROPRIATE FIRE RESISTANCE RATINGS FOR THE CLASS OF OPENING SCHEDULED. SUBJECT TO DOOR MANUFACTURER'S PROCEDURAL LIMITATIONS, LABELS SHOULD BEAR THE NOTATION: "FIRE DOOR, TO BE EQUIPPED WITH FIRE EXIT HARDWARE"



5



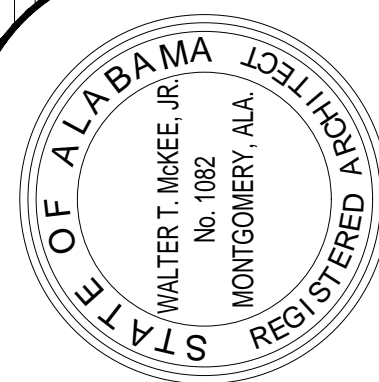
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(P)

ASHLAND, ALABAMA

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MCKEE JOB # : 21,239

PSCA #: XXX

DRAWN BY : CH

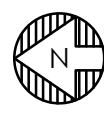
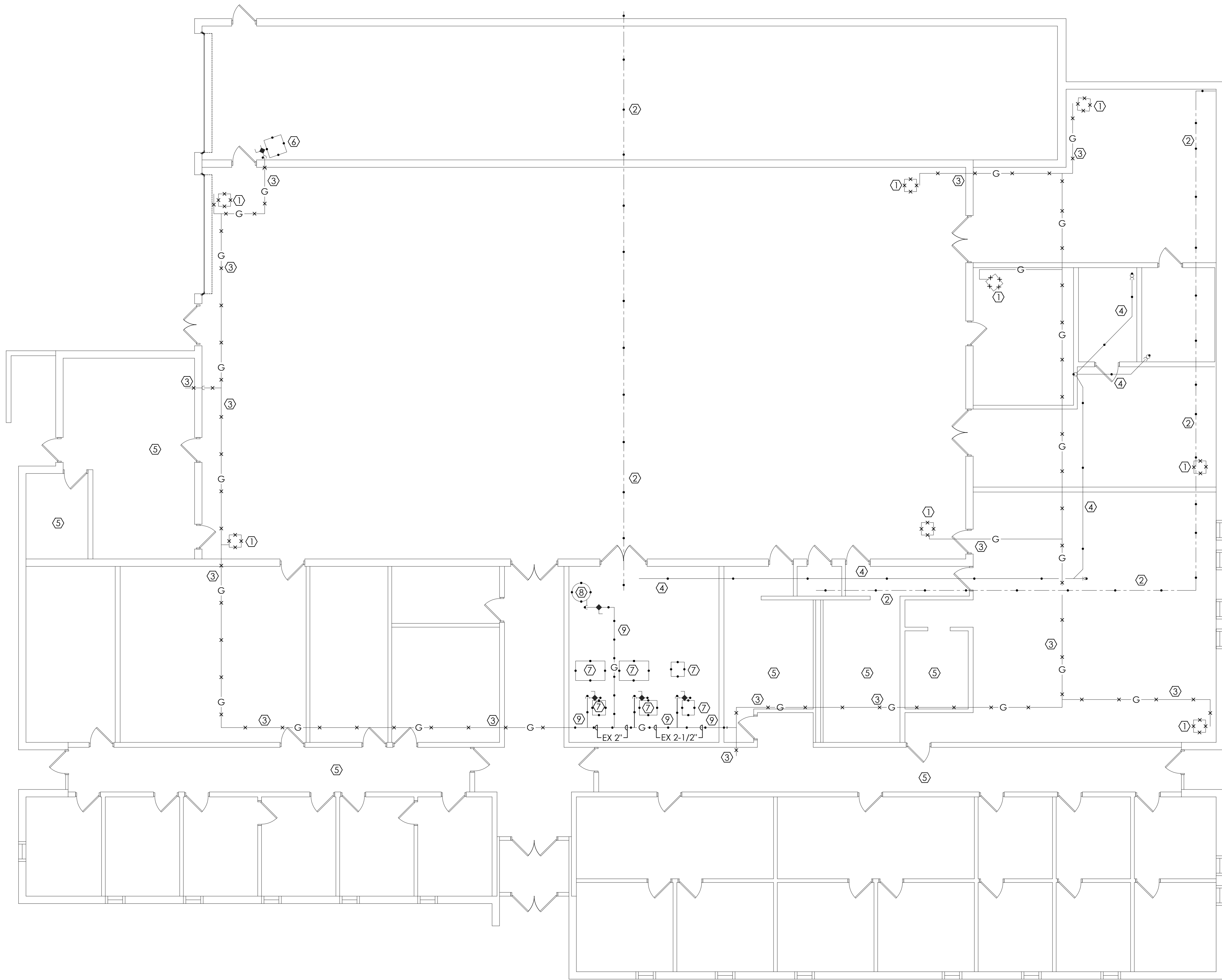
DATE: 5.19.2022

REVISÉD DATE:

REVISÉD DATE:

REVISÉD DATE:

SHEET NO.: **A8.2**



**PLUMBING DEMOLITION PLAN**  
SCALE: 1/8"=1'-0"

**GENERAL DEMOLITION NOTES**

1. CONTRACTOR SHALL REMOVE ALL EXISTING PLUMBING, AND EXISTING UTILITIES AS NOTED ON THIS DRAWING AND AS REQUIRED FOR INSTALLATION AND PROPER OPERATION OF NEW PLUMBING AND EQUIPMENT.
2. CONTRACTOR SHALL VISIT THE SITE AND NOTIFY THE ARCHITECT IN WRITING OF ANY PROBLEMS OR DISCREPANCIES IN THE DRAWING BEFORE SUBMITTING A BID.
3. PATCH AND PAINT ALL HOLES IN WALLS, FLOORS, CEILINGS AND ROOF DUE TO DEMOLITION OF CONSTRUCTION.

(#) NOTE LEGEND: (THIS SHEET ONLY)

1. EXISTING UNIT HEATER TO BE REMOVED BY OWNER. GAS PIPING TO BE CAPPED BY OWNER.
2. EXISTING WATER TO REMAIN.
3. ABANDON EXISTING GAS LINE.
4. EXISTING WASTE LINE TO REMAIN.
5. NO WORK IN THESE AREA'S.
6. EXISTING UNIT HEATER AND GAS CONNECTION TO BE REMAIN.
7. EXISTING MECHANICAL UNITS TO REMAIN. SEE MECHANICAL DRAWINGS.
8. EXISTING WATER HEATER AND ALL RELATED PIPING TO REMAIN.
9. EXISTING GAS LINE TO REMAIN.

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



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PROJECT NO: 22-045

SHEET TITLE : PLUMBING DEMOLITION FLOOR PLAN

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : SJW/ RLB

DATE: 5.19.2022

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO. : P0.1

RENOVATIONS

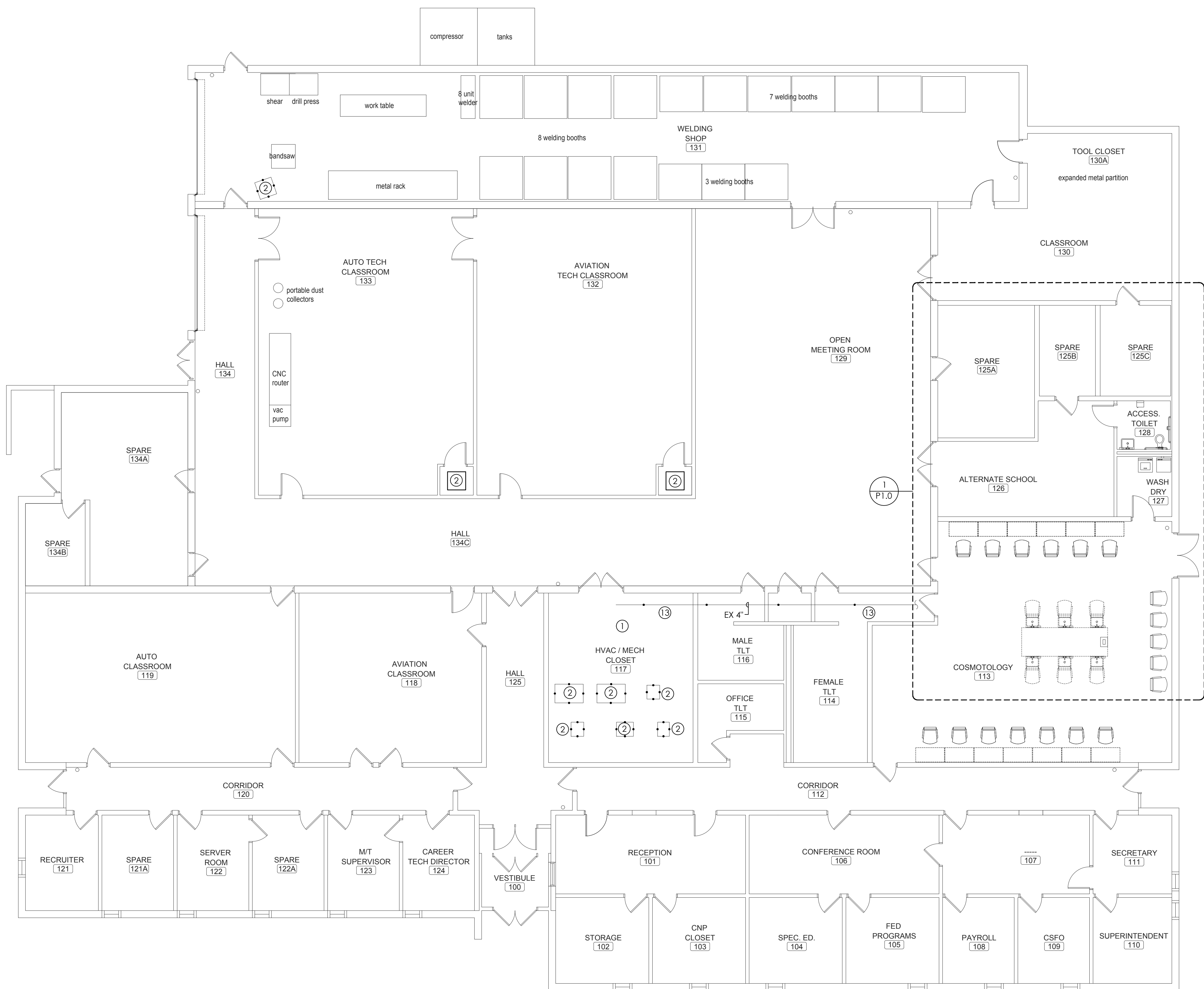
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**CLAY COUNTY CAREER ACADEMY**  
FOR THE  
**CLAY COUNTY BOARD of EDUCATION**  
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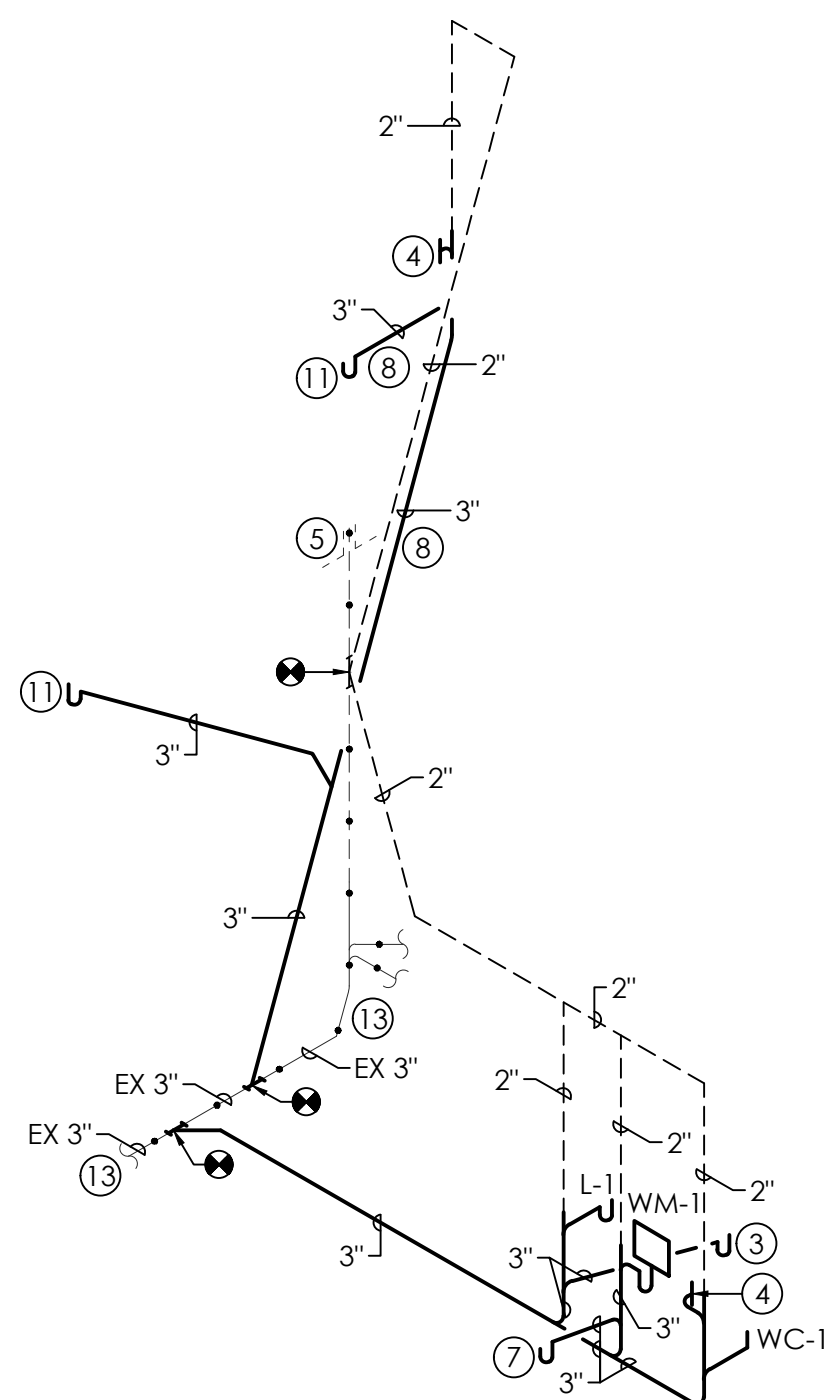
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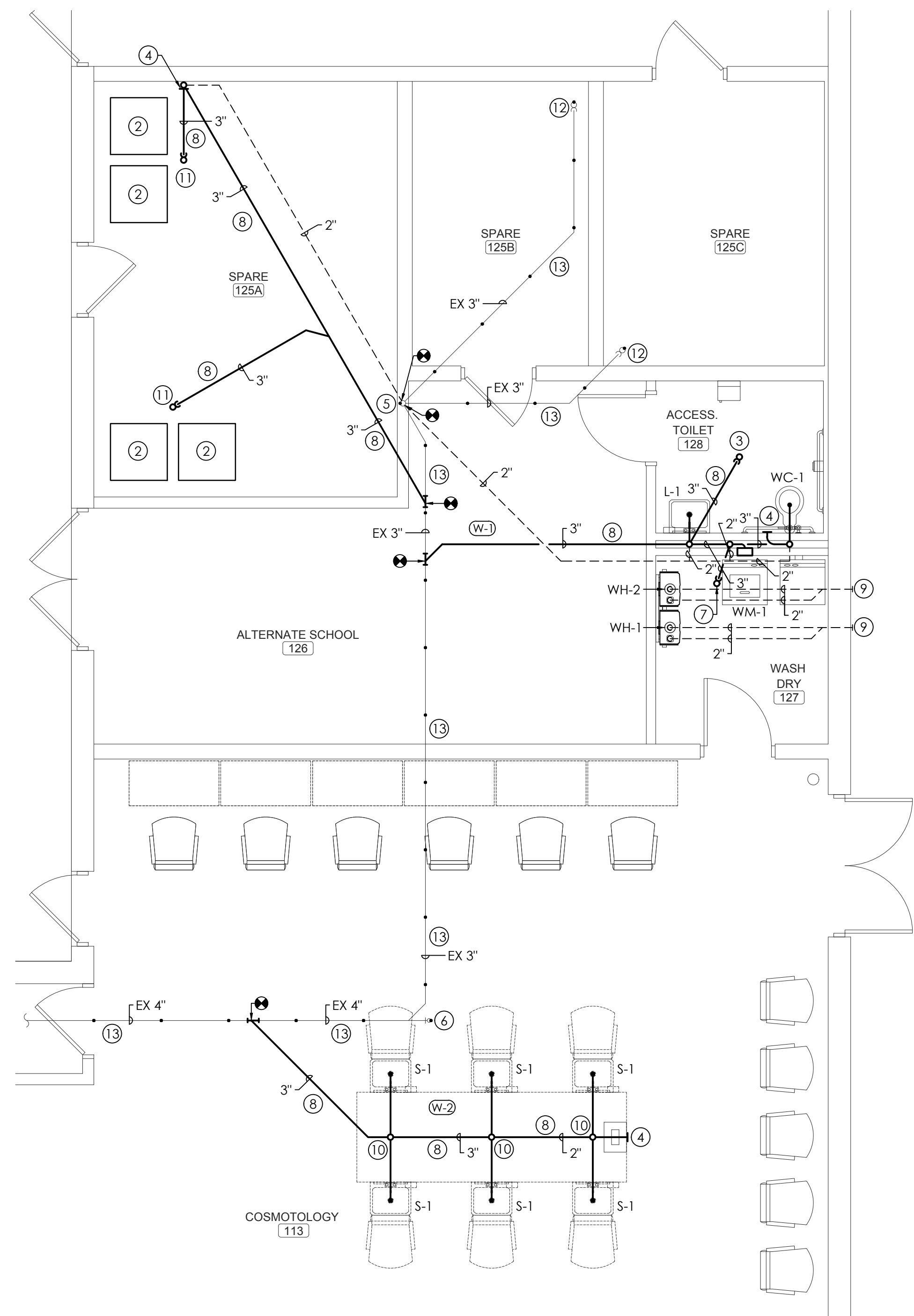
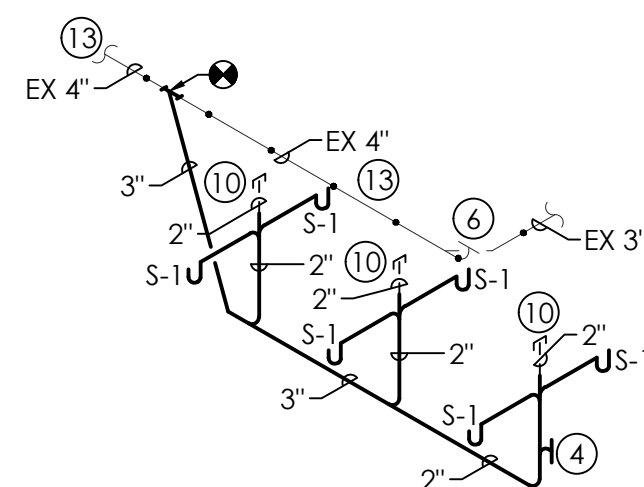


PLUMBING WASTE AND VENT PIPING PLAN  
SCALE: 1/8"=1'-0"

WASTE AND VENT RISER (W-1)  
NO SCALE



WASTE AND VENT RISER (W-2)  
NO SCALE



1  
P1.0

ENLARGED PLUMBING WASTE  
AND VENT PIPING PLAN  
SCALE: 1/4"=1'-0"

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

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



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VENTS THROUGH ROOF MUST BE LOCATED MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE. COORDINATE WITH MECHANICAL CONTRACTOR AND WITH ROOFING CONTRACTOR.

PLUMBER SHALL COORDINATE WITH GENERAL CONTRACTOR ALL OPENINGS REQUIRED FOR PLUMBING SYSTEMS TO EXTEND FLOOR TO ROOF.

SLEEVE ALL PENETRATIONS OF STRUCTURE BELOW GRADE. PROVIDE CLEARANCE AROUND PIPES FOR BUILDING EXPANSION AND CONTRACTION. COORDINATE WITH STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR.

# NOTE LEGEND: (THIS SHEET ONLY)

1. ELECTRICAL PANEL, MAINTAIN MINIMUM 42" CLEARANCE IN FRONT OF PANELS, PIPING SHALL NOT RUN ABOVE PANEL. COORDINATE WITH ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS.
2. MECHANICAL UNIT. (SEE MECHANICAL DRAWINGS) COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
3. 3" FLOOR DRAIN. (PROVIDE TRAP GUARD.)
4. W.C.O.
5. EXISTING 2" V.T.R. (FIELD VERIFY)
6. EXISTING F.C.O. (FIELD VERIFY)
7. 3" FLOOR DRAIN, 6'-0" MIN. OF CAST IRON PIPE, PROVIDE FOR WATER HEATER RELIEF AND DRAIN LINES. (PROVIDE TRAP GUARD)
8. SAW CUT AND PATCH SLAB AS REQUIRED.
9. CONCENTRIC GAS WALL VENT.
10. 2" AUTO AIR ADMITTANCE VALVE.
11. 3" FLOOR DRAIN. (PROVIDE TRAP PRIMER.)
12. EXISTING FLOOR DRAIN. (FIELD VERIFY)
13. FIELD VERIFY EXISTING WASTE LINE LOCATION.

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SHEET TITLE : PLUMBING WASTE AND VENT PIPING FLOOR PLAN

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : /RLB

DATE : 5.19.2022

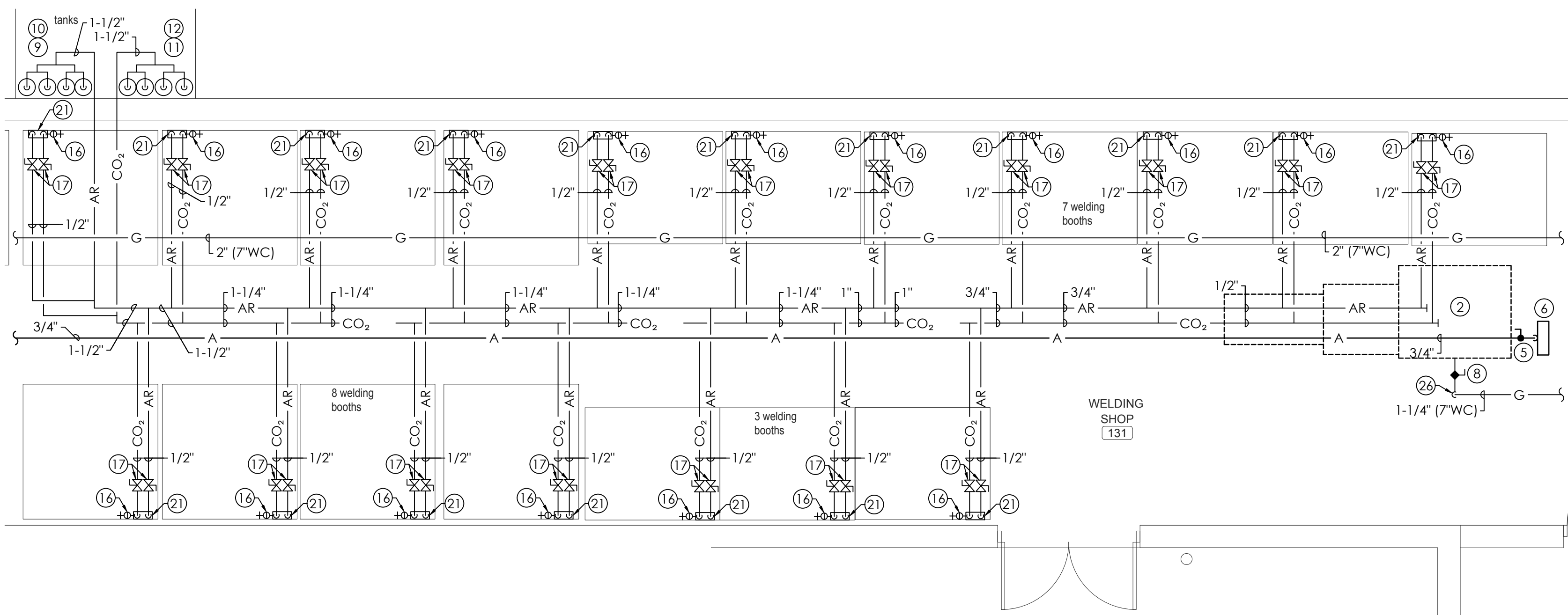
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SHEET NO. : P1.0





**2**  
P2.0  
**ENLARGED PLUMBING COMPRESSED AIR AND WELDING GAS PIPING PLAN**  
SCALE: 1/4"=1'-0"

FIRE STOP ALL PENETRATIONS OF FIRE RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED WALLS AND FLOORS.

ANY EXPOSED (AREAS WITHOUT CEILINGS) WATER PIPING TO BE INSULATED AND LABELED PER SPECIFICATION. PROVIDE ALUMINUM JACKET ON ALL EXPOSED LINES.

VALVES LOCATED ABOVE CEILING SHALL BE MADE EASILY ACCESSIBLE. PLUMBER SHALL PROVIDE ACCESS PANELS IN GYP. BOARD CEILINGS MARK LOCATION OF VALVES ABOVE LAY-IN CEILINGS USING THUMB TACKS OR SCREWS WITH COLORED HEADS. COORDINATE WITH GENERAL CONTRACTOR.

SLEEVE ALL PENETRATIONS OF STRUCTURE BELOW GRADE. PROVIDE CLEARANCE AROUND PIPES FOR BUILDING EXPANSION AND CONTRACTION. COORDINATE WITH STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR.

GAS PIPING IS SIZED USING TABLE 402.4(2) (7\"/>

GAS SYSTEM SHALL BE INSTALLED BY A LICENSED GAS TECHNICIAN.

GAS PIPING EXPOSED (AREAS WITHOUT CEILINGS) SHALL BE PAINTED FLAT BLACK WITH ONE COAT OF PRIMER AND ONE COAT OF ENAMEL PAINT.

ABOVE GRADE COMPRESSED AIR PIPING SHALL BE AIRNET STAINLESS STEEL MODULAR AIR PIPE. BELOW GRADE PIPING SHALL BE SCHEDULE 40 GALVANIZED.

ABOVE GRADE COMPRESSED AIR PIPING SHALL BE SCHEDULE 40 BLACK STEEL OR AIRNET MODULAR AIR PIPE. BELOW GRADE PIPING SHALL BE SCHEDULE 40 GALVANIZED. PAINT ALL EXPOSED PIPING. OWNER TO CHOOSE COLOR.

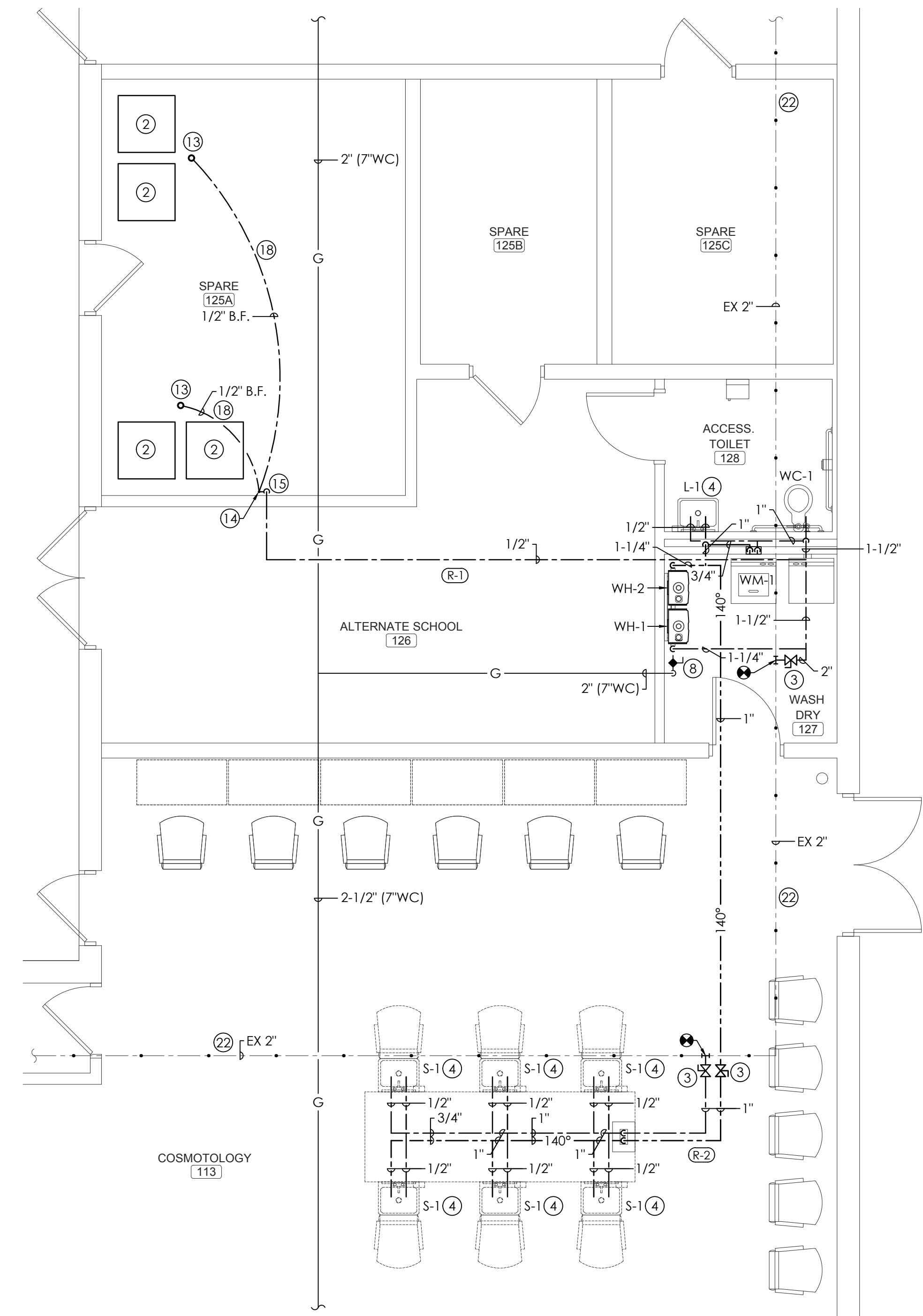
AIR PIPING - SCHEDULE 40 BLACK STEEL ABOVE GRADE. COPPER TYPE \"L\" BELOW GRADE. (NO JOINTS)

**(#) NOTE LEGEND: (THIS SHEET ONLY)**

- ELECTRICAL PANEL. MAINTAIN MINIMUM 42\"/>

**WATER RISER (R-1)**  
NO SCALE

**WATER RISER (R-2)**  
NO SCALE



**1**  
P2.0  
**ENLARGED PLUMBING WATER AND GAS PIPING PLAN**  
SCALE: 1/4"=1'-0"

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

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



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**PLUMBING WATER, GAS, COMPRESSED AIR AND WELDING GAS PIPING PLAN**  
SCALE: 1/8"=1'-0"

SHEET TITLE : PLUMBING WATER AND GAS PIPING FLOOR PLAN

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : AG/ RLB

DATE: 5.19.2022

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO. : **P2.0**

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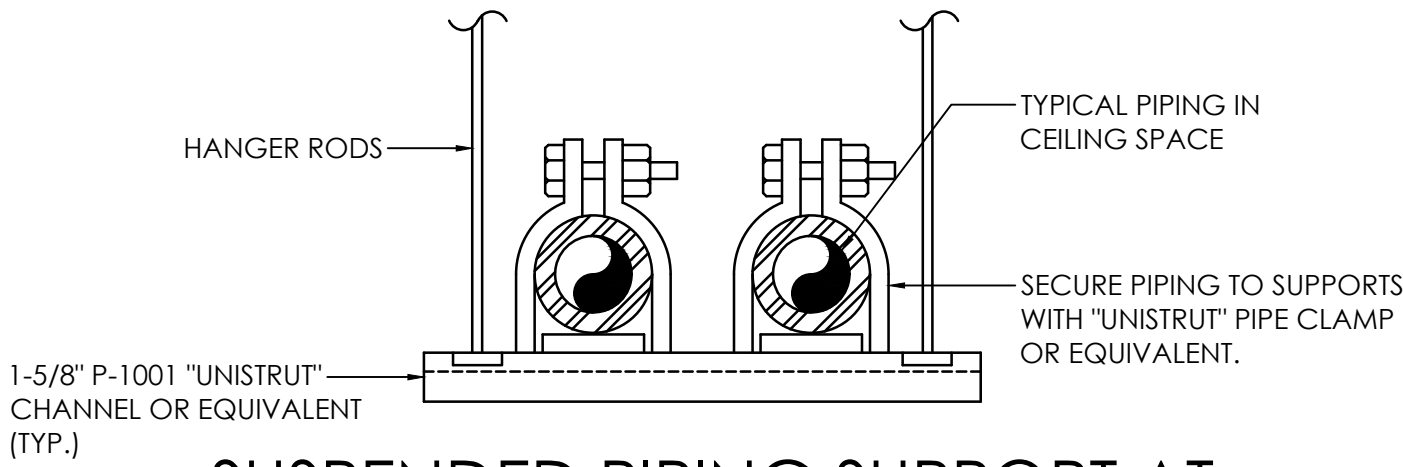
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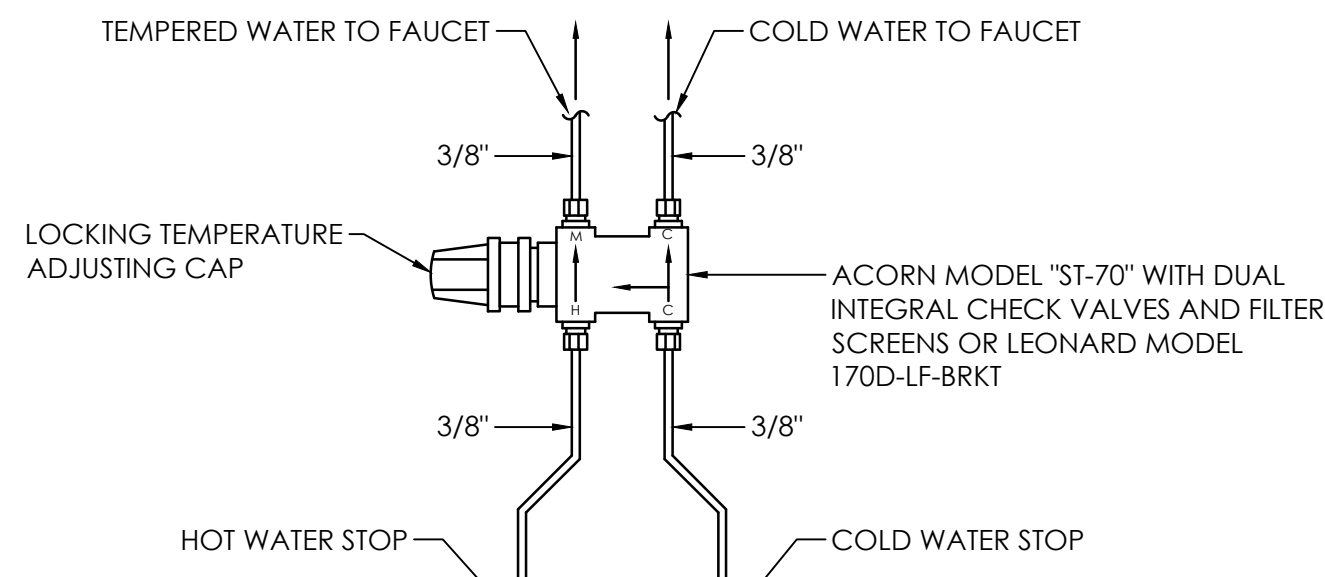
PLUMBING GENERAL NOTES

1. PROVIDE DISINFECTION OF WATER PIPING SYSTEM WITH CHLORINE SOLUTION AS PER CODE.
2. ALL OVERHEAD WATER PIPING TO BE RUN BELOW INSULATION AT BOTTOM OF TRUSSES FOR FREEZE PROTECTION.
3. INSTALLATION OF BACKFLOW PREVENTER SHALL COMPLY WITH THE 2015 INTERNATIONAL PLUMBING CODE.
4. ALL INDIRECT DRAINS TO HAVE INSTALLED DEEP SEAL P-TRAPS.
5. ALL WALL HYDRANTS TO BE FREEZE PROOF AND TO HAVE VACUUM BREAKERS.
6. INSULATION ON ALL PIPING SHALL MEET SMOKE/ FLAME RATING OF 25 & 50.
7. ALL FLOOR DRAINS TO HAVE DEEP SEAL P-TRAPS.
8. INSTALL WATER HAMMER ARRESTORS AS FOLLOWS:  
A. LAY IN CEILING; MOUNT WATER HAMMER ARRESTOR ABOVE CEILING FOR ACCESS.  
B. SHEETROCK CEILING; MOUNT WATER HAMMER ARRESTOR IN CHASE WALL. PROVIDE 12" X 12" STAINLESS STEEL ACCESS PANEL IN WALL.
9. THESE DRAWINGS NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE PLUMBING SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS. COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE PROJECT. CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS. COORDINATE PLUMBING PIPING WITH STRUCTURAL, PLUMBING, HVAC AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL COST TO THE PROJECT.
11. NO PIPING TO BE RUN ABOVE ELECTRICAL PANELS.
12. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO ANY BID SUBMISSION TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL MAKE ADJUSTMENTS IN ROUTING AND LOCATION, IF NECESSARY, IN SIZE, IN ORDER TO ACHIEVE THE SPECIFIED PERFORMANCE WITHOUT INCURRING ADDITIONS TO THE CONTRACT. WHERE EXISTING CONDITIONS DIFFER SIGNIFICANTLY ENOUGH TO AFFECT PRICING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO BID SUBMISSION FOR A RESOLUTION. NO ALLOWANCE WILL BE MADE FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.
13. MAINTAIN A MAXIMUM OF 55 PSIG WATER PRESSURE AT PLUMBING FIXTURES, CONSISTENT WITH ADEQUATE FLOW RATES.
14. ALL WASTE AND VENT IN CORRIDOR WALLS, RATED WALLS OR RETURN AIR PLENUMS TO BE CAST IRON PIPE.
15. ALL VTR'S TO BE CAST IRON (3'-0" MIN. LENGTH) AT ROOF PENETRATION.
16. SUPPORT PIPE AS REQUIRED BY THE 2015 INTERNATIONAL PLUMBING CODE.
17. FIRESTOP ALL RATED WALLS AND FLOOR PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL AND FLOOR LOCATIONS.
18. COORDINATE ALL PLUMBING IN SLAB WITH BUILDING FOOTINGS.
19. OFFSET ALL VTR'S TO BACKSIDE OF ROOF RIDGE OR ON FLAT ROOF (AS SHOWN).
20. ALL CEILING ACCESS PANELS SHALL BE PAINTED TO MATCH CEILING.
21. PROVIDE FIRESTOPPING ASSEMBLIES AT ANY AND ALL FIRE-RATED PENETRATIONS. EQUAL TO ROXTEC.
22. DO NOT BEGIN WORK UNTIL ELEVATION OF FINAL CONNECTION POINT IS VERIFIED AND GRADING OF ENTIRE SYSTEM CAN BE DETERMINED (EVEN IF FINAL CONNECTION IS SPECIFIED UNDER ANOTHER SECTION).
23. PROVIDE 12"x12" CEILING ACCESS PANEL (MI FAB OR EQUAL) TO MATCH CEILING FOR ALL VALVES IF LOCATED IN TILE CEILING AREA. (TYPICAL)
24. ALL PLUMBING PRODUCTS THAT COME INTO CONTACT WITH POTABLE (DRINKABLE) WATER SHALL COMPLY WITH SAFE DRINKING WATER ACT (SDWA) AND THE REDUCTION OF LEAD IN DRINKING WATER. REDUCTION OF LEAD IN DRINKING WATER ACT THAT WENT INTO EFFECT ON JANUARY 4, 2014
25. THE CONTRACTOR SHALL EXECUTE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM OF INTERFERENCE WITH OTHER TRADES AND NORMAL FUNCTIONING OF EXISTING FACILITIES AND SERVICES.
26. VERIFY EXACT ROUGH-IN AND FINAL EQUIPMENT REQUIREMENTS IN FIELD.
27. THE CONTRACTOR SHALL VERIFY THAT ALL PIPING, AS SHOWN ON THESE DRAWINGS WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLES, JOINTS, VENTS, EQUIPMENT, ETC.



SUSPENDED PIPING SUPPORT AT CEILING DETAIL

NO SCALE

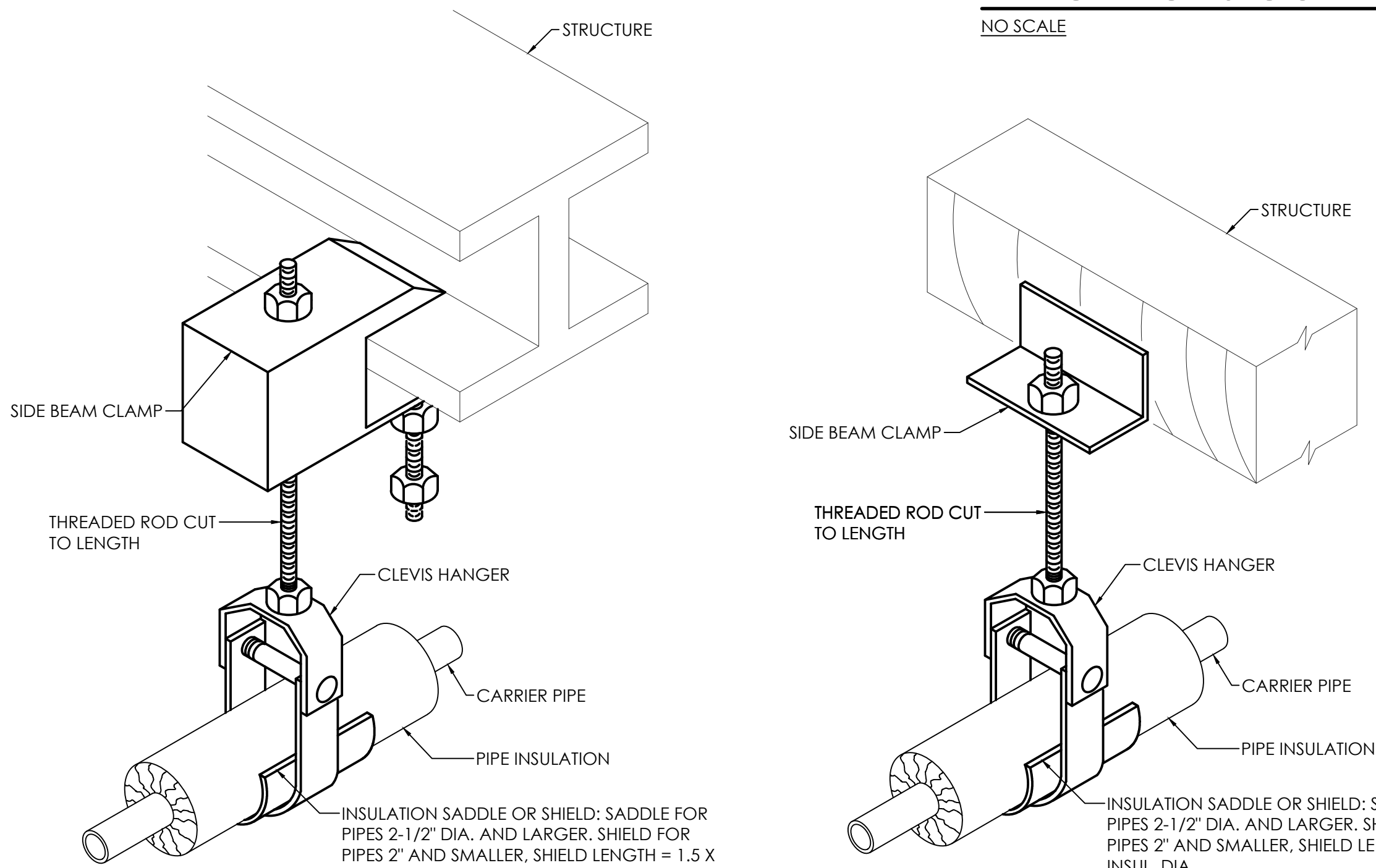


HOT INLET TEMPERATURE: 140°F  
COLD INLET TEMPERATURE: 39°F - 80°F  
TEMPERATURE OUT: 110°F

NOTE: MOUNT UNDER LAVATORY OR SINK. PROVIDE SUPPORT BRACKET. PROVIDE BRAIDED STAINLESS STEEL SUPPLIES.

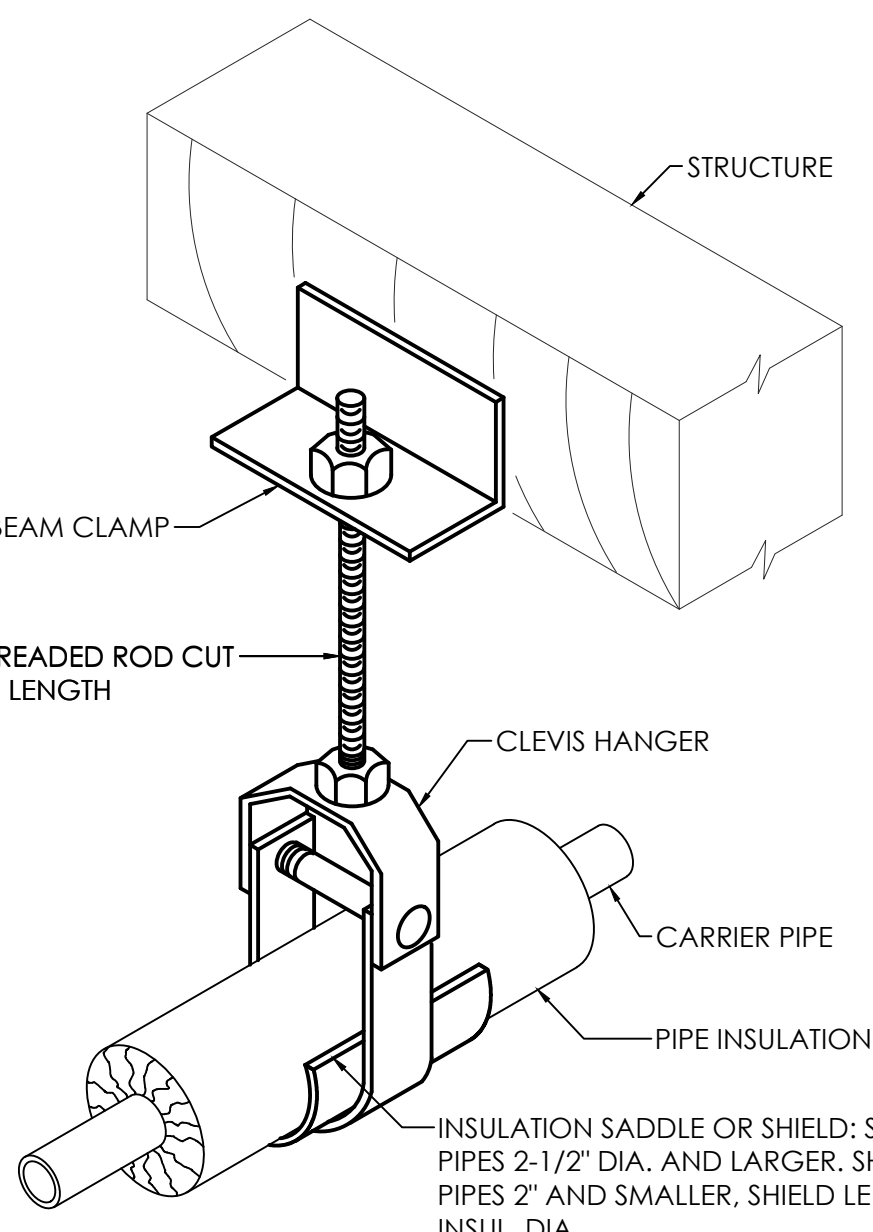
TEMPERATURE LIMITING VALVE

NO SCALE



PIPE HANGER DETAIL

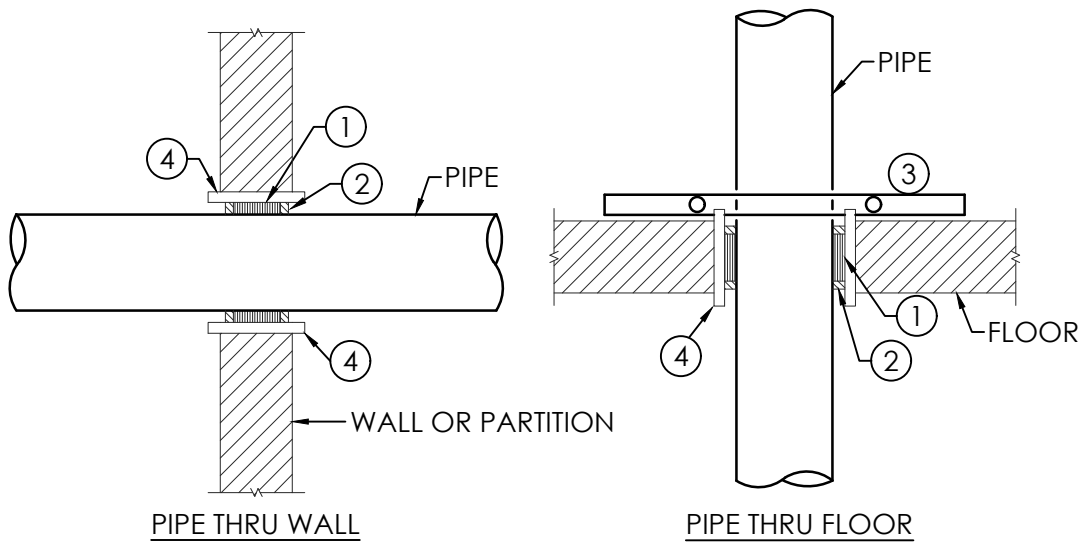
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PIPE HANGER DETAIL

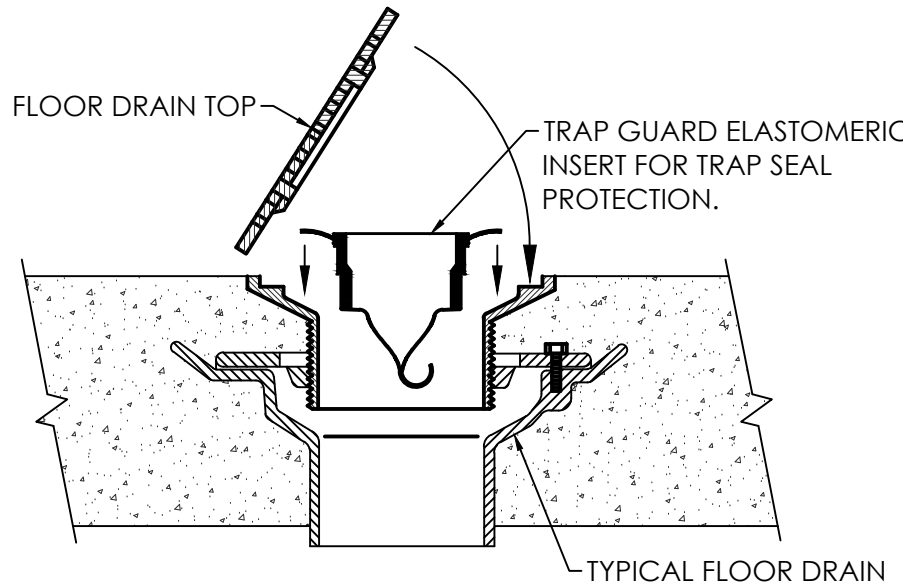
NO SCALE

28. COORDINATE ROUTING AND LOCATIONS OF WASTE AND VENT PIPING WITH ALL OTHER TRADES.
29. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES, ALL REQUIRED OPENINGS AND EXCAVATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOFS SHALL BE DESIGNED INTO THE STRUCTURE INITIALLY BY THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM.
30. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE THE ROOF. ALL VENTS SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE DEVICE.
31. PROVIDE STOPS AND SHOCK ABSORBERS AT EACH FIXTURE OR GROUP OF FIXTURES.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO GAS FIRED EQUIPMENT AND SPECIFIED FIXTURES. ALL GAS FIRED EQUIPMENT AND FIXTURES SHALL BE OPERABLE.
33. PROVIDE VACUUM BREAKERS AT FIXTURES WITH HOSE THREAD CONNECTIONS AND APPLIANCES WITH DIRECT CONNECTIONS TO DOMESTIC WATER.
34. WHERE DISSIMILAR PIPING MATERIALS (STEEL AND COPPER) ARE CONNECTED, INSTALL A THREADED BRASS NIPPLE FOR PIPE SIZES 2" AND LESS. FOR PIPE SIZES 2-1/2" AND ABOVE, INSTALL ISOLATING FLANGES. DIELECTRIC UNIONS ARE NOT TO BE USED EXCEPT AT THE WATER HEATERS.
35. ALL WATER LINES INSTALLED IN EXTERIOR WALLS SHALL BE INSTALLED INSIDE OF WALL INSULATION AND INSULATED INDIVIDUALLY TO PROTECT FROM FREEZING PIPING AND FITTINGS.
36. ALL PLUMBING FIXTURES SHALL BE WHITE. (UNLESS STATED OTHERWISE)
37. INSTALL "TRAPGUARD" FOR FLOOR DRAINS IN BATHROOMS, RESTROOMS, JANITOR, MECHANICAL ROOMS AND PARTY ROOM FLOOR DRAINS. ALL FLOOR DRAINS ARE TO HAVE 4" DEEP SEAL TRAPS AND "TRAPGUARD". (NO EXCEPTIONS).
38. PROVIDE APPROVED BACKFLOW PREVENTION AT ALL EQUIPMENT DIRECTLY CONNECTED TO WATER SYSTEM.
39. PROVIDE CLEANOUTS EVERY 75'-0" OR AT EACH CHANGE IN DIRECTION MORE THAN 45° AS REQUIRED BY CODE. COORDINATE LOCATIONS WITH ARCHITECT.
40. PROVIDE PRESSURE REDUCING VALVE IF THE INCOMING PRESSURE EXCEEDS 80 PSI. IF A PRV IS UTILIZED THEN IT SHALL BE SET TO 80 PSI. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF REQUIRED.
41. THESE PLANS (ALL PLUMBING SHEETS) ARE SCHEMATIC IN NATURE AND ARE INTENDED TO ESTABLISH SIZE, GENERAL ROUTING, LOCATION, PERFORMANCE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. ALL WORK SHALL BE FULLY COORDINATED WITH OTHER TRADES TO INSURE THE INSTALLATION OF A COMPLETE OPERABLE SYSTEM THAT FITS IN THE SPACE ALLOTTED. PROVIDE ALL LABOR, EQUIPMENT, APPURTENANCES AND MATERIALS NECESSARY, AND PERFORM ALL OPERATIONS REQUIRED FOR THE INSTALLATION OF COMPLETE, FUNCTIONAL PLUMBING SYSTEMS AS OUTLINED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS.
42. ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES.
43. VERIFY ALL POINTS OF CONNECTION WITH OTHER DISCIPLINES (LOCATION AND INVERT) PRIOR TO INSTALLATION. THIS SHALL INCLUDE EXISTING SITE UTILITIES AS WELL AS NEW SITE UTILITIES INSTALLED UNDER THE SCOPE OF WORK FOR THIS PROJECT.
44. COORDINATE WITH OTHER TRADES TO PREVENT INTERFERENCE WITH HVAC DUCTS, ELECTRICAL LIGHTING AND STRUCTURE IN THE CEILING PLENUMS.
45. WHEN / IF A CONFLICT EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE HIGHER STANDARD / DIRECTION SHALL APPLY. THE FINAL DECISION SHALL BE MADE BY THE ARCHITECT AND / OR ENGINEER. THE HIGHER PRICE SHALL BE INCLUDED IN THE BID PRICE.
46. COORDINATE ALL DWV PIPING WITH THE JOIST LAYOUT BELOW. COORDINATE THROUGH THE ARCHITECT, GENERAL CONTRACTOR, THIS SET OF CONSTRUCTION DOCUMENTS (STRUCTURAL / ARCHITECTURAL) ETC. THERE WILL NOT BE ANY CHANGE ORDERS ISSUED OR PAID FOR GENERAL / REQUIRED OFFSETS DUE TO THE FAILURE OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE STRUCTURE PRIOR TO BID. THE SUBMITTED BID PRICE SHALL HAVE A ALLOWANCE FOR ALL REQUIRED OFFSETS, ETC.



PIPE THRU STRUCTURE DETAIL

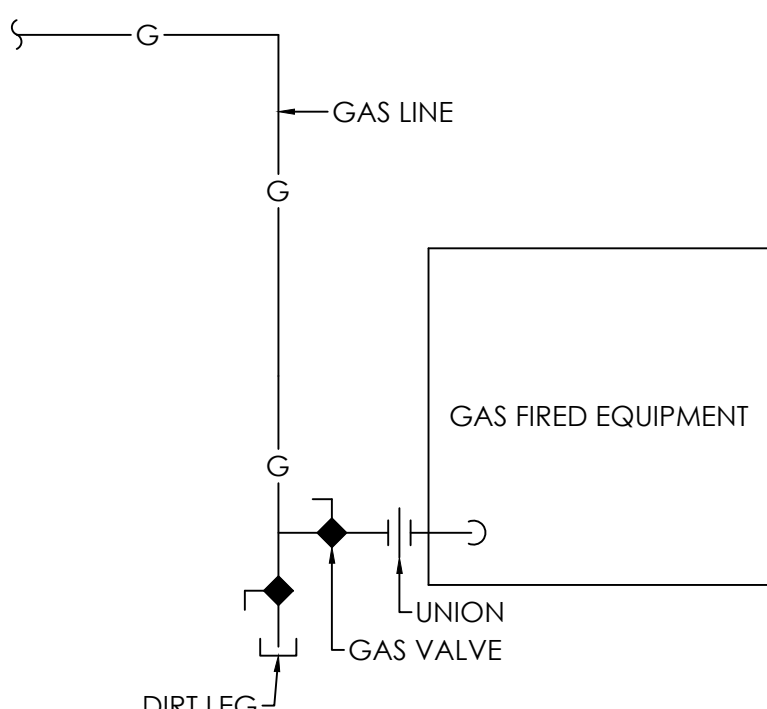
NO SCALE



NOTE: PROVIDE TRAP SEAL PROTECTION FOR ALL FLOOR DRAINS, HUB DRAINS, FLOOR SINKS AND INDIRECT DRAINS. INSTALL AND SEAL TRAP GUARD ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

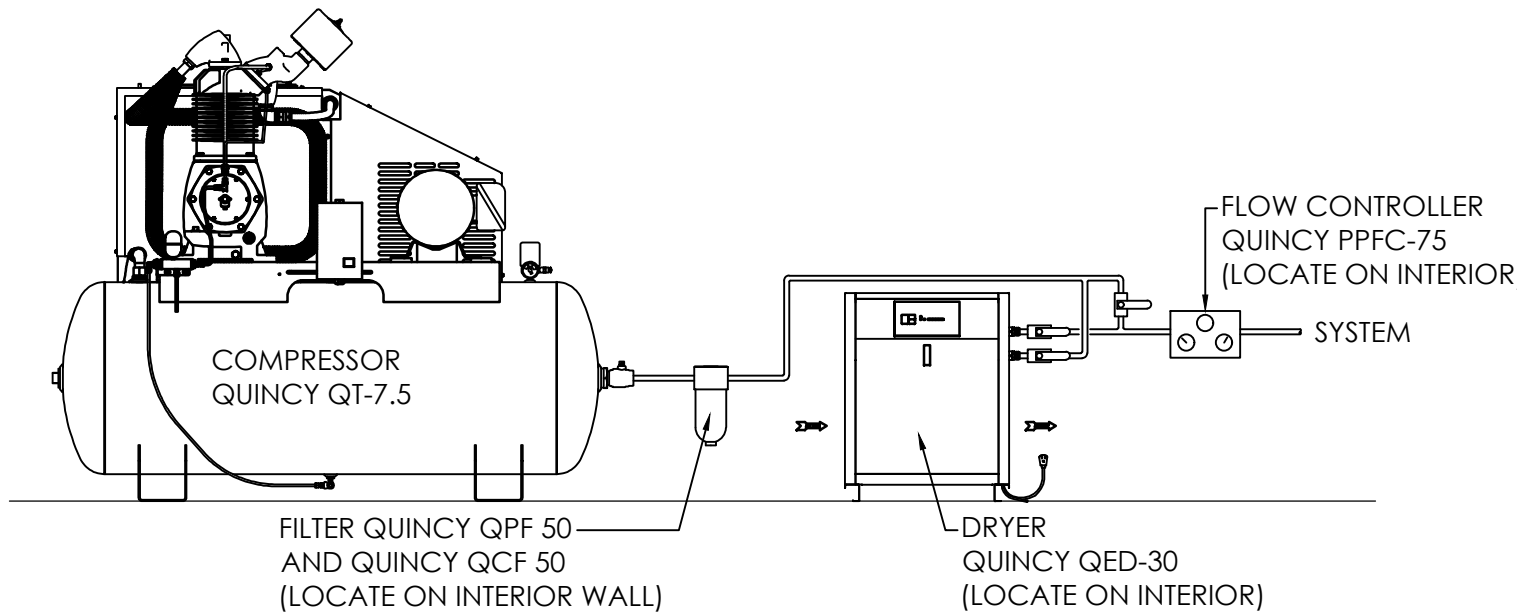
TRAP GUARD DETAIL - FLOOR DRAIN

NO SCALE



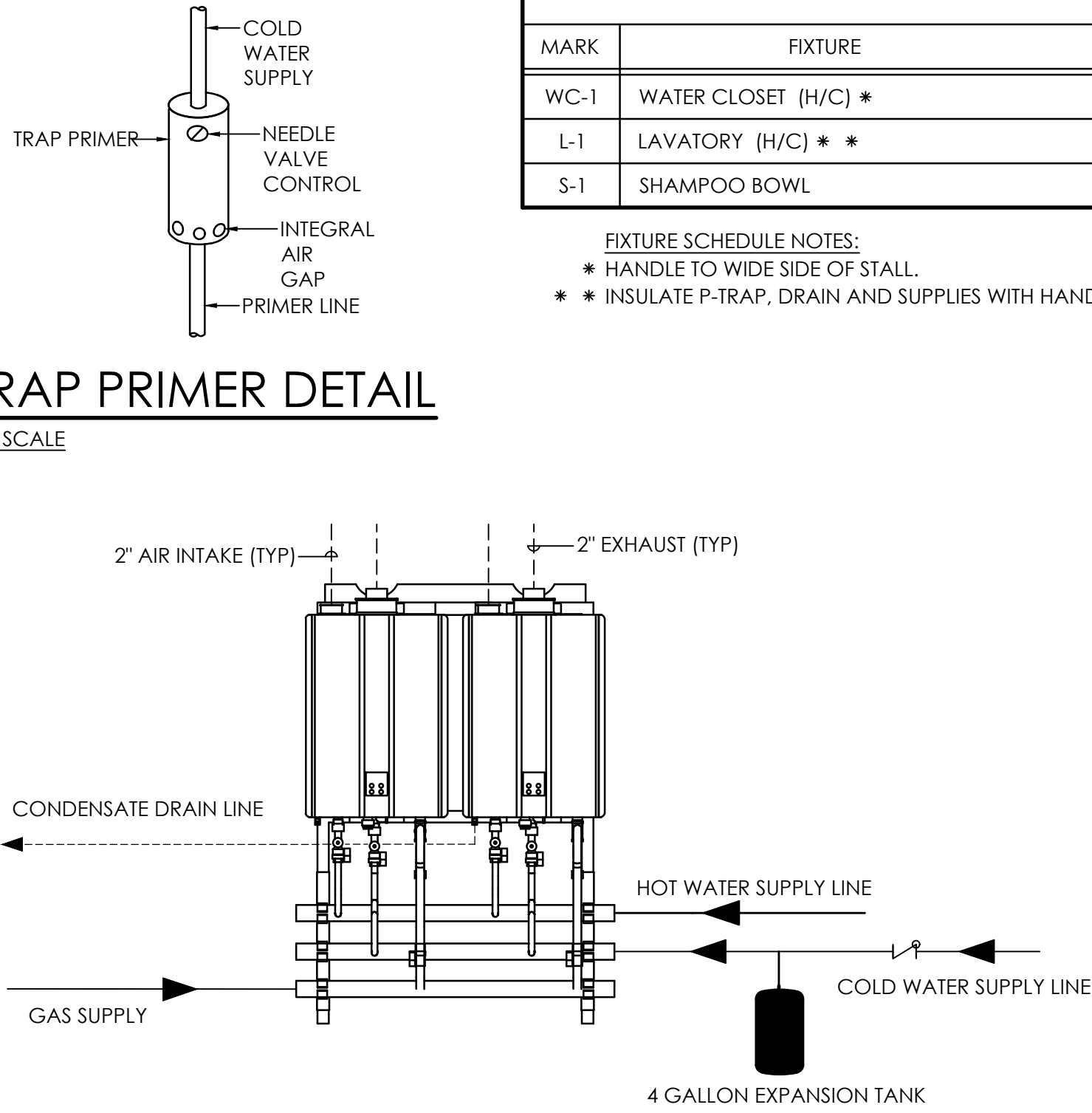
TYPICAL GAS CONNECTION DETAIL

NO SCALE



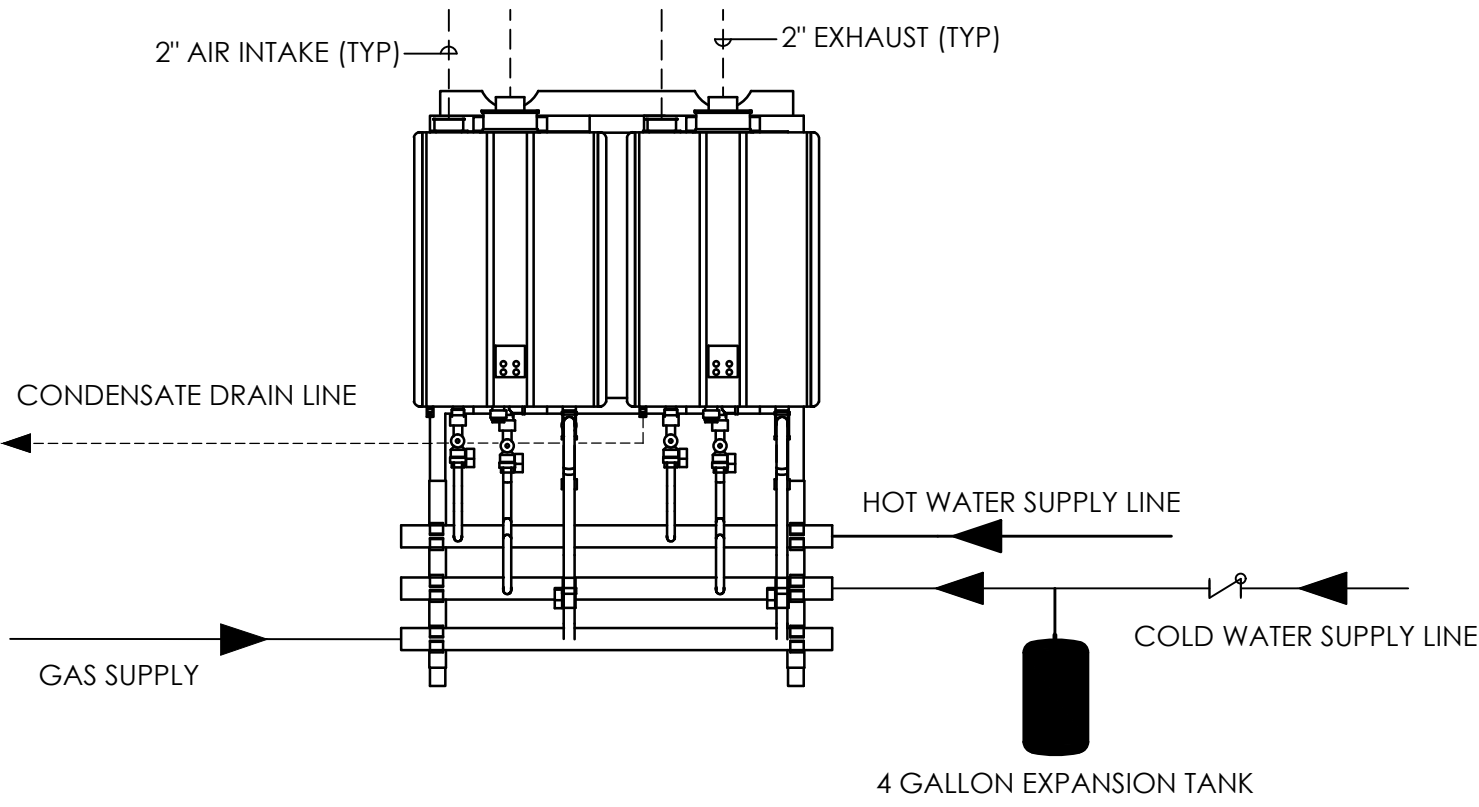
COMPRESSED AIR SYSTEM DETAIL

NO SCALE



TRAP PRIMER DETAIL

NO SCALE



WATER HEATER CONNECTION DETAIL

NO SCALE: (WH-1) (WATER HEATER SUPPLIED BY OWNER AND INSTALLED BY PLUMBING CONTRACTOR)

NOTES (THIS DETAIL ONLY):

1. CONDENSATE PIPING SHALL BE CPVC OR PVC MATERIAL AND SHALL NOT BE SMALLER THAN THE DRAIN CONNECTION ON THE APPLIANCE.
2. COMPONENTS OF THE CONDENSATE DRAINAGE SHALL BE CPVC OR PVC MATERIAL. ALL COMPONENTS SHALL BE SELECTED FOR THE PRESSURE AND TEMPERATURE RATING OF THE INSTALLATION.
3. WHERE THE DRAIN PIPES FROM MORE THAN ONE UNIT ARE MANIFOLDED TOGETHER FOR CONDENSATE DRAINAGE, THE PIPE OR TUBING SHALL BE SIZED IN ACCORDANCE WITH AN APPROVED METHOD AS DICTATED BY LOCAL CODES.
4. CONDENSATE MUST BE DISPOSED OF ACCORDING TO LOCAL CODES.
5. SEE PLANS FOR PIPE SIZES.

PLUMBING FIXTURE SCHEDULE

| MARK | FIXTURE              | COLD | HOT  | WASTE  | REMARKS   |
|------|----------------------|------|------|--------|---|
| WC-1 | WATER CLOSET (H/C) * | 1/2" | ---  | 3"     | FLOOR MOUNTED, FLUSH VALVE (H/C)  |
| L-1  | LAVATORY (H/C) * *   | 1/2" | 1/2" | 1-1/4" | WALL MOUNTED, PROVIDE LEVER TYPE HANDLES (H/C) HANG 34" RIM TO FINISHED FLOOR |
| S-1  | SHAMPOO BOWL         | 1/2" | 1/2" | 1-1/4" | WALL MOUNTED  |

FIXTURE SCHEDULE NOTES:  
\* HANDLE TO WIDE SIDE OF STALL.  
\* \* INSULATE P-TRAP, DRAIN AND SUPPLIES WITH HANDI LAV GUARD INSULATION KIT #102W OR EQUAL BY TRAP WRAP AND MCGUIRE PRO WRAP.

PLUMBING LEGEND

|      |                         |
|------|-------------------------|
| ---  | WASTE PIPING            |
| ---- | VENT PIPING             |
| ---- | COLD WATER PIPING       |
| ---- | HOT WATER PIPING (140°) |
| ---- | BALL VALVE              |
| ---- | F.D.                    |
| ---- | FLOOR DRAIN             |
| ---- | WASTE RISER             |
| ---- | WATER RISER             |
| ---- | VENT THRU ROOF          |
| ---- | W.C.O.                  |
| ---- | WALL CLEANOUT           |
| ---- | WATER HAMMER ARRESTOR   |
| ---- | COMPRESSED AIR PIPING   |
| ---- | GAS PIPING              |
| ---- | GAS VALVE               |
| ---- | EXISTING TO REMAIN      |
| ---- | EXISTING TO BE REMOVED  |
| ---- | CONNECT TO EXISTING     |
| ---- | ARGON GASES             |
| ---- | ARGON/CO2 MIXED GASES   |

WATER HAMMER ARRESTOR SCHEDULE

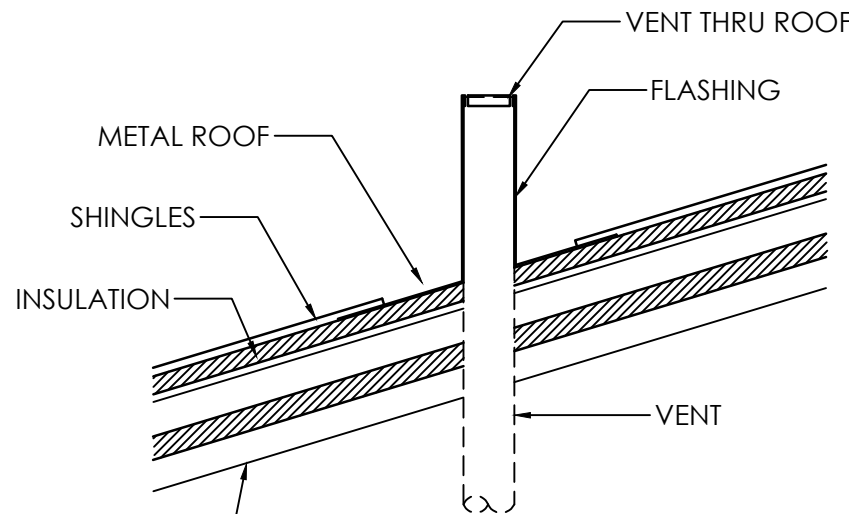
| P.D.I. UNITS  | A    | B     | C     | D      | E       | F       |
|---------------|------|-------|-------|--------|---------|---------|
| FIXTURE UNITS | 1-11 | 12-32 | 33-60 | 61-113 | 114-154 | 155-330 |

PROVIDE ACCESS FOR SERVICE.

GAS WATER HEATER SCHEDULE

| MARK | STORAGE CAPACITY | RECOVERY @ 100°F ΔT | BTUH INPUT | REMARKS |
|------|------------------|---------------------|------------|---------|
| WH-1 | ---              | ---                 | 199,000    | 1,2     |
| WH-2 | ---              | ---                 | 199,000    | 1,2     |

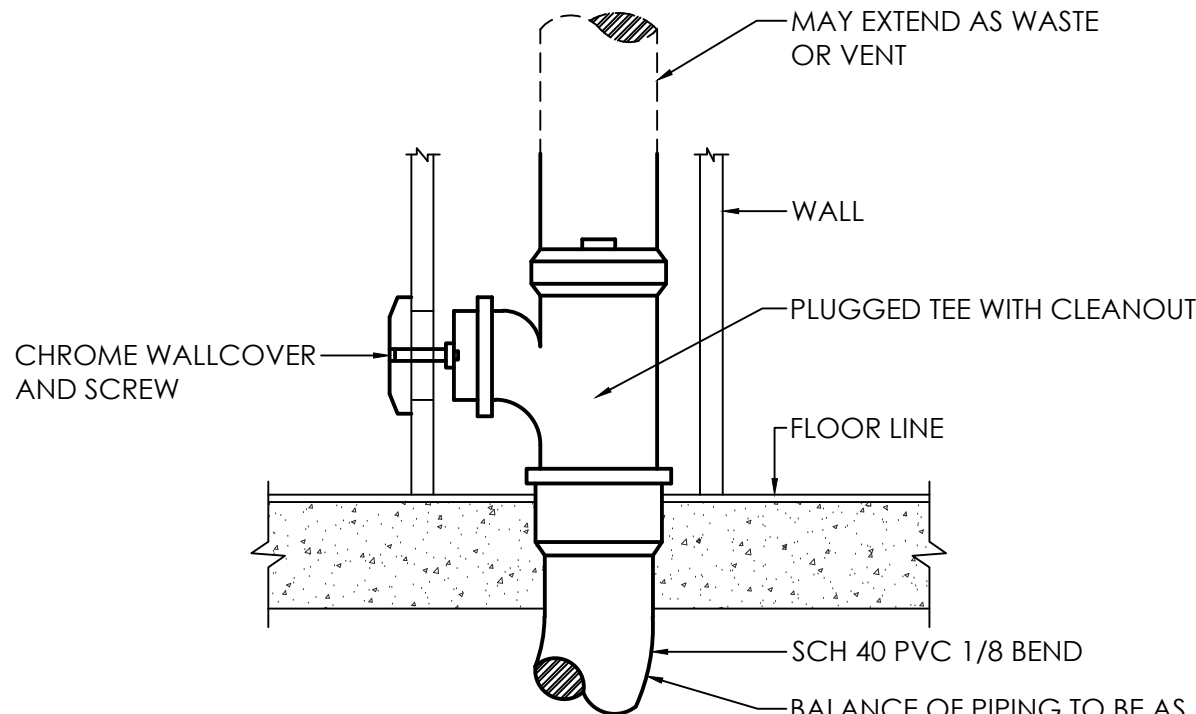
GAS WATER HEATER SCHEDULE NOTES:  
1. PROVIDE THREE YEAR WARRANTY.  
2. BASED ON RINNAI CU191 OR EQUAL.



NOTE: ALL VENTS THRU ROOF (VTR) SHALL BE INSTALLED SO THAT THE TOP 3'-0" MINIMUM IS CAST IRON AT ROOF PENETRATION. \* PAINT VTR TO MATCH ROOF.

VENT THRU ROOF DETAIL

NO SCALE



WALL CLEANOUT DETAIL

NO SCALE

GAS MANIFOLD AND RACK DETAIL

NO SCALE

NOTE: FUEL GAS AND OXYGEN MANIFOLDS SHALL BE LISTED OR APPROVED EITHER SEPARATELY FOR EACH COMPONENT PART OR AS AN ASSEMBLED UNIT PER NFPA 51 5.1.1 & 5.2.2.  
(1) PROVIDE PRESSURE RELIEF FOR PIPING SYSTEM IN ACCORDANCE WITH NFPA 51 7.2



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PROJECT NO: 22-045

SHEET TITLE : PLUMBING NOTES, DETAILS AND SCHEDULES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : AG/ RLB

DATE: 5.19.2022

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO. : P3.0

RENOVATIONS TO THE CLAY COUNTY CAREER ACADEMY

FOR THE CLAY COUNTY BOARD OF EDUCATION

ASHLAND, ALABAMA

MCKEE and ASSOCIATES ARCHITECTS, INC.

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- MECHANICAL NOTE LEGEND: (THIS SHEET ONLY)

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



REVISÉ DATE:

SHEET NO.: **MO.1**

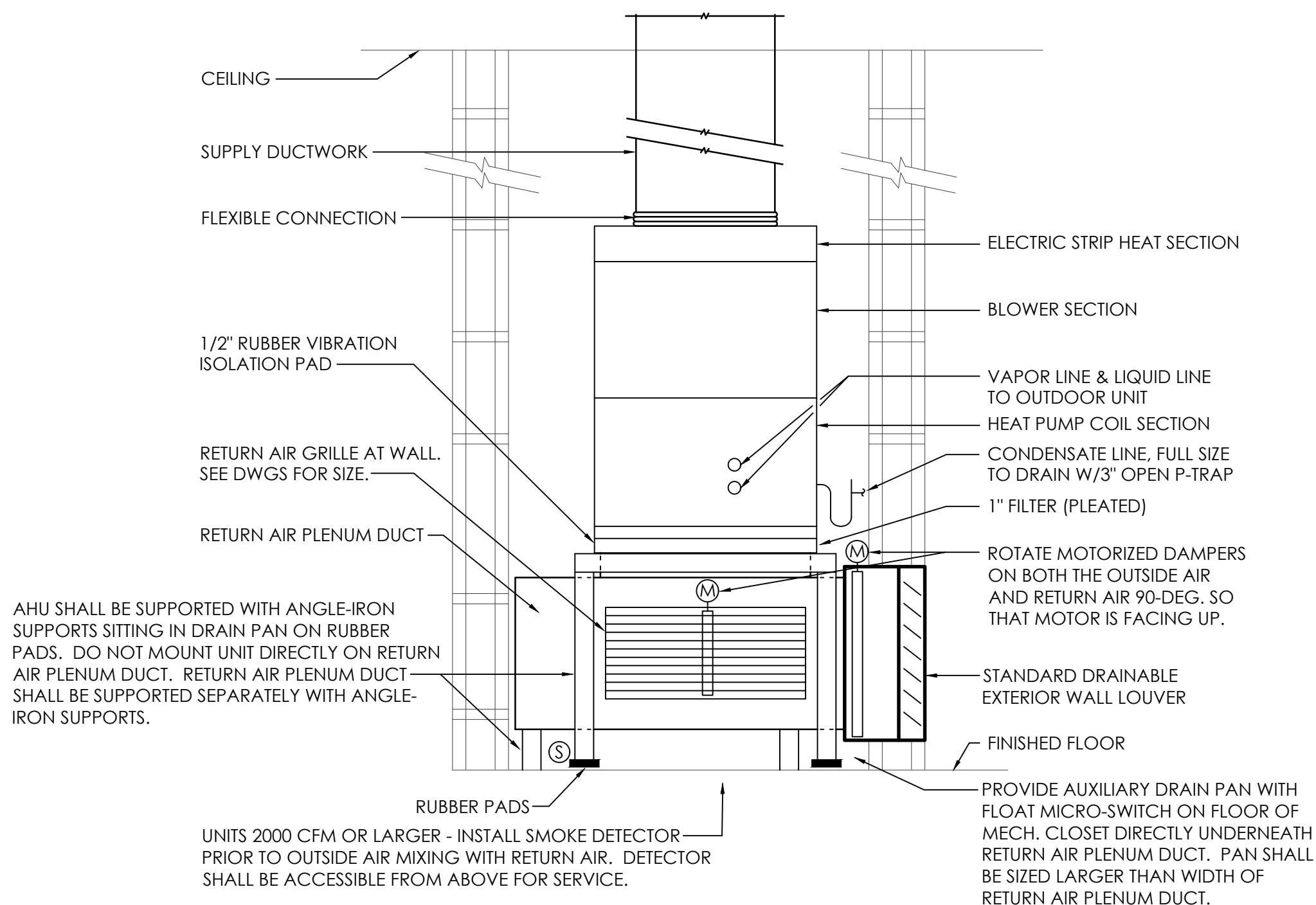
CLAY COUNTY CAREER ACADEMY  
FOR THE  
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ASHLAND, ALABAMA

**McKee and Associates**  
Architects, Inc.



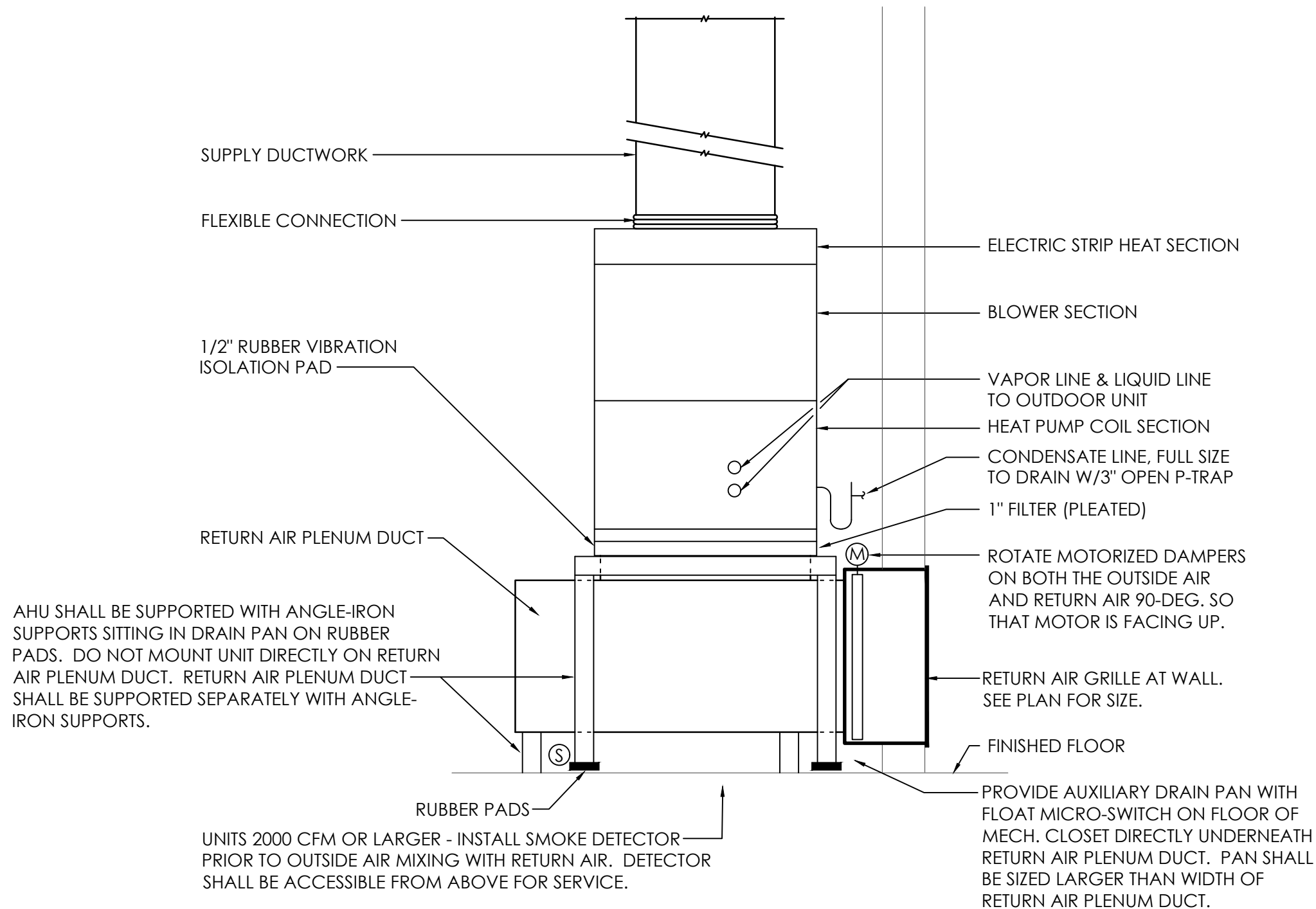
6631 SOUTH HULL STREET, MONTGOMERY, ALABAMA 36104 (334) 834-9933





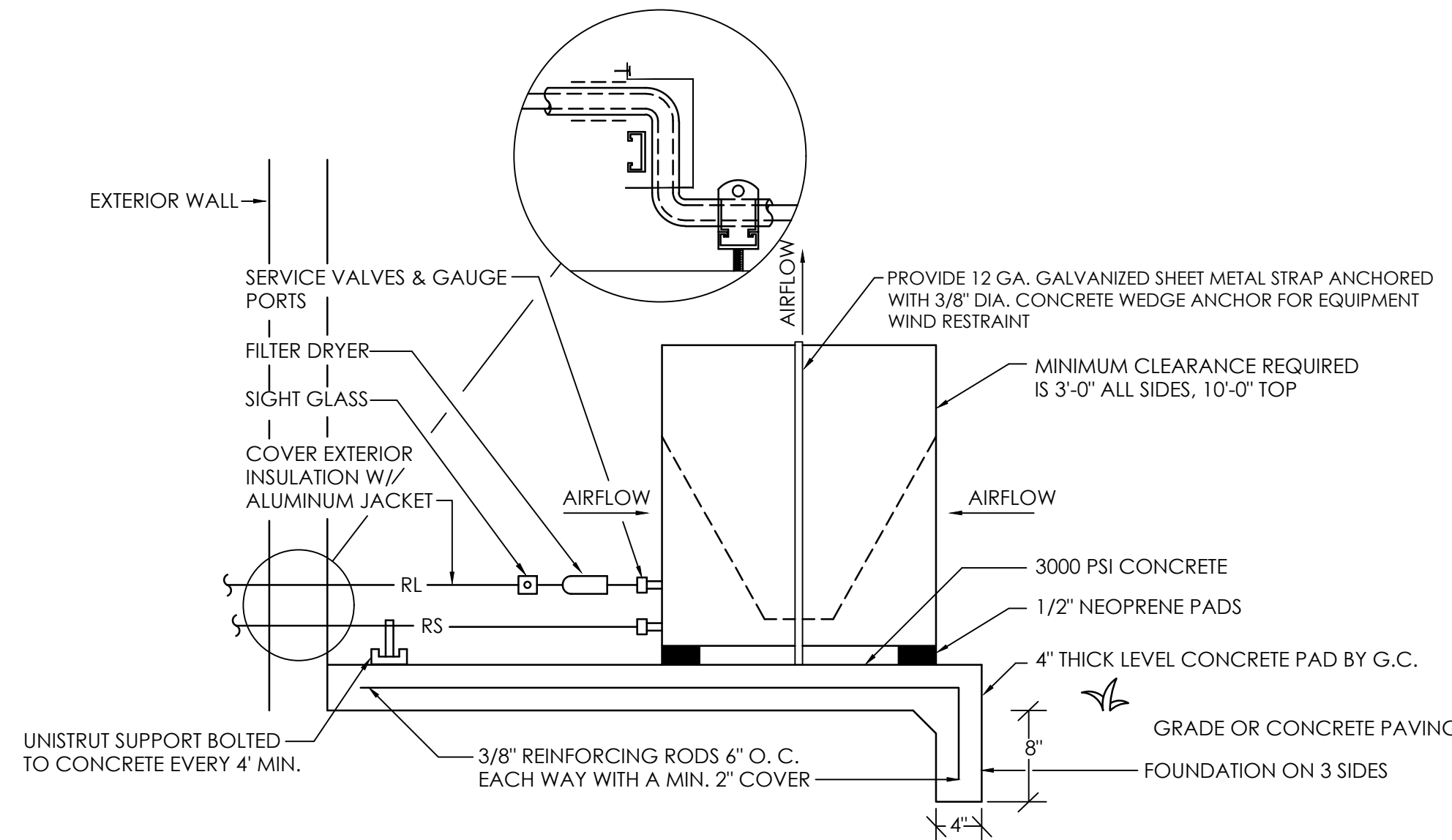
INDOOR HEAT PUMP UNIT DETAIL

NO SCALE (TYP. IHP-1 AND IHP-2)



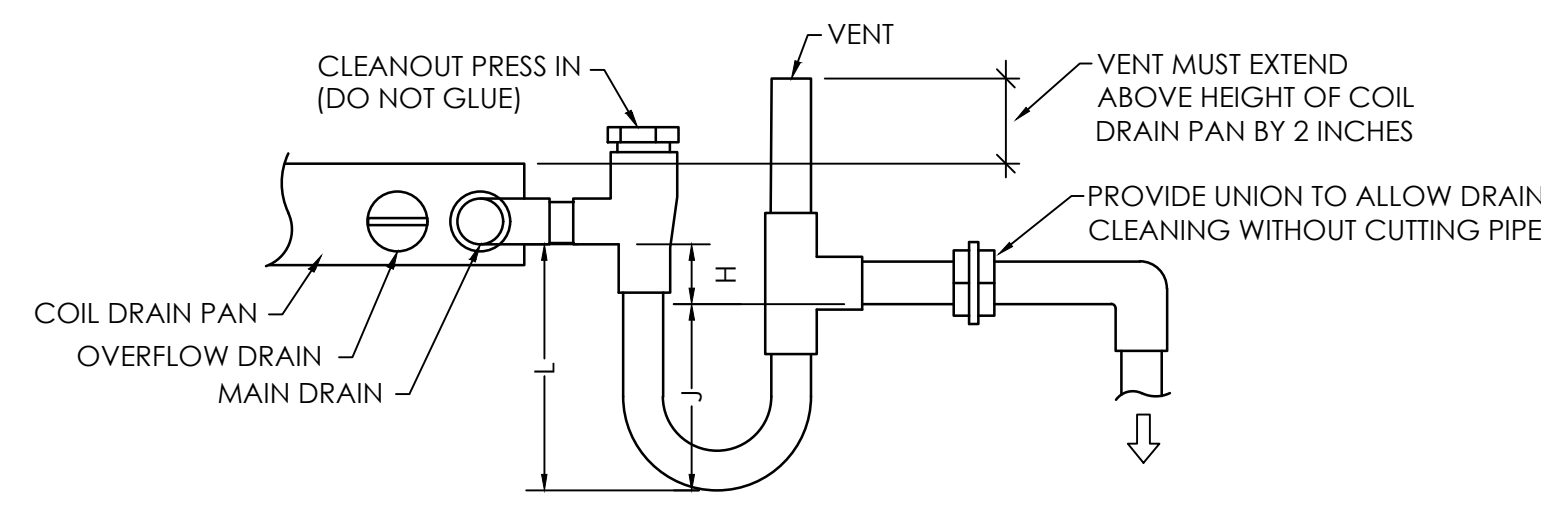
INDOOR HEAT PUMP UNIT DETAIL

NO SCALE (TYP. IHP-3,4,5,6)



OUTDOOR HEAT PUMP/CONDENSING UNIT DETAIL

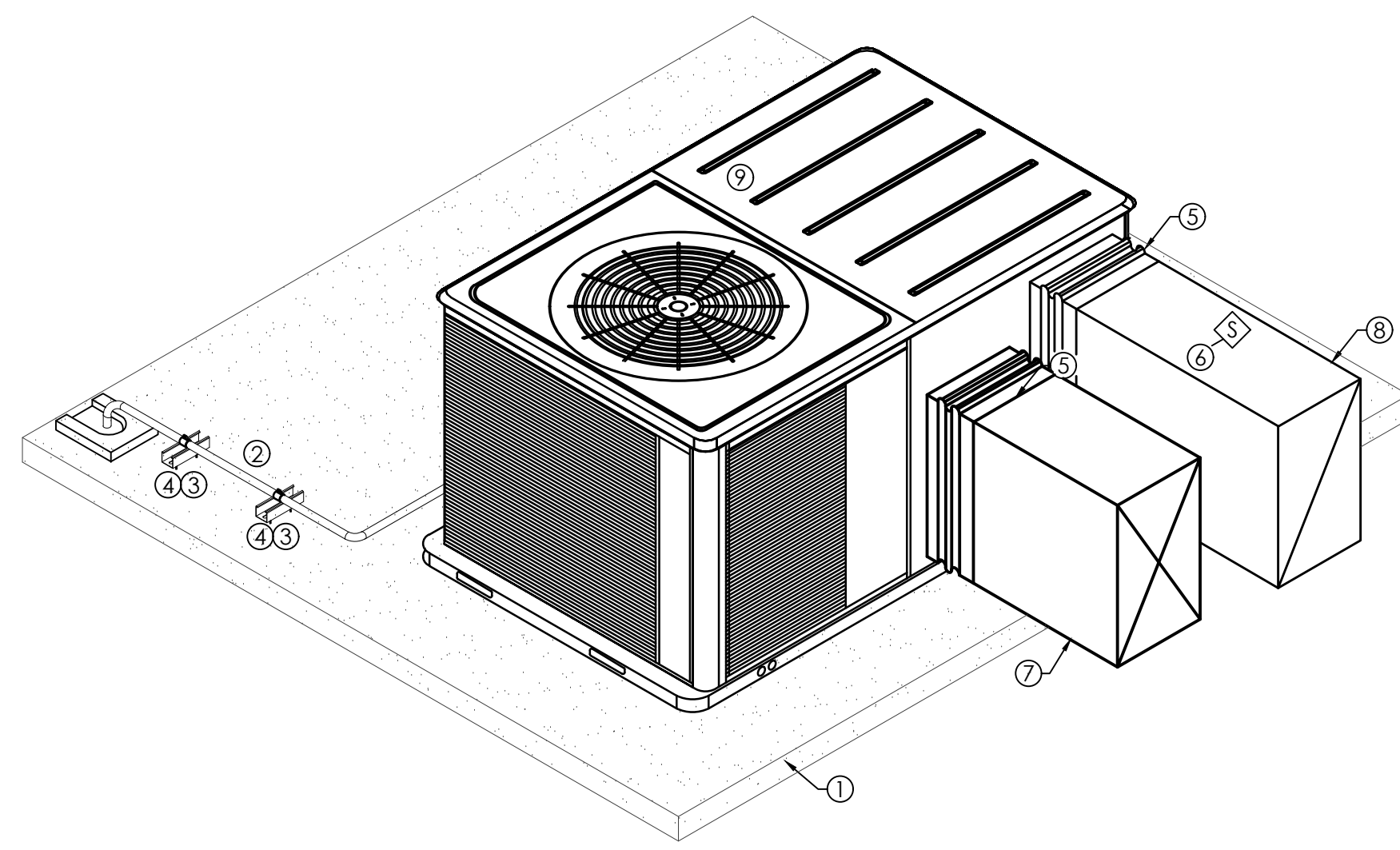
NO SCALE (TYP. OHP-1,2,3,4,5,6)



L = H + J + PIPE DIAMETER WHERE:  
H = 1 INCH FOR EACH INCH OF NEGATIVE  
PRESSURE PLUS 1 INCH  
J = 1/2 IN

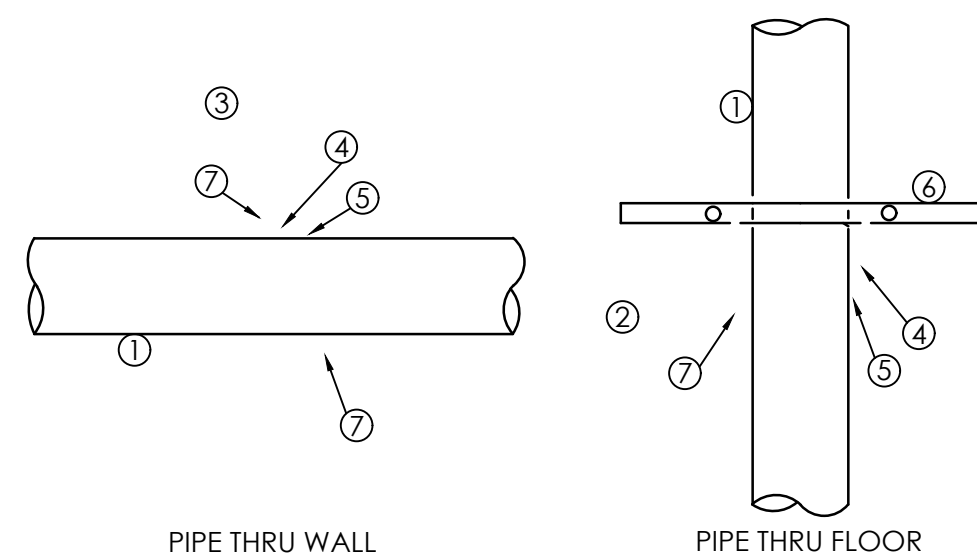
CONDENSATE DRAIN DETAIL

NO SCALE



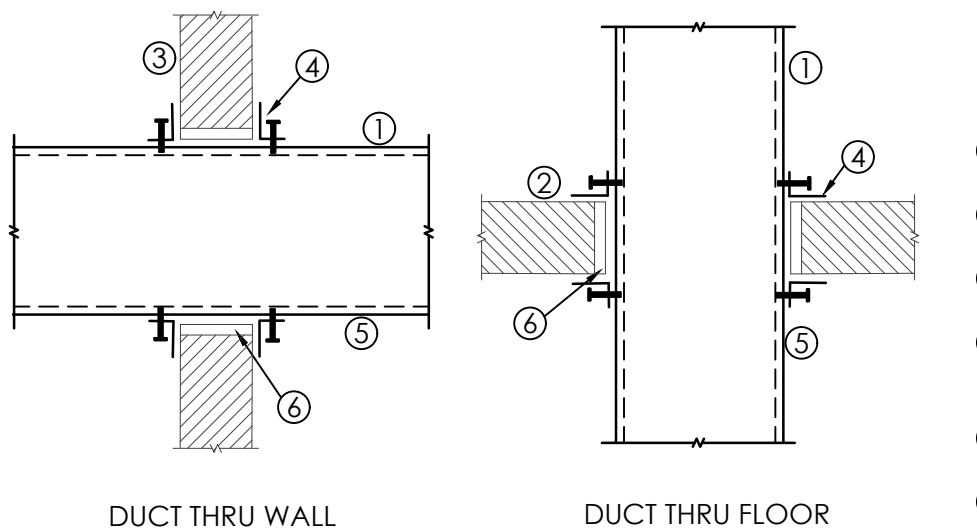
GRADE MOUNTED PACKAGED COOLING/  
ELECTRIC HEAT A/C UNIT INSTALLATION DETAIL

NO SCALE (TYP. PAC-1)



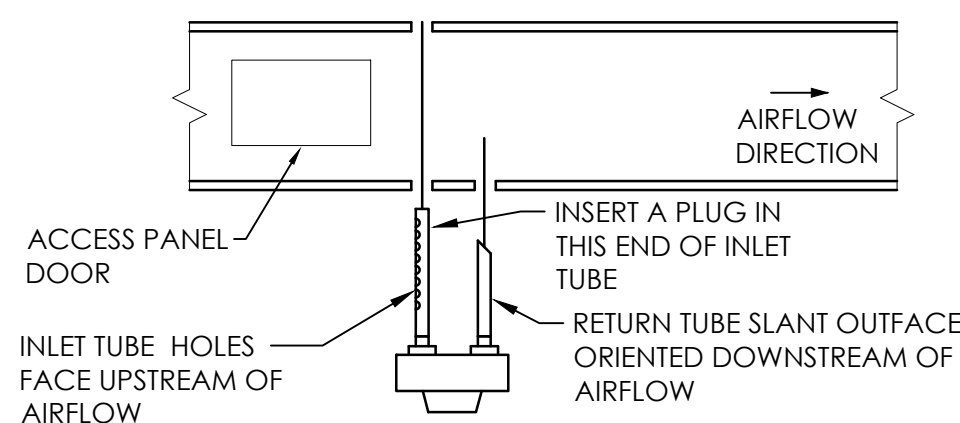
PIPE THRU STRUCTURE DETAIL

NO SCALE



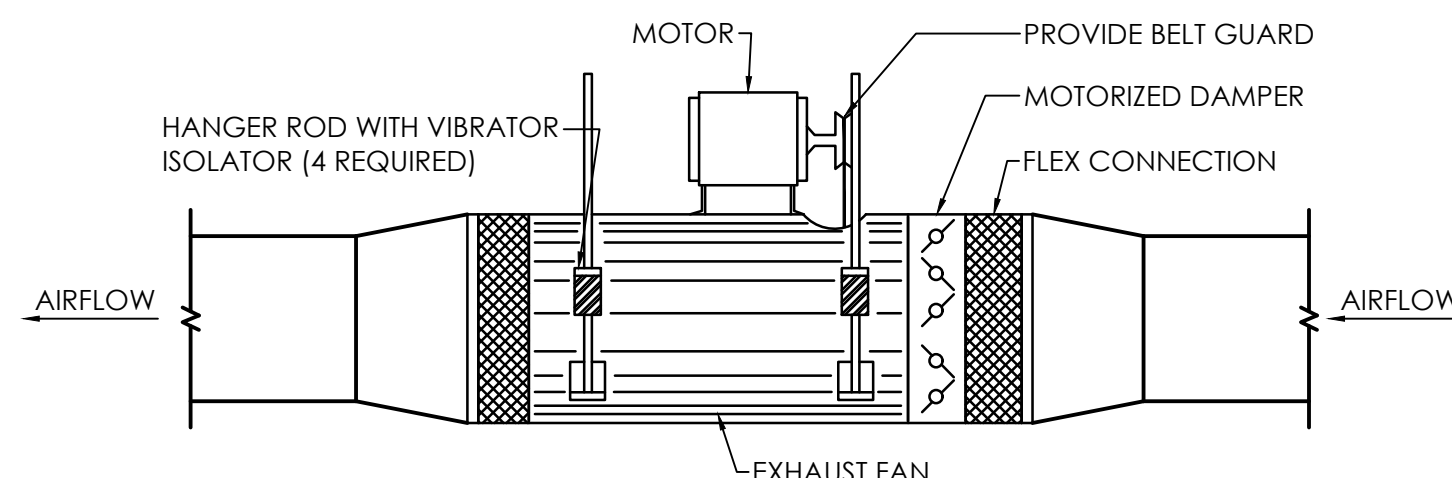
DUCT THRU NON-RATED STRUCTURE DETAIL

NO SCALE



SMOKE DETECTOR DETAIL

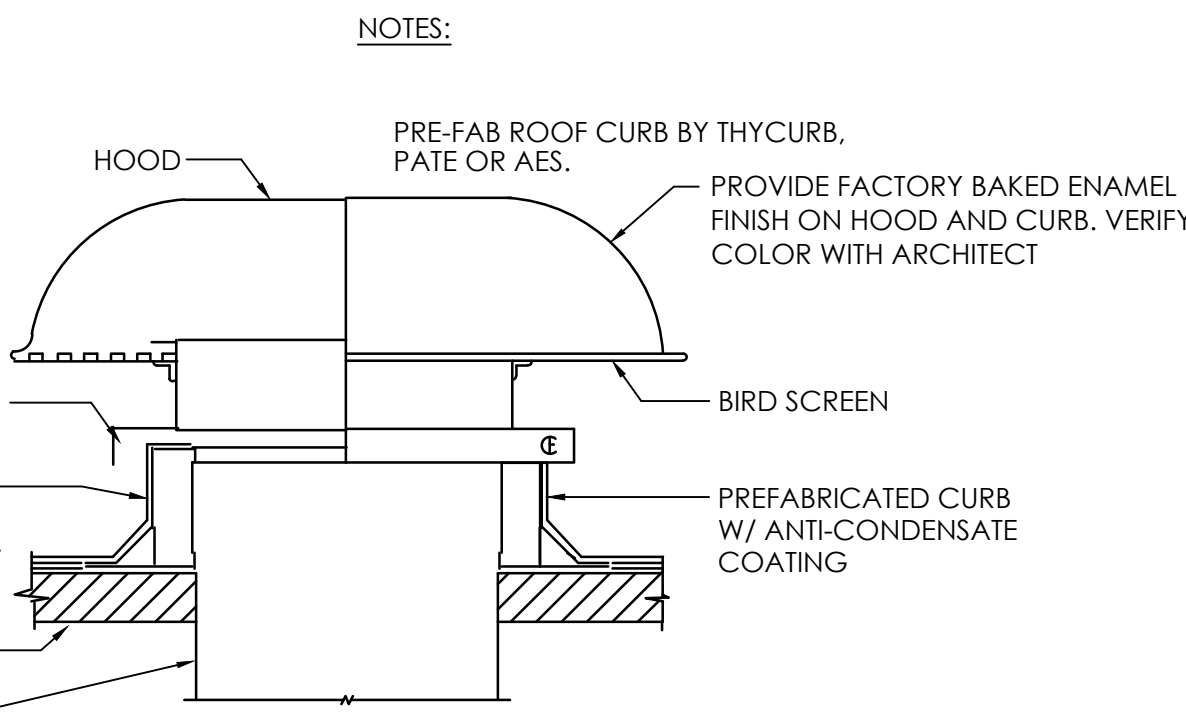
NO SCALE (TYP. PAC-1)



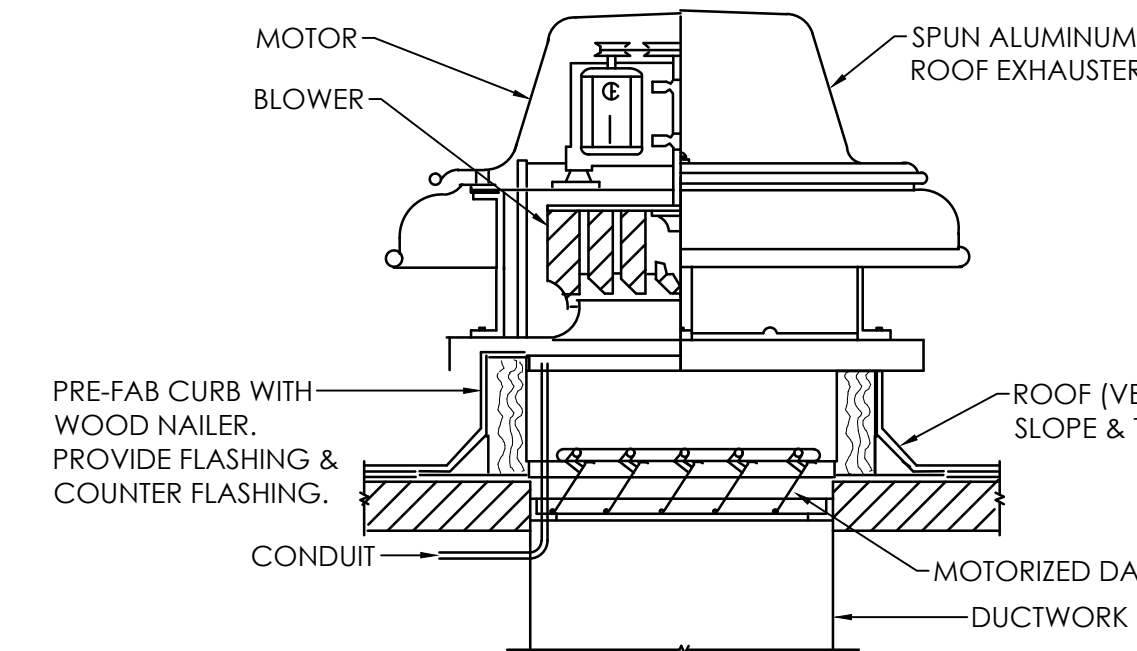
NOTE:  
1. SUSPEND EXHAUST FAN HIGH AS POSSIBLE FROM STRUCTURE ABOVE  
2. MOTOR MAY BE INTERNALLY MOUNTED.

INLINE EXHAUST FAN DETAIL

NO SCALE (TYP. EF-3)



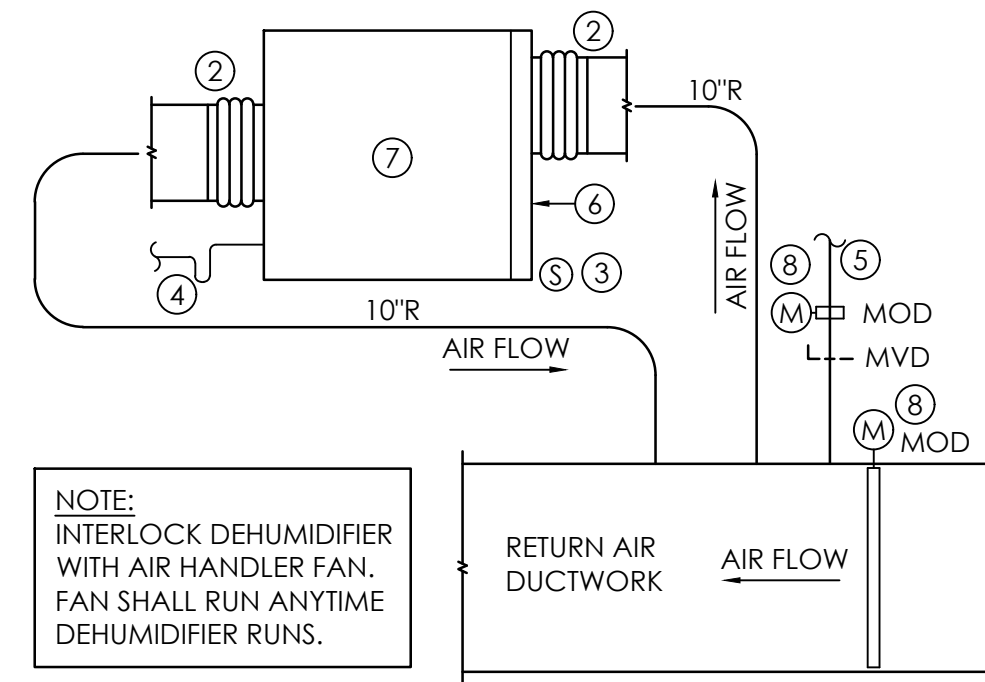
HOOD DETAIL



ROOF MOUNTED EXHAUST FAN DETAIL

NO SCALE (TYP. EF-1)

- NOTE LEGEND: (THIS DETAIL ONLY)
- 4" LEVEL CONCRETE PAD BY GENERAL CONTRACTOR, COORDINATE EXACT LOCATION PRIOR TO INSTALLING EQUIPMENT.
  - PROVIDE 1" COPPER CONDENSATE PIPE. CONDENSATE IS TO SPILL ON SPLASH BLOCK. SEE DETAIL FOR SPLASH BLOCK.
  - UNISTRUT PIPE SUPPORT. SUPPORT PIPING EVERY 3'-0" MAX. SEE DETAIL.
  - SECURE REFRIGERANT PIPING TO SUPPORTS WITH "HYDRA-JORB", "CUSH-A-CLAMP" OR EQUIVALENT. (TYP.)
  - FLEXIBLE CONNECTOR FOR DUCTWORK. (MIN. 4 SLACK ACROSS)
  - SMOKE DETECTOR. PROVIDE ON ALL UNITS 2000 CFM OR GREATER. UNIT SHALL BE WIRED TO SHUT DOWN UPON DETECTION OF SMOKE.
  - SUPPLY AIR DUCTWORK. PROVIDE "THERMADUCT" OR APPROVED EQUAL. PROVIDE WATER TIGHT SEAL.
  - RETURN AIR DUCTWORK. PROVIDE "THERMADUCT" OR APPROVED EQUAL. PROVIDE WATER TIGHT SEAL.
  - PACKAGED HEAT PUMP-A/C UNIT. (SEE SPECIFICATIONS)

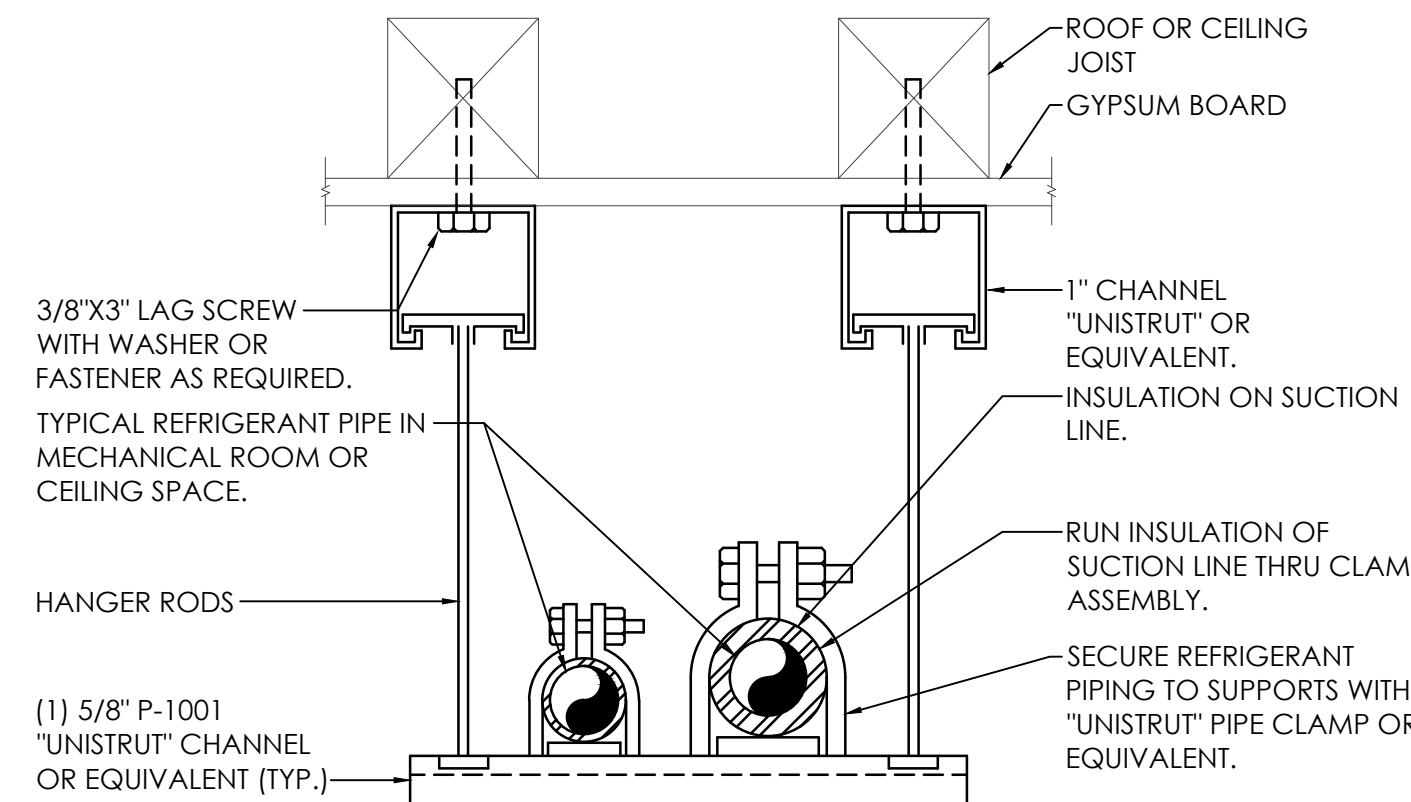


DEHUMIDIFIER DETAIL

NO SCALE (TYP. DH-5)

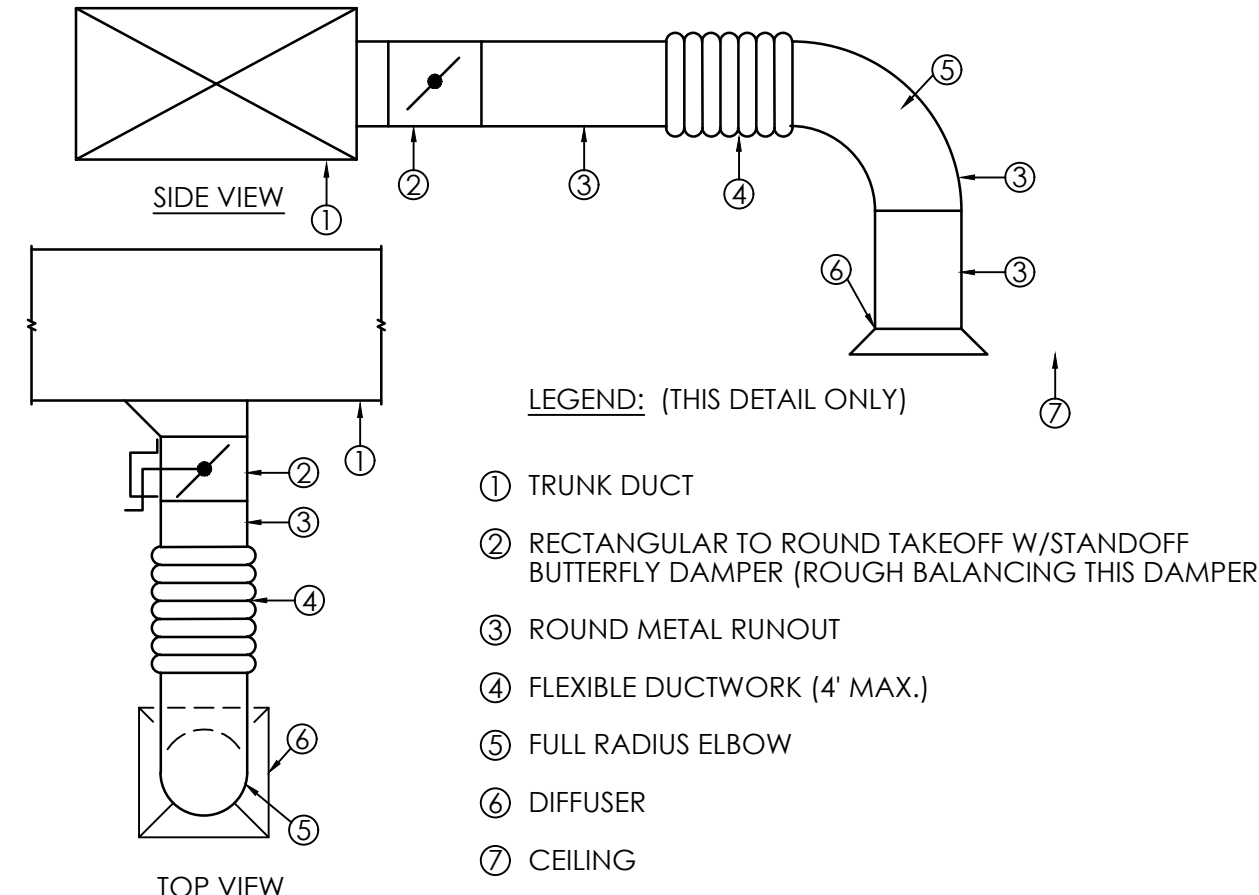
LEGEND: (THIS SHEET ONLY)

- DELETED
- FLEXIBLE CONNECTION
- AUXILIARY SHEET METAL DRAIN PAN W/ FLOAT MICROSWITCH. SWITCH SHALL SHUT OFF IF WATER IS DETECTED.
- CONDENSATE DRAIN LINE FULL SIZE OF DRAIN W/ 4" P-TRAP TO NEAREST DRAIN
- O.A. DUCTWORK
- PROVIDE SIDE ACCESS FOR FILTER PULL
- APPLIAIRE DEHUMIDIFIER OR APPROVED EQUAL. PROVIDE DEDICATED ELECTRICAL CIRCUIT. HANG FROM STRUCTURE IN ATTIC.
- MOTORIZED DAMPER



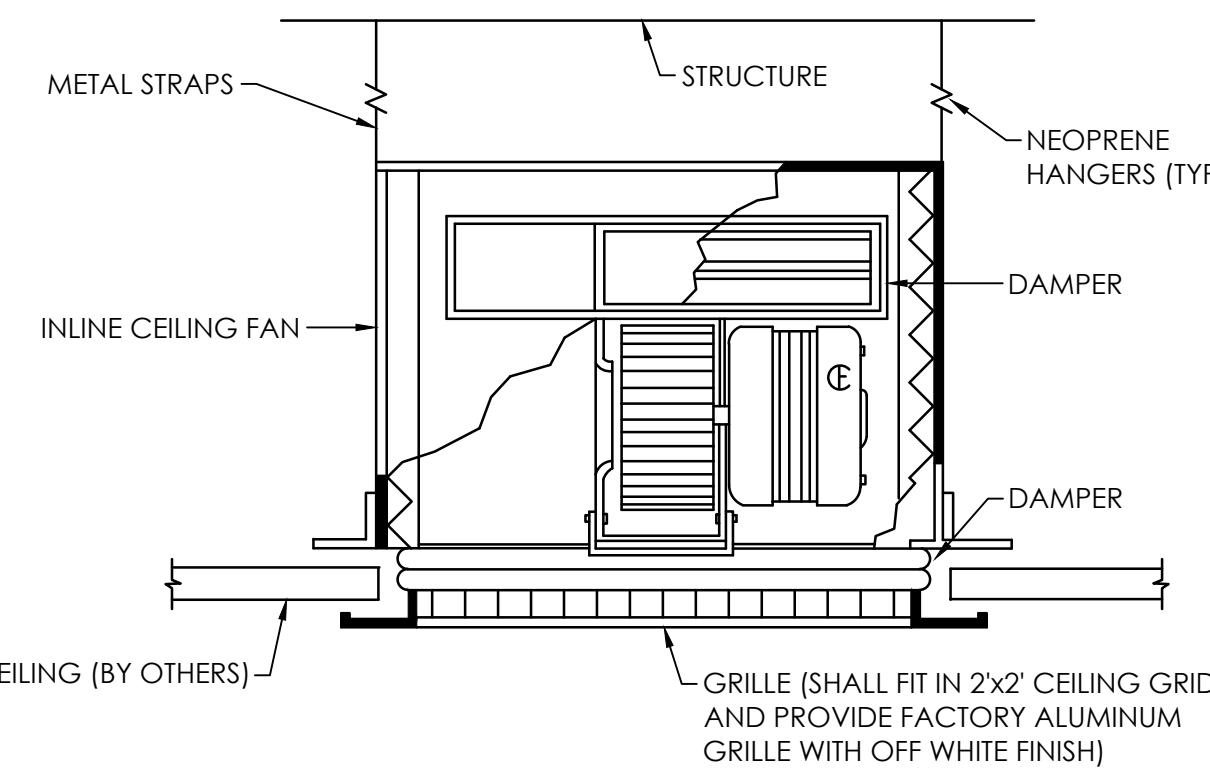
SUSPENDED REFRIGERANT PIPE  
SUPPORT AT CEILING DETAIL

NO SCALE



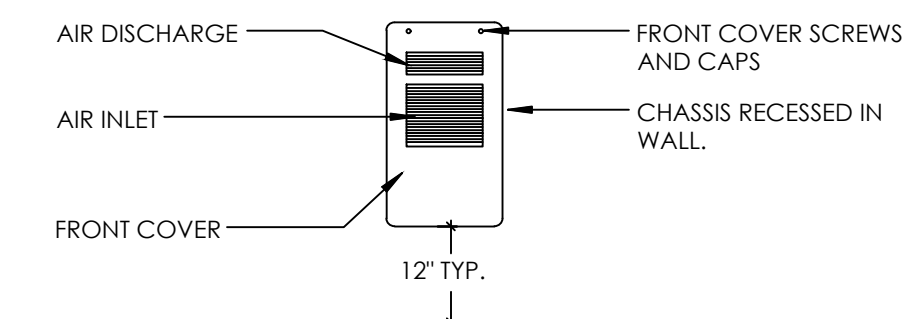
DIFFUSER RUNOUT DETAIL

NO SCALE



CEILING EXHAUST FAN DETAIL

NO SCALE (TYP. EF-2)



DEHUMIDIFIER SHALL BE CENTERED IN WALL AND INSTALLED PLUMB AND LEVEL. VERIFY EXACT PLACEMENT WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN. COORDINATE POWER, FRAMING, AND PLUMBING REQUIREMENTS PRIOR TO ORDERING OR ROUGH-IN.

WALL RECESSED DEHUMIDIFIER DETAIL

NO SCALE (TYP. DH-1,2,3,4)



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SHEET TITLE : MECHANICAL  
DETAILS

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : JBB/JHM

DATE : 5.19.2022

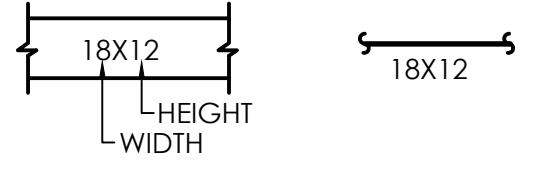
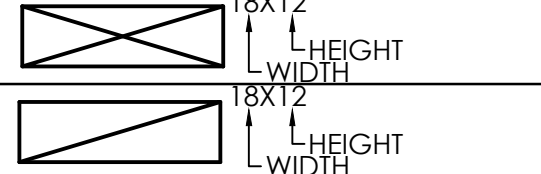
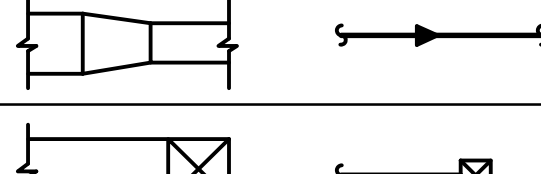
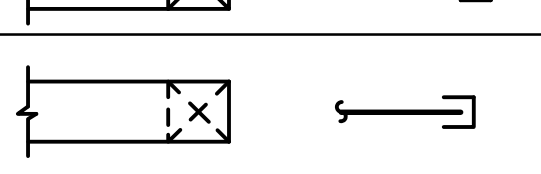
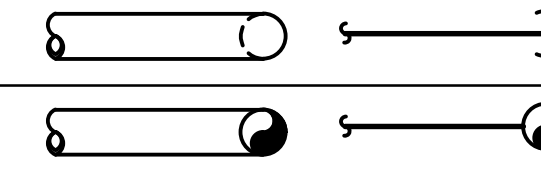
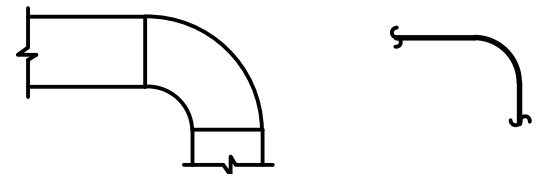
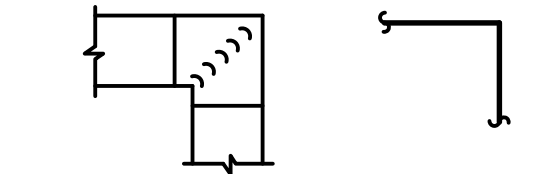
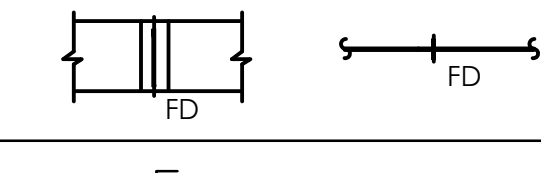
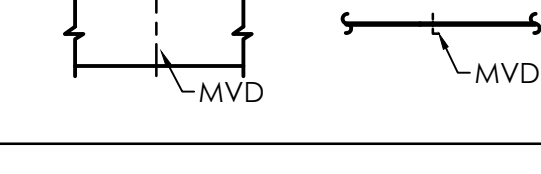
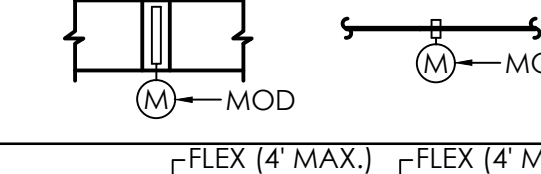
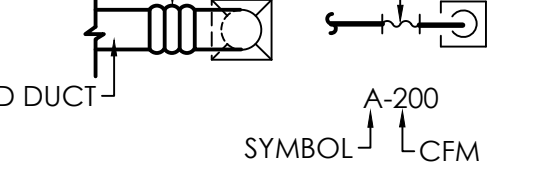
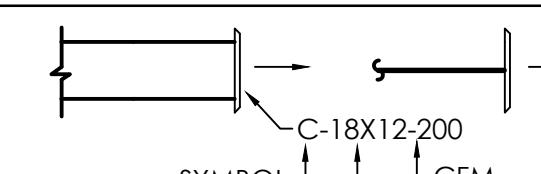
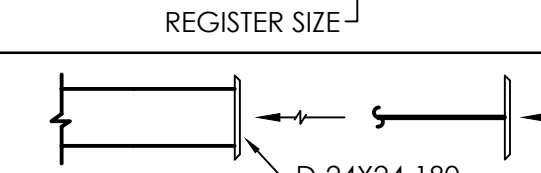
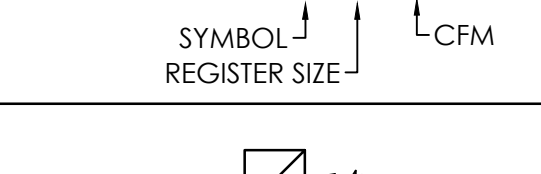
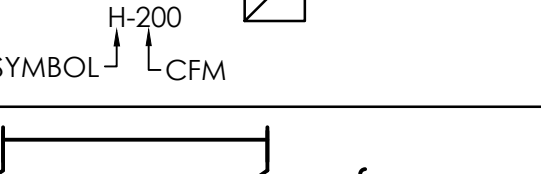
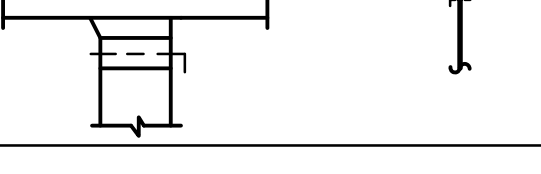
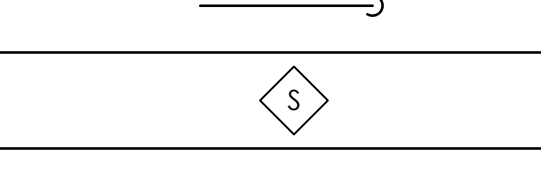
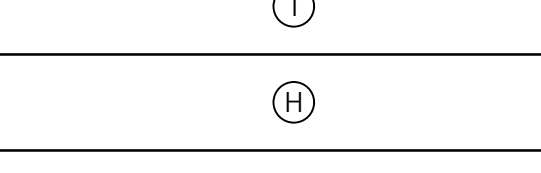
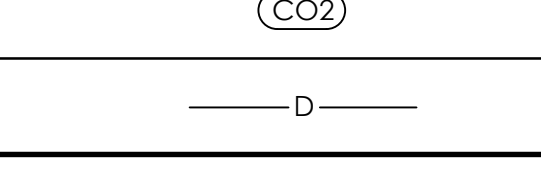

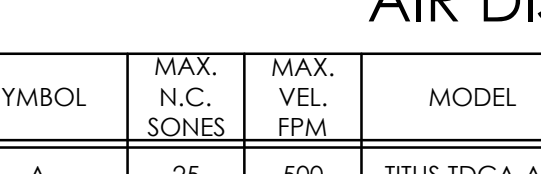
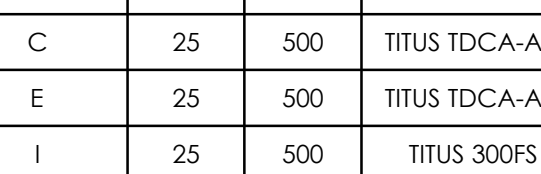
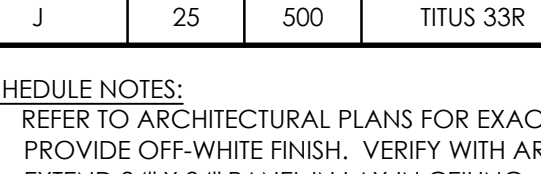
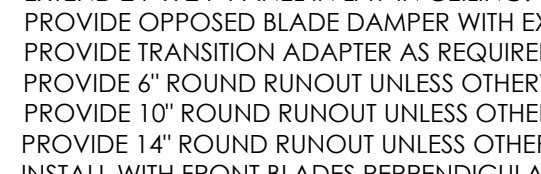
REVISED DATE :

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REVISED DATE :

SHEET NO. : M1.1



| MECHANICAL LEGEND   |   |  |
|---|---|--|
| SYMBOL  | DESCRIPTION   |  |
|    | DUCTWORK, DOUBLE LINE AND SINGLE LINE. DIMENSIONS ARE NET FREE AREA.  |  |
|    | SUPPLY DUCTWORK, DIMENSIONS ARE NET FREE AREA   |  |
|    | RETURN OR EXHAUST DUCTWORK, DIMENSIONS ARE NET FREE AREA  |  |
|    | TRANSITION, 4:1 RATIO FOR LOW PRESSURE, 7:1 RATIO FOR HIGH PRESSURE.  |  |
|    | ELBOW TURNED UP WITH TURNING VANES  |  |
|    | ELBOW TURNED DOWN WITH TURNING VANES  |  |
|    | ROUND DUCT TURNED DOWN  |  |
|    | ROUND DUCT TURNED UP  |  |
|    | RADIUS TYPE ELBOW WITH TURNING VANES, INSIDE RADIUS = WIDTH.  |  |
|    | SQUARE TYPE ELBOW WITH DOUBLE THICKNESS VANES, VANES REQUIRED IN ALL DUCTWOK ELBOWS UNLESS NOTED OTHERWISE. |  |
|    | FIRE DAMPER (FD) OR SMOKE DAMPER (SD) ALL FD OR SD SHALL HAVE A 12X12 AP UNLESS NOTED OTHERWISE             |  |
|    | MANUAL VOLUME DAMPER (MVD)  |  |
|   | MOTOR OPERATED DAMPER (MOD) ALL MOD SHALL HAVE 12X12 AP UNLESS NOTED OTHERWISE                              |  |
|  | DIFFUSER WITH HARD SUPPLY DUCTWORK AND FLEXIBLE DUCTWORK TO DIFFUSER  |  |
|  | WALL SUPPLY REGISTER  |  |
|  | WALL RETURN OR EXHAUST REGISTER   |  |
|  | RETURN OR EXHAUST REGISTER OR GRILLE  |  |
|  | RECTANGULAR TO ROUND OR TAKEOFF AND DAMPER W/STANDOFF BRACKET   |  |
|  | PIPE TURNED DOWN  |  |
|  | DUCT SMOKE DETECTOR   |  |
|  | TOUCH-SCREEN 7-DAY PROGRAMMABLE THERMOSTAT WITH VENTED METAL LOCK-BOX                                       |  |
|  | HUMIDISTAT WITH VENTED METAL LOCK-BOX   |  |
|  | CARBON DIOXIDE SENSOR WITH VENTED METAL LOCK-BOX  |  |
|  | CONDENSATE DRAIN  |  |

| AIR DISTRIBUTION SCHEDULE |                 |               |               |                                     |             |
|---------------------------|-----------------|---------------|---------------|-------------------------------------|-------------|
| SYMBOL                    | MAX. N.C. SONES | MAX. VEL. FPM | MODEL         | DESCRIPTION                         | REMARKS     |
| A                         | 25              | 500           | TITUS TDCA-AA | 6"x6" LOUVERED FACE DIFFUSER        | 1,2,3,4,5,6 |
| C                         | 25              | 500           | TITUS TDCA-AA | 10"x10" LOUVERED FACE DIFFUSER      | 1,2,3,4,5,7 |
| E                         | 25              | 500           | TITUS TDCA-AA | 24"x24" LOUVERED FACE DIFFUSER      | 1,2,3,4,5,8 |
| I                         | 25              | 500           | TITUS 300FS   | SIDEWALL SUPPLY REGISTER            | 1,2,5,9     |
| J                         | 25              | 500           | TITUS 33R     | HEAVY DUTY SIDEWALL RETURN REGISTER | 1,2,5,10    |

- SCHEDULE NOTES:
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
  - PROVIDE OFF-WHITE FINISH. VERIFY WITH ARCHITECT PRIOR TO ORDERING.
  - EXTEND 24" X 24" PANEL IN LAY-IN CEILING. SURFACE MOUNT IN GYP. BOARD CEILING.
  - PROVIDE OPPOSED BLADE DAMPER WITH EXTERNAL ADJUSTMENT.
  - PROVIDE TRANSITION ADAPTER AS REQUIRED, ROUND TO REC. OR REC. TO REC. OR ROUND TO ROUND.
  - PROVIDE 6" ROUND RUNOUT UNLESS OTHERWISE NOTED.
  - PROVIDE 10" ROUND RUNOUT UNLESS OTHERWISE NOTED.
  - PROVIDE 14" ROUND RUNOUT UNLESS OTHERWISE NOTED.
  - INSTALL WITH FRONT BLADES PERPENDICULAR TO FLOOR.
  - INSTALL WITH FRONT BLADES PARALLEL TO FLOOR.

## MECHANICAL GENERAL NOTES

- THESE DRAWINGS ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE AND OPERATIONAL HVAC SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, ACCESS PANELS FOR SERVICE, APPURTENANCES, AND CONTROLS. COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE OWNER. CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF THE OTHER TRADES BEFORE PREPARING SHOP DRAWINGS. COORDINATE DUCTWORK AND PIPING WITH STRUCTURAL, PLUMBING, AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL COST TO THE OWNER.
- REFER TO ARCHITECTURAL CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES. COORDINATE EXACT LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS WITH ARCHITECTURAL AND INTERIOR REFLECTED CEILING PLANS AND LIGHT FIXTURES. IF A PARTICULAR ITEM IS NOT SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN, PREPARE A DRAWING AND PRESENT IT TO THE ARCHITECT FOR THEIR REVIEW AND/OR APPROVAL.
- ALL DUCT TRANSITIONS FROM SQUARE TO ROUND SHALL BE SMOOTH SQUARE TO ROUND TRANSITIONS. SPIN-IN FITTINGS AT THE END OF CAPPED DUCTS ARE NOT ACCEPTABLE. PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES, REGISTERS, AND DIFFUSERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
- ALL FAN MOTORS 1/8 HP AND ABOVE SHALL HAVE A DISCONNECT SWITCH MOUNTED AT THE FAN.
- ALL OPEN ENDED DUCTS SHALL BE REINFORCED WITH 1-1/2" X 1-1/2" X 1/8" GALVANIZED STEEL ANGLES BOLTED OR RIVETED 6" ON THE CENTER (MAX.). ALL AROUND THE EXTERIOR PERIMETER OF THE DUCT.
- MOUNT THERMOSTATS, HUMIDITY SENSORS AND OTHER CONTROLLERS 48" A.F.F. UNLESS NOTED OTHERWISE. SEE MECHANICAL DRAWINGS FOR LOCATIONS, WHERE THERE IS A CONFLICT OF LOCATIONS BETWEEN THE DRAWINGS, NOTIFY THE ARCHITECT IMMEDIATELY. VERIFY EXACT LOCATION BEFORE INSTALLATION.
- ALL BRANCH DUCTWORK SHALL BE SIZED TO MATCH THE DIFFUSER SERVED UNLESS NOTED OTHERWISE.
- PROVIDE INTERNAL INSULATION (1" THICK CLOSED CELL) FOR SUPPLY, RETURN, AND OUTDOOR AIR DUCTS WITHIN 20' OF EACH INDOOR AIR HANDLING UNIT (UNLESS NOTED OTHERWISE). FAN, ETC. ALL OTHER DUCTWORK SHALL BE INSULATED WITH 2" THICK, FOIL BACKED 3/4 LB. DENSITY BLANKET INSULATION UNLESS NOTED OTHERWISE.
- CONDENSATE DRAIN LINES RUNNING HORIZONTALLY SHALL BE SLOPED 1/4" PER FOOT DOWN IN THE DIRECTION OF FLOW AS INDICATED. ALL CONDENSATE LINES SHALL BE INSULATED.
- DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR, ADJUST FOR LINER.
- IN ADDITION TO OFFSETS IN DUCTWORK SHOWN, PROVIDE OFFSETS REQUIRED TO MAINTAIN TOP OF DUCTWORK AND PIPING TIGHT TO STRUCTURE.
- DUCTS AND EQUIPMENT WITH STANDING BRACES SHALL BE ARRANGED SO THAT THE BRACES WILL NOT BE OVER LIGHTS OR UNDER BEAMS IN AREAS WHERE THE CLEARANCE BETWEEN LIGHTS AND BEAMS IS LIMITED.
- EACH CEILING DIFFUSER INDICATED SHALL HAVE RECTANGULAR TO ROUND TAKE-OFF WITH STANDING BRACKET AND MANUAL VOLUME CONTROL DAMPER AT THE SHEET METAL TRUNK DUCT SUCH THAT AIR CAN BE BALANCED.
- DUCTWORK SHALL BE IN ACCORDANCE WITH THE LATEST SMACNA STANDARD. SEAL ALL JOINTS WITH HARD-CAST PRIOR TO INSULATING.
- VERIFY EXACT LOCATION OF CONTROLS AND THERMOSTATS WITH ARCHITECT BEFORE WIRING AND INSTALLATION.
- COORDINATE UNDERCUTTING OF DOORS WITH GENERAL CONTRACTOR.
- COORDINATE THE LOCATION OF ALL FLOOR DRAINS REQUIRED FOR MECHANICAL EQUIPMENT WITH PLUMBING CONTRACTOR TO INSURE PROPER LOCATION FOR SERVICE TO UNIT.
- THE MECHANICAL CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ALL WALL, FLOOR, AND ROOF OPENINGS (DIMENSIONS AND LOCATIONS). THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OPENINGS IN THE STRUCTURE. COORDINATE THE LOCATION OF FLOOR DRAINS WITH MECHANICAL EQUIPMENT PRIOR TO ROUGHING IN OR PLACEMENT OF MECHANICAL EQUIPMENT.
- ALL DUCTWORK SHALL BE CONNECTED TO AIR HANDLING UNITS WITH FLEXIBLE SLEEVES. EACH SLEEVE SHALL HAVE AT LEAST 7" SLACK ACROSS A CLEAR METAL-TO-METAL GAP OF AT LEAST 4".
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ARCHITECTURAL LIFE SAFETY PLANS PRIOR TO BIDDING, ORDERING EQUIPMENT/MATERIALS AND/OR STARTING ANY WORK ON SITE AND SHALL PROVIDE A U.L. LISTED DYNAMIC FIRE DAMPER ASSEMBLY AT ALL DUCTWORK PENETRATIONS OF FIRE RATED WALLS, CEILINGS, LAYERS, ETC. REGARDLESS IF SHOWN ON MECHANICALS OR NOT.**
- PROVIDE LONG-LINE REFRIGERANT KITS FOR ALL HVAC SYSTEMS REQUIRING LINE-SETS THAT EXTEND BEYOND THE MANUFACTURER'S RECOMMENDED LINE-SET LENGTH. COORDINATE LINE SIZE AND LENGTH WITH HVAC SYSTEMS MANUFACTURER PRIOR TO ORDERING AND INSTALLATION.
- MECHANICAL CONTRACTOR SHALL REVIEW MECHANICAL PLANS/NOTES/SPECS/ETC. PRIOR TO BIDDING AND SHALL BE RESPONSIBLE FOR PROVIDING ACCESS PANELS ALLOWING ACCESS TO MECHANICAL ITEMS REQUIRING SERVICE.**

### NOTE:

UNITS APPLYING TO 2015 IMC 403.2 (NEEDLEPOINT BI-POLAR IONIZATION) ARE AS FOLLOWS:

IHP/OHP-1  
IHP/OHP-2  
IHP/OHP-4  
IHP/OHP-6

UNITS APPLYING TO 2015 IMC 403.3 (STANDARD VENTILATION REQUIREMENT) ARE AS FOLLOWS:

IHP/OHP-3  
IHP/OHP-5

## 2015 INTERNATIONAL MECHANICAL CODE REQUIRED OUTDOOR VENTILATION AIR TABLE 403.3 (SINGLE ZONE)

| UNIT TAG  | ROOM   | ROOM CLASSIFICATION PER TABLE 403.3 | AREA FT <sup>2</sup> (Az) | EST. OCC. LOAD (Pz) | OCC. O.A. RATE PER PERSON (Rp) | AREA O.A. RATE PER FT <sup>2</sup> (Ra) | TOTAL OCC. O.A. RATE (RpPz) | TOTAL AREA O.A. RATE (RaAz) | TOTAL O.A. (CFM) (RpPz)+(RaAz)= (Vbz) | ZONE O.A. (CFM) (Vbz) | O.A. INTAKE FLOW (CFM) (Vbz) | ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez) |
|-----------|--|-------------------------------------|---------------------------|---------------------|--------------------------------|---|-----------------------------|-----------------------------|---------------------------------------|-----------------------|------------------------------|--|
| IHP/OHP-1 | Auto Tech Classroom 133                        | Classrooms (age 9 plus)             | 1240                      | 44                  | 10                             | 0.12                                    | 440                         | 148.8                       | 588.8                                 | 588.8                 | 588.8                        | 1  |
| IHP/OHP-2 | Auto Tech Classroom 133                        | Classrooms (age 9 plus)             | 1240                      | 44                  | 10                             | 0.12                                    | 440                         | 148.8                       | 588.8                                 | 588.8                 | 588.8                        | 1  |
| IHP/OHP-3 | Open Meeting Room 129 (Half) Hall 134 and 134C | Conference/Meeting Corridors        | 865                       | 44                  | 5                              | 0.06                                    | 220                         | 51.9                        | 271.9                                 | 271.9                 | 271.9                        | 1  |
|           |  |                                     | 1210                      | 0                   | 0                              | 0.06                                    | 0                           | 72.6                        | 72.6                                  | 72.6                  | 72.6                         | 1  |
|           |  |                                     |                           |                     |                                |   |                             | 124.5                       |                                       |                       | 344.5                        |  |
| IHP/OHP-4 | Alternate School 126                           | Classrooms (age 9 plus)             | 525                       | 19                  | 10                             | 0.12                                    | 190                         | 63                          | 253                                   | 253                   | 253                          | 1  |
| IHP/OHP-5 | Open Meeting Room 129 (Half)                   | Conference/Meeting                  | 865                       | 44                  | 5                              | 0.06                                    | 220                         | 51.9                        | 271.9                                 | 271.9                 | 271.9                        | 1  |
| IHP/OHP-6 | Classroom 130                                  | Classrooms (age 9 plus)             | 810                       | 29                  | 10                             | 0.12                                    | 290                         | 97.2                        | 387.2                                 | 387.2                 | 387.2                        | 1  |

## 2015 IMC VENTILATION CALCULATIONS

|                 |   |
|-----------------|---|
| EQUATION 4-1    | Vbz = RpPz + RaAz   |
| TABLE 403.3.1.2 | Ez = 1  |
| EQUATION 4-2    | Voz = $\frac{Vbz}{Ez}$                                      |
| EQUATION 4-4    | Vot = $\sum$ all zones Vbz                                  |
| EQUATION 4-5    | Zp = Voz/Vpaz   |
| EQUATION 4-6    | Vou = D X $\sum$ all zones (RpPz) + $\sum$ all zones (RaAz) |
| EQUATION 4-7    | D = $\frac{Zp}{Ez}$   |
| EQUATION 4-8    | Vot = $\frac{Vbz}{Ez}$                                      |

### NOTE:

UNITS APPLYING TO 2015 IMC 403.2 (NEEDLEPOINT BI-POLAR IONIZATION) ARE AS FOLLOWS:

IHP/OHP-1  
IHP/OHP-2  
IHP/OHP-4  
IHP/OHP-6

UNITS APPLYING TO 2015 IMC 403.3 (STANDARD VENTILATION REQUIREMENT) ARE AS FOLLOWS:

IHP/OHP-3  
IHP/OHP-5

## PACKAGED COOLING/ELECTRIC HEAT UNIT SCHEDULE

| SYMBOL | TOTAL CFM | MIN. O.A. CFM | MAX. O.A. CFM | ECON. CFM | EXT. S.P. INCHES H <sub>2</sub> O | FAN HP | COOLING MIN. |         |           | HEATING MIN. |         |            | MAX. ARI SOUND RATING (dB) | REMARKS | TONNAGE         | TRANE MODEL |
|--------|-----------|---------------|---------------|-----------|-----------------------------------|--------|--------------|---------|-----------|--------------|---------|------------|----------------------------|---------|-----------------|-------------|
|        |           |               |               |           |                                   |        | TOTAL MBH    | SEN MBH | SEER/EER  | TOTAL MBH    | COP (2) | ELEC. K.W. | INDOOR ELEC.               |         |                 |             |
| PAC-1  | 3000      | 850           | 850           | 3000      | .5                                | 2.75   | 92.0         | 68.6    | 14.5/12.6 | 61.4         | 3.7     | 18.0       | 240/3/60                   | 85.0    | 1,2,3,4,5,6,7,8 | THC092F3RGA |

### SCHEDULE NOTES:

- RATED IN ACCORDANCE WITH WITH AHRI STANDARD 210-81.
- PROVIDE VIBRATION ISOLATION RAILS.
- PROVIDE MOTORIZED OUTSIDE AIR DAMPER AND MOTORIZED BAROMETRIC RELIEF DAMPER.
- PROVIDE 7-DAY TOUCH-SCREEN PROGRAMMABLE THERMOSTAT, DUAL COMPRESSORS, SIDE DISCHARGE, HAIL GUARDS, POWERED CONVENIENCE OUTLETS, BAROMETRIC RELIEF AND 5-YEAR PARTS WARRANTY.
- PROVIDE SINGLE POINT POWER CONNECTION FOR UNIT. ALL WIRING, TRANSFORMERS, ETC. SHALL BE FACTORY INSTALLED.
- INSTALL ON 4" THICK LEVEL CONCRETE PAD (PAD BY G.C.).
- COOLING WITH ELECTRIC HEAT, CONSTANT VOLUME OPERATION. PROVIDE HOT GAS REHEAT AND APR (RAWALL) VALVE.
- RUN 3/4" CONDENSATE DRAIN LINE TO SPLASH-BLOCK ON GRADE.

## SPLIT SYSTEM UNIT SCHEDULE

| SYMBOL    | EVAP. FAN |               |               |                            | COOLING MIN. (1) |           |         | HEATING MIN. |           |         | OUTDOOR ELEC. | MAX. AHRI SOUND RATING | BASIS OF DESIGN (TRANE OR APPROVED EQUAL) | REMARKS | TONNAGE  |                 |              |
|-----------|-----------|---------------|---------------|----------------------------|------------------|-----------|---------|--------------|-----------|---------|---------------|------------------------|---|---------|----------|-----------------|--------------|
|           | TOTAL CFM | O.A. CFM MIN. | O.A. CFM MAX. | EXT. SP. "H <sub>2</sub> O | HP               | TOTAL MBH | SEN MBH | SEER         | TOTAL MBH | COP (2) |               |                        |   |         |          | ELEC. KW        | INDOOR ELEC. |
| IHP/OHP-1 | 1600      | 220           | 220           | .5                         | .75              | 48.0      | 34.0    | 14.0         | 46.0      | 3.4     | 14.2          | 240/3/60               | 240/3/60                                  | 86.0 db | TEM/4TWA | 1,2,3,4,5,6,7,8 | 4-TON        |
| IHP/OHP-2 | 1600      | 220           | 220           | .5                         | .75              | 48.0      | 34.0    | 14.0         | 46.0      | 3.4     | 14.2          | 240/3/60               | 240/3/60                                  | 86.0 db | TEM/4TWA | 1,2,3,4,5,6,7,8 | 4-TON        |
| IHP/OHP-3 | 1600      | 125           | 345           | .5                         | .75              | 48.0      | 34.0    | 14.0         | 46.0      | 3.4     | 14.2          | 240/3/60               | 240/3/60                                  | 86.0 db | TEM/4TWA | 1,2,3,4,5,6,7,8 | 4-TON        |
| IHP/OHP-4 | 1000      | 135           | 135           | .5                         | .3               | 28.6      | 22.8    | 14.0         | 27.8      | 3.6     | 9.6           | 240/3/60               | 240/1/60                                  | 83.0 db | TEM/4TWR | 1,2,3,4,5,6,7,8 | 2.5-TON      |
| IHP/OHP-5 | 1200      | 55            | 275           | .5                         | .5               | 35.7      | 26.7    | 14.0         | 33.0      | 3.7     | 9.6           | 240/3/60               | 240/3/60                                  | 86.0 db | TEM/4TWA | 1,2,3,4,5,6,7,8 | 3-TON        |
| IHP/OHP-6 | 1200      | 145           | 145           | .5                         | .5               | 35.7      | 26.7    | 14.0         | 33.0      | 3.7     | 9.6           | 240/3/60               | 240/3/60                                  | 86.0 db | TEM/4TWA | 1,2,3,4,5,6,7,8 | 3-TON        |

### SCHEDULE NOTES:

- CAPACITY BASED ON EDB 80 DEGREES F, EWB 67 DEGREES F AND AMBIENT 95 DEGREES F.
- CAPACITY BASED ON EDB 70 DEGREES F, AMBIENT DB 47 DEGREES F AND AMBIENT RH 70%.
- RATED IN ACCORDANCE WITH AHRI STANDARD 210-81.
- FILTER SECTION W/2" PLEATED FILTER. E-Z FILTER BASE MFG. INC., MODEL E-Z OR EQUIVALENT.
- PROVIDE SINGLE-STAGE COOLING AND TWO-STAGE HEATING.
- PROVIDE SINGLE POINT POWER CONNECTION FOR INDOOR UNITS. ALL WIRING, TRANSFORMERS, ECT. SHALL BE FACTORY INSTALLED. PROVIDE DISCONNECTS FOR INDOOR AND OUTDOOR UNITS.
- PROVIDE LONG-LINE KITS FOR ALL REFRIGERANT LINE-SETS THAT EXTEND BEYOND 80'-0".
- CONSTANT VOLUME HEAT PUMP OPERATION.

## DEHUMIDIFIER SCHEDULE

| SYMBOL     | TOTAL CFM | EXT. SP. H <sub>2</sub> O | CAP. PPD | MAX. AMP DRAW | ELECTRICAL | SOUND RATING (dBA) | REMARKS | MODEL # (OR APP. EQUAL)      | LOCATION        |
|------------|-----------|---------------------------|----------|---------------|------------|--------------------|---------|------------------------------|-----------------|
| DH-1,2,3,4 | 155       | 0.2                       | 33       | 2.8           | 120/1/60   | 46                 | 1,2,3   | INNOVATIVE IW-25-1 (SURFACE) | H.S. BLDG. 400  |
| DH-5       | 267       | 0.2                       | 130      | 8.3           | 120/1/60   | 50                 | 1,2,3,4 | APPLIANCE 1870               | H.S. ROTC BLDG. |

### SCHEDULE NOTES:

- CAPACITY BASED ON 80 DEGREES F, EWB 60% R.H. (ANSI/AHAM DH-1-2003).
- PROVIDE FACTORY FILTER SECTION, DUCTWORK, INLET AND OUTLET, CONDENSATE DRAIN, CONDENSATE PUMP (IF REQUIRED), INSULATED CABINET, FACTORY DEHUMIDIFICATION CONTROL AND REMOTE HUMIDISTAT, TRANSFORMER, CONDENSATE OVERFLOW SAFETY SWITCH AND BACK-DRAFT DAMPER. SEE ELECTRICAL PLANS FOR DISCONNECT.
- UNIT SHALL BE WIRED WITH FACTORY INSTALLED PLUG (VERIFY LOCAL AND STATE CODE REQUIREMENTS FOR WIRING). SEE ELECTRICAL PLANS.
- PROVIDE A RELAY THAT WILL ENERGIZE THE ASSOCIATED AIR HANDLING UNIT FAN WHEN THE DEHUMIDIFIER IS ENERGIZED.

## HOOD SCHEDULE

| SYMBOL | TYPE | EXT. SP. H <sub>2</sub> O | COOK MODEL # | CFM | REMARKS |
|--------|------|---------------------------|--------------|-----|---------|
| H-1    | I    | .017                      | 12X12 GI     | 440 | 1,2     |
| H-2    | I    | .017                      | 12X18 GI     | 900 | 1,2     |

### SCHEDULE NOTES:

- INTAKE, R = RELIEF
- BASED ON COOK MODEL GI OR APPROVED EQUAL BY PENN OR GREENHECK.
- PROVIDE BIRDSCREEN AND FLASHING FLANGE, PROVIDE FACTORY DARK BRONZE BAKED ENAMEL FINISH ON CURB AND HOOD. VERIFY COLOR/FINISH WITH ARCH./OWNER PRIOR TO ORDERING AND INSTALLATION.

## EXHAUST FAN SCHEDULE

| SYMBOL | CFM   | EXT. SP. H <sub>2</sub> O | MAX. RPM | SONES | POWER    | ELEC.    | REMARKS | INTERLOCK WITH       |
|--------|-------|---------------------------|----------|-------|----------|----------|---------|----------------------|
| EF-1   | 850   | .5                        | 1,167    | 8.0   | .25 H.P. | 120/1/60 | I       | PAC-1 FAN            |
| EF-2   | 70    | .5                        | 1,075    | 2.0   | 34.8 W   | 120/1/60 | 2,3     | LIGHT SW./OCC. SENS. |
| EF-3   | 1,100 | .25                       | 1,040    | 8.1   | .5 H.P.  | 120/1/60 | 4,5     | SEE NOTE #5          |

### SCHEDULE NOTES:

- COOK MODEL ACE-B ROOF MOUNTED DOWN-BLAST EXHAUST FAN OR APPROVED EQUAL. PROVIDE CENTRIFUGAL WHEEL, 200,000 HOUR BEARINGS, OPEN DRIP PROOF MOTOR, PRE-FAB ROOF CURB, BELT-DRIVE MOTOR, FACTORY MOUNTED DISCONNECT SWITCH, STARTER, SPEED CONTROLLER, THE AMCA SEAL AND FACTORY PAINTED DARK BRONZE BAKED ENAMEL FINISH - VERIFY FINISH WITH ARCHITECT/OWNER PRIOR TO ORDERING AND INSTALLATION. INTERLOCK EXHAUST FAN WITH PACKAGE UNIT (PAC-1) FAN TO RUN CONTINUOUSLY DURING OCCUPIED TIMES.
- COOK MODEL GC CEILING MOUNTED EXHAUST FAN OR APPROVED EQUAL.
- PROVIDE BACK-DRAFT DAMPER, SPEED CONTROLLER, FACTORY MOUNTED VOLTAGE TRANSFORMER AND FACTORY DISCONNECT SWITCH.
- PROVIDE COOK MODEL DB IN-LINE DUCT BLOWER OR APPROVED EQUAL.
- PROVIDE WALL MOUNTED TIME-CLOCK SET TO ALLOW FAN TO RUN DURING ALL OCCUPIED TIMES. PROVIDE MOTORIZED DAMPER AT FAN AND INTERLOCK MOTORIZED DAMPER TO MOTORIZED DAMPER AT RELATED INTAKE LOUVER AS SHOWN ON PLAN.

## RENOVATIONS

# CLAY COUNTY CAREER ACADEMY

# CLAY COUNTY BOARD OF EDUCATION

ASHLAND, ALABAMA

**McKee and Associates**  
ARCHITECTS, INC.

837 SOUTH HULL STREET, MONTGOMERY, ALABAMA 36104 (334) 834-9933



SHEET TITLE : MECHANICAL SCHEDULES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : JBB/JHM

DATE : 5.19.2022

REVISED DATE :

REVISED DATE :

REVISED DATE :

SHEET NO. : M2.1



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FOR QUESTIONS, CALL THE  
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REGION 39  
PHONE: (850) 288-0726  
EMAIL: reg39@captivaire.com

EXHAUST FAN INFORMATION - JOB#5467959

| FAN UNIT NO | TAG   | QTY | FAN UNIT MODEL # | MANUFACTURER | CFM  | ESP   | RPM  | MOTOR ENCL     | HP    | BHP    | PHASE | VOLT | FLA | DISCHARGE VELOCITY | WEIGHT (LBS) | SONES |
|-------------|-------|-----|------------------|--------------|------|-------|------|----------------|-------|--------|-------|------|-----|--------------------|--------------|-------|
| 1           | WEF-1 | 1   | DUI80HFA         | CAPTIVEAIRE  | 4000 | 0.200 | 1180 | EXPLOSIONPROOF | 1.500 | 1.1120 | 3     | 230  | 4.3 | 924 FPM            | 222          | 19.1  |
| 2           | WEF-2 | 1   | DUI80HFA         | CAPTIVEAIRE  | 3200 | 0.200 | 970  | EXPLOSIONPROOF | 1.500 | 0.6240 | 3     | 230  | 4.3 | 739 FPM            | 222          | 14.7  |

MUA FAN INFORMATION - JOB#5467959

| FAN UNIT NO | TAG     | QTY | FAN UNIT MODEL # | BLOWER     | HOUSING    | MIN CFM | DESIGN CFM | ESP   | RPM  | MOTOR ENCL     | HP    | BHP    | PHASE | VOLT | FLA | MCA   | MDCP | WEIGHT (LBS) | SONES |
|-------------|---------|-----|------------------|------------|------------|---------|------------|-------|------|----------------|-------|--------|-------|------|-----|-------|------|--------------|-------|
| 3           | GFMUA-1 | 1   | A2-IBT-300-20D   | 20MF-2-MOD | A2-IBT-300 | 1200    | 4000       | 0.250 | 1420 | EXPLOSIONPROOF | 3.000 | 1.8240 | 3     | 230  | 7.7 | 11.8A | 15A  | 1232         | 13.3  |
| 4           | GFMUA-2 | 1   | A2-IBT-300-20D   | 20MF-2-MOD | A2-IBT-300 | 1200    | 3200       | 0.250 | 1171 | EXPLOSIONPROOF | 2.000 | 1.0180 | 3     | 230  | 5.5 | 9.1A  | 15A  | 1198         | 9.9   |

GAS FIRED MAKE-UP AIR UNIT(S)

| FAN UNIT NO | TAG     | INPUT BTUs | OUTPUT BTUs | TEMP RISE | REQUIRED INPUT GAS PRESSURE | GAS TYPE | BURNER EFFICIENCY(%) |
|-------------|---------|------------|-------------|-----------|-----------------------------|----------|----------------------|
| 3           | GFMUA-1 | 248430     | 198744      | 43°F      | 7 IN. W.C. - 14 IN. W.C.    | NATURAL  | 80                   |
| 4           | GFMUA-2 | 198744     | 158995      | 43°F      | 7 IN. W.C. - 14 IN. W.C.    | NATURAL  | 80                   |

FAN OPTIONS

| FAN UNIT NO | TAG     | QTY | DESCRIPTION   |
|-------------|---------|-----|---|
| 1           | WEF-1   | 1   | UPBLAST FAN WHEEL ACCESS PORT   |
|             |         | 1   | WALLMOUNT 27.5 SQ. X 5"   |
|             |         | 1   | SHIP LOOSE DISCONNECT FOR REMOTE MOUNT  |
|             |         | 1   | WALL MOUNT CONSTRUCTION 18/20 (D60 ISOLATORS), 70LB MOTOR MAX FOR WALL MOUNTING   |
|             |         | 1   | EXHAUST FAN HEAT BAFFLE   |
|             |         | 1   | CLASS C SPARK RESISTANT CONSTRUCTION FOR PRVS   |
|             |         | 1   | TCW18 - TEFLON COATED WHEEL   |
|             |         | 1   | VAV PACKAGE W/PRESET OR REFERENCE SPEEDS (VFD INCLUDED)   |
|             |         | 1   | VFD FACTORY MOUNTED AND WIRED IN EXHAUST FAN  |
|             |         | 1   | VFD MOUNTING BRACKET FOR DU/DR 180 - 200  |
| 2           | WEF-2   | 1   | 2 YEAR PARTS WARRANTY   |
|             |         | 1   | UPBLAST FAN WHEEL ACCESS PORT   |
|             |         | 1   | WALLMOUNT 27.5 SQ. X 5"   |
|             |         | 1   | SHIP LOOSE DISCONNECT FOR REMOTE MOUNT  |
|             |         | 1   | WALL MOUNT CONSTRUCTION 18/20 (D60 ISOLATORS), 70LB MOTOR MAX FOR WALL MOUNTING   |
|             |         | 1   | CLASS C SPARK RESISTANT CONSTRUCTION FOR PRVS   |
|             |         | 1   | EXHAUST FAN HEAT BAFFLE   |
|             |         | 1   | TCW18 - TEFLON COATED WHEEL   |
|             |         | 1   | VAV PACKAGE W/PRESET OR REFERENCE SPEEDS (VFD INCLUDED)   |
|             |         | 1   | VFD FACTORY MOUNTED AND WIRED IN EXHAUST FAN  |
| 3           | GFMUA-1 | 1   | VFD MOUNTING BRACKET FOR DU/DR 180 - 200  |
|             |         | 1   | 2 YEAR PARTS WARRANTY   |
|             |         | 1   | INLET PRESSURE GAUGE, 0-35"   |
|             |         | 1   | MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE   |
|             |         | 1   | MOTORIZED BACKDRAFT DAMPER FOR A2-I HOUSING - MEETS AMCA CLASS 1A RATING  |
|             |         | 1   | SIZE 2 TALL TEMPERED COMMERCIAL DOWN DISCHARGE FOR IBTS   |
|             |         | 1   | COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS  |
|             |         | 1   | SINGLE POINT ELECTRICAL CONNECTION SINGLE MODULE. IF A NON-DCV PREWIRE IS USED ON THE IBT HEATER, THE #28, #47, "NS", "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE |
|             |         | 1   | CLOGGED FILTER SWITCH - NOTIFICATION ON HMI   |
|             |         | 1   | VAV PACKAGE W/ MANUAL/DDC CONTROL (S71 VFD INCLUDED)  |
| 4           | GFMUA-2 | 1   | VFD FACTORY MOUNTED AND WIRED IN IBT COMMERCIAL CONTROL VESTIBULE   |
|             |         | 1   | 2 YEAR ENTIRE UNIT PARTS WARRANTY, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY   |
|             |         | 1   | INLET PRESSURE GAUGE, 0-35"   |
|             |         | 1   | MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE   |
|             |         | 1   | MOTORIZED BACKDRAFT DAMPER FOR A2-I HOUSING - MEETS AMCA CLASS 1A RATING  |
|             |         | 1   | SIZE 2 TALL TEMPERED COMMERCIAL DOWN DISCHARGE FOR IBTS   |
|             |         | 1   | COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS  |
|             |         | 1   | SINGLE POINT ELECTRICAL CONNECTION SINGLE MODULE. IF A NON-DCV PREWIRE IS USED ON THE IBT HEATER, THE #28, #47, "NS", "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE |
|             |         | 1   | CLOGGED FILTER SWITCH - NOTIFICATION ON HMI   |
|             |         | 1   | VAV PACKAGE W/ MANUAL/DDC CONTROL (S71 VFD INCLUDED)  |

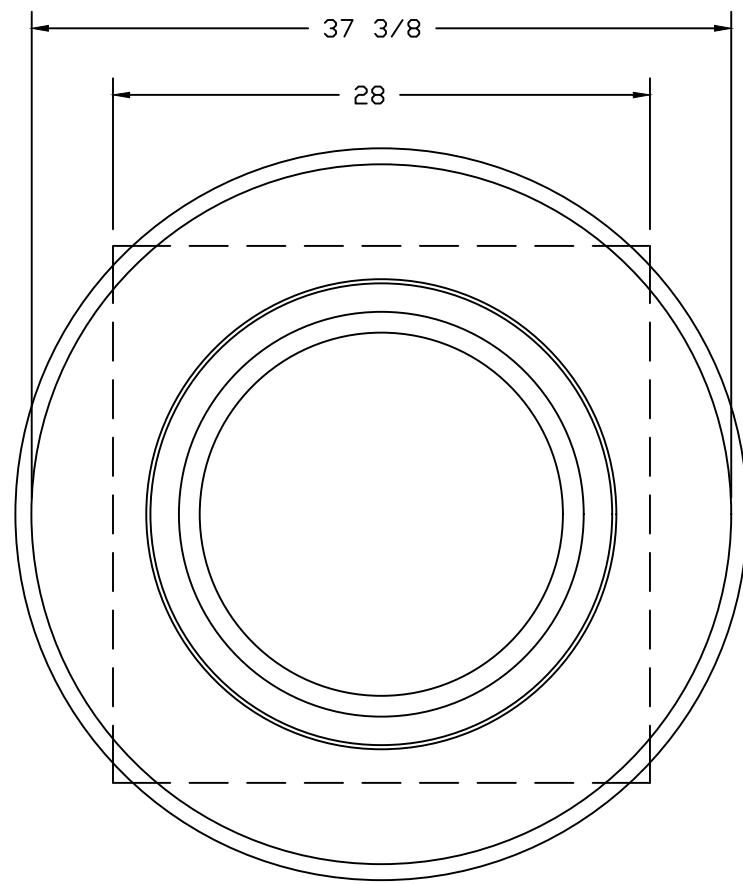
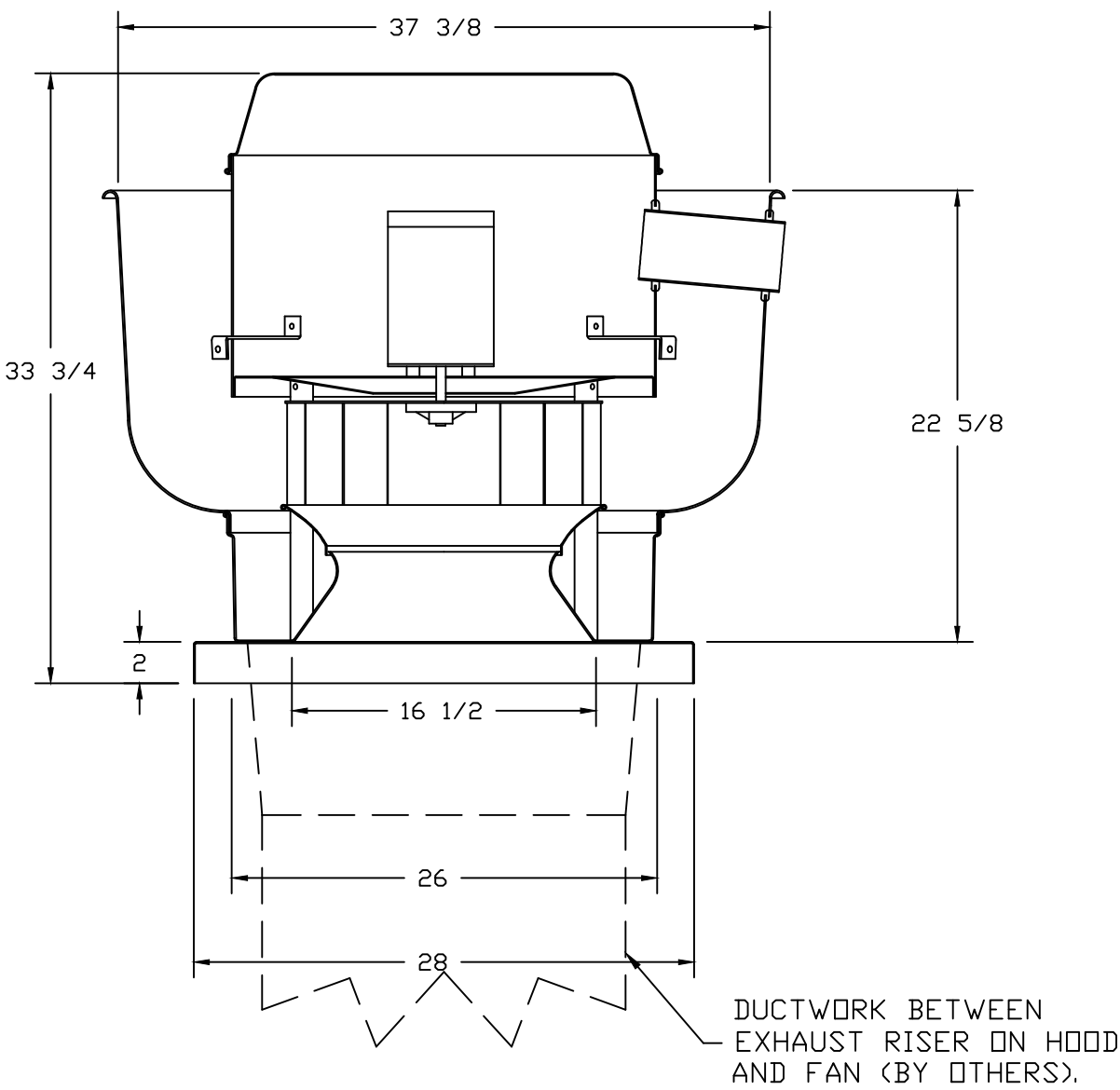
FAN ACCESSORIES

| FAN UNIT NO | TAG     | EXHAUST    |                |            | SUPPLY         |                |                  |            |
|-------------|---------|------------|----------------|------------|----------------|----------------|------------------|------------|
|             |         | GREASE CUP | GRAVITY DAMPER | WALL MOUNT | SIDE DISCHARGE | GRAVITY DAMPER | MOTORIZED DAMPER | WALL MOUNT |
| 1           | WEF-1   |            |                | YES        |                |                |                  |            |
| 2           | WEF-2   |            |                | YES        |                |                |                  |            |
| 3           | GFMUA-1 |            |                |            |                |                | YES              |            |
| 4           | GFMUA-2 |            |                |            |                |                | YES              |            |

CURB ASSEMBLIES

| NO | DN FAN | TAG     | WEIGHT  | ITEM | SIZE   |
|----|--------|---------|---------|------|--|
| 1  | # 4    | GFMUA-1 | 107 LBS | CURB | 31.000"W X 79.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED. |
|    | # 4    |         |         | RAIL | 6.000"W X 31.000"L X 20.000"H RIGHT.                         |
| 3  | # 3    | GFMUA-1 | 107 LBS | CURB | 31.000"W X 79.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED. |
|    | # 3    |         |         | RAIL | 6.000"W X 31.000"L X 20.000"H RIGHT.                         |

FANS #1 (EF-1), #2 (EF-2) - DUI80HFA EXHAUST FAN



TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- NEMA 3R SAFETY DISCONNECT SWITCH.

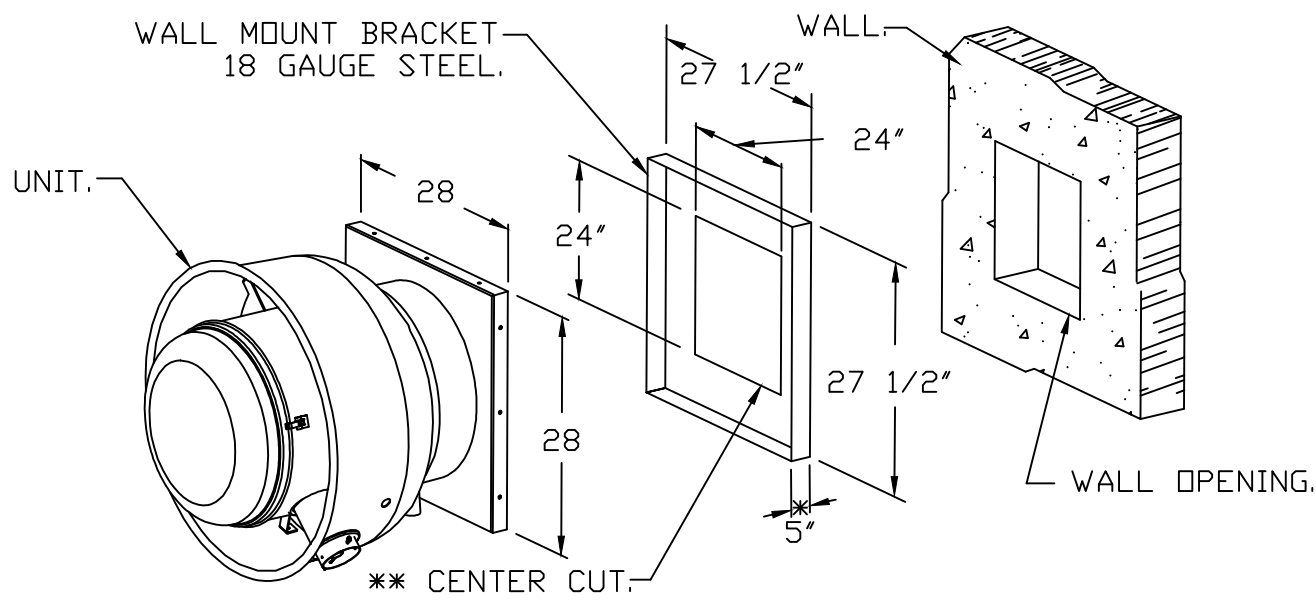
NORMAL TEMPERATURE TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

OPTIONS

UPBLAST FAN WHEEL ACCESS PORT.  
WALLMOUNT 27.5 SQ. X 5".  
SHIP LOOSE DISCONNECT FOR REMOTE MOUNT.  
WALL MOUNT CONSTRUCTION 18/20 (D60 ISOLATORS), 70LB MOTOR MAX FOR WALL MOUNTING.  
EXHAUST FAN HEAT BAFFLE.  
CLASS C SPARK RESISTANT CONSTRUCTION FOR PRVS.  
TCW18 - TEFLON COATED WHEEL.  
VAV PACKAGE W/PRESET OR REFERENCE SPEEDS (VFD INCLUDED).  
VFD FACTORY MOUNTED AND WIRED IN EXHAUST FAN.  
VFD MOUNTING BRACKET FOR DU/DR 180 - 200.  
2 YEAR PARTS WARRANTY.

WALL MOUNT BRACKET



- WALL BRACKET FITS INTO BASE OF FAN.
- SELF DRILLING SCREWS SHOULD BE USED FOR UNIT ATTACHMENT TO WALL MOUNT BRACKET.
- \* DIMENSION = 5" WHEN USED WITH DAMPER.
- \*\* CENTERED IN WALL MOUNT.



SHEET TITLE : WELDING SHOP  
EXHAUST AND  
MAKE-UP AIR FAN  
DETAILS AND  
SCHEDULES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : JBB/JHM

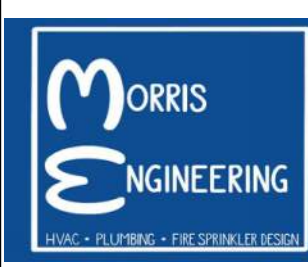
DATE : 5.19.2022

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO. : M3.1



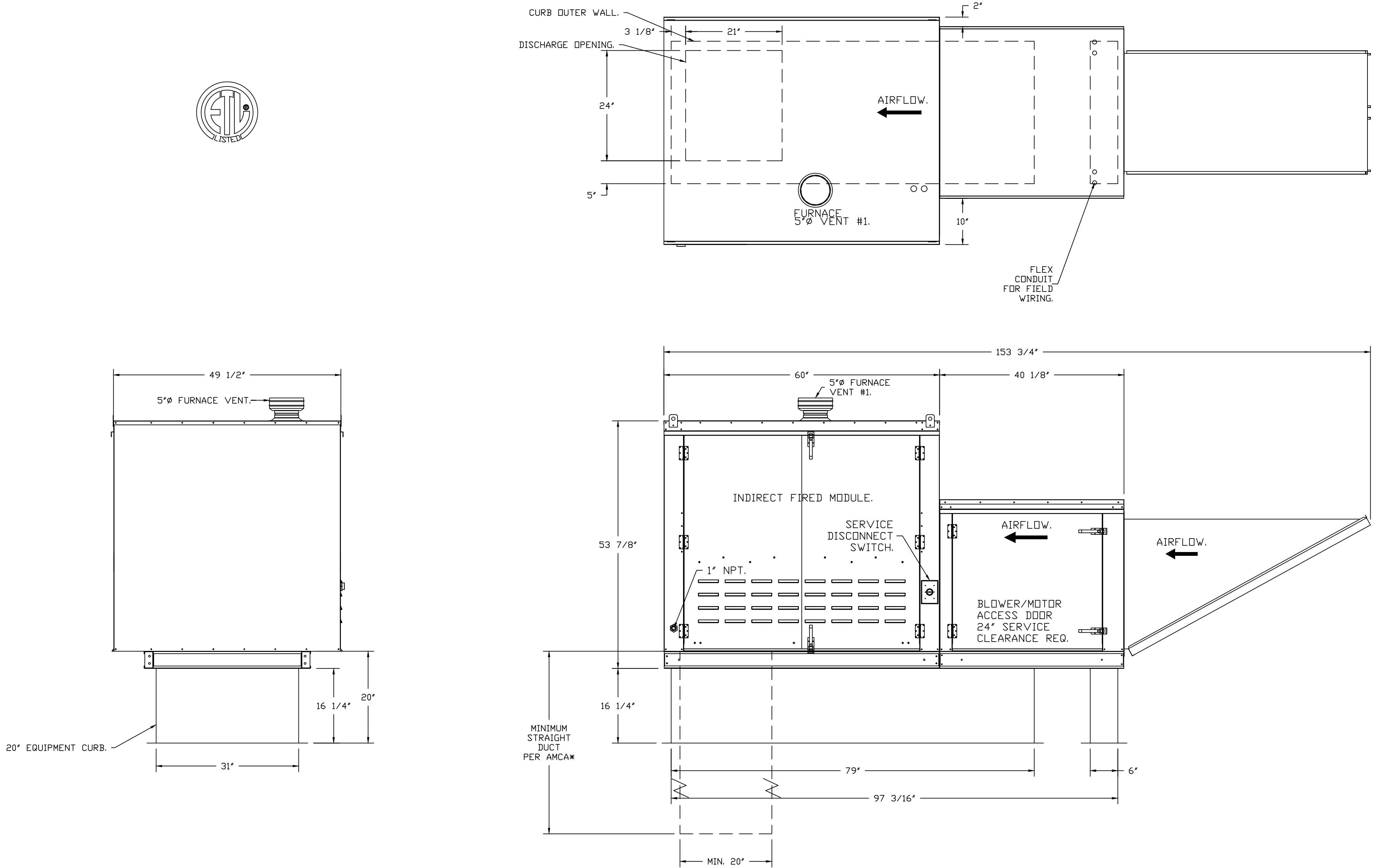
903 SOUTH PERRY STREET  
MONTGOMERY, AL 36104  
T: (334) 269-6329  
www.morriseng.com

PROJECT NO: 22-045

FAN #3 A2-1BT-300-20D - HEATER (GFMJA-1)  
1. INDIRECT BENT TUBE GAS FIRED HEATER WITH 20" MIXED FLOW DIRECT DRIVE FAN, 1 FURNACE, ELECTRONIC FULL MODULATION, CONSTANT 80% EFFICIENCY, AND 6:1 MAX TURNDOWN FOR NG, (5:1 MAX TURNDOWN FOR LP). STAINLESS STEEL BURNER AND HEAT EXCHANGER.  
2. INTAKE HOOD WITH EZ FILTERS.  
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.  
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.  
5. GAS PRESSURE GAUGE, 0 TO +10 INCHES WC, 2.5" DIAMETER, 1/8" THREAD SIZE, REAR THREAD.  
6. MOTORIZED BACK DRAFT DAMPER 22 7/8" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LFI05S ACTUATOR INCLUDED.  
7. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 TALL 1BTS.  
8. COMMERCIAL SMOKE DETECTOR INTERLOCK (DETECTOR BY OTHERS).  
9. SINGLE POINT ELECTRICAL CONNECTION FOR ALL 1BT HEATERS WITH 1 MODULE. QNTY 1 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE IS USED ON THE 1BT HEATER, THE #28, #47, 'NA', OR 'E2' OPTION PREWIRE MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE.  
10. CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.  
11. VAV (VARIABLE-AIR-VOLUME) WIRING PACKAGE FOR COMMERCIAL FANS.  
12. MANUAL SPEED CONTROL VARIABLE FREQUENCY DRIVE INCLUDED.  
13. VFD FACTORY MOUNTED AND WIRED IN UNIT CONTROL VESTIBULE.  
14. 2 YEAR ENTIRE UNIT PARTS WARRANTY, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY  
1BT - US PATENT 877119 B2.

\*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.  
SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

SUPPLY SIDE HEATER INFORMATION:  
WINTER TEMPERATURE = 32°F. TEMP. RISE = 43°F.  
BTUS CALCULATED OFF ACTUAL AIR DENSITY  
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 199825.  
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 249781.  
OUTPUT BTUs AT ALTITUDE OF 150 FT. = 198744.  
INPUT BTUs AT ALTITUDE OF 150 FT. = 248430.



RENOVATIONS  
TO THE  
CLAY COUNTY CAREER ACADEMY  
FOR THE  
CLAY COUNTY BOARD of EDUCATION  
ASHLAND, ALABAMA

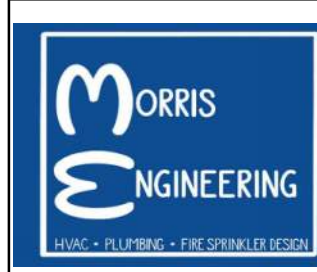


MCKEE and ASSOCIATES  
ARCHITECTS, INC.

631 SOUTH HULL STREET, MONTGOMERY, ALABAMA 36104 (334) 834-9933

SHEET TITLE : WELDING SHOP  
EXHAUST AND  
MAKE-UP AIR FAN  
DETAILS AND  
SCHEDULES  
MCKEE JOB # : 21.239  
PSCA # :  
DRAWN BY : JBB/JHM  
DATE : 5.19.2022  
REVISED DATE :  
REVISED DATE :  
REVISED DATE :

SHEET NO. : M3.2



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MONTGOMERY, AL 36104  
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www.morriseng.com

PROJECT NO: 22-045

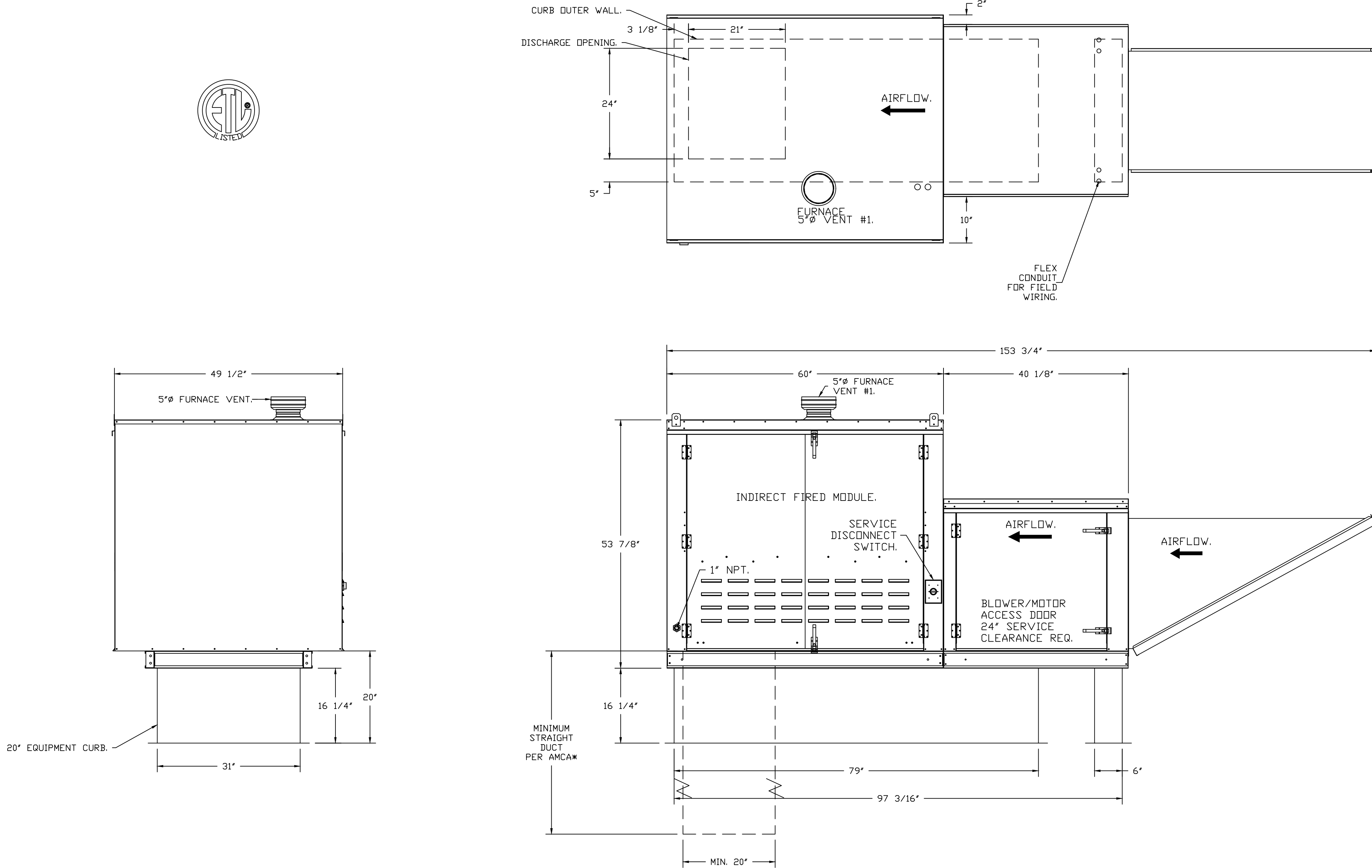


FAN #4 A2-1BT-300-200 - HEATER (GFMJA-2)  
1. INDIRECT BENT TUBE GAS FIRED HEATER WITH 20" MIXED FLOW DIRECT DRIVE FAN, 1 FURNACE, ELECTRONIC FULL MODULATION, CONSTANT 80% EFFICIENCY, AND 6:1 MAX TURNDOWN FOR NG, (5:1 MAX TURNDOWN FOR LP). STAINLESS STEEL BURNER AND HEAT EXCHANGER.  
2. INTAKE HOOD WITH EZ FILTERS.  
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.  
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.  
5. GAS PRESSURE GAUGE, 0 TO +10 INCHES WC, 2.5" DIAMETER, 1/8" THREAD SIZE, REAR THREAD.  
6. MOTORIZED BACK DRIFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED.  
7. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 TALL IBTS.  
8. COMMERCIAL SMOKE DETECTOR INTERLOCK, (DETECTOR BY OTHERS).  
9. SINGLE POINT ELECTRICAL CONNECTION FOR ALL 1BT HEATERS WITH 1 MODULE. QNTY 1 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE IS USED ON THE 1BT HEATER, THE #28, #47, "MA", OR "E2" OPTION PREWIRE MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE.  
10. CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.  
11. VAV (VARIABLE-AIR-VOLUME) WIRING PACKAGE FOR COMMERCIAL FANS.  
12. VFD FACTORY MOUNTED AND WIRED IN UNIT CONTROL VESTIBULE.  
13. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).  
14. 2 YEAR ENTIRE UNIT PARTS WARRANTY, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY  
1BT - US PATENT 877119 B2.

\*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.  
SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 32°F. TEMP. RISE = 43°F.  
BTUs CALCULATED OFF ACTUAL AIR DENSITY  
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 159860.  
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 159865.  
OUTPUT BTUs AT ALTITUDE OF 150 FT. = 158995.  
INPUT BTUs AT ALTITUDE OF 150 FT. = 198744.



RENOVATIONS

TO THE

CLAY COUNTY CAREER ACADEMY

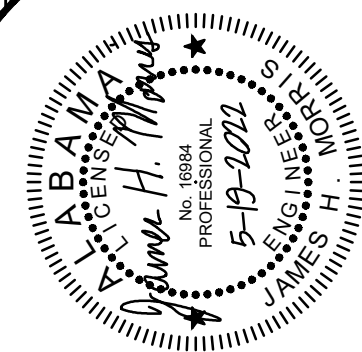
FOR THE

CLAY COUNTY BOARD of EDUCATION

ASHLAND, ALABAMA

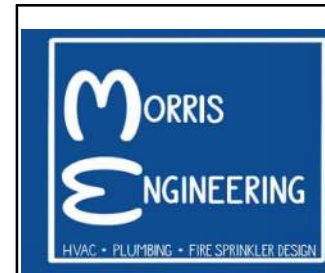
**McKee and Associates**  
ARCHITECTS, INC.

631 SOUTH HULL STREET, MONTGOMERY, ALABAMA 36104 (334) 834-9933



SHEET TITLE : WELDING SHOP EXHAUST AND MAKE-UP AIR FAN DETAILS AND SCHEDULES  
MCKEE JOB # : 21.239  
PSCA # :  
DRAWN BY : JBB/JHM  
DATE : 5.19.2022  
REVISED DATE :  
REVISED DATE :  
REVISED DATE :

SHEET NO. : **M3.3**



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PROJECT NO: 22-045

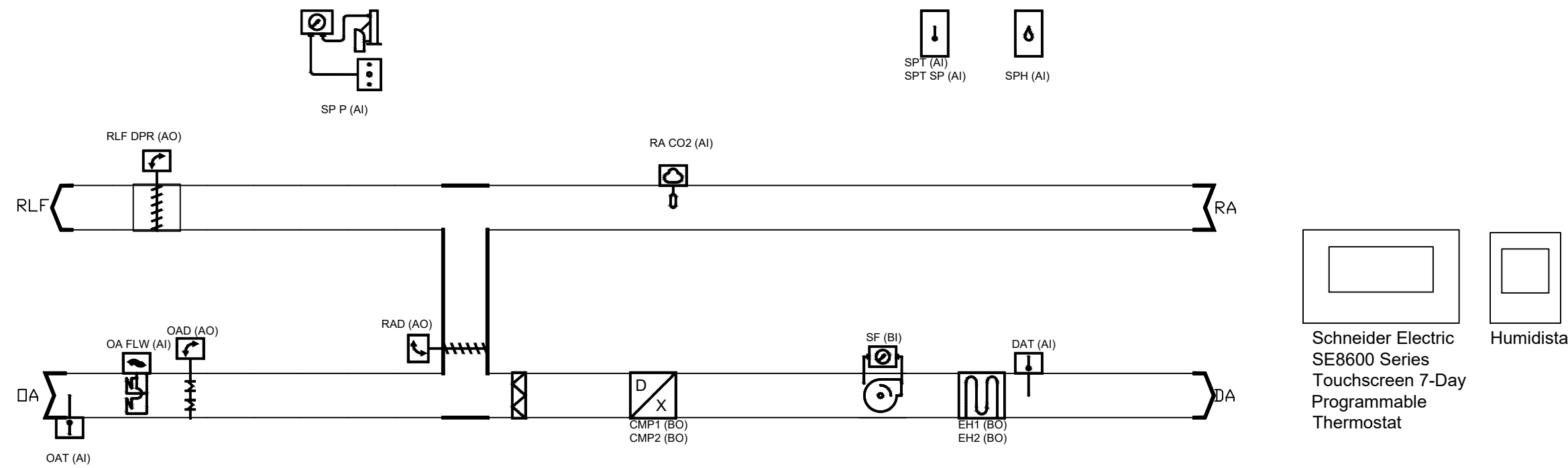












### PACKAGED COOLING/ELEC. HEAT - TSTAT - HUMIDISTAT - HOT-GAS RE-HEAT - ECONOMIZER (PAC-1)

#### Local Schedule:

A local schedule (7 days, 2 or 4 events) internal to the controller is used to trigger the different occupancy levels on the controller. Coordinate with the owner's representative for programming each thermostat occupied and unoccupied period(s).

#### Smoke Detector:

Provide a Smoke Detector in the return air ductwork before mixing with outside air ductwork. Unit shall shut-down upon smoke detector activation. Smoke Detector shall be furnished by Electrical Contractor and installed by Mechanical Contractor. Provide for units 2000 cfm or larger.

#### Occupied:

The DX cooling and the electric heat shall control to maintain the active discharge air temperature setpoint. If economizing is enabled, the outdoor air or mixed air dampers shall modulate to maintain the discharge air temperature setpoint and the relief air damper shall track the mixed air dampers. The discharge air temperature setpoint shall be dynamically reset based on the deviation of actual space temperature from the active space temperature setpoint. If the discharge air temperature sensor fails, the DX cooling and the electric heat shall control to maintain the active space temperature setpoint. If the discharge air temperature sensor and the space temperature sensor fail, the DX cooling and electric heat shall be disabled.

#### Optimal Start:

The t-stat shall monitor the scheduled occupied time, occupied space setpoints and space temperature to calculate when the optimal start occurs.

#### Morning Warm-Up Mode:

During optimal start, if the space temperature is below the occupied heating setpoint a morning warm-up mode shall be activated. When morning warm-up is initiated the unit shall enable the heating and fan(s). The outside air damper shall remain closed. When the space temperature reaches the occupied heating setpoint (adj.), the unit shall transition to the occupied mode.

#### Pre-Cool Mode:

During optimal start, if the space temperature is above the occupied cooling setpoint, pre-cool mode shall be activated. When pre-cool is initiated the unit shall enable the fan and cooling or economizer. The outside air damper shall remain closed, unless economizing. When the space temperature reaches occupied cooling setpoint (adj.), the unit shall transition to the occupied mode.

#### Optimal Stop:

The t-stat shall monitor the scheduled unoccupied time, occupied setpoints and space temperature to calculate when the optimal stop occurs. When the optimal stop mode is active the unit controller shall maintain the space temperature to the space temperature offset setpoint. Outside air damper shall remain enabled to provide minimum ventilation.

#### Occupied Bypass:

The t-stat shall monitor the status of the ON and CANCEL buttons of the space temperature sensor. When an occupied bypass request is received from a space sensor, the unit shall transition from its current occupancy mode to occupied bypass mode and the unit shall maintain the space temperature to the occupied setpoints (adj.).

#### Heat/Cool Mode:

When the space temperature rises above the occupied cooling setpoint the mode shall transition to cooling. When the space temperature falls below the occupied heating setpoint the mode shall transition to heating. When the space temperature is above the occupied cooling setpoint or below the occupied heating setpoint the mode shall remain in its last state. If the space temperature sensor fails the mode shall remain in its last state. If the local and communicated setpoints fail the controller shall disable the supply fan.

#### Dehumidification:

The unit shall be in dehumidification mode if the return air humidity is above the dehumidification setpoint. In the dehumidification mode, the supply air fan shall be enabled, the outside air damper shall be commanded to minimum position, and the unit controller shall energize mechanical cooling and the reheat solenoid.

**SINGLE CIRCUIT UNITS:** During dehumidification mode, cooling capacity shall be dictated by the reheat capacity control.

**MULTI-CIRCUIT UNITS:** During dehumidification mode the outside air temperature shall be monitored. If this temperature rises above the reheat capacity limit setpoint, or falls below the reheat capacity limit setpoint - 3.0 deg. F, the unit shall stage down or stage up the compressors respectively to meet full or part load capacity requirements based on ambient temperature. Factory installed hot gas reheat shall allow application of dehumidification. Dehumidification shall be allowed only when the outside air temperature is above 40.0 deg. F and below 100.0 deg. F. The economizer outside air damper shall drive to minimum position during dehumidification.

**SINGLE COMPRESSOR UNITS:** On a call for dehumidification, the reheat valve shall energize and the compressor shall enable. When the humidity control setpoint is satisfied, the valve shall be de-energized and the compressor shall be disabled. If there is a call for cooling from the space temperature controller, while in reheat, the reheat valve shall be de-energized and the compressor continues to run.

**DUAL COMPRESSOR UNITS:** On a call for dehumidification, the reheat valve shall energize and both compressors shall enable. When the humidity control setpoint is satisfied, the valve shall be de-energized and both compressors shall be disabled. If there is a call for 1st stage cooling while in the dehumidification mode, no action shall take place. If there is a call for 2nd stage cooling, the reheat valve shall be de-energized, and the unit shall revert to the cooling mode. If 2nd stage cooling is satisfied and there is still a call for dehumidification, the reheat valve shall once again be energized.

#### Economizer:

**ENABLE (Reference Dry Bulb):** Outside air (OA) temperature shall be compared with a reference dry bulb setpoint. The economizer shall enable when the OA temperature is less than reference dry bulb setpoint. The economizer shall be disabled when OA temperature is greater than reference dry bulb setpoint + 2.0 deg. F.

**OPERATION:** The unit shall measure the dry bulb supply air temperature and dry bulb outdoor air temperature and economizer shall be enabled when the outdoor air temperature is below the dry bulb change over setpoint. When economizing is enabled and the unit is operating in the cooling mode, the economizer damper shall be modulated between its minimum position and 100% to maintain the discharge air temperature setpoint. The economizer damper shall modulate toward minimum position in the event the discharge air temperature falls below the discharge low limit temperature setpoint. Compressors shall be delayed from operating until the economizer has opened to 100%.

#### Ventilation Control:

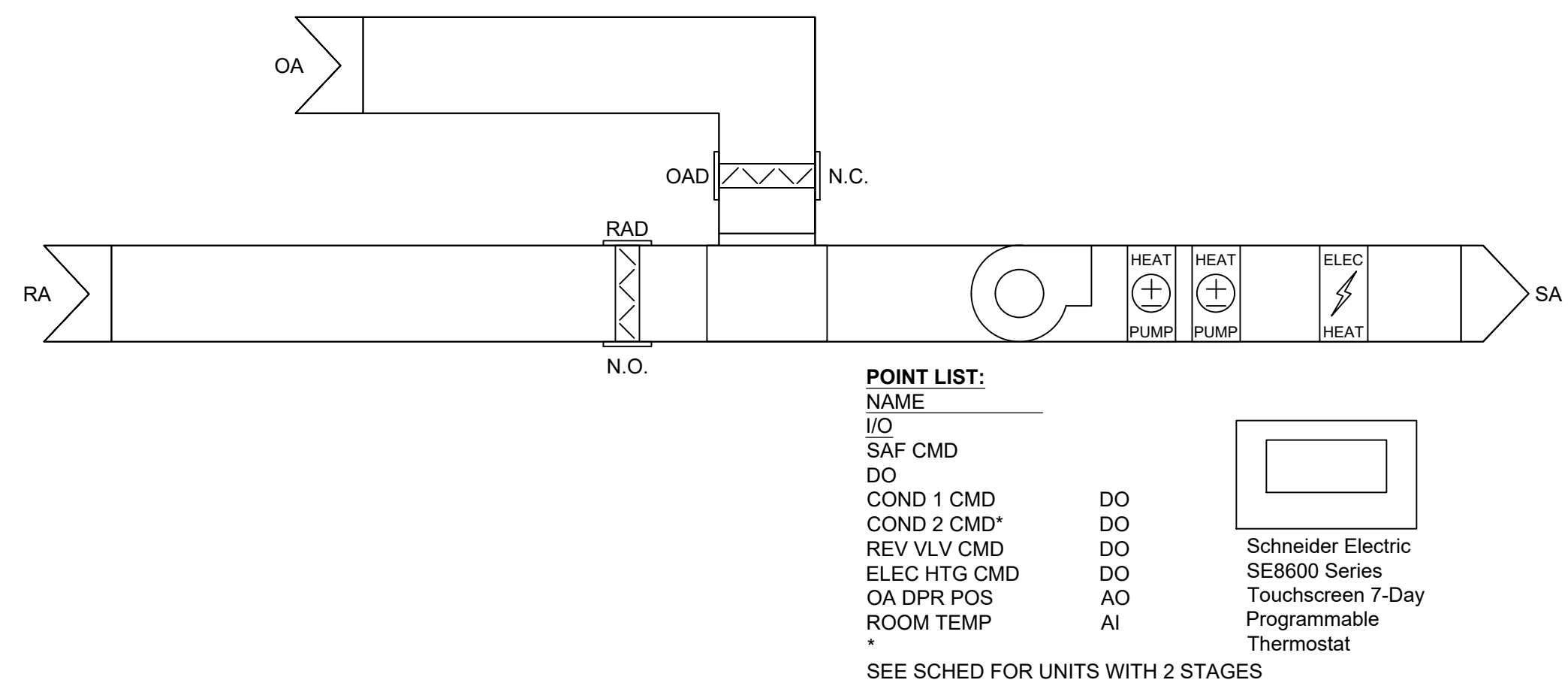
When the space CO2 level is greater than or equal to the Design Minimum CO2 Setpoint, the outdoor air damper shall open to the Design Minimum Outdoor Air Damper Setpoint. When the space CO2 level is less than or equal to the DCV Minimum CO2 Setpoint, the outdoor air damper shall close to the DCV Minimum Outdoor Air Damper Setpoint. If there is a call for economizer cooling, the damper shall be opened further to satisfy the cooling request.

#### Supply Fan:

The supply fan shall be enabled while in the occupied mode and cycled on during the unoccupied mode.

#### Relief Air and Building Pressure Control:

A differential pressure transducer shall actively monitor the difference in pressure between the building (indoors) and outdoors. If the building pressure increases above the desired setpoint, the associated controller shall modulate the relief air damper to control building pressure at setpoint. If the building pressure decreases below the desired setpoint, the associated controller shall close the relief air damper.



### HP - TSTAT (IHP-1,2,4,6)

#### SEQUENCE OF OPERATION - SINGLE-ZONE CONSTANT-VOLUME HEAT PUMP

EACH HEAT PUMP UNIT IS A SINGLE-ZONE, CONSTANT AIR VOLUME SYSTEM WITH A MODULATING OUTSIDE AIR DAMPER, CONSTANT-SPEED SUPPLY AIR FAN, HEAT PUMP AND A STANDALONE TOUCH-SCREEN 7-DAY PROGRAMMABLE THERMOSTAT WITH BUILT-IN HUMIDITY SENSOR.

#### LOCAL SCHEDULE:

- A LOCAL SCHEDULE (7 DAYS, 2 OR 4 EVENTS) INTERNAL TO THE CONTROLLER IS USED TO TRIGGER THE DIFFERENT OCCUPANCY LEVELS OF THE CONTROLLER. COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR PROGRAMING EACH THERMOSTATS OCCUPIED AND UNOCCUPIED PERIOD(S).

#### OCCUPIED MODE:

- THE OCCUPIED COOLING AND HEATING SET-POINTS ARE USED (COOLING: 75 °F; HEATING: 68 °F). THE OCCUPIED SPACE TEMPERATURES SET-POINTS FOR THE UNITS WILL BE ADJUSTABLE (+/-3°F) AT THE LOCAL THERMOSTAT.

#### UNOCCUPIED MODE:

- DURING UNOCCUPIED PERIODS, THE UNOCCUPIED HEATING & COOLING SET-POINTS ARE USED. (COOLING: 65 °F; HEATING: 55 °F).
- THE UNOCCUPIED SPACE TEMPERATURES SET-POINTS FOR THE UNITS WILL BE ADJUSTABLE AT THE LOCAL THERMOSTAT.

#### LOCAL OVERRIDE:

- THE CONTROLLER WILL REVERT BACK TO THE OCCUPIED MODE AS SPECIFIED BY A CONFIGURATION TIMER WHEN A LOCAL OVER-RIDE IS REQUESTS AT THE CONTROLLER.

#### FAN MODE OPERATION:

- THE SUPPLY FAN CAN BE SET TO EITHER AUTOMATIC ON DEMAND) OR ALWAYS ON. THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED PERIODS. DURING UNOCCUPIED PERIODS, FAN SHALL CYCLE ON A CALL FOR EITHER HEATING OR COOLING.

#### ON A CALL FOR COOLING:

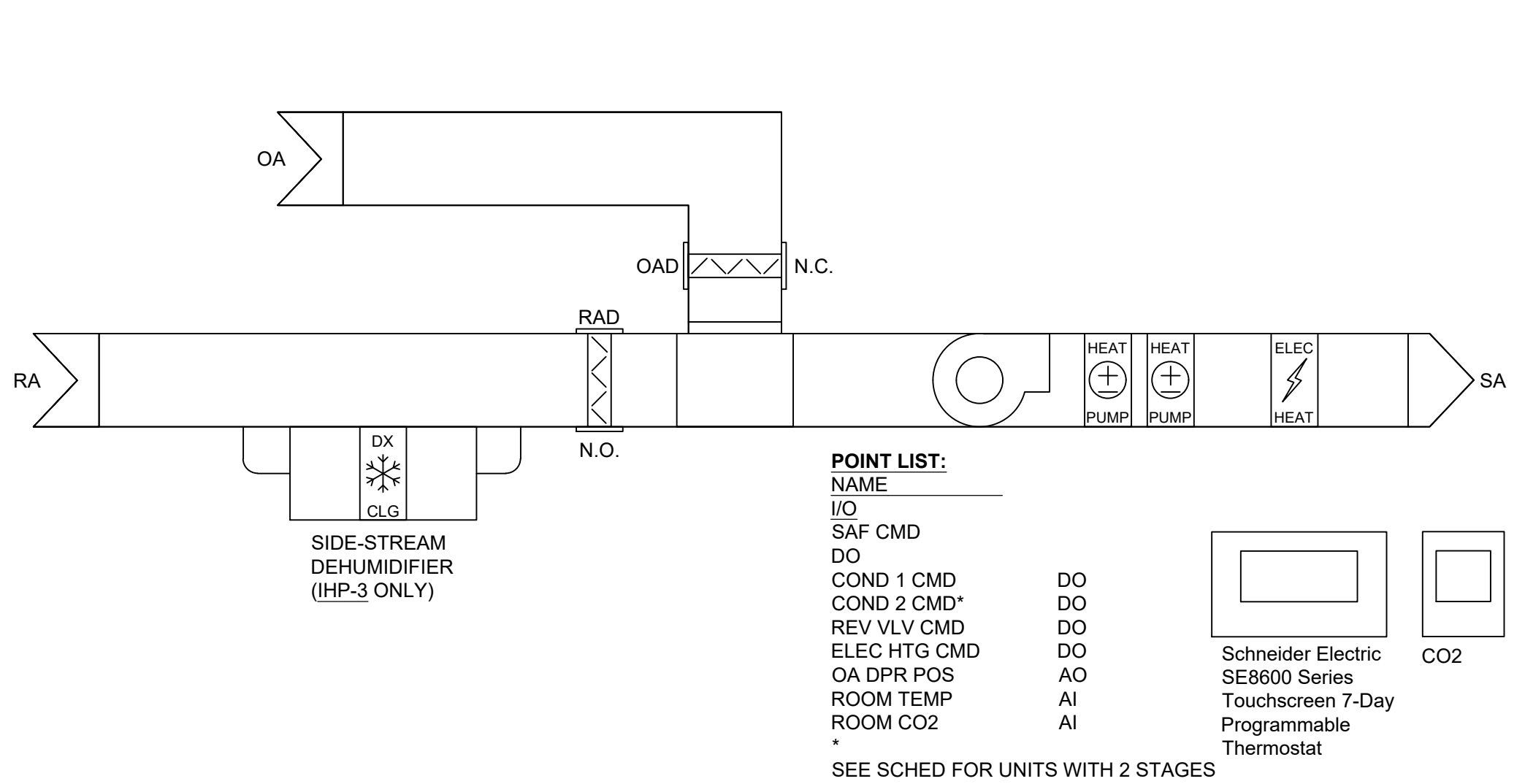
- THE REVERSING VALVE WILL INDEX FOR COOLING AND THE COMPRESSOR WILL OPERATE ACCORDING TO DEMAND.

#### ON A CALL FOR HEATING:

- THE REVERSING VALVE WILL INDEX FOR HEATING AND THE COMPRESSOR WILL OPERATE ACCORDING TO DEMAND. ELECTRIC HEATING WILL OPERATE AS A SECOND STAGE. DEHUMIDIFICATION IS NOT AUTHORIZED DURING HEATING OPERATION.

#### OUTSIDE AIR DAMPER

- DURING OCCUPIED PERIODS, OUTSIDE AIR DAMPER SHALL OPEN.
- OUTSIDE AIR DAMPER SHALL BE SET BY TEST & BALANCE CONTRACTOR TO ACHIEVE SCHEDULED OUTSIDE AIR CFM.
- UPON SHUTDOWN OR DURING ALL UNOCCUPIED PERIODS, OUTSIDE AIR DAMPER SHALL CLOSE.



### HP - TSTAT, SS-DEHUM, CO2 (IHP-3,5)

#### SEQUENCE OF OPERATION - SINGLE-ZONE CONSTANT-VOLUME HEAT PUMP WITH CO2

EACH HEAT PUMP UNIT IS A SINGLE-ZONE, CONSTANT AIR VOLUME SYSTEM WITH A MODULATING OUTSIDE AIR DAMPER, CONSTANT-SPEED SUPPLY AIR FAN, HEAT PUMP AND A STANDALONE TOUCH-SCREEN 7-DAY PROGRAMMABLE THERMOSTAT WITH BUILT-IN HUMIDITY AND CO2 SENSORS.

#### LOCAL SCHEDULE:

- A LOCAL SCHEDULE (7 DAYS, 2 OR 4 EVENTS) INTERNAL TO THE CONTROLLER IS USED TO TRIGGER THE DIFFERENT OCCUPANCY LEVELS OF THE CONTROLLER. COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR PROGRAMING EACH THERMOSTATS OCCUPIED AND UNOCCUPIED PERIOD(S).

#### OCCUPIED MODE:

- THE OCCUPIED COOLING AND HEATING SET-POINTS ARE USED (COOLING: 75 °F; HEATING: 68 °F). THE OCCUPIED SPACE TEMPERATURES SET-POINTS FOR THE UNITS WILL BE ADJUSTABLE (+/-3°F) AT THE LOCAL THERMOSTAT.

#### UNOCCUPIED MODE:

- DURING UNOCCUPIED PERIODS, THE UNOCCUPIED HEATING & COOLING SET-POINTS ARE USED. (COOLING: 65 °F; HEATING: 55 °F).
- THE UNOCCUPIED SPACE TEMPERATURES SET-POINTS FOR THE UNITS WILL BE ADJUSTABLE AT THE LOCAL THERMOSTAT.

#### LOCAL OVERRIDE:

- THE CONTROLLER WILL REVERT BACK TO THE OCCUPIED MODE AS SPECIFIED BY A CONFIGURATION TIMER WHEN A LOCAL OVERRIDE IS REQUESTS AT THE CONTROLLER.

#### FAN MODE OPERATION:

- THE SUPPLY FAN CAN BE SET TO EITHER AUTOMATIC ON DEMAND) OR ALWAYS ON. THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED PERIODS. DURING UNOCCUPIED PERIODS, FAN SHALL CYCLE ON A CALL FOR EITHER HEATING OR COOLING.

#### ON A CALL FOR COOLING:

- THE REVERSING VALVE WILL INDEX FOR COOLING AND THE COMPRESSOR WILL OPERATE ACCORDING TO DEMAND.

#### ON A CALL FOR HEATING:

- THE REVERSING VALVE WILL INDEX FOR HEATING AND THE COMPRESSOR WILL OPERATE ACCORDING TO DEMAND. ELECTRIC HEATING WILL OPERATE AS A SECOND STAGE. DEHUMIDIFICATION IS NOT AUTHORIZED DURING HEATING OPERATION.

#### OUTSIDE AIR DAMPER

- DURING OCCUPIED PERIODS, OUTSIDE AIR DAMPER SHALL OPEN.
- OUTSIDE AIR DAMPER SHALL BE SET BY TEST & BALANCE CONTRACTOR TO ACHIEVE SCHEDULED OUTSIDE AIR CFM.
- UPON SHUTDOWN OR DURING ALL UNOCCUPIED PERIODS, OUTSIDE AIR DAMPER SHALL CLOSE.

#### CO2 CONTROL

- UPON A RISE IN SPACE CO2 LEVELS ABOVE SET-POINT THE OUTSIDE AIR DAMPER SHALL BE COMMANDED FULLY OPEN
- OUTSIDE AIR DAMPER SHALL REVERT BACK TO MINIMUM POSITION AFTER SPACE CO2 LEVELS HAVE BEEN AT SAFE LEVELS FOR 5MIN

#### ON A DEMAND FOR DEHUMIDIFICATION (IHP-3 ONLY):

- DEHUMIDIFICATION IS ACHIEVED VIA A SIDE-STREAM DEHUMIDIFIER IN THE RETURN AIR DUCT.
- DEHUMIDIFIER IS ENABLED IF THE SPACE RELATIVE HUMIDITY EXCEEDS SET-POINT.
- DEHUMIDIFIER IS DISABLED ONCE THE SPACE RELATIVE HUMIDITY HAS BEEN BELOW MAXIMUM SETPOINT FOR 5MIN OR IS BELOW MINIMUM SETPOINT.
- DEHUMIDIFICATION IS DISABLED IF THE ROOM TEMPERATURE FALLS BELOW THE ROOM LOW-AMBIENT DEHUMIDIFICATION TEMPERATURE (3° BELOW HEATING SETPOINT).



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PROJECT NO: 22-045

## RENOVATIONS

TO THE

CLAY COUNTY CAREER ACADEMY

FOR THE

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ASHLAND, ALABAMA

MCKEE and ASSOCIATES  
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SHEET TITLE : MECHANICAL CONTROLS

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : JBB/JHM

DATE: 5.19.2022

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO. : M4.1



# ELECTRICAL LEGEND

## CEILING OUTLETS

- A RECESSED 2' X 4' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL
- A RECESSED 2' X 4' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL "EMERGENCY POWER"
- A 2 RECESSED 1' X 4' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL
- A 2 RECESSED 1' X 4' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL "EMERGENCY POWER"
- A RECESSED 2' X 2' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL
- A RECESSED 2' X 2' LED FIXTURE MARK "A" CIRCUIT No. 2 TYPICAL "EMERGENCY POWER"
- FS SURFACE OR PENDANT MOUNTED LED STRIP FIXTURE MARK "FS" CIRCUIT No. 2 TYPICAL
- FS SURFACE OR PENDANT MOUNTED LED STRIP FIXTURE MARK "FS" CIRCUIT No. 2 TYPICAL "EMERGENCY POWER"
- RECESSED OR SURFACE MOUNT DOWNLIGHT
- RECESSED OR SURFACE MOUNT DOWNLIGHT "EMERGENCY POWER"
- SURFACE OR PENDANT MOUNTED ROUND FIXTURE
- JUNCTION BOX
- EXIT LIGHT
- EXHAUST FAN
- DUPLEX RECEPTACLE - 20 AMP, 125 VOLT, 2 POLE, 3 WIRE GROUNDED TYPE, NEMA 5-20R. MOUNT IN CEILING. UNLESS NOTED OTHERWISE UPPER RECEPTACLE NON CONTROLLED/LOWER RECEPTACLE CONTROLLED BY ROOM AUTOMATION SYSTEM. CONTROLLED RECEPTACLE SHALL BE MARKED WITH THE SYMBOL SHOWN IN NEC FIGURE 406.3 (E) AND LOCATED ON THE CONTROLLED RECEPTACLE OUTLET WHERE VISIBLE AFTER INSTALLATION.
- G DUPLEX RECEPTACLE - 20 AMP, 125 VOLT, GFI, 2 POLE, 3 WIRE GROUNDED TYPE, NEMA 5-20R. CEILING MOUNTED.

## WALL OUTLETS

- H WALL MOUNTED OCCUPANCY SENSOR WITH WIRE GUARD
- GYM HUBBELL NO. LO-IR-WY

1. ALL 120V RECEPTACLES ON THIS PROJECT SHALL BE TAMPER PROOF TYPE PER THE NATIONAL ELECTRIC CODE.

- WALL MOUNTED COMBO EXIT LIGHT/EMERGENCY
- WALL MOUNTED LIGHTING FIXTURE
- H WALL MOUNTED LIGHTING FIXTURE "EMERGENCY POWER"
- BATTERY OPERATED EMERGENCY WALL PACK
- 

## TELEPHONE & TELEVISION SYSTEMS

- 
- TBB
- CCTV

## PANELS AND POWER

- PANELBOARD
- PANELBOARD FLUSH MOUNTED
- CON CONTROL PANEL
- NON-FUSIBLE DISCONNECT SWITCH: XX/YY/ZZ WHERE X INDICATES AMPERAGE, Y INDICATES # OF POLES, AND Z INDICATES NEMA RATING
- FUSIBLE DISCONNECT SWITCH: XX/YY/ZZ WHERE X INDICATES AMPERAGE, Y INDICATES # OF POLES, AND Z INDICATES NEMA RATING; FURNISH AND INSTALL FUSES PER MANUFACTURER'S RECOMMENDATIONS
- MOTOR FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL CONTRACTOR; 'S' INDICATES HORSE POWER RATING
- CIRCUIT BREAKER
- NONFUSIBLE SWITCH
- FUSIBLE SWITCH
- DRAWOUT CONNECTION
- T TRANSFORMER
- B ENCLOSED CIRCUIT BREAKER
- ELECTRIC METER
- GROUNDING ELECTRODE CONNECTION
- G GROUND BUSS

## FIRE ALARM SYSTEM

- FACP FIRE ALARM SYSTEM CONTROL PANEL
- ANN FIRE ALARM SYSTEM REMOTE ANNUNCIATOR - FLUSH MOUNTING
- F FIRE ALARM SYSTEM MANUAL PULL STATION
- SE FIRE ALARM SYSTEM VOICE EVAC SPEAKER/STROBE;
- SEH WEATHERPROOF FIRE ALARM SYSTEM SIGNAL HORN;
- ST FIRE ALARM SYSTEM STROBE;
- TS FIRE ALARM SYSTEM TAMPER SWITCH
- FS FIRE ALARM SYSTEM FLOW SWITCH
- HD FIRE ALARM SYSTEM AUTOMATIC HEAT DETECTOR; 135 DEGREE/RATE OF RISE TYPE; CEILING MOUNTED
- SD FIRE ALARM SYSTEM AUTOMATIC SMOKE DETECTOR; CEILING MOUNTED
- CD FIRE ALARM SYSTEM AUTOMATIC CO DETECTOR BASE; CEILING MOUNTED
- DD FIRE ALARM SYSTEM AUTOMATIC AIR DUCT SMOKE DETECTOR MOUNTED IN MECHANICAL DUCT
- RT FIRE ALARM SYSTEM REMOTE TEST STATION
- ZC FIRE ALARM SYSTEM ZONE MODULE, CONTROL TYPE
- ZM FIRE ALARM SYSTEM ZONE MODULE, MONITOR TYPE
- F- FIRE ALARM SYSTEM SUPERVISED CIRCUITING IN CONDUIT, RACEWAY INSTALLED CONCEALED
- H- FIRE ALARM SYSTEM MAGNETIC DOOR HOLDERS

## BRANCH CIRCUITING

- RUN CONCEALED UNDER FLOOR OR IN GRADE
- RUN CONCEALED IN CEILING OR WALLS
- LA-1
- LA-10
- LA-1
- LA-1
- 6 WHERE A NUMBER IS SHOWN NEXT TO OR ON THE CIRCUIT OR HOMERUN. THE NUMBER INDICATES CONDUCTOR SIZE OTHER THAN #12 - NUMBER #6 CONDUCTORS INDICATED. PROVIDE GROUND SIZED PER NEC TABLE 250-95 FOR MAX AMPACITY OF CONDUCTOR SIZE AS SHOWN. SIZE CONDUIT PER NEC ANNEX C.
- LIQUID-TIGHT FLEXIBLE CONDUIT CONNECTION
- SURFACE MOUNTED CONDUIT; RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES

## WALL SWITCHES (UNLESS OTHERWISE NOTED, MOUNT 48" A.F.F.)

- S A.C. TYPE, SINGLE POLE, 20 AMP, 120/277 VOLT
- S3 A.C. TYPE, 3-WAY, 20 AMP, 120/277 VOLT
- SM MOTOR RATED TOGGLE SWITCH DISCONNECT, WITH THERMAL OVERLOADS A.C. TYPE, 20 AMP, 120/277 VOLT
- 30/1 SM MOTOR RATED TOGGLE SWITCH DISCONNECT, WITH THERMAL OVERLOADS A.C. TYPE, 30 AMP, 120/277 VOLT
- ST PRESET INTERVAL TIMER SWITCH, HUBBELL TD-300 SERIES OR EQUALS
- PUSH BUTTON, TOGGLE SWITCH, ROTARY SWITCH, ETC., FURNISHED WITH EQUIPMENT BY OTHERS, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.

## MISCELLANEOUS

- A AMPERE
- ADA AMERICANS WITH DISABILITIES ACT
- AFF ABOVE FINISH FLOOR
- AIC AMPERE INTERRUPTING CAPACITY
- ATS AUTOMATIC TRANSFER SWITCH
- C CONDUIT
- CL CENTER LINE
- CWP COLD WATER PIPE
- EM EMERGENCY
- EMT ELECTRIC METALLIC TUBING
- GFI GROUND FAULT INTERRUPTER
- GRC GALVANIZED RIGID METAL CONDUIT
- GRD GROUND
- MCB MAIN CIRCUIT BREAKER
- MCC MOTOR CONTROL CENTER
- WLO MAIN LUGS ONLY
- MT MOUNT
- N NEUTRAL
- NIC NOT IN CONTRACT
- NEC NATIONAL ELECTRICAL CODE
- NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION
- NL NIGHT LIGHT
- NTS NOT TO SCALE
- P POLE
- PF POWER FACTOR
- PH PHASE
- PNL PANEL
- PVC PVC (POLYVINYL CHLORIDE) CONDUIT
- SLD SINGLE LINE DIAGRAM
- TBB TELEPHONE BACKBOARD
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSORS
- UL UNDERWRITER'S LABORATORY
- U.N.O. UNLESS NOTED OTHERWISE
- V VOLTAGE
- W WIRE
- WP WEATHERPROOF
- # NUMBER
- 3R NEMA 3R WEATHERPROOF ENCLOSURE
- 4X NEMA 4X WEATHERPROOF/CORROSION ENCLOSURE

## MISCELLANEOUS EQUIPMENT

- C CONTACTOR
- EXTERIOR POLE LIGHT
- WH WATER HEATER
- MON SCREEN MONITOR

## LIGHTING CONTROLS

- OS CEILING MOUNTED OCCUPANCY SENSOR
- PR POWER PACK FOR OCCUPANCY SENSOR
- L1 ROOM CONTROLLER - 1 ZONE DIMMING
- L2 ROOM CONTROLLER - 2 ZONE DIMMING
- LE ROOM CONTROLLER - EMERGENCY LIGHTING UL924 DEVICE
- RC ROOM CONTROLLER - ON/OFF NO DIMMING
- D1 WALL DIMMER - ON/OFF & 0-10V 1-ZONE DIMMING
- D2 WALL DIMMER - ON/OFF & 0-10V 2-ZONE DIMMING
- SL LOW VOLTAGE SWITCH, 2-BUTTON
- Sx LOW VOLTAGE SWITCH CONNECTED TO LIGHTING CONTROL PANEL, 2-BUTTON
- S01 OCCUPANCY SENSOR WALL SWITCH, ULTRASONIC TECHNOLOGY, 1-BUTTON SIMILAR TO HUBBELL LIGHT HAWK 2

\*COORDINATE WITH LIGHTING CONTROL DETAILS FOR MORE REQUIREMENTS

## GENERAL ELECTRICAL NOTES:

1. THE SERVICE VOLTAGE TO THE FACILITY SHALL BE 240/120V, 3PH, DELTA 4-WIRE.
2. INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES, AND MANUFACTURER'S RECOMMENDATIONS.
3. MAINTAIN ALL CLEARANCES FOR ELECTRICAL EQUIPMENT PER THE NEC.
4. COORDINATE ROUGH-IN OF ALL ELECTRICAL DEVICES WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN. AVOID ALL BACKSPASHES AT COUNTERS.
5. ALL DIMENSIONS INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD, AND COORDINATING WORK WITH OTHER TRADES TO AVOID CONFLICTS.
6. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL BEFORE ROUGH-IN OF LIGHT SWITCHES TO ENSURE PROPER SWITCH LOCATION.
7. THE LOCATION OF OUTLETS, FIXTURES, AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE, OFFSET AS NEEDED OR AS REQUESTED BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT TO RELOCATE ANY OUTLETS OR FIXTURES BEFORE THEY ARE INSTALLED WITHOUT ANY ADDITIONAL COST.
8. COORDINATE EXACT LOCATION OF ALL ELECTRICAL FLOOR DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
9. ALL CONDUIT SIZE SHALL BE A MINIMUM 3/4" UNLESS NOTED OTHERWISE IN THE DRAWINGS OR SPECIFICATIONS.
10. ALL ELECTRICAL RACEWAYS AND CABLING SHALL BE INSTALLED CONCEALED WITHIN THE CONFINES OF THE BUILDING FOUNDATIONS EXCEPT THOSE SPECIFICALLY SERVING LOADS OR EQUIPMENT EXTERIOR OF THE BUILDING. ALL SUCH RACEWAYS SHALL BE A MINIMUM 18" INSIDE FOUNDATIONS AND POWER AND COMMUNICATIONS RACEWAYS SHALL BE SEPARATED BY A MINIMUM 18".
11. ALL CONDUITS INSTALLED UNDERFLOOR SHALL BE ROUTED UNDER STRUCTURAL CONCRETE FLOOR SLABS. CONTRACTOR SHALL NOT INSTALL CONDUITS IN CONCRETE FLOORING WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER. CONDUITS PENETRATING THRU CONCRETE FLOORS SHALL ADHERE TO THE ELECTRICAL SPECIFICATIONS AND RECOMMENDATIONS OF THE STRUCTURAL ENGINEER.
12. ALL RACEWAYS INSTALLED ON EXTERIOR OF THE BUILDING, INCLUDING CONDUIT UNDER CANOPIES, SHALL BE GRC. EMT WILL NOT BE ACCEPTED.
13. ALL RACEWAYS SHALL BE SUPPORTED PER NEC AND AT LEAST EVERY 10' AND WITHIN 3' OF EVERY JUNCTION BOX. RACEWAYS SUPPORTED ON BOTTOM OF SECONDARY CEILING SHALL BE SUPPORTED FROM THE STRUCTURE NOT FROM THE GYPBOARD CEILING.
14. ALL EMPTY WALL MOUNTED JUNCTION BOXES SHALL BE PROVIDED WITH A WALL BLANK AND ALL EMPTY RACEWAYS SHALL BE PROVIDED WITH A PULL WIRES.
15. PROVIDE ALL CONDUIT STUBS WITH A PROTECTIVE COLLAR.
16. INSURE THAT ALL PENETRATIONS OF FIRE WALLS AND DECKS ARE PROPERLY SEALED PER INTERNATIONAL BUILDING CODE 712 AND WITH AN UL APPROVED DEVICE OR FIRE CAULK. REFER TO ARCHITECTURAL PLANS FOR THE LOCATIONS OF RATED FIRE WALLS AND UL ASSEMBLY LOCATIONS AND TYPES AND BID ACCORDINGLY.
17. PROVIDE A CONDUIT EXPANSION JOINTS WITH BONDING JUMPER IN ALL CONDUITS CROSSING AN EXPANSION JOINT. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATIONS.
18. ALL UNDERGROUND CONDUITS RUNS ENTERING THE BUILDING SHALL BE SEALED TO PREVENT THE ENTRANCE OF MOISTURE.
19. ALL FLEXIBLE CONDUITS ON THE EXTERIOR, IN WET LOCATIONS OR ANY MECHANICAL ROOM SHALL BE LIQUID TIGHT WITH SUITABLE FITTINGS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING AROUND DEVICES, PENETRATIONS, OUTLETS, AND CONDUITS THAT PENETRATE THE WALLS ABOVE THE CEILING TO MAINTAIN SOUNDPROOFING. CONTRACTOR SHALL VERIFY THAT THE OPENINGS SIZES ARE LESS THAN 1/2" ON ALL SIDES OF THE PENETRATIONS. ALL OPENINGS IN EXCESS OF 1/2" SHALL BE CAULKED/SEALED WITH SHEET ROCK MUD. THE DRYWALL CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING PENETRATIONS IN PLACE WHEN THE SHEETROCK ARE INSTALLED. PENETRATIONS MADE AFTER THE DRYWALL CONTRACTOR HAS FINISHED IN AN AREA SHALL BE SEALED BY THE CONTRACTOR MAKING THE PENETRATION.
21. PLANNED INTERRUPTIONS OF UTILITY SERVICE TO ANY EXISTING FACILITY OR AREAS WITHIN ANY FACILITY AFFECTED BY THIS CONTRACT, SHALL BE CAREFULLY PLANNED AND COORDINATED IN ADVANCE OF THE REQUESTED INTERRUPTION. THE CONTRACTOR SHALL NOT INTERRUPT SERVICES UNTIL SPECIFIED APPROVAL HAS BEEN GRANTED. THE REQUEST SHALL INDICATE SERVICES AND AREAS TO BE AFFECTED, DATE AND TIME OF INTERRUPTION AND DURATION OF OUTAGE. REQUEST FOR INTERRUPTION OF SERVICE WILL NOT BE APPROVED UNTIL ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE COMPLETION OF THAT PARTICULAR PHASE OF WORK ARE ON THE JOB SITE. CONTRACTOR IS RESPONSIBLE FOR ALL OVERTIME, HOLIDAY, AND WEEKEND PAY TO THEIR EMPLOYEES TO DO THIS WORK DURING SCHEDULED NON-NORMAL WORK HOURS.
22. BUILDING OWNER MUST RECEIVE RECORD DRAWINGS AND MANUALS THAT PROVIDE INSTRUCTIONS ABOUT THE OPERATION AND MAINTENANCE OF THE BUILDING'S ELECTRICAL DISTRIBUTION SYSTEM.
23. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR OCCUPANCY SENSORS. PROVIDE PROPER NUMBER OF POWER PACKS AND LOCATE POWER PACKS AND OCCUPANCY SENSORS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
24. ALL JUNCTION BOX COVERS ABOVE THE CEILING SHALL BE CLEARLY MARKED WITH WHICH CIRCUITS OR ELECTRICAL SYSTEM THEY CONTAIN.
25. HVAC EQUIPMENT POWER WIRING SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. CONTROL EQUIPMENT AND CONTROL WIRING SHALL BE FURNISHED UNDER DIVISION 15 UNLESS OTHERWISE NOTED. PROVIDE 3/4" CONDUITS WITH PULL WIRE BETWEEN INSIDE AND OUTSIDE UNITS, THERMOSTAT OUTLETS AND UNITS AND/OR MECHANICAL CONTROL PANEL AS APPLICABLE. THERMOSTAT OUTLETS SHALL BE 4" SQUARE OUTLETS. FLUSH MOUNTED WITH SINGLE GANG OR DOUBLE GANG PLASTER RINGS AS DIRECTED BY THE HVAC CONTRACTOR. COORDINATE EXACT LOCATION OF ALL EQUIPMENT, DEVICES, OUTLETS, ETC., WITH THE MECHANICAL DRAWINGS AND DIVISION 15 SPECIFICATIONS. COORDINATE WITH THE HVAC CONTRACTOR FOR EXACT LOCATIONS OF ALL EQUIPMENT.

## MC CABLE:

WILL BE ALLOWED WHERE CONCEALABLE AND ALLOWED BY NEC.

## RENOVATIONS

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SHEET TITLE : ELECTRICAL LEGEND & NOTES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : J. TILLERY

DATE: 05.18.2022

REVISED DATE:

REVISED DATE:

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SHEET NO. : E0.1



SITE LEGEND

- UP— — UNDERGROUND PRIMARY  
—US— — UNDERGROUND SECONDARY  
—OP— — OVERHEAD PRIMARY  
—OS— — OVERHEAD SECONDARY  
—UC— — UNDERGROUND COMMUNICATIONS

SHEET NOTES:

- ① REMOVE EXISTING UNDERGROUND SECONDARY.  
② COORDINATE WITH ALABAMA POWER TO BRING OVERHEAD SECONDARY TO NEW SERVICE ENTRANCE PANEL.

UNDERGROUND UTILITY NOTES:

1. THE UNDERGROUND UTILITY PORTION OF THIS PROJECT CONSISTS OF BUT IS NOT LIMITED TO:  
a. TRENCHING/BACKFILLING FOR DUCT LINES AND CONDUIT SYSTEMS  
b. DUCTBANK INSTALLATIONS  
c. LOW VOLTAGE CONDUCTOR INSTALLATION  
d. PATCH/REPAIR ALL DAMAGED SURFACES AS A RESULT OF DUCTLINE INSTALLATIONS
2. INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL SAFETY CODE (NESC) AND THE NATIONAL ELECTRICAL CODE (NEC).
3. ALL CONDUCTIVE PARTS OF EQUIPMENT, ENCLOSURES, SUPPORTS, FRAMES, CASES, CONDUIT SYSTEMS AND SURGE ARRESTORS, CABLE SHEATHS, CABLE SHIELDS, COMMON NEUTRALS, ETC., SHALL BE GROUNDED. UNLESS NOTED OTHERWISE CONNECTIONS BELOW GRADE SHALL BE FUSION-WELDED AND ABOVE GRADE FUSION-WELDED OR BOLTED SOLDERLESS. ALL GROUND CONDUCTORS SHALL BE COPPER.
4. ALL CLEARANCES SHALL BE MAINTAINED PER NESC AND NEC. ALL PARTS, DEVICES, EQUIPMENT, ETC. WHICH REQUIRE MAINTENANCE, ADJUSTMENT, OPERATION OR EXAMINATION DURING NORMAL NETWORK OPERATION SHALL BE ARRANGED SO AS TO BE ACCESSIBLE BY THE PROVISION OF ADEQUATE WORKING SPACES, WORKING FACILITIES AND CLEARANCES. UNLESS NOTED OTHERWISE ALL CLEARANCES ARE MEASURED FROM SURFACE TO SURFACE.
5. ALL DIMENSIONS INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
6. UNLESS OTHERWISE SHOWN OR DIRECTED DUCT LINES SHALL NOT BE LOCATED DIRECTLY UNDER STRUCTURES AND NOT DIRECTLY UNDER OR OVER OTHER SUBSURFACE STRUCTURES. WHERE DUCT LINES ARE REQUIRED TO CROSS OTHER UTILITIES SUCH AS SEWERS, WATER LINES, OTHER POWER LINES, COMMUNICATION LINES, ETC., ADEQUATE SUPPORT SHALL BE PROVIDED ON EACH SIDE OF THE CROSSING TO PREVENT TRANSFERRING ANY DIRECT LOAD ONTO THE OTHER LINE. DUCT LINES SHALL BE SO INSTALLED AS TO PREVENT HEAT TRANSFER BETWEEN ANY HEAT PRODUCING LINES AND/OR EQUIPMENT TO DUCT LINES.
- a. ROUTING SHOWN ON DRAWINGS IS TYPICAL AND THE CONTRACTOR SHALL PROPOSE FINAL ROUTING BASED UPON ACTUAL FIELD DIMENSIONS, CONDITIONS AND EXISTING UNDERGROUND UTILITIES AND STRUCTURES.
- b. PRIOR TO TRENCHING, THE CONTRACTOR SHALL STAKE OUT THE ENTIRE NETWORK ARRANGEMENT. ONE GRADE A WOODEN STAKE WITH RED FLAG SHALL BE DRIVEN EVERY 50'-0" AND AT EACH CHANGE OF DIRECTION. FOUR STAKES SHALL BE DRIVEN TO OUTLINE EQUIPMENT AND/OR MANHOLE LOCATIONS. ON PAVEMENTS RED PAINT SHALL BE USED TO OUTLINE THE AREAS TO BE CUT. SECURE EXISTING UNDERGROUND UTILITY INFORMATION FROM THE CONTRACTING OFFICER PRIOR TO PERFORMING ANY TRENCHING.
- c. DEPTHS INDICATED FOR INSTALLATION ARE MINIMUM. ACTUAL DEPTHS MAY VARY DUE TO TERMINATIONS, COMPENSATIONS FOR RADIUS OF VERTICAL TRANSITIONS, EXISTING UTILITY CROSSINGS, ETC. APPROVAL SHALL BE OBTAINED FOR ANY DEPTH LESS THAN INDICATED. TRENCHES SHALL BE OVER-EXCAVATED AS NECESSARY TO ALLOW FOR PROPER TRENCH PREPARATION, DUCT BANK CONSTRUCTION, FORMING AND/OR BACKFILLING REQUIREMENTS.
- d. ALL TRENCHING AND BACKFILL COMPACTION SHALL COMPLY WITH GEOTECHNICAL REPORT AND DIVISION 200.

GENERAL NOTES:

1. LOCATIONS OF RISER POLES, AND TRANSFORMERS SHALL BE COORDINATED PRIOR TO BIDS. ADJUST FEEDER AND CONDUIT LENGTHS ACCORDINGLY. PAY ALL UTILITY COMPANY FEES. BID ACCORDINGLY.
2. COORDINATE WITH POWER RISER DIAGRAMS FOR FEEDER AND CONDUIT SIZES AND ALL OTHER ADDITIONAL REQUIREMENTS NOT SHOWN ON SITE PLAN.
3. ALL UNDERGROUND CONDUITS SHALL BE 36" MINIMUM BELOW GRADE. PRIMARY CONDUIT SHALL BE MINIMUM 48" BELOW GRADE.
4. ALL ROUTING IS SHOWN DIAGRAMMATIC. VERIFY ACTUAL ROUTING AND FIELD CONDITIONS PRIOR TO BIDS.



APPROXIMATE LOCATION OF NEW PANEL "MSA"



1 SITE PLAN - ELECTRICAL  
SCALE: 1" = 40'-0"

APPROXIMATE LOCATION OF EXISTING RISER POLE, EXISTING SERVICE TO BE REMOVED BACK TO POINT OF ORIGIN.

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ASHLAND, ALABAMA

MCKEE and ASSOCIATES  
ARCHITECTS, INC.

631 SOUTH HULL STREET · MONTGOMERY, ALABAMA 36104 (334) 834-9933



SHEET TITLE : SITE PLAN - ELECTRICAL

MCKEE JOB # : 21.239

PSCA # :

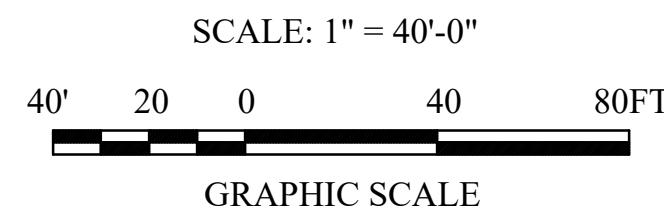
DRAWN BY : J. TILLERY

DATE: 05.18.2022

REVISED DATE:

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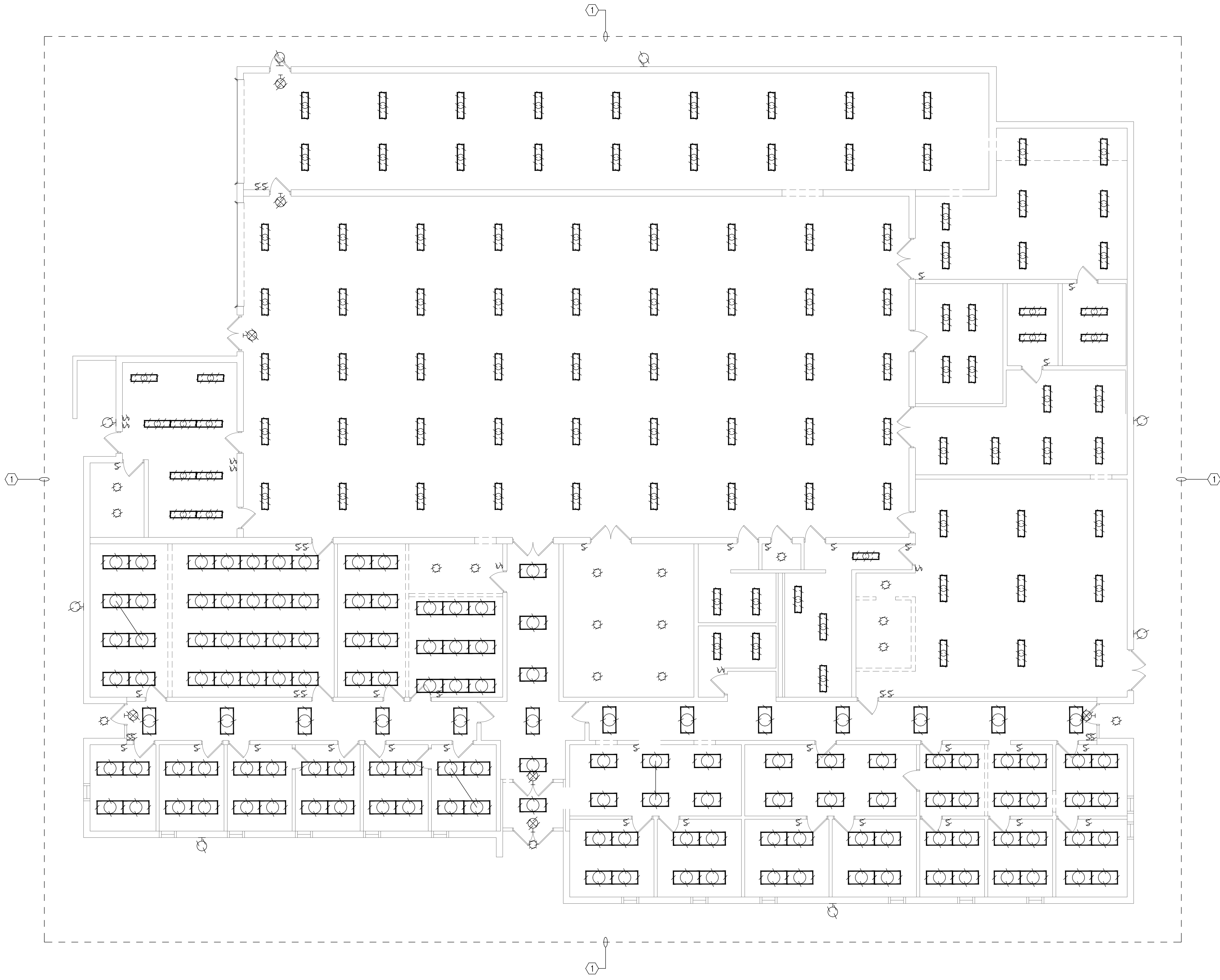


**GA** Gunn & Associates, P.C.  
Consulting Engineers  
3102 Highway 14 Millbrook, AL 36054 1200 Providence Park, Suite 200 Birmingham, AL 35242  
Tel: 334.285.1273 GA#22-115

SHEET NO. : E1.0



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**GENERAL NOTES:**

1. CONTRACTOR RESPONSIBLE FOR REMOVING AND REINSTALLING ALL CEILING MOUNTED DEVICES IN ALL AREAS THAT NEW CEILINGS WILL BE INSTALLED. LOWER DEVICES TO NEW CEILINGS AS REQUIRED. INTERCEPT AND EXTEND CIRCUITRY AS NEEDED. VISIT SITE PRIOR TO BIDS TO QUANTIFY THE AMOUNT OF WORK AND BID ACCORDINGLY.
2. REMOVE ALL SWITCHING AS REQUIRED TO ACCOMPLISH NEW SWITCHING REQUIREMENTS. SEE LIGHTING PLANS FOR NEW SWITCH REQUIREMENTS FOR EACH SPACE.
3. CONTRACTOR RESPONSIBLE FOR REMOVING AND PROPERLY DISPOSING OF ALL EXISTING LIGHTS AND LIGHT BULBS.

**SHEET NOTES:**

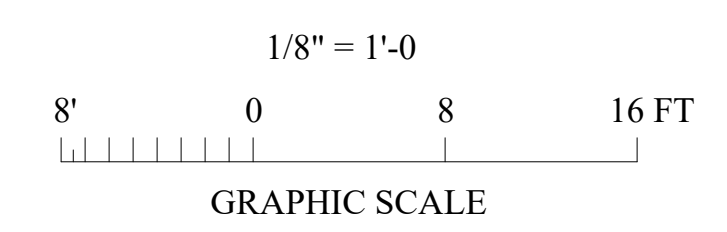
- ① CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING IN THIS AREA. EXISTING CIRCUITRY SHALL REMAIN FOR CONNECTION OF NEW LIGHTING FIXTURES.


**EXISTING RACEWAYS:**  
ELECTRICAL CONTRACTOR SHALL SUPPORT ALL EXISTING RACEWAYS TO REMAIN PER THE NATIONAL ELECTRICAL CODE. PROVIDE ALL EXISTING OPEN JUNCTION BOXES WITH COVERS AND PROVIDE PUSH PENNIES TO ANY EXISTING OPEN KNOCKOUTS. THE EXISTING OVERHEAD CONDUIT SYSTEM IS CURRENTLY NOT SUPPORTED CORRECTLY AND THERE IS OPEN JUNCTION BOXES AND KNOCKOUTS. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE TO CORRECT ALL THESE ITEMS IN THEIR BASE BID.



1  
E1.1

**FLOOR PLAN DEMOLITION - LIGHTING**  
SCALE: 1/8"=1'-0"



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GA#22-115



**RENOVATIONS**  
TO THE  
**CLAY COUNTY CAREER ACADEMY**  
FOR THE  
**CLAY COUNTY BOARD of EDUCATION**  
ASHLAND, ALABAMA

**McKEE and ASSOCIATES**  
ARCHITECTS, INC.  
631 SOUTH HULL STREET · MONTGOMERY, ALABAMA 36104 (334) 834-9933

SHEET TITLE : FLOOR PLAN DEMOLITION  
LIGHTING

McKEE JOB # : 21.239

PSCA # :

DRAWN BY : J. TILLERY

DATE: 05.18.2022

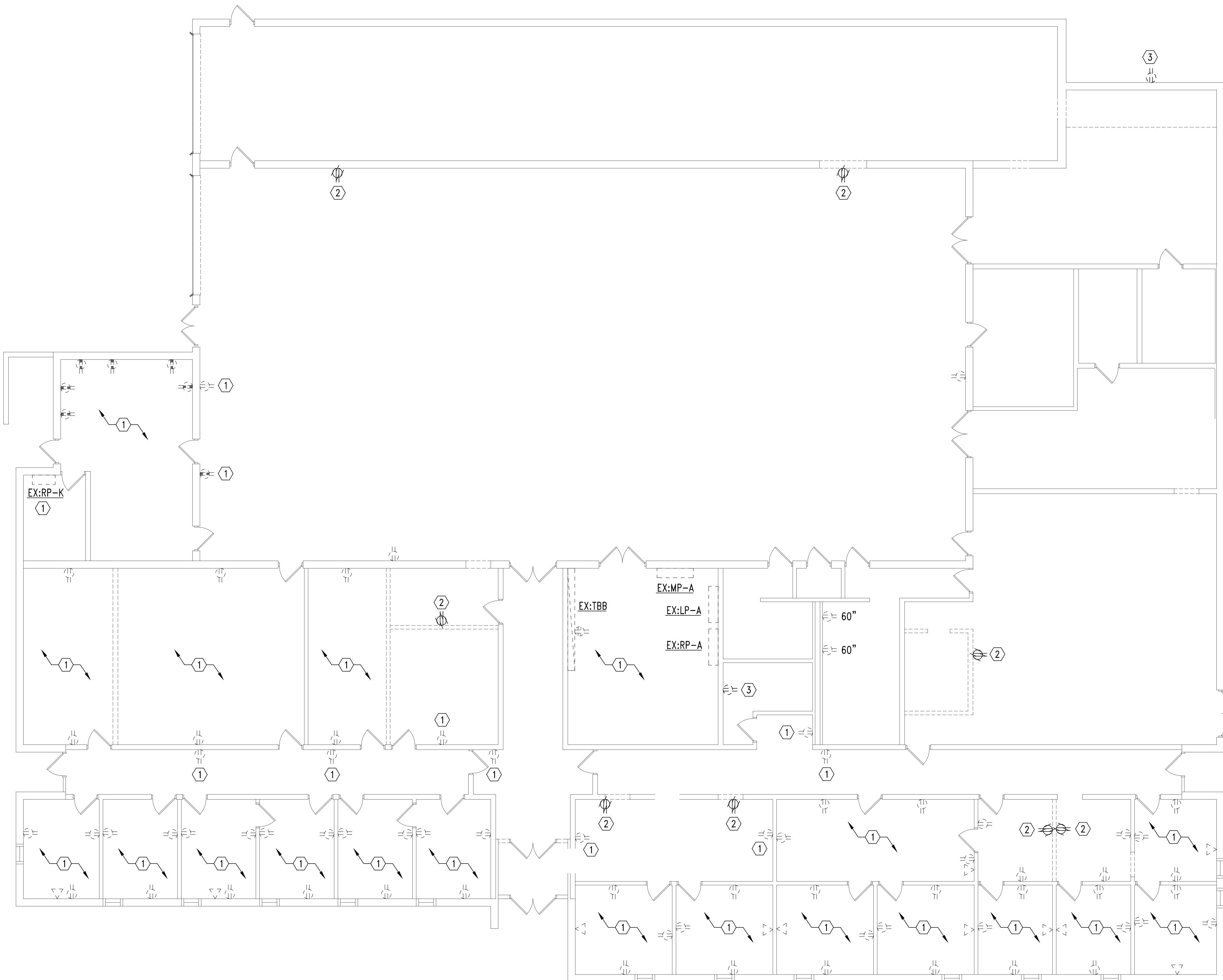
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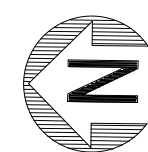
GENERAL NOTES:

1. CONTRACTOR RESPONSIBLE FOR REMOVING AND REINSTALLING ALL CEILING MOUNTED DEVICES IN ALL AREAS THAT NEW CEILINGS WILL BE INSTALLED. LOWER DEVICES TO NEW CEILINGS AS REQUIRED. INTERCEPT AND EXTEND CIRCUITRY AS NEEDED. VISIT SITE PRIOR TO BIDS TO QUANTIFY THE AMOUNT OF WORK AND BID ACCORDINGLY.
2. REMOVE ALL SWITCHING AS REQUIRED TO ACCOMPLISH NEW SWITCHING REQUIREMENTS. SEE LIGHTING PLANS FOR NEW SWITCH REQUIREMENTS FOR EACH SPACE.
3. CONTRACTOR RESPONSIBLE FOR REMOVING AND PROPERLY DISPOSING OF ALL EXISTING LIGHTS AND LIGHT BULBS.

SHEET NOTES:

- ① EXISTING DEVICE TO REMAIN.
- ② REMOVE ALL ELECTRICAL FROM WALL AND DOORS TO BE REMOVED. INTERCEPT AND EXTEND EXISTING CIRCUITRY TO EXISTING DEVICES TO REMAIN.
- ③ CONTRACTOR SHALL REPLACE EXISTING RECEPTACLE ONE FOR ONE WITH NEW GFCI TYPE. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING CIRCUIT AS REQUIRED.

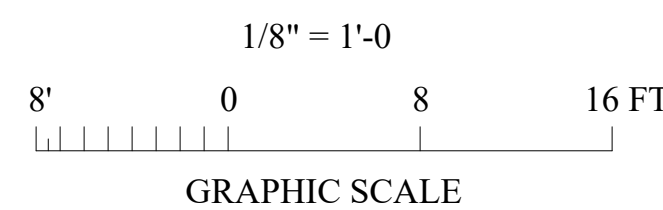
EXISTING RACEWAYS:  
ELECTRICAL CONTRACTOR SHALL SUPPORT ALL EXISTING RACEWAYS TO REMAIN PER THE NATIONAL ELECTRICAL CODE. PROVIDE ALL EXISTING OPEN JUNCTION BOXES WITH COVERS AND PROVIDE PUSH PENNIES TO ANY EXISTING OPEN KNOCKOUTS. THE EXISTING OVERHEAD CONDUIT SYSTEM IS CURRENTLY NOT SUPPORTED CORRECTLY AND THERE IS OPEN JUNCTION BOXES AND KNOCKOUTS. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE TO CORRECT ALL THESE ITEMS IN THEIR BASE BID.



1

FLOOR PLAN DEMOLITION - POWER & AUXILIARY

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



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GA022-115

SHEET TITLE : FLOOR PLAN DEMOLITION  
POWER & AUXILIARY

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : J. TILLERY

DATE : 05.18.2022

REVISED DATE :

REVISED DATE :

REVISED DATE :

SHEET NO. : E1.2

RENOVATIONS

TO THE

CLAY COUNTY CAREER ACADEMY

FOR THE

CLAY COUNTY BOARD OF EDUCATION

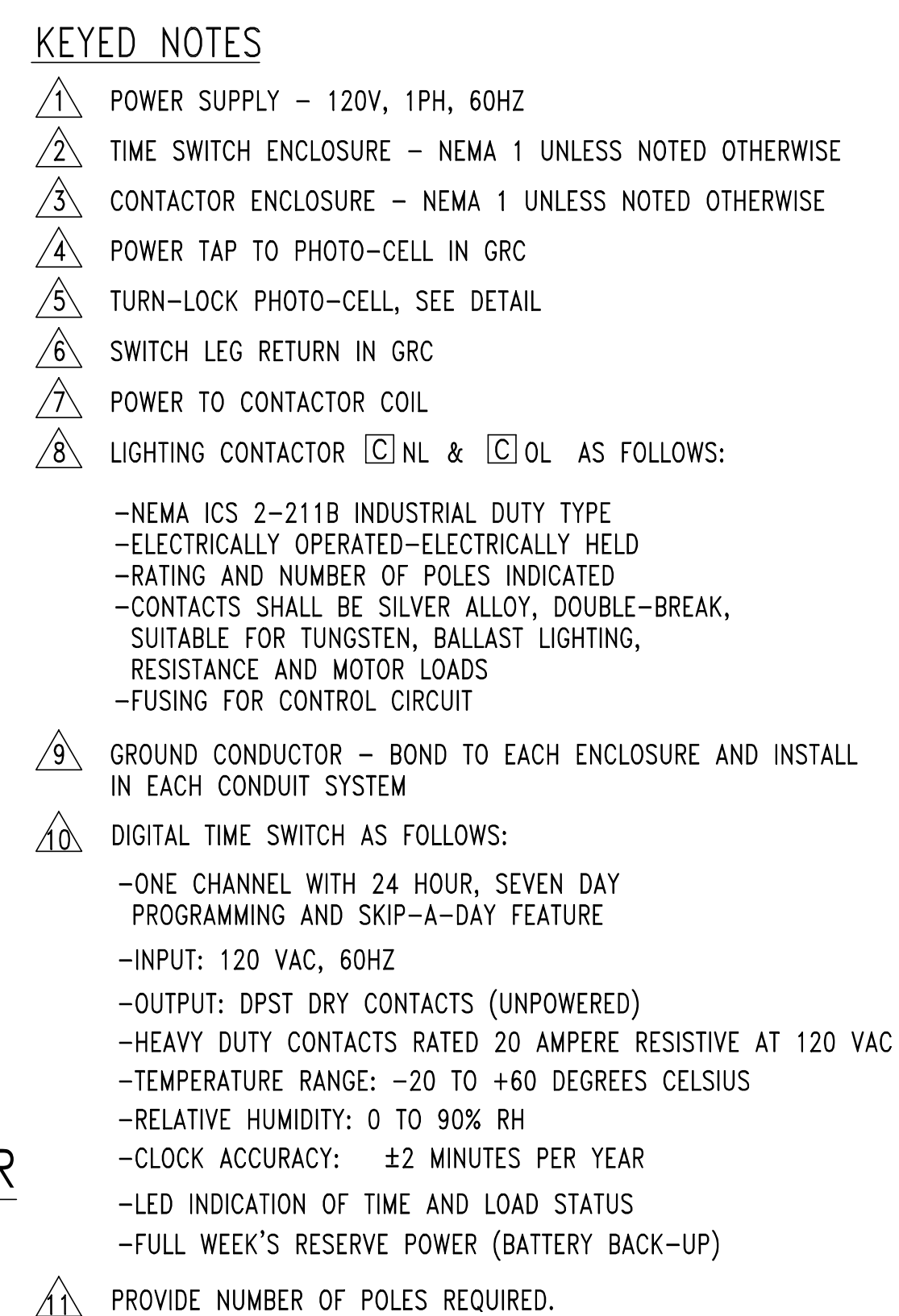
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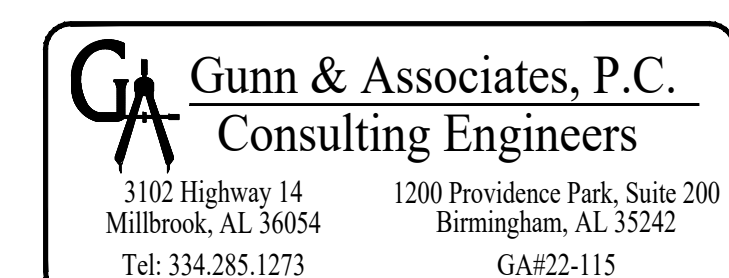
## GENERAL NOTES:

1. ALL OCCUPANCY SENSORS LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT MOUNTING AND SPACING REQUIREMENTS PRIOR TO INSTALLATION.
2. ULTRASONIC CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.
3. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR OCCUPANCY SENSORS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
4. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS FOR OCCUPANCY SENSORS AND THE FOLLOWING:
  - a. ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT.
  - b. REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR MAXIMUM NUMBER OF SENSORS CONNECTED TO ONE POWER PACK.
  - c. IF MULTIPLE CIRCUITS OR DUAL SWITCHING ARE TO BE CONTROLLED BY OCCUPANCY SENSORS, PROVIDE ALL ADDITIONAL AUXILIARY RELAYS AND POWER PACKS AS NEEDED.
5. OCCUPANCY SENSORS MOUNTED OVER DOORWAYS SHALL BE PLACED ONE (1) FOOT INSIDE THRESHOLD.
6. OCCUPANCY SENSORS IN CLASSROOMS SHALL HAVE THE WALK-THROUGH FEATURE DISABLED, UNLESS SPECIFICALLY RECOMMENDED BY MANUFACTURER.
7. SEE POWER PLANS FOR PANEL LOCATIONS.
8. PROVIDE DEDICATED NEUTRALS FOR EACH MULTIWIRE HOMERUN PER NEC.
9. PROVIDE LOW VOLTAGE CABLING AS REQUIRED TO EACH LIGHT FIXTURE FROM THE 0-10V DIMMING SWITCH AS REQUIRED TO ACCOMPLISH THE 0-10V DIMMING.
10. EXTERIOR EXPOSED CONDUIT WILL NOT BE ALLOWED FOR EXTERIOR LIGHTS. RUN ALL CONDUIT INTERIOR OF THE BUILDING. THEN POKE THRU WALL TO THE EXTERIOR AS NEEDED.
11. CONTRACTOR SHALL INSURE THAT NEW DIMMER SWITCHES FIT AS REQUIRED IN EXISTING DOUBLE GANG SWITCH PLACEMENT.
12. PROVIDE ADDITIONAL GROUNDING AS NEEDED TO MAKE LIGHTING CONTROLS AND LED LIGHTING TO FUNCTION CORRECTLY. RE-PULL EXISTING LIGHTING CIRCUITS WITH NEW CONDUCTORS AND GROUNDS IF EXISTING LIGHTING CIRCUITRY IS MISSING GROUNDS. VISIT SITE PRIOR TO BIDS TO QUANTIFY.
13. CONTRACTOR SHALL INCLUDE IN THEIR BASE BID PRICE TWO ADDITIONAL 20A/1P HOMERUN CIRCUITS TO USE IF ANY REUSED LIGHTING CIRCUIT BECOME OVER LOADED.

- ① ROUTE EXTERIOR LIGHTING CIRCUITS THRU CONTACTORS AS SHOWN IN DETAIL 3. "NL" DESIGNATES LIGHTS ARE PHOTOCELL ON/PHOTOCELL OFF. "OL" DESIGNATES PHOTOCELL ON/TIMECLOCK OFF.
- ② DUE TO SAFETY CONCERNS OF LIGHT TURNING OFF WHILE OPERATING EQUIPMENT, THE OWNER HAS ASKED TO ELIMINATE THE LIGHTING CONTROLS IN THIS ROOM.
- ③ PROVIDE WIREGUARD ON WALL MOUNTED LIGHT.
- ④ CONTRACTOR SHALL CONNECT NEW LIGHTS TO EXISTING CIRCUIT PREVIOUSLY SERVING THIS AREA. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING CIRCUIT AS REQUIRED.

1. CONTRACTOR SHALL LOCATE ALL ROOM CONTROLLERS ABOVE DOORS IN EACH ROOM 6" ABOVE CEILING GRID. PROVIDE ACCESS PANELS WHERE LOCATED ABOVE HARD CEILINGS OR MOUNT IN UTILITY TYPE ROOMS WHENEVER POSSIBLE. ROOM CONTROLLERS SHOWN ON THIS PLAN IS DIAGRAMMATIC FOR CIRCUITRY. DO NOT USE THESE FOR ACTUAL LOCATIONS. PROVIDE A WHITE PHENOLIC LABEL WITH 1" BLACK TEXT THAT READS "RC" GLUED ON CEILING GRID UNDER POWER PACK FOR EACH LOCATION FOR FUTURE MAINTENANCE.

1. PHOTOCONTROL OF LIGHT FIXTURES WILL NOT BE REQUIRED FOR THE AREAS ON THIS PAGE. THE PRIMARY SIDELIGHTED AREA WILL NOT HAVE WATTAGES EXCEEDING 150W.



MCKEE JOB # : 21.239

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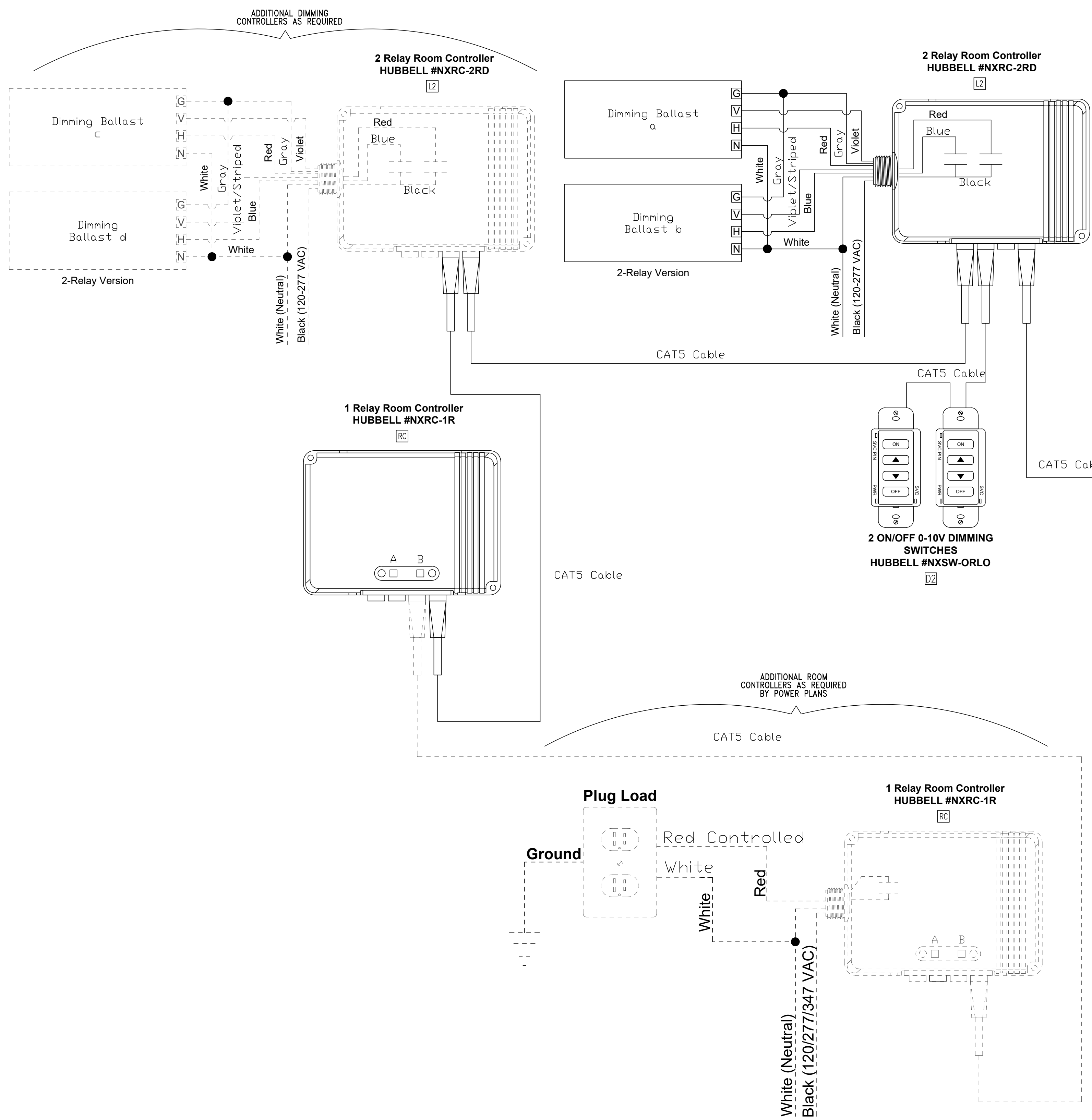
RENOVATIONS  
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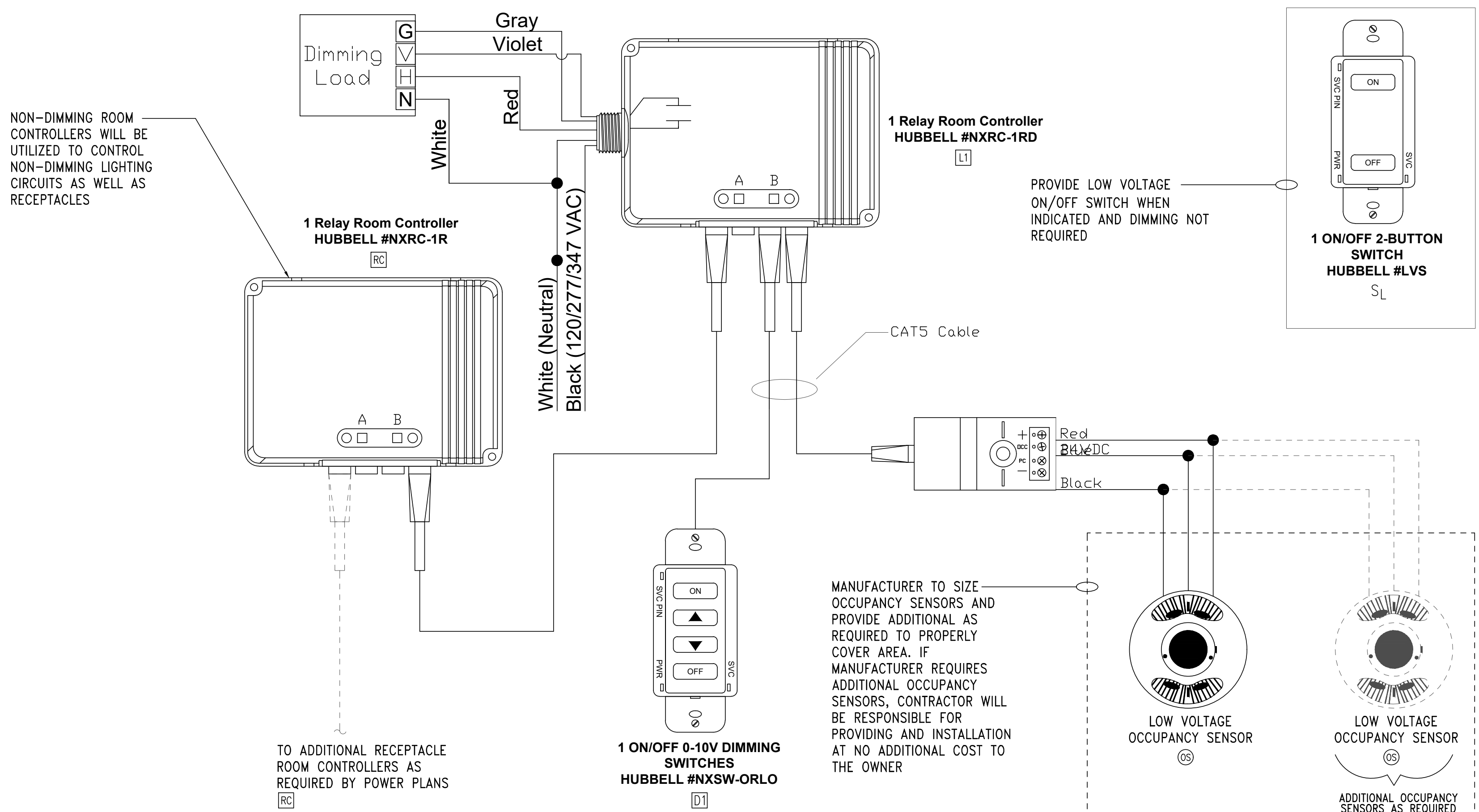




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1 TYPICAL MULTIPLE OCCUPANCY SENSOR, PHOTOCELL, MULTIPLE 0-10V DIMMING ZONES, AND MULTIPLE ROOM RECEPTACLE CONTROLLER DETAIL  
E2.2 NO SCALE

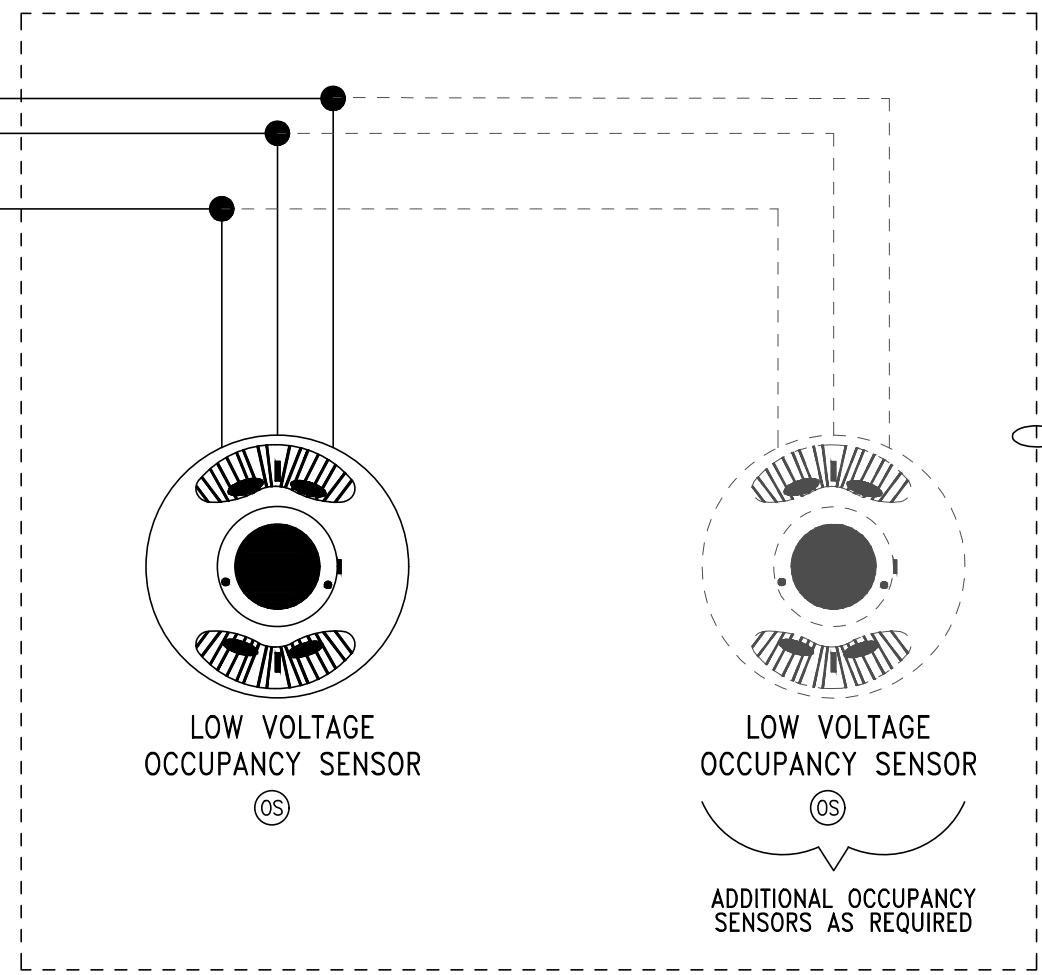


2 TYPICAL MULTIPLE OCCUPANCY SENSOR, SINGLE 0-10V DIMMING SYSTEM, AND MULTIPLE ROOM RECEPTACLE CONTROLLER DETAIL  
E2.2 NO SCALE

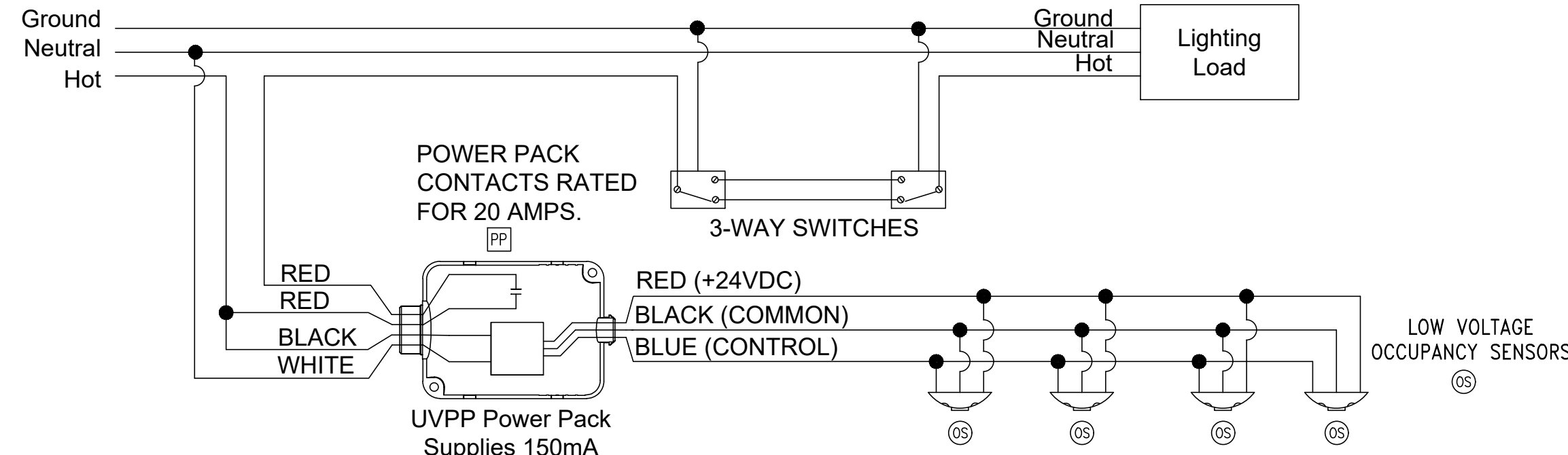
### OCCUPANCY SENSOR AND CONTROL NOTES:

- OCCUPANCY SENSORS SHALL BE VACANCY TYPE WITH DUAL TECHNOLOGY DETECTION AND 20-MINUTE CUTOFF TIME.
- OCCUPANCY SENSOR MANUFACTURER PROVIDER WILL BE RESPONSIBLE FOR SIZING THE OCCUPANCY SENSORS IN EACH SPACE. PROVIDE THIS SIZING TO THE ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. PROVIDE ADDITIONAL OCCUPANCY SENSORS AS REQUIRED TO FULLY COVER ALL SPACES. IF ADDITIONAL OCCUPANCY SENSORS OR ANY OTHER EQUIPMENT IS REQUIRED IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND INSTALL. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THIS WITH LIGHTING MANUFACTURER PRIOR TO BIDS AND COVER THE COST OF ALL MATERIAL AND LABOR FOR ANY ADDITIONAL OCCUPANCY SENSORS.
- ALL OCCUPANCY SENSORS LOCATIONS ARE APPROXIMATE, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR EXACT MOUNTING AND SPACING REQUIREMENTS PRIOR TO INSTALLATION.
- ULTRASONIC CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR OCCUPANCY SENSORS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
- OCCUPANCY SENSORS MOUNTED OVER DOORWAYS SHALL BE PLACED ONE (1) FOOT INSIDE THRESHOLD.
- LIGHTING CONTROL SYSTEM IS SPECIFIED AROUND THE HUBBELL AUTOMATION SYSTEM. CONTRACTOR SHALL PROVIDE ALL MATERIALS, DEVICES, WIRING, CONNECTIONS, AND PROGRAMMING NEEDED IF ANY OTHER LIGHTING CONTROL SYSTEM SUBMITS FOR APPROVAL AND IS PROVIDED.
- WATT STOPPER AND N-LIGHT ARE APPROVED EQUALS.
- CONTRACTOR SHALL GROUND ALL JUNCTION BOXES CONTAINING LOW VOLTAGE SWITCHES OR ANY OTHER TYPE LIGHTING CONTROL DEVICE WITH #12 GRD.

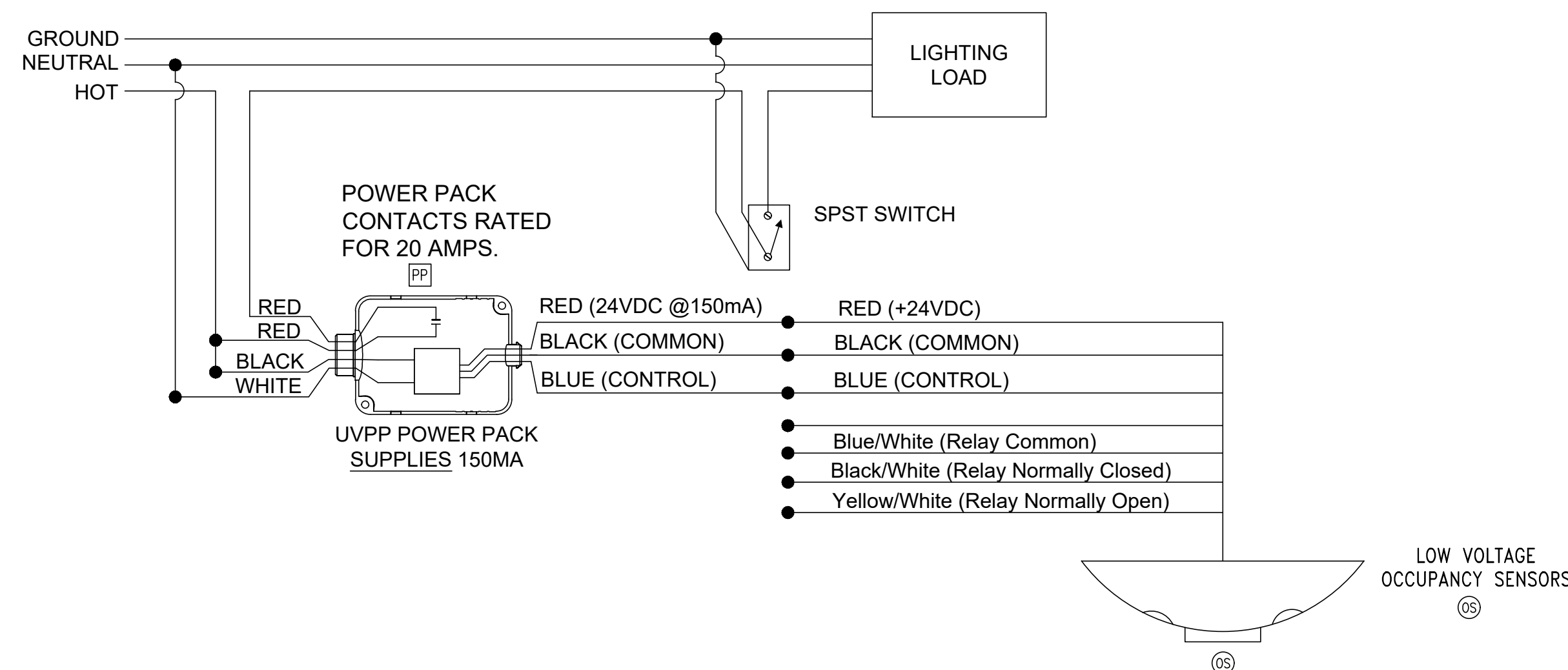
18AWG STANDARD LOW VOLTAGE WIRE



MANUFACTURER TO SIZE OCCUPANCY SENSORS AND PROVIDE ADDITIONAL AS REQUIRED TO PROPERLY COVER AREA. IF MANUFACTURER REQUIRES ADDITIONAL OCCUPANCY SENSORS, CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLATION AT NO ADDITIONAL COST TO THE OWNER



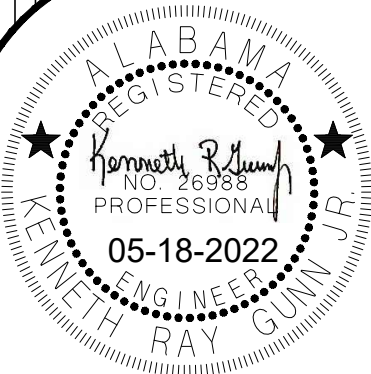
4 TYPICAL 3-WAY SWITCHING OCCUPANCY SENSOR WIRING DIAGRAM  
E2.2 NO SCALE



3 TYPICAL SINGLE SWITCH OCCUPANCY SENSOR WIRING DIAGRAM  
E2.2 NO SCALE

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RENOVATIONS  
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ASHLAND, ALABAMA



SHEET TITLE : LIGHTING CONTROLS, DETAILS & NOTES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : J. TILLERY

DATE : 05.18.2022

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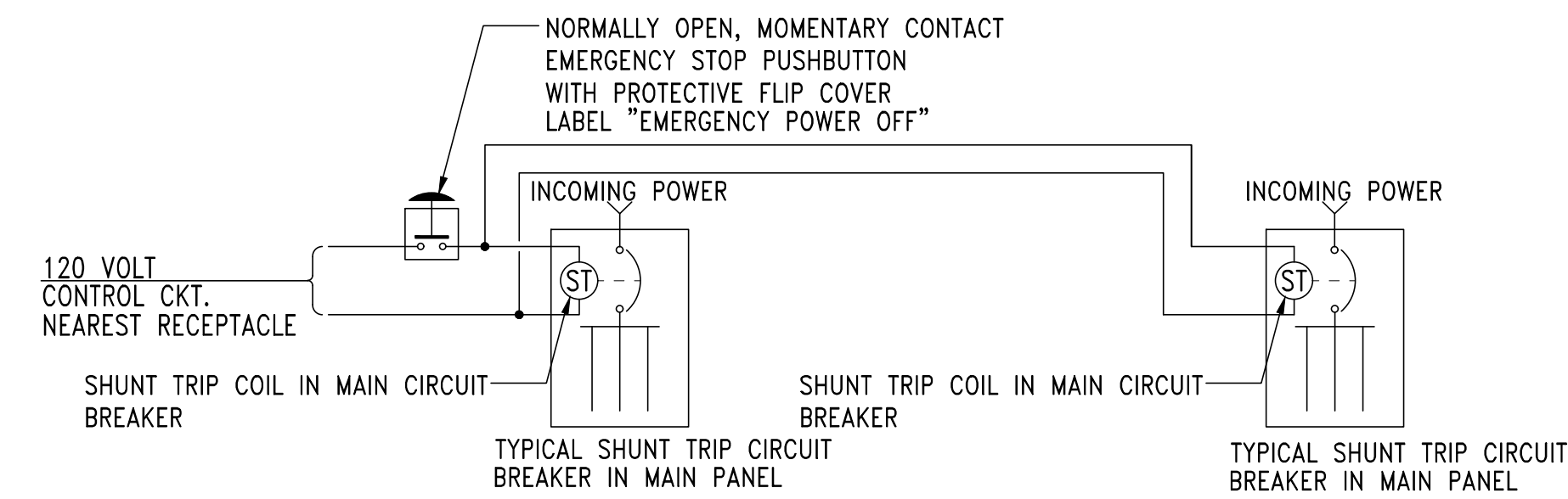


GENERAL NOTES:

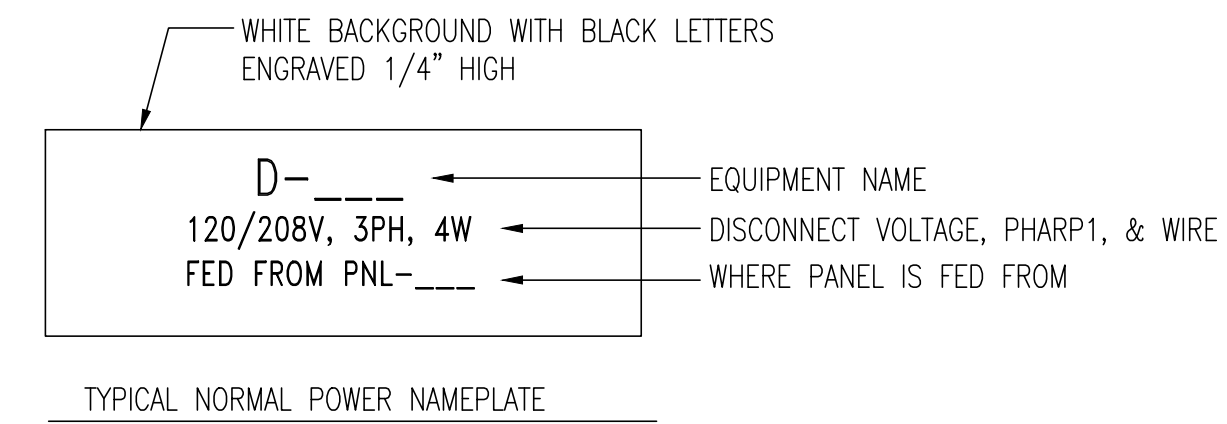
1. PROVIDE DEDICATED NEUTRALS FOR EACH MULTIWIRE HOMERUN PER NEC.
2. COORDINATE EXACT LOCATION OF ALL ELECTRICAL WITH MILLWORK PROVIDERS PRIOR TO ROUGH-IN.
3. PROVIDE ALL DISCONNECTS WITH NAMEPLATE PER DETAIL (2) THIS SHEET. PROVIDE ALL DISCONNECTS IN SHOP AREAS WITH NEUTRALS.
4. CONTRACTOR TO CONNECT OWNER'S EQUIPMENT. PROVIDE IN BASE BID THE COST OF FUSING AND PROVIDING THE PROPER NEMA CONFIGURATION RECEPTACLES TO CONNECT OWNER'S EQUIPMENT.

SHEET NOTES:

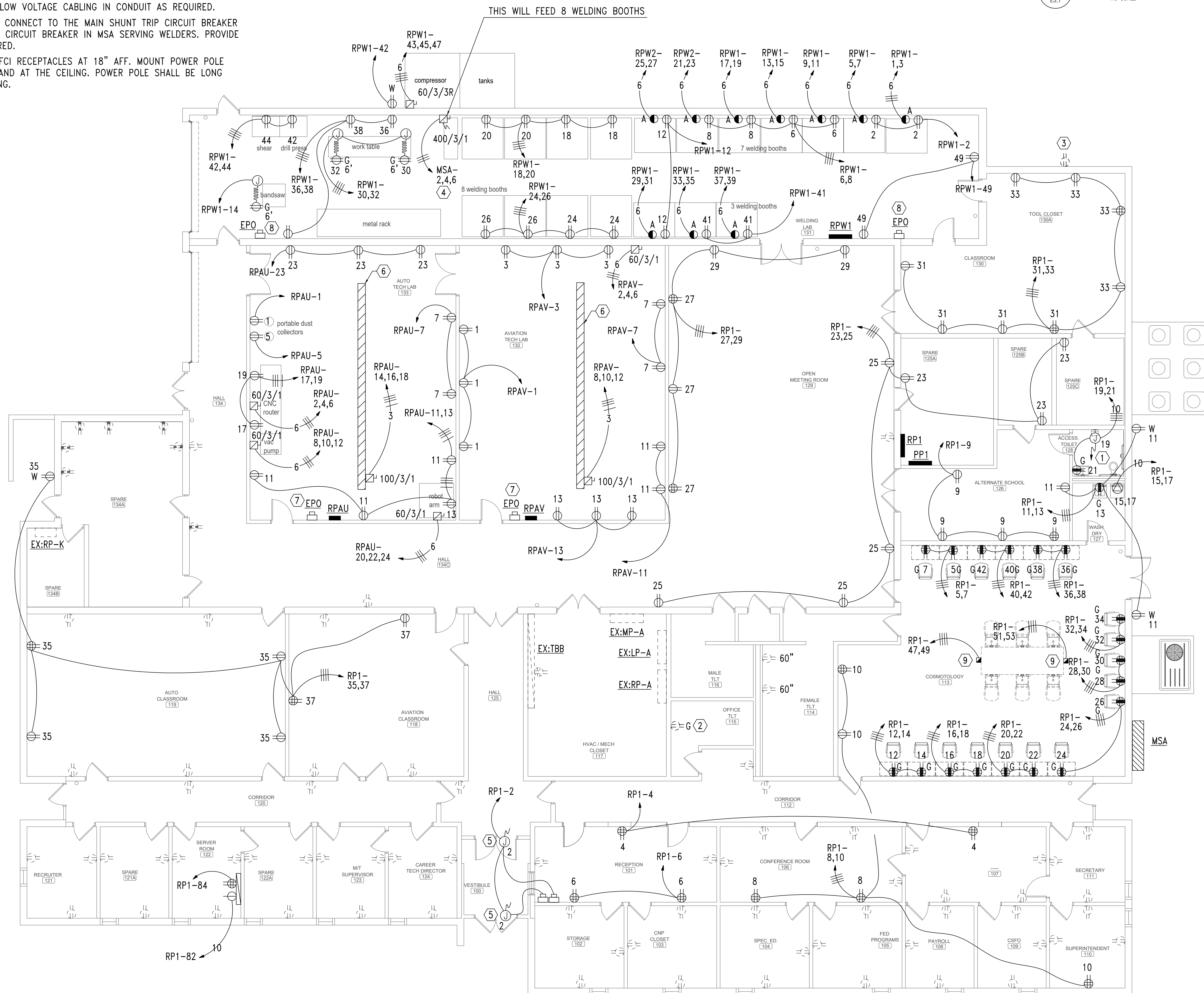
1. PROVISIONS FOR ELECTRIC HAND DRYER. MOUNT JUNCTION BOX BEHIND PAPER TOWEL DISPENSER AND WALL BLANK OFF. CIRCUIT BREAKERS FEEDING CIRCUITRY SHALL BE SWITCHED OFF AND WIRE DISCONNECTED.
2. EXISTING RECEPTACLE THAT HAS BEEN REPLACED ONE FOR ONE WITH NEW GFCI TYPE RECEPTACLE. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING RECEPTACLE AS REQUIRED.
3. EXISTING RECEPTACLE THAT HAS BEEN REPLACED ONE FOR ONE WITH NEW WEATHERPROOF GFCI TYPE RECEPTACLE. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING CIRCUITRY AS REQUIRED.
4. PROVIDE NEW 250A/3P SHUNT TRIP CIRCUIT BREAKER IN NEW MAIN PANEL MSA. PROVIDE 4#250KCMIL & 1#4GRD - 3"C.
5. PROVIDE POWER TO THE ELECTRIC STRIKE OF THE SECURE DOOR. PROVIDE CONDUIT AND LOW VOLTAGE CABLE TO CONTROL THE ELECTRIC STRIKE FROM A PUSHBUTTON STATION ON THE FRONT DESK.
6. PROVIDE 30' OF 120/240V DELTA, 3-PHASE, 4-WIRE, 100-AMP BUS DUCT SUSPENDED FROM CEILING. BUS DUCT TO PROVIDED WITH A MINIMUM 12 BUS PLUG OUTLETS AND THREE 30A/3P BUS PLUG DISCONNECTS AND ONE 60A/3P BUS PLUG OUTLETS EVENLY DISTRIBUTED ALONG BUS DUCT. ALUMINUM BUSSING IS ACCEPTABLE FOR THIS BUS DUCT.
7. PROVIDE EMERGENCY POWER OFF SWITCH AND CONNECT TO THE MAIN SHUNT TRIP CIRCUIT BREAKER OF THE PANEL SERVING THIS AREA. PROVIDE LOW VOLTAGE CABLING IN CONDUIT AS REQUIRED.
8. PROVIDE EMERGENCY POWER OFF SWITCH AND CONNECT TO THE MAIN SHUNT TRIP CIRCUIT BREAKER OF THE PANEL SERVING THIS AREA AND 250A CIRCUIT BREAKER IN MSA SERVING WELDERS. PROVIDE LOW VOLTAGE CABLING IN CONDUIT AS REQUIRED.
9. PROVIDE ALUMINUM POWER POLE WITH TWO GFCI RECEPTACLES AT 18" AFF. MOUNT POWER POLE SUCH THAT IT IS SUPPORTED AT THE FLOOR AND AT THE CEILING. POWER POLE SHALL BE LONG ENOUGH TO GO FROM FLOOR TO ABOVE CEILING.



3 WIRING DIAGRAM - TYPICAL DUAL PANEL SHUNT TRIP "EPO"  
E3.1 NO SCALE



2 DETAIL - TYPICAL DISCONNECT NAMEPLATE  
E3.1 NO SCALE



1 FLOOR PLAN - POWER  
E3.1 SCALE: 1/8"=1'-0"

1/8" = 1'-0  
8' 0 8 16 FT  
GRAPHIC SCALE

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SHEET TITLE : FLOOR PLAN - POWER

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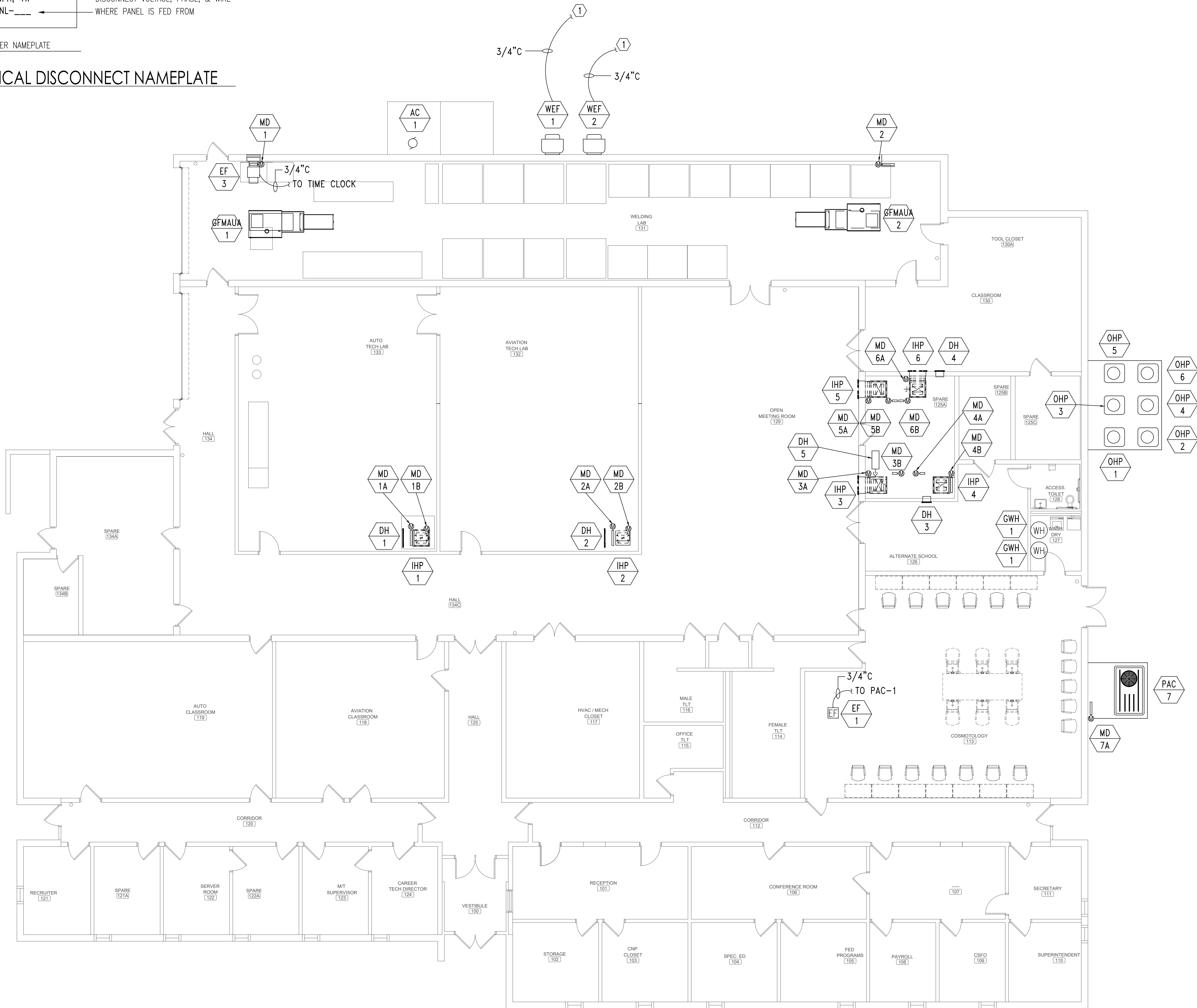
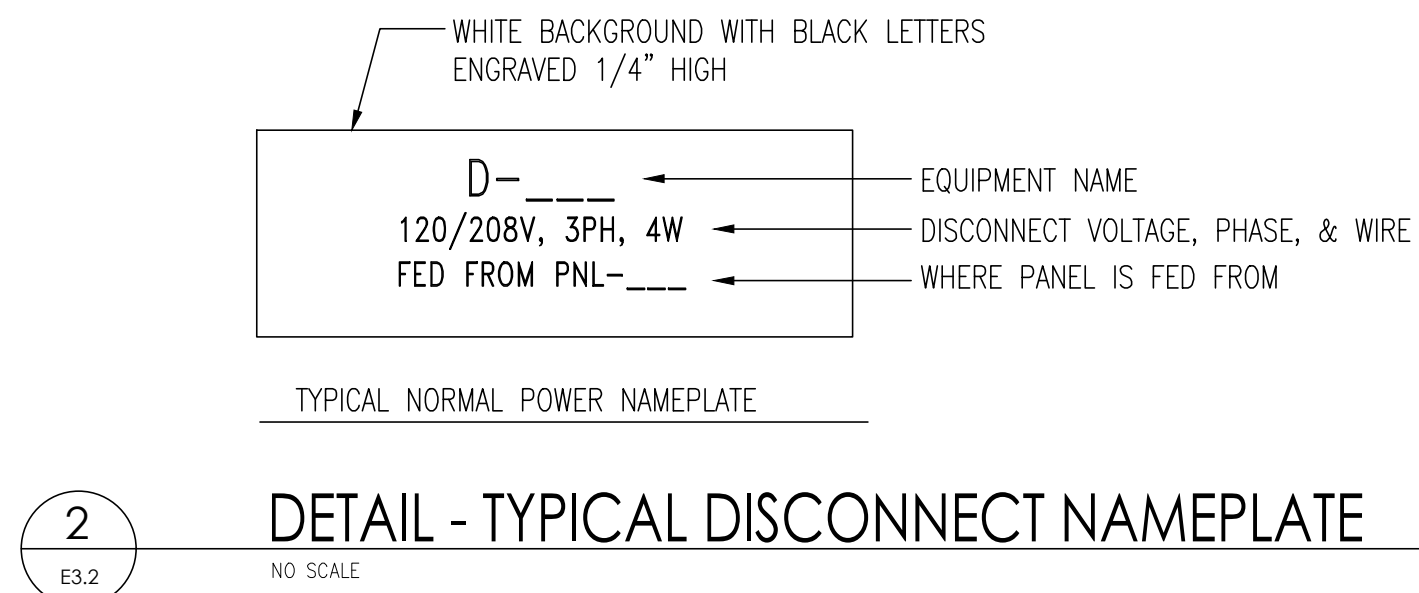


GENERAL NOTES:

- COORDINATE WITH MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT.
- MOUNT EXTERIOR DISCONNECTS ON EXTERIOR WALLS AT LEAST 18" FROM WINDOWS. LOCATIONS OF DISCONNECTS AND EQUIPMENT ARE SHOWN FOR DRAWING CLARITY PURPOSES ONLY.
- COORDINATE WITH MECHANICAL/PLUMBING CONTRACTORS TO INSURE OVERCURRENT PROTECTION DEVICES FOR THEIR EQUIPMENT IS SIZED PER MANUFACTURER'S RECOMMENDATIONS. ENGINEER SIZED OVERCURRENT PROTECTION ACCORDING TO MECHANICAL/PLUMBING DRAWINGS AND SPECIFICATIONS, ACTUAL EQUIPMENT SUPPLIED MAY DIFFER. ELECTRICAL CONTRACTOR SHALL WORK WITH OTHER TRADE DISCIPLINES TO INSURE ANY CHANGES WILL BE INSTALLED CORRECTLY AT THE COST OF THE PERSON MAKING THE CHANGES.
- ALL FLEXIBLE CONNECT TO HVAC UNITS SHALL BE RUN PARALLEL TO HARD SURFACE AND STRAPPED AT LEAST EVERY 2'.
- CONTRACTOR SHALL PROVIDE CONDUIT FOR MECHANICAL CONTROLS. COORDINATE EXACT LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- ALL DISCONNECTS TO HAVE NAMEPLATE AS SHOWN IN DETAIL (2) THIS SHEET, NO EXCEPTIONS.
- PROVIDE DEDICATED NEUTRALS FOR EACH MULTIWIRE HOMERUN PER NEC.
- SEE DETAIL 1/E3.3 SHEET FOR MECHANICAL UNIT CONNECTION DETAIL.
- COORDINATE WITH GENERAL EQUIPMENT SCHEDULE ON SHEET E3.3

SHEET NOTES:

- ① INTERLOCK WITH ASSOCIATED GAS FIRED MAKE UP UNIT AS REQUIRED.





| GENERAL EQUIPMENT SCHEDULE |                        |                |                             |       |      |             |       |                       |                         |
|----------------------------|------------------------|----------------|-----------------------------|-------|------|-------------|-------|-----------------------|-------------------------|
| EQUIPMENT MARK:            | EQUIPMENT DESCRIPTION: | VOLTAGE/PHASE: | ELECTRICAL CHARACTERISTICS: |       |      | DISCONNECT: | FUSE: | HOMERUN:              | FEEDER:                 |
|                            |                        |                | HP                          | KW    | AMPS |             |       |                       |                         |
| AC-1                       | AIR COMPRESSOR         | 240V/3PH       | 7 1/2                       | ----  | ---- | 60/3/3R     | F     | MSA 19.21.23          | 3#6 & 1#10GRD - 1 1/4"C |
| EF-1                       | EXHAUST FAN            | 120V/1PH       | 1/4                         | ----  | ---- | TS          | ----  | RP1 - 39              | 2#10 & 1#10GRD - 3/4"C  |
| EF-3                       | EXHAUST FAN            | 120V/1PH       | 1/2                         | ----  | ---- | TS          | ----  | RP1 - 41              | 2#10 & 1#10GRD - 3/4"C  |
| WEF-1                      | EXHAUST FAN            | 240V/3PH       | 1 1/2                       | ----  | ---- | 30/3/3R     | F     | PP1 - 25,27,29        | 3#10 & 1#10GRD - 3/4"C  |
| WEF-2                      | EXHAUST FAN            | 240V/3PH       | 1 1/2                       | ----  | ---- | 30/3/3R     | F     | PP1 - 31,33,35        | 3#10 & 1#10GRD - 3/4"C  |
| GFMU-1                     | ELECT. UNIT HEATER     | 240V/3PH       | 3                           | ----  | ---- | 30/3/3R     | F     | PP1 - 20,22,24        | 3#10 & 1#10GRD - 3/4"C  |
| GFMU-1                     | ELECT. UNIT HEATER     | 240V/3PH       | 3                           | ----  | ---- | 30/3/3R     | F     | PP1 - 26,28,30        | 3#10 & 1#10GRD - 3/4"C  |
| MD-1,2,1A,1B,2A,2B         | MOTORIZED DAMPER       | 120V/1PH       | ----                        | 0.200 | ---- | TS          | ----  | PP1 - 37              | 2#12 & 1#12GRD - 3/4"C  |
| MD-3A,3B,4A,4B,5A,5B       | MOTORIZED DAMPER       | 120V/1PH       | ----                        | 0.200 | ---- | TS          | ----  | PP1 - 39              | 2#12 & 1#12GRD - 3/4"C  |
| MD-6A, 6B, 7A              | MOTORIZED DAMPER       | 120V/1PH       | ----                        | 0.200 | ---- | TS          | ----  | PP1 - 41              | 2#12 & 1#12GRD - 3/4"C  |
| IHP-1                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 50   | 60/3/1      | F     | PP1 - 1,3,5           | 3#6 & 1#10GRD - 1 1/4"C |
| IHP-2                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 50   | 60/3/1      | F     | PP1 - 7,9,11          | 3#6 & 1#10GRD - 1 1/4"C |
| IHP-3                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 50   | 60/3/1      | F     | PP1 - 13,15,17        | 3#6 & 1#10GRD - 1 1/4"C |
| IHP-4                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 32   | 60/3/1      | F     | PP1 - 19,21,23        | 3#6 & 1#10GRD - 1 1/4"C |
| IHP-5                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 32   | 60/3/1      | F     | PP1 - 25,27,29        | 3#6 & 1#10GRD - 1 1/4"C |
| IHP-6                      | INDOOR HEAT PUMP       | 240V/3PH       | ----                        | ----  | 32   | 60/3/1      | F     | PP1 - 31,33,35        | 3#6 & 1#10GRD - 1 1/4"C |
| OHP-1                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 18   | 30/3/3R     | F     | PP1 - 2,4,6           | 3#10 & 1#10GRD - 3/4"C  |
| OHP-2                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 18   | 30/3/3R     | F     | PP1 - 8,10,12         | 3#10 & 1#10GRD - 3/4"C  |
| OHP-3                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 18   | 30/3/3R     | F     | PP1 - 14,16,18        | 3#10 & 1#10GRD - 3/4"C  |
| OHP-4                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 17   | 30/3/3R     | F     | PP1 - 20,22,24        | 3#10 & 1#10GRD - 3/4"C  |
| OHP-5                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 13   | 30/3/3R     | F     | PP1 - 26,28,30        | 3#12 & 1#12GRD - 3/4"C  |
| OHP-6                      | OUTDOOR HEAT PUMP      | 240V/3PH       | ----                        | ----  | 13   | 30/3/3R     | F     | PP1 - 32,34,36        | 3#12 & 1#12GRD - 3/4"C  |
| PAC-1                      | PACKAGED HEAT PUMP     | 240V/3PH       | ----                        | ----  | 65   | 100/3/3R    | F     | EXP.NIL SE' (NOTE 10) | 3#4 & 1#8GRD - 1 1/2"C  |
| GWH-1                      | ELEC. WATER HTR        | 120V/1PH       | ----                        | 0.200 | ---- | TS          | ----  | RP1 - 43              | 2#12 & 1#12GRD - 3/4"C  |
| GWH-2                      | ELEC. WATER HTR        | 120V/1PH       | ----                        | 0.200 | ---- | TS          | ----  | RP1 - 45              | 2#12 & 1#12GRD - 3/4"C  |

NOTES:  
1. COORDINATE WITH MANUFACTURER'S CUTSHEETS OR NAMEPLATE DATA AND ADJUST OVERCURRENT PROTECTION AS NEEDED TO PROTECT EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND TO COMPLY WITH NEC AND ALL LOCAL CODES. COORDINATION SHALL BE DONE PRIOR TO BIDS AND ACCOUNTED FOR IN THE CONTRACTOR'S BID PRICE.  
2. ALL DISCONNECTS SHALL BE HEAVY DUTY TYPE.  
3. ALL FUSES SHALL BE SIZED PER NAMEPLATE DATA.  
4. "NF" - NON-FUSED  
5. "F" - FUSED  
6. "TS" MANUAL MOTOR STARTER WITH THERMAL OVERLOAD ("W" - WEATHERPROOF) ("30-AMP" - 30-AMP RATED)  
7. PROVIDE INTERCONNECTING RELAY SUCH THAT FAN IS CONTROLLED BY LIGHTING.  
8. "WP" - WEATHERPROOF ENCLOSURE.  
9. CONTRACTOR SHALL COORDINATE EXACT REQUIREMENTS AND LOCATIONS FOR ALL CIRCULATING PUMPS AND TIME CLOCKS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.  
10. CONTRACTOR SHALL ADD (1) ONE NEW 70A/3P CIRCUIT BREAKER IN EXISTING PANEL SE AS REQUIRED.



**McKEE** and ASSOCIATES  
ARCHITECTS, INC.

|               |            |
|---------------|------------|
| MCKEE JOB # : | 21.239     |
| PSCA # :      |            |
| DRAWN BY :    | J. TILLERY |
| DATE:         | 05.18.2022 |
| REVISED DATE: |            |
| REVISED DATE: |            |
| REVISED DATE: |            |

SHEET NO. : E3.3

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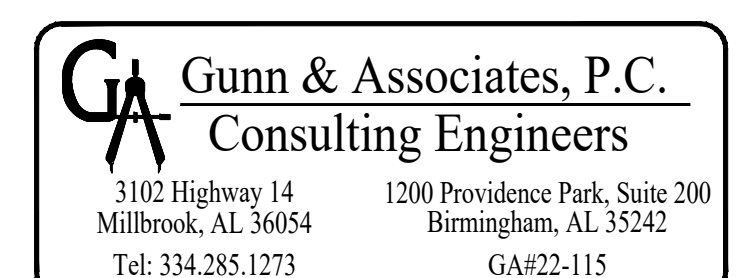


1. PROVIDE 5/8" STRUT ASSEMBLY AT TOP AND BOTTOM OF TBB TO SUPPORT ALL CONDUITS TERMINATING AT BACKBOARD.
2. TBB SHALL BE 3/4" PLYWOOD EXTERIOR RATED AND CUT TO COVER ALL WALLS OR AS INDICATED. PAINT WITH TWO COATS OF FIRE RETARDANT PAINT, MOUNT 2" AFF.
3. PROVIDE A PLASTIC BUSHING OR PROTECTIVE COLLAR AT EACH CONDUIT TERMINATION, INCLUDING TERMINATIONS ABOVE THE CEILING, AT ANGLE TRAY, OR AT THE TBB.
4. ALL CONDUIT TERMINATIONS SHOULD BE DONE EVENLY AT THE TOP AND BOTTOM OF TBB. TERMINATIONS SHALL BE MADE WITHIN THE FIRST FEW INCHES OF THE TBB.
5. SEAL ALL CONDUITS FROM THE EXTERIOR WITH A SEALING COMPOUND, ONCE ALL CABLING HAS BEEN INSTALLED.
6. PROVIDE GROUND BUS FOR EACH TBB. SEE GROUND BUS INSTALLATION DETAIL.
7. PROVIDE ALL CONDUITS WITH PULLWIRES.
8. STENCIL ALL JUNCTION BOX COVERS ABOVE THE CEILING WITH 2" LETTERS THAT READ "COMM".



1. ALL CONDUIT SHALL STUB ABOVE ACCESSIBLE CEILING. PROVIDE PROTECTIVE PLASTIC COLLAR AT STUB AND PULLSTRING.
2. COORDINATE AND MOUNT COMMUNICATIONS OUTLETS WITHIN 6" OF CORRESPONDING POWER RECEPTACLE.
3. COORDINATE ALL AUXILIARY SYSTEMS WITH THEIR CORRESPONDING RISER DIAGRAMS.

- ① PROVIDE WIREGUARDS TO PROTECT ALL FIRE ALARM DEVICES IN THIS ROOM.
- ② COORDINATE WITH COMMUNICATIONS PROVIDER AND PROVIDE CONDUITS TO THE SERVICE PROVIDER AT THE ROAD RIGHT OF WAY.
- ③ PROVIDE JUNCTION BOX WITH 1/2" CONDUIT STUBBED INTO BUILDING FOR OWNER PROVIDED CAMERA.



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SHEET NO. : E4.1



**NOTES:**

1. ALL RECESSED LUMINAIRES SHALL BE WIRED FROM A JUNCTION BOX AS SHOWN, INCLUDING LUMINAIRES IN A CONTINUOUS ROW. NO WIRING THRU FIXTURES. NO MORE THAN TWO LUMINAIRES SHALL BE CIRCUITED TO ONE JUNCTION BOX.
2. LUMINAIRE SUPPORT WIRES TO BE A MINIMUM OF #14 GAGE PRE-STRAINED GALVANIZED WIRE ATTACHED AT OPPOSITE CORNERS. LUMINAIRE SHALL BE SUPPORTED TO THE STRUCTURE INDEPENDENT OF THE CEILING GRID.
3. CONDUCTORS IN FLEXIBLE CONDUIT FROM JUNCTION BOX TO LUMINAIRE SHALL CONTAIN AN INSULATED GREEN GROUND WIRE, WITH NEUTRAL AND PHASE CONDUCTORS REQUIRED FOR THE CIRCUITING AND SWITCHING REQUIREMENTS INDICATED.
4. JUNCTION BOXES SHALL BE ACCESSIBLE AND LOCATED WITHIN 1'-6" ABOVE LAY-IN CEILING INSTALLATION. PROVIDE PENDANT ALL-THREAD RODS AND/OR STRUT ASSEMBLIES TO MEET THIS REQUIREMENT WHERE DROP CEILING IS MORE THAN 1'-6" FROM STRUCTURE.
5. CONTRACTOR SHALL INSTALL ALL T-BAR SAFETY CLIPS TO GRID. IF FIXTURE DOES NOT COME WITH GRID SAFETY CLIPS, THEN THE CONTRACTOR SHALL PROVIDE SUPPORT WIRES ON ALL FOUR SIDES.

CONDUIT

CONDUIT SUPPORT WITHIN 3' OF JUNCTION BOX.

JUNCTION BOX

FLEXIBLE CONDUIT (MAX LENGTH 6') SIZED PER NEC FOR CIRCUIT PROVISION. SUPPORT FLEX OFF OF CEILING.

LUMINAIRE SUPPORT WIRE ATTACHED TO STRUCTURE INDEPENDENT OF CEILING GRID. CANNOT BE SUPPORTED BY SAME ANCHOR AS OPPOSITE SIDE WIRE. PROVIDE DIFFERENT COLOR WIRE THAN CEILING SUPPORT WIRE COLOR

TYPICAL LAY-IN LUMINAIRE

TYPICAL CEILING GRID SUPPORT

TYPICAL LAY-IN CEILING SYSTEM

**DETAIL - TYPICAL LAY-IN LUMINAIRE INSTALLATION**

1  
ES.1  
NO SCALE

1. ALL LUMINAIRES AND INSTALLATION SHALL BE IN ACCORDANCE WITH NEC, NFPA AND LOCAL CODES. ALL LUMINAIRES SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THE UL LISTING.
2. LUMINAIRES SHALL BE FURNISHED COMPLETE WITH THE PROPER LAMP BASE OR PIN RECEPTORS, WIRING COMPONENTS, LAMPS, SUPPORTING FRAMES AND DEVICES, ETC., FOR A COMPLETE INSTALLATION.
3. ALL LUMINAIRE DEVICES, COMPONENTS, FITTINGS, SUPPORTS, ETC., SHALL BE COORDINATED TO PROVIDE A COMPLETE UL LISTED INSTALLATION.
4. ALL LUMINAIRES BALLAST, DRIVERS, LAMPS, ETC SHALL BE COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM OR DIMMING CONTROL SYSTEM PROVIDED.
5. SECURE EACH LAY-IN LUMINAIRE AT TWO LOCATIONS TO THE CEILING GRID. PROVIDE BOLTS, SCREWS, RIVETS OR APPROVED CLIPS FOR USE WITH THE TYPE CEILING AND LUMINAIRE INSTALLED.
6. ALL LUMINAIRES IN MECHANICAL AND ELECTRICAL ROOMS SHALL BE INSTALLED TO CLEAR ELECTRICAL EQUIPMENT, DUCTS, PIPING, ETC. BELOW OBSTRUCTION WHEN CONFLICTS OCCUR.
7. ALL LED LUMINAIRES SHALL BE PROVIDED WITH 4000K COLOR TEMPERATURE LAMPS, UNLESS NOTED OTHERWISE. ARCHITECT RESERVES THE RIGHT TO SELECT ALL COLORS FOR LUMINAIRES, POLES, MOUNTING ACCESSORIES, ETC. DURING SHOP DRAWING REVIEW.
8. COORDINATE LUMINAIRE MOUNTING WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION.
9. ALL EXIT SIGNS AND LUMINAIRES DESIGNATED AS EMERGENCY SHALL BE PROVIDED WITH A MINIMUM 1100 LUMEN EMERGENCY BATTERY BALLAST CAPABLE OF 90 MINUTES OF ILLUMINATION. X DESIGNATION MEANS EXIT TYPE BATTERY.
11. CONTRACTOR SHALL PROVIDE ALL SLOPE ADAPTERS, FLANGE KITS, TRIMS, AND ALL OTHER MOUNTING ACCESSORIES AS NEEDED TO MOUNT EACH LUMINAIRE IN CEILINGS AS SHOWN. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
12. PROVIDE ALL EXIT SIGNS WITH DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS.

## NOTES

PAINT CONDUIT NIPPLE, SOCKET AND PIPE FLANGE WITH TWO COATS OF ENAMEL.

COMPLETE ASSEMBLY TO BE UL LISTED FOR WET LOCATIONS.

PHOTOCELL TO BE MOUNTED FACING NORTH FREE FROM ALL SHADOWS WHICH MIGHT CAUSE PHOTOCELL TO TURN LIGHTS ON EARLY.

CONTRACTOR SHALL COORDINATE PROPER MOUNTING LOCATION PRIOR TO INSTALLATION.

**McKEE and ASSOCIATES**  
ARCHITECTS, INC.



MCKEE JOB # : 21.239  
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 DATE: 05.18.2022  
 REVISED DATE:  
 REVISED DATE:  
 REVISED DATE:

SHEET NO.: E5.1

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| PANEL - MSA   |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
|---|--------------------------|---------|---------|---------------------|------|----------------|-----|------------------|----------------|---------|---------|---|--|--|--|
| TYPE: 1200 AMP MAIN CIRCUIT BREAKER   |                          |         |         | AIC: 65,000 AMPERES |      |                |     | MOUNTED: SURFACE |                |         |         | VOLTAGE: 120/240 VOLTS, 3 PHASE, 4 WIRE (DELTA) |  |  |  |
| CIRCUIT DIRECTORY   | (VA) PER PHASE           |         |         | AMP                 | POLE | CIRCUIT NUMBER | AMP | POLE             | (VA) PER PHASE |         |         | CIRCUIT DIRECTORY                               |  |  |  |
|   | PHASE A                  | PHASE B | PHASE C |                     |      |                |     |                  | PHASE A        | PHASE B | PHASE C |   |  |  |  |
| EXISTING PANEL "MPA"  | 14,000                   |         |         | 800                 |      | 1 2 250        |     |                  | 9,000          |         |         | * BIG WELDER (NOTE 8)                           |  |  |  |
|   |                          | 14,000  |         |                     | 3    | 3 4 6          |     |                  |                | 9,000   |         | SHUNT TRIP                                      |  |  |  |
|   |                          |         | 14,000  |                     |      | 5 6 6          |     | 3                |                |         | 9,000   |   |  |  |  |
| NEW PANEL RPAW1   | 28,000                   |         |         | 400                 |      | 7 8 250        |     |                  | 26,967         |         |         | NEW PANEL RPAW                                  |  |  |  |
|   |                          | 21,200  |         |                     |      | 9 10           |     |                  |                | 23,367  |         |   |  |  |  |
|   |                          |         | 25,000  |                     | 3    | 11 12          |     | 3                |                |         | 26,967  |   |  |  |  |
| PANEL PP1   | 39,897                   |         |         | 400                 |      | 13 14 400      |     |                  | 31,461         |         |         | NEW PANEL RP1                                   |  |  |  |
|   |                          | 39,897  |         |                     |      | 15 16          |     |                  |                |         |         | STINGER LEG (DON'T USE)                         |  |  |  |
|   |                          |         | 40,157  |                     | 3    | 17 18          |     | 2                |                |         | 27,316  |   |  |  |  |
| AC-1  | 3,043                    |         |         | 50                  |      | 19 20 20       |     |                  | 1,328          |         |         | GFMAU-1   |  |  |  |
|   |                          | 3,043   |         |                     |      | 21 22          |     |                  |                | 1,328   |         |   |  |  |  |
|   |                          |         | 3,043   |                     | 3    | 23 24          |     | 3                |                |         | 1,328   |   |  |  |  |
| WEF-1   | 830                      |         |         | 20                  |      | 25 26 20       |     |                  | 1,328          |         |         | GFMAU-2   |  |  |  |
|   |                          | 830     |         |                     |      | 27 28          |     |                  |                | 1,328   |         |   |  |  |  |
|   |                          |         | 830     |                     | 3    | 29 30          |     | 3                |                |         | 1,328   |   |  |  |  |
| WEF-2   | 830                      |         |         | 20                  |      | 31 32 225      |     |                  | 18,667         |         |         | PANEL RPAV                                      |  |  |  |
|   |                          | 830     |         |                     |      | 33 34          |     |                  |                | 15,067  |         |   |  |  |  |
|   |                          |         | 830     |                     | 3    | 35 36          |     | 3                |                |         | 17,467  |   |  |  |  |
| SPARE   |                          |         |         | 400                 |      | 37 38 400      |     |                  |                |         |         | BUSSED SPACE                                    |  |  |  |
|   |                          |         |         |                     |      | 39 40          |     |                  |                |         |         |   |  |  |  |
|   |                          |         |         |                     | 3    | 41 42          |     | 3                |                |         |         |   |  |  |  |
| SUB TOTAL (VA)  | 86,600                   | 79,800  | 83,860  |                     |      |                |     |                  | 88,751         | 50,000  | 83,406  | SUB TOTAL (VA)                                  |  |  |  |
| TOTAL LOAD PHASE A:   | 175,351 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE B:   | 129,890 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE C:   | 167,266 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD:   | 472,507 (VA) = 1136 AMPS |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| NOTES:  |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 1. PANELBOARD TO BE BOLT-ON TYPE, FULLY RATED, WITH COPPER BUSSING.   |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 2. CONTRACTOR SHALL INSURE THAT THE STINGER LEG OF DELTA SERVICE IS NOT CONNECTED TO THIS SINGLE PHASE CIRCUIT BREAKER. |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 3. NAMEPLATE FOR THIS PANEL SHALL CLEARLY INDICATE THE SERVICE IS "120/240 VOLT, 3PH, 4W, DELTA"                        |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 4. PROVIDE INTERGRAL TVSS UNIT.   |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 5. PROVIDE PANEL WITH NAME PLATE INDICATING AIC RATING.   |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 6. PROVIDE ARC-FAULT LABEL PER DETAIL.  |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 7. MAIN BREAKER WILL BE ALLOWED TO BE 80% RATED   |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 8. PROVIDE SHUNT TRIP CIRCUIT BREAKER.  |                          |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |

| PANEL - PP1   |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
|---|-------------------------|---------|---------|---------------------|------|----------------|-----|------------------|----------------|---------|---------|---|--|--|--|
| TYPE: 400 MAIN LUG ONLY   |                         |         |         | AIC: 42,000 AMPERES |      |                |     | MOUNTED: SURFACE |                |         |         | VOLTAGE: 120/240 VOLTS, 3 PHASE, 4 WIRE (DELTA) |  |  |  |
| CIRCUIT DIRECTORY   | (VA) PER PHASE          |         |         | AMP                 | POLE | CIRCUIT NUMBER | AMP | POLE             | (VA) PER PHASE |         |         | CIRCUIT DIRECTORY                               |  |  |  |
|   | PHASE A                 | PHASE B | PHASE C |                     |      |                |     |                  | PHASE A        | PHASE B | PHASE C |   |  |  |  |
| IHP-1   | 5,533                   |         |         | 50                  |      | 1 2 30         |     |                  | 1,992          |         |         | OHP-1   |  |  |  |
|   |                         | 5,533   |         |                     | 3    | 4              |     |                  |                | 1,992   |         |   |  |  |  |
|   |                         |         | 5,533   |                     | 3    | 5              |     | 3                |                |         | 1,992   |   |  |  |  |
| IHP-2   | 5,533                   |         |         | 50                  |      | 7 8 30         |     |                  | 1,992          |         |         | OHP-2   |  |  |  |
|   |                         | 5,533   |         |                     | 3    | 9 10           |     |                  |                | 1,992   |         |   |  |  |  |
|   |                         |         | 5,533   |                     | 3    | 11 12 30       |     | 3                |                |         | 1,992   |   |  |  |  |
| IHP-3   | 5,533                   |         |         | 50                  |      | 13 14 30       |     |                  | 1,992          |         |         | OHP-3   |  |  |  |
|   |                         | 5,533   |         |                     | 3    | 15 16          |     |                  |                | 1,992   |         |   |  |  |  |
|   |                         |         | 5,533   |                     | 3    | 17 18          |     | 3                |                |         | 1,992   |   |  |  |  |
| IHP-4   | 3,541                   |         |         | 40                  |      | 19 20 30       |     |                  | 1,881          |         |         | OHP-3   |  |  |  |
|   |                         | 3,541   |         |                     | 3    | 21 22          |     |                  |                | 1,881   |         |   |  |  |  |
|   |                         |         | 3,541   |                     | 3    | 23 24          |     | 3                |                |         | 1,881   |   |  |  |  |
| IHP-5   | 3,541                   |         |         | 40                  |      | 25 26 20       |     |                  | 1,439          |         |         | OHP-4   |  |  |  |
|   |                         | 3,541   |         |                     | 3    | 27 28          |     |                  |                | 1,439   |         |   |  |  |  |
|   |                         |         | 3,541   |                     | 3    | 29 30          |     | 3                |                |         | 1,439   |   |  |  |  |
| IHP-6   | 3,541                   |         |         | 40                  |      | 31 32 20       |     |                  | 1,439          |         |         | OHP-5   |  |  |  |
|   |                         | 3,541   |         |                     | 3    | 33 34          |     |                  |                | 1,439   |         |   |  |  |  |
|   |                         |         | 3,541   |                     | 3    | 35 36 3        |     |                  |                |         | 1,439   |   |  |  |  |
| MD-1-2, 1A, 1B, 2A, 2B  | 1,200                   |         |         | 20                  | 1    | 37 38 20       |     | 1                | 740            |         |         | DH-1 & DH-2                                     |  |  |  |
| MD-3A, 3B, 4A, 4B, 5A, 5B   | 1,200                   |         |         | 20                  | 1    | 39 40 20       |     | 1                |                | 740     |         | DH-3 & DH-4                                     |  |  |  |
| MD-6A, 6B, MD-7A  | 1,200                   |         |         | 20                  | 1    | 41 42 20       |     | 1                |                |         | 1,000   | DH-5  |  |  |  |
| SUB TOTAL (VA)  | 28,422                  | 28,422  | 28,422  |                     |      |                |     |                  | 11,475         | 11,475  | 11,735  | SUB TOTAL (VA)                                  |  |  |  |
| TOTAL LOAD PHASE A:   | 39,897 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE B:   | 39,897 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE C:   | 40,157 (VA)             |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD:   | 119,951 (VA) = 288 AMPS |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| NOTES:  |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 1. PANELBOARD TO BE BOLT-ON TYPE WITH DOOR-IN-DOOR CONSTRUCTION.  |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 2. CONTRACTOR SHALL INSURE THAT THE STINGER LEG OF DELTA SERVICE IS NOT CONNECTED TO THIS SINGLE PHASE CIRCUIT BREAKER. |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 3. NAMEPLATE FOR THIS PANEL SHALL CLEARLY INDICATE THE SERVICE IS "120/240 VOLT, 3PH, 4W, DELTA"                        |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 4. PROVIDE ARC FAULT LABEL PER DETAIL.  |                         |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |

| PANEL - RPW1  |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
|---|------------------------|---------|---------|---------------------|------|----------------|-----|------------------|----------------|---------|---------|---|--|--|--|
| TYPE: 400A MAIN LUG   |                        |         |         | AIC: 42,000 AMPERES |      |                |     | MOUNTED: SURFACE |                |         |         | VOLTAGE: 120/240 VOLTS, 3 PHASE, 4 WIRE (DELTA) |  |  |  |
| CIRCUIT DIRECTORY   | (VA) PER PHASE         |         |         | AMP                 | POLE | CIRCUIT NUMBER | AMP | POLE             | (VA) PER PHASE |         |         | CIRCUIT DIRECTORY                               |  |  |  |
|   | PHASE A                | PHASE B | PHASE C |                     |      |                |     |                  | PHASE A        | PHASE B | PHASE C |   |  |  |  |
| WELDING BOOTH   | 2,600                  |         |         | 50                  | 1    | 2              |     | 1                | 800            |         |         | RECEPTACLES                                     |  |  |  |
|   |                        | 2,600   |         |                     | 2    | 3              | 4   |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| WELDING BOOTH   |                        |         | 2,600   | 50                  | 5    | 6              | 20  | 1                |                |         | 800     | RECEPTACLES                                     |  |  |  |
|   | 2,600                  |         |         |                     | 2    | 7              | 8   | 20               | 1              | 800     |         | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   |                        | 2,600   |         | 50                  |      | 9              | 10  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
|   |                        |         | 2,600   |                     | 2    | 11             | 12  | 20               | 1              |         | 800     | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   | 2,600                  |         |         | 50                  | 13   | 14             | 20  | 1                | 800            |         |         | RECEPTACLES                                     |  |  |  |
|   |                        | 2,600   |         |                     | 2    | 15             | 16  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| WELDING BOOTH   |                        |         | 2,600   | 50                  | 17   | 18             | 20  | 1                |                |         | 800     | RECEPTACLES                                     |  |  |  |
|   | 2,600                  |         |         |                     | 2    | 19             | 20  | 20               | 1              | 800     |         | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   |                        | 2,600   |         | 50                  | 21   | 22             |     |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
|   |                        |         | 2,600   |                     | 2    | 23             | 24  | 20               | 1              |         | 800     | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   | 2,600                  |         |         | 50                  | 25   | 26             | 20  | 1                | 800            |         |         | RECEPTACLES                                     |  |  |  |
|   |                        | 2,600   |         |                     | 2    | 27             | 28  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| WELDING BOOTH   |                        |         | 2,600   | 50                  | 29   | 30             | 20  | 1                |                |         | 800     | RECEPTACLES                                     |  |  |  |
|   | 2,600                  |         |         |                     | 2    | 31             | 32  | 20               | 1              | 800     |         | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   |                        | 2,600   |         | 50                  | 33   | 34             |     |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
|   |                        |         | 2,600   |                     | 2    | 35             | 36  | 20               | 1              |         | 800     | RECEPTACLES                                     |  |  |  |
| WELDING BOOTH   | 2,600                  |         |         | 50                  | 37   | 38             | 20  | 1                | 800            |         |         | RECEPTACLES                                     |  |  |  |
|   |                        | 2,600   |         |                     | 2    | 39             | 40  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| RECEPTACLES   |                        |         | 800     | 20                  | 1    | 41             | 42  | 20               | 1              |         |         | RECEPTACLES                                     |  |  |  |
| AIR COMPRESSOR  | 3,000                  |         |         | 60                  |      | 43             | 44  | 20               | 1              | 800     |         | RECEPTACLES                                     |  |  |  |
|   |                        | 3,000   |         |                     |      | 45             | 46  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
|   |                        |         | 3,000   |                     | 3    | 47             | 48  | 20               | 1              |         |         | SPARE   |  |  |  |
| RECEPTACLES   | 400                    |         |         | 20                  | 1    | 49             | 50  | 20               | 1              |         |         | SPARE   |  |  |  |
| STINGER (DO NOT USE)  |                        |         |         |                     |      | 51             | 52  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| SPARE   |                        |         |         | 20                  | 1    | 53             | 54  | 20               | 1              |         |         | SPARE   |  |  |  |
| SPARE   |                        |         |         | 20                  | 1    | 55             | 56  | 20               | 1              |         |         | SPARE   |  |  |  |
| STINGER (DO NOT USE)  |                        |         |         |                     |      | 57             | 58  |                  |                |         |         | STINGER (DO NOT USE)                            |  |  |  |
| SPARE   |                        |         |         | 20                  | 1    | 59             | 60  | 20               | 1              |         |         | SPARE   |  |  |  |
| SUB TOTAL (VA)  | 21,600                 | 21,200  | 19,400  |                     |      |                |     |                  | 6,400          | 0       | 5,600   | SUB TOTAL (VA)                                  |  |  |  |
| TOTAL LOAD PHASE A:   | 23,000 (VA)            |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE B:   | 21,200 (VA)            |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD PHASE C:   | 25,000 (VA)            |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| TOTAL LOAD:   | 74,200 (VA) = 178_AMPS |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| NOTES:  |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 1. PANEL BOARD TO BE BOLT-ON TYPE WITH DOOR-IN-DOOR CONSTRUCTION.   |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 2. CONTRACTOR SHALL INSURE THAT THE STINGER LEG OF DELTA SERVICE IS NOT CONNECTED TO ANY 120V SINGLE PHASE CIRCUIT BREAKER. |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 3. NAMEPLATE FOR THIS PANEL SHALL CLEARLY INDICATE THE SERVICE IS "120/240 VOLT, 3PH, 4W, DELTA"                            |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |
| 4. PROVIDE ARC FAULT LABEL PER DETAIL.  |                        |         |         |                     |      |                |     |                  |                |         |         |   |  |  |  |



THE FIRE ALARM SYSTEM SHALL BE A COMPLETE SUPERVISED DETECTION AND ALARM SYSTEM. PROVIDE PRIMARY POWER CIRCUITS AND ALARM NOTIFICATION AND INITIATING CIRCUITS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

INSTALLATION SHALL COMPLY WITH THE ADA, NEC, NFPA, AND UL.

ALL SYSTEM COMPONENTS, ENCLOSURES, FRAMES, SURGE ARRESTORS, ETC., SHALL BE GROUNDED.

THE FIRE ALARM WIRING SYSTEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR CLASS "B" SYSTEM AND AS FOLLOWS:

- PRIMARY POWER - 120V AC
- NOTIFICATION APPLIANCE CIRCUITS (NAC) - 24V DC
- SIGNALING LINE CIRCUIT (SLC) - 24V DC

ALL EQUIPMENT AND DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, APPLICABLE STANDARDS AND ACCESSIBLE FOR VISUAL INSPECTION AND MAINTENANCE. WIRING DIAGRAMS SHALL BE SECURED FROM THE SYSTEM MANUFACTURER AND INSTALLED ACCORDINGLY TO MEET THE SPECIFIED TYPES.

A "CERTIFICATE OF COMPLETION" IN ACCORDANCE WITH NFPA 72 SHALL BE FURNISHED PRIOR TO FINAL ACCEPTANCE.

CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND PROVIDING ALL FIRE ALARM DEVICE QUANTITIES FROM AUXILIARY DRAWINGS. DO NOT USE THIS RISER FOR DEVICE COUNTS.

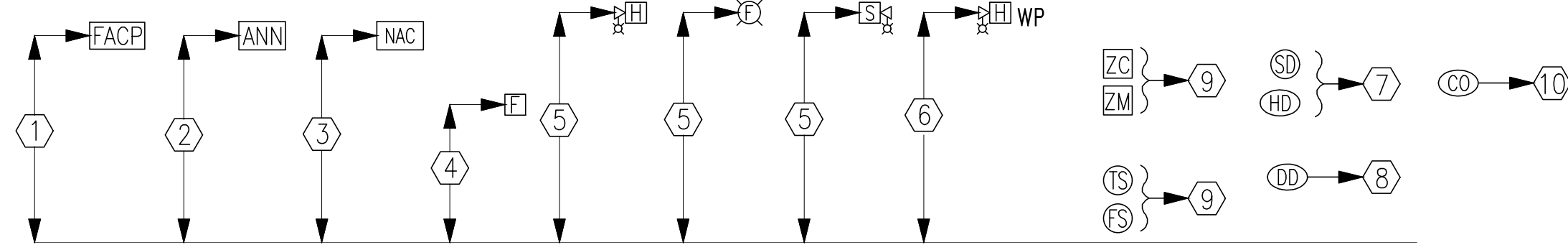
THE CONTRACTOR OR THEIR FIRE ALARM SYSTEM VENDOR SHALL PROVIDE AUDIBILITY CALCULATIONS INDICATING COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF NFPA 72 AND THE IBC. THE CONTRACT DRAWINGS INDICATE A MINIMUM DESIGN REQUIRED TO COMPLY WITH APPLICABLE CODES. HOWEVER, SINCE DEVICES VARY FROM MANUFACTURER TO MANUFACTURER THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ANY/ALL ADDITIONAL DEVICES AS REQUIRED TO PROVIDE AUDIBILITY AND VISIBILITY LEVELS THAT COMPLY WITH APPLICABLE SECTIONS OF NFPA 72 AND IBC.

THE TWO-WAY RADIO SYSTEM IS NOT REQUIRED BY THE LOCAL FIRE DEPARTMENT AND WILL NOT BE REQUIRED ON THIS PROJECT.

9. PROVIDE ADDITIONAL 100% SPARE CAPACITY IN FIRE ALARM CONTROL PANEL FOR FUTURE USE.
10. PROVIDE EMERGENCY BATTERIES CAPABLE OF RUNNING THE COMPLETE FIRE ALARM SYSTEM IN ALARM MODE, PER NFPA GUIDELINES AT A MINIMUM. BATTERIES SHALL BE SIZED TO HANDLE THE FUTURE CAPACITY.
11. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. PROVIDE IP DIALER FOR MONITORING OF THE FIRE ALARM SYSTEM.
12. ALL WIRING TO BE IN CONDUIT SIZED IN ACCORDANCE WITH NEC WITH A MINIMUM SIZE OF 3/4". PROVIDE ALL FIRE ALARM CONDUIT WITH 3" WIDE RED STRIPE EVERY 10' FOR LENGTH OF RUN.
13. PROVIDE ALL FIRE ALARM JUNCTION BOXES WITH RED COVER, STENCIL THE LETTERS "FA" IN 2" HIGH LETTERS ON EACH BOX COVER.
14. FIRE ALARM SYSTEM PROVIDER IS RESPONSIBLE FOR PROVIDING SIGNAL LINE BOOSTERS AS REQUIRED FOR SYSTEM TO FUNCTION PROPERLY.
15. IN ADDITION TO THE DEVICES INDICATED ON THE PLANS THE CONTRACTOR SHALL PROVIDE A SMOKE DETECTOR LOCATED WITHIN 5 FEET OF EACH FIRE ALARM NOTIFICATION APPLIANCE PANEL.
16. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL 120 VOLT CIRCUITS NEEDED TO MAKE THE FIRE ALARM SYSTEM A COMPLETE FUNCTIONAL SYSTEM.
17. PROVIDE VOICE EVACUATION PER IBC SECTION 907 AND ALL SECTIONS OF THE INTERNATIONAL FIRE CODE.
18. "CLG" DENOTES A CEILING MOUNTED DEVICE AND "WP" DENOTES WEATHERPROOF DEVICE..
19. SEE STANDARD MOUNTING HEIGHT INSTRUCTIONS ON DETAILS (2) THIS SHEET.
20. CONTRACTOR OR THEIR FIRE ALARM SYSTEM VENDOR SHALL PROVIDE SMOKE DETECTOR REPORTS AT THE FINAL TESTING OF THE FIRE ALARM SYSTEM TO SHOW THAT ALL SMOKE DETECTORS ARE LESS THAN 10% DIRTY. ANY SMOKE DETECTOR GREATER THAN 10% DIRTY SHALL BE CLEANED OR REPLACED UNTIL VALUE IS LESS THAN 10%.

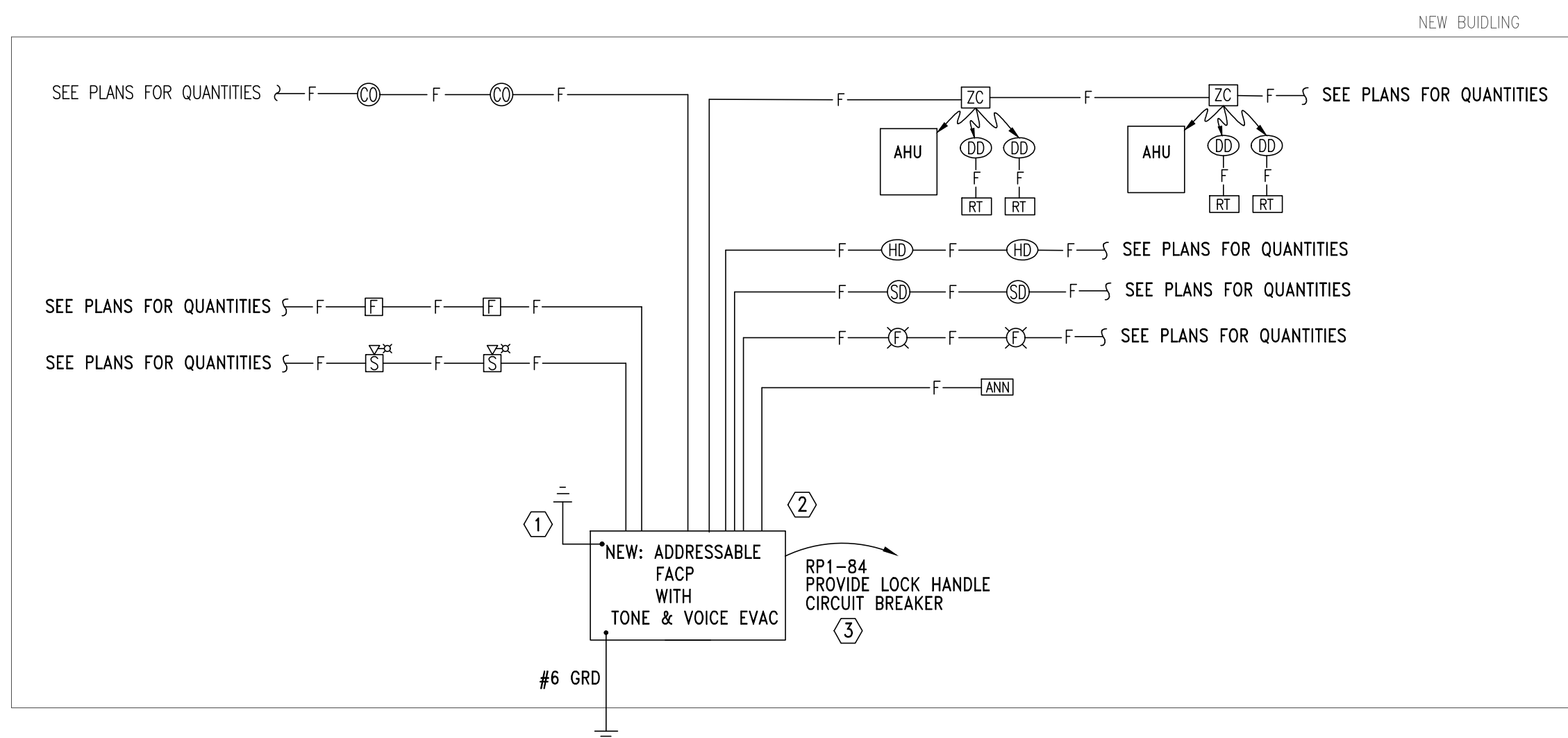
- ① MOUNT FIRE ALARM ENCLOSURE WITH THE TOP OF THE CABINET 72" ABOVE THE FINISHED FLOOR OR CENTER THE CABINET AT 63", WHICHEVER IS LOWER.
- ② MOUNT ANNUNCIATOR WITH THE TOP OF THE PANEL 72" ABOVE THE FINISHED FLOOR OR CENTER OF THE PANEL AT 63", WHICHEVER IS LOWER. FLUSH MOUNT ANNUNCIATOR UNLESS OTHERWISE NOTED.
- ③ REMOTE POWER SUPPLIES AND AUXILIARY FIRE ALARM PANELS. LOCATE THE PANEL OR CABINET WITH THE TOP OF THE PANEL 72" ABOVE THE FINISHED FLOOR OR CENTER THE PANEL AT 63", WHICHEVER IS LOWER. DO NOT LOCATE THESE PANELS ABOVE CEILINGS OR WHERE INACCESSIBLE BY A PERSON STANDING ON THE FINISHED FLOOR OF THE SPACE.
- ④ MOUNT STATIONS SO THAT THEIR OPERATING HANDLES ARE BETWEEN 42" AND 48" ABOVE THE FINISHED FLOOR. DO NOT USE BRICK OR BLOCK COURSES AS YOUR ONLY GUIDE. CUT BRICK OR BLOCK TO ACHIEVE PROPER HANDLE HEIGHT.
- ⑤ ALL WALL MOUNTED AUDIO/VISUAL DEVICES SHALL BE MOUNTED SO THE ENTIRE LENS IS BETWEEN 80" AND 96" ABOVE THE FINISHED FLOOR. WHERE LOW CEILING HEIGHTS DO NOT PERMIT MOUNTING AT A MINIMUM OF 80" AFF. VISIBLE APPLIANCES SHALL BE MOUNTED WITHIN 6" OF THE CEILING. DO NOT USE BRICK OR BLOCK COURSES AS YOUR ONLY GUIDE. CUT BRICK OR BLOCK TO ACHIEVE PROPER LENS HEIGHT.

- ⑥ WEATHER PROOF APPLIANCES INSTALLED OUTDOORS SHALL BE UL LISTED FOR OUTDOOR USE. MOUNT SO THE ENTIRE LENS IS BETWEEN 80" AND 96" ABOVE FINISHED FLOOR. FOR WEATHERPROOF APPLIANCES MOUNTED AT FIRE DEPARTMENT CONNECTION (FDC), COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO ROUGH-IN FOR MOUNTING HEIGHT.
- ⑦ SMOKE AND HEAT DETECTOR HEADS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED. IF DETECTOR HEADS ARE INSTALLED PRIOR TO CONSTRUCTION CLEAN-UP, PROTECTIVE COVERS MUST BE IN PLACE TO PROTECT DETECTOR HEADS FROM PARTICULATE DAMAGE. DETECTORS LOCATED ON THE WALL SHALL HAVE THE TOP OF THE DETECTOR AT LEAST 4" AND NOT MORE THAN 12" BELOW THE CEILING. INSTALL SMOKE DETECTORS NO CLOSER THAN 3 FEET FROM AIR HANDLING SUPPLY AIR DIFFUSERS OR RETURN AIR OPENINGS. LOCATE DETECTORS NO CLOSER THAN 12" FROM ANY PART OF A LIGHTING FIXTURE.
- ⑧ DUCT SMOKE DETECTOR HEADS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED. DETECTOR HEADS INSTALLED PRIOR TO CONSTRUCTION CLEAN-UP SHALL BE REPLACED. DUCT DETECTORS ARE TO BE PROVIDED BY THE FIRE ALARM CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- ⑨ ADDRESSABLE MODULES SHALL BE INSTALLED LESS THAN 3- FEET FROM THE DEVICE BEING CONTROLLED OR MONITORED. ORIENT THE DEVICE MOUNTING FOR BEST MAINTENANCE ACCESS. LABEL ALL ADDRESSABLE MODULES AS TO THEIR FUNCTION.
- ⑩ MOUNT WITHIN 5'-0" OF FURNACE DISCHARGE REGISTER.



## 2 STANDARD MOUNTING HEIGHTS/INSTRUCTIONS

- ① PROVIDE A UL LISTED CELLULAR COMMUNICATOR IN THE NEW FIRE ALARM PANEL. PROVIDE TWO YEARS OF CELLULAR MONITORING FROM THE DATE OF FINAL ACCEPTANCE.
- ② PROVIDE SURGE SUPPRESSION ON ON ALL INCOMING AND OUTGOING CABLES WHERE THEY ENTER OR EXIT THE FACILITY. SURGE SUPPRESSION WILL BE REQUIRED FOR EACH CABLE.
- ③ PROVIDE TVSS PROTECTION ON ALL INCOMING POWER FEEDS.



# 1 E6.1 FIRE ALARM RISER DIAGRAM NO SCALE

TO THE  
CLAY COUNTY CAREER ACADEMY  
FOR THE  
CLAY COUNTY BOARD OF EDUCATION  
ASHLAND, ALABAMA

**McKEE and ASSOCIATES**  
ARCHITECTS, INC.



MCKEE JOB # : 21.239  
 PSCA # :  
 DRAWN BY : J. TILLERY  
 DATE: 05.18.2022  
 REVISED DATE:  
 REVISED DATE:  
 REVISED DATE:

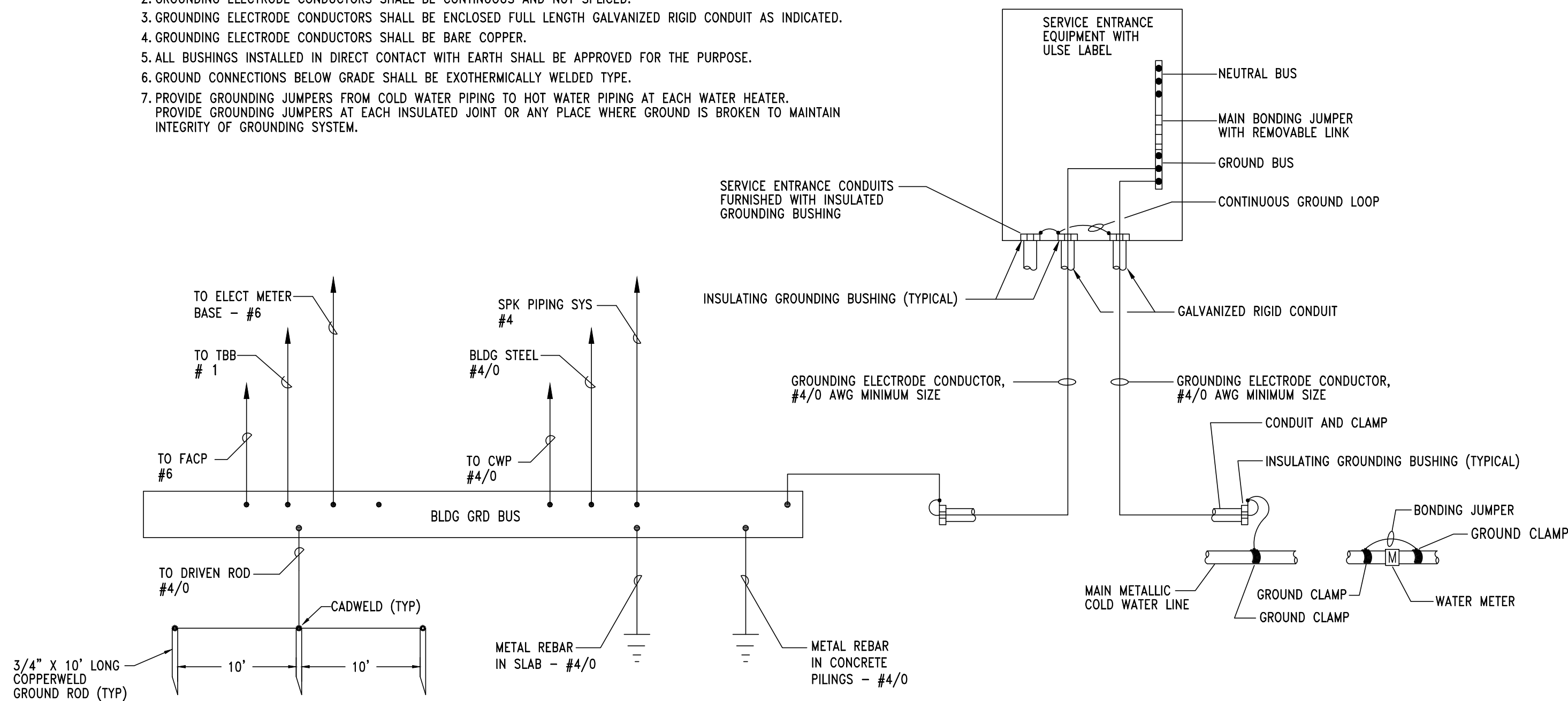
**GA** **Gunn & Associates, P.C.**  
**Consulting Engineers**  
3102 Highway 14  
Millbrook, AL 36054  
Tel: 334.285.1273  
1200 Providence Park, Suite 200  
Birmingham, AL 35242  
GA#22-115

SHEET NO. : E6.1



NOTES

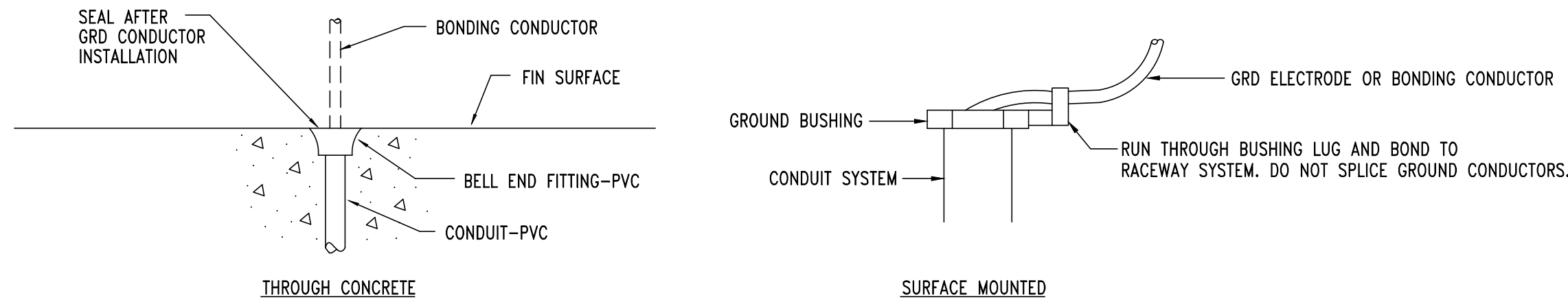
1. GROUNDING ELECTRODE SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250
2. GROUNDING ELECTRODE CONDUCTORS SHALL BE CONTINUOUS AND NOT SPLICED.
3. GROUNDING ELECTRODE CONDUCTORS SHALL BE ENCLOSED FULL LENGTH GALVANIZED RIGID CONDUIT AS INDICATED.
4. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE COPPER.
5. ALL BUSHINGS INSTALLED IN DIRECT CONTACT WITH EARTH SHALL BE APPROVED FOR THE PURPOSE.
6. GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMICALLY WELDED TYPE.
7. PROVIDE GROUNDING JUMPERS FROM COLD WATER PIPING TO HOT WATER PIPING AT EACH WATER HEATER. PROVIDE GROUNDING JUMPERS AT EACH INSULATED JOINT OR ANY PLACE WHERE GROUND IS BROKEN TO MAINTAIN INTEGRITY OF GROUNDING SYSTEM.



2 DETAIL - SERVICE ENTRANCE GROUNDING INSTALLATION

NOTES

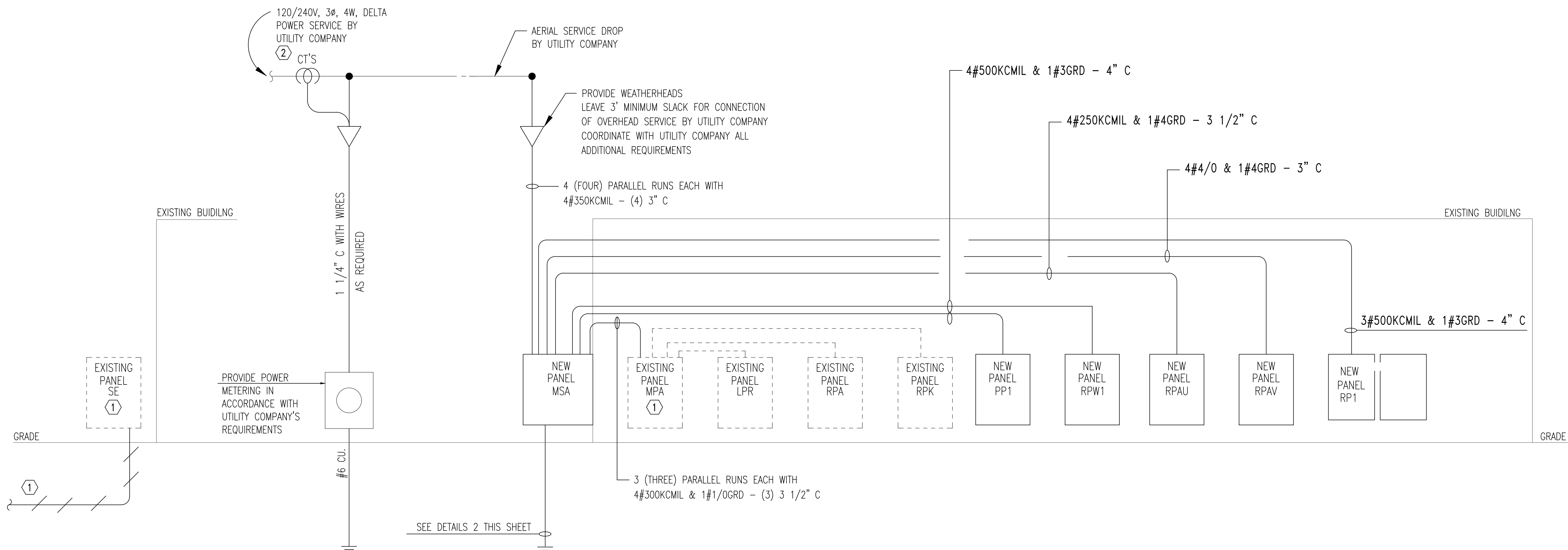
1. ALL GROUND ELECTRODE CONDUCTORS, SYSTEM BONDING CONDUCTORS, ETC., RUN SEPARATELY SHALL BE PROTECTED BY A CONDUIT SYSTEM.
2. ALL SYSTEM GROUNDING OR BONDING CONDUCTORS SHALL GENERALLY BE ENCLOSED BY A GRC CONDUIT. PROVIDE GROUND BUSHINGS ON EACH END AND BOND CONDUCTORS TO RACEWAY SYSTEM.
3. SYSTEM BONDING CONDUCTORS THAT PENETRATE CONCRETE SLABS SHALL BE ENCLOSED BY A PVC CONDUIT. PROVIDE BELL END FITTING ON EACH END AND SEAL THOSE TERMINATING AT A STUB-UP SHALL BE FLUSH WITH FLOOR.



3 DETAIL - TYPICAL GROUND CONDUCTOR IN CONDUIT SYSTEM

SHEET NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING UNDERGROUND SERVICE TO EXISTING SERVICE ENTRANCE PANEL. DISCONNECT THE NEUTRAL AND GROUND BONDING JUMPER. REMOVE BACK TO THE POINT OF SERVICE. EXISTING SERVICE ENTRANCE PANEL IS TO REMAIN AND BE REFEED AS SHOWN BELOW.
2. COORDINATE WITH LOCAL UTILITY COMPANY FOR OVERHEAD SECONDARY TO BE BROUGHT TO BUILDING AND PAY ALL ASSOCIATED FEES. COORDINATE PRIOR TO BIDS AND PAY ALL ASSOCIATED FEES. COORDINATE PRIOR TO BIDS AND BID ACCORDINGLY.



1 OVERHEAD POWER RISER DIAGRAM

GROUNDING AND BONDING INSTALLATION NOTES

1. ALL GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH THE NEC, NESC, IEEE, ANSI AND UL STANDARDS.
2. ALL DIMENSIONING INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
3. THE PURPOSE OF THE GROUNDING AND BONDING SYSTEM IS TO ESTABLISH ALL EQUIPMENT ENCLOSURES, NON-CURRENT CARRYING METALLIC PORTIONS OF THE ELECTRICAL DISTRIBUTION SYSTEM, METAL PIPING, METAL BUILDING FRAME, ETC., AT A ZERO POTENTIAL RELATIVE TO THE EARTH GROUND AND PROVIDE FOR A SAFE, LOW IMPEDANCE RETURN PATH FOR GROUND-FAULT CURRENT. THIS SHALL BE ACCOMPLISHED IN THE FOLLOWING MANNER:
  - a. PROVIDE A SOLIDLY GROUND SECONDARY SYSTEM.
  - b. INTER-CONNECT ALL GROUND BUSES AND POINTS IN THE SYSTEM WITH A COPPER GRD CONDUCTOR (BUS) SYSTEM.
  - c. ALL METALLIC RACEWAYS SHALL BE UL APPROVED AND MADE-UP TIGHT AT ALL COUPLINGS AND TERMINATIONS.
  - d. ALL GROUND CONDUCTORS IN CIRCUITS SHALL BE CONTAINED WITHIN THE SAME RACEWAY AS CURRENT CARRYING CONDUCTORS.
  - e. ALL SPLICES AND TERMINATIONS SHALL BE MADE TIGHT AND AS SUCH TO PROVIDE LOW IMPEDANCE AND SHALL HAVE THE SAME SHORT-TIME CURRENT-CARRYING CAPABILITY AS THE CONDUCTOR IT IS CONNECTED TO.
  - f. ALL GRD ELECTRODES OR BONDING CONDUCTORS INSTALLED ALONE WITHIN A RACEWAY SHALL UTILIZE GRC WITH GROUNDING BUSHINGS AT EACH END. THIS GROUND CONDUCTOR SHALL LOOP THROUGH THE BUSHING LUG PRIOR TO TERMINATION.

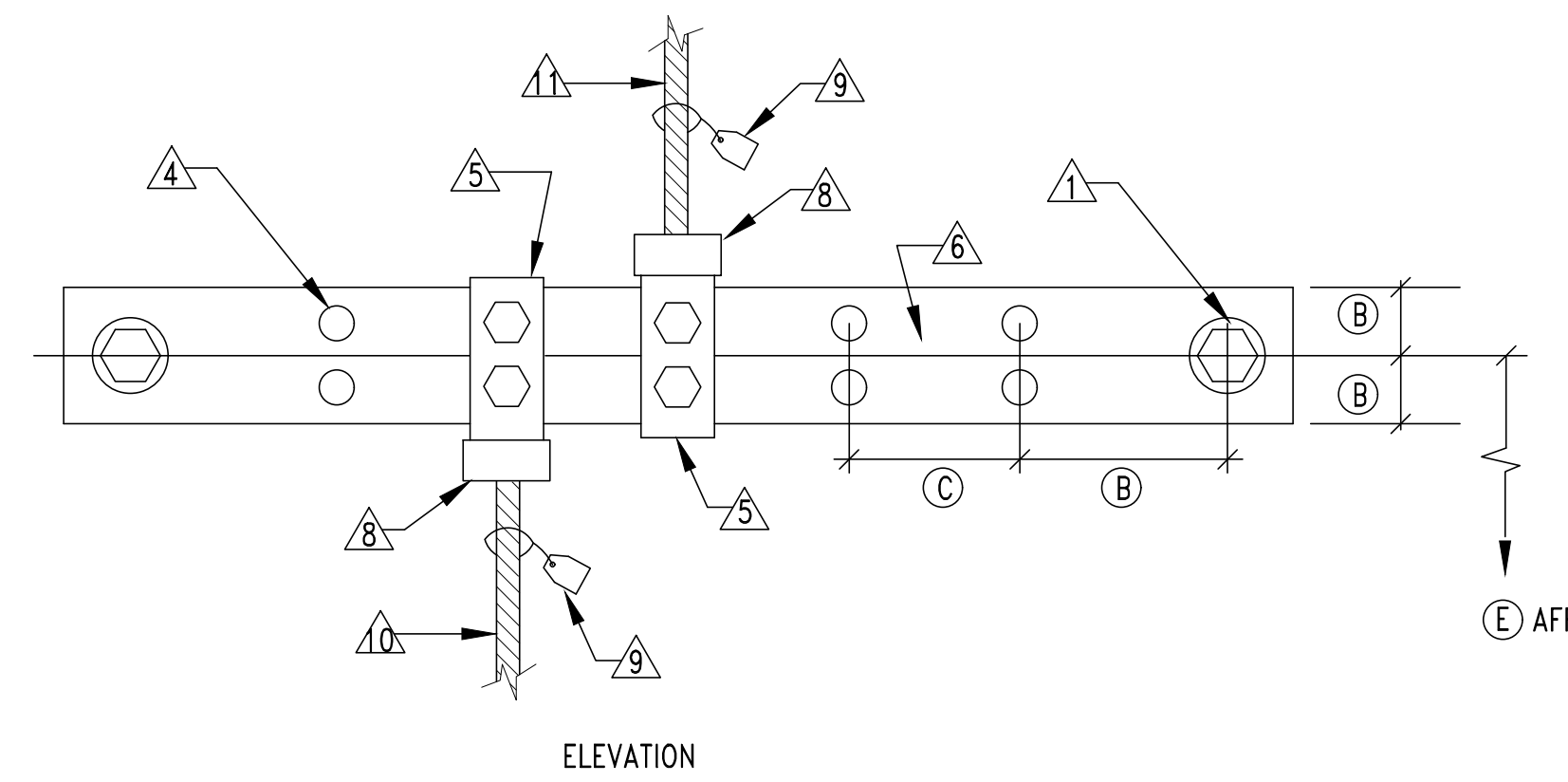
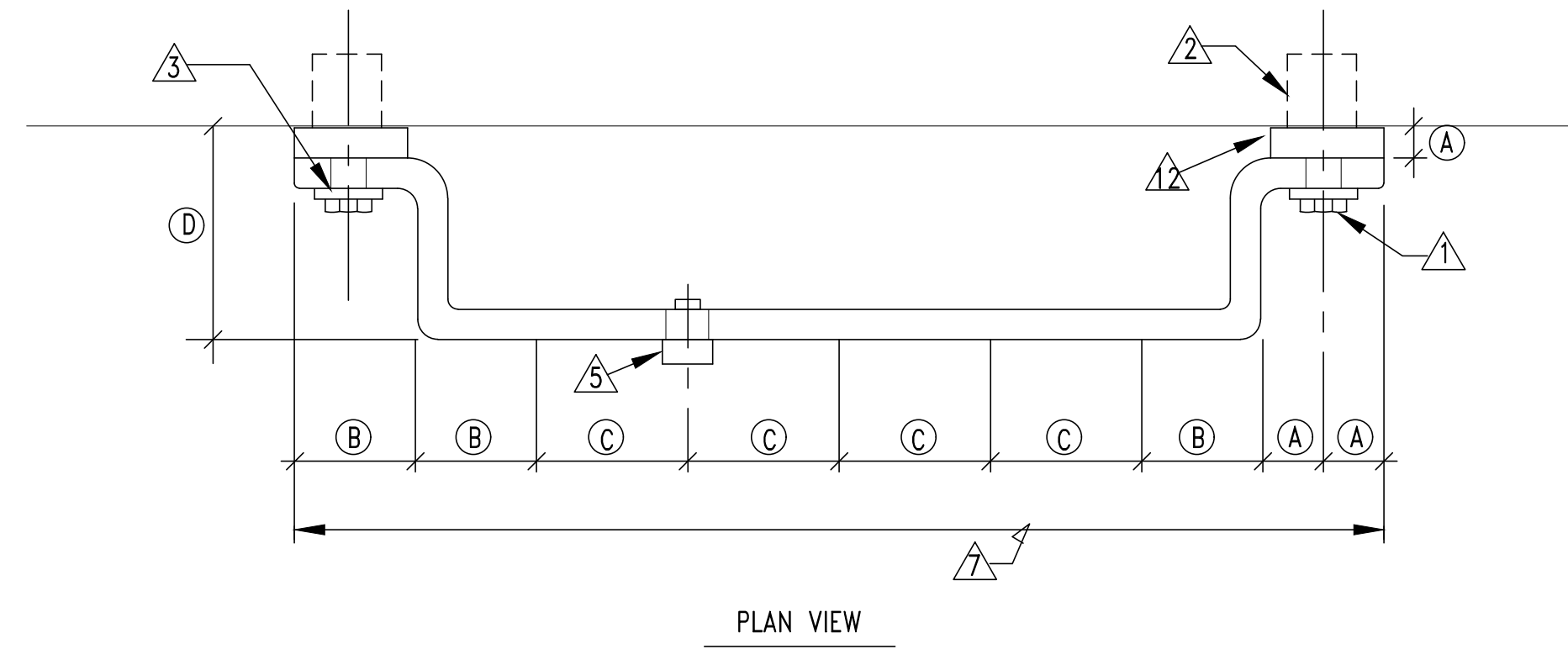
| REF | ENGLISH | SI     |
|-----|---------|--------|
| A   | 1"      | 25.4mm |
| B   | 2"      | 50.8mm |
| C   | 2 1/2"  | 63.5mm |
| D   | 3"      | 76.2mm |
| E   | 1'-6"   | .4572m |

GROUND BUS NOTES

1. GROUND BUS INSTALLATION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND AS INDICATED ON THE DRAWINGS.

KEYED NOTES

- 1/2" (12.7mm) X 1 1/2" (38.1mm) SILICON-BRONZE MACHINE BOLT & SILICON-BRONZE WASHER
- 1/2" (12.7mm) EXPANSION ANCHOR
- 9/16"Ø (14.2875mm) HOLE IN BAR
- DRILLED DOUBLE CONNECTOR HOLES
- FLAT, TWO-HOLE CU CABLE CONNECTOR #6 TO #2 (DOUBLE LUGS) #1 TO #4/0 (SINGLE LUGS ONLY)
- 4" (101.6mm) WIDE, 1/4" (6.35mm) DEEP COPPER BUS BAR.
- LENGTH AS REQUIRED BY NUMBER OF CONDUCTOR CONNECTIONS OR AS SPECIFICALLY INDICATED. PROVIDE INTERMEDIATE WALL SUPPORTS AS REQUIRED.
- TYP CU GRD CONDUCTOR CONNECTION
- DESCRIPTION TAG, STATE SIZE OF CONDUCTOR AND TO WHAT IT IS CONNECTED TO.
- TYP GRD CONNECTION FROM BELOW. SEE APPLICABLE DETAILS FOR SLAB PENETRATIONS.
- TYP GRD CONNECTION FROM ABOVE. SEE APPLICABLE DETAILS FOR GRC INSTALLATIONS.
- INSULATED NON-CONDUCTIVE SPACER



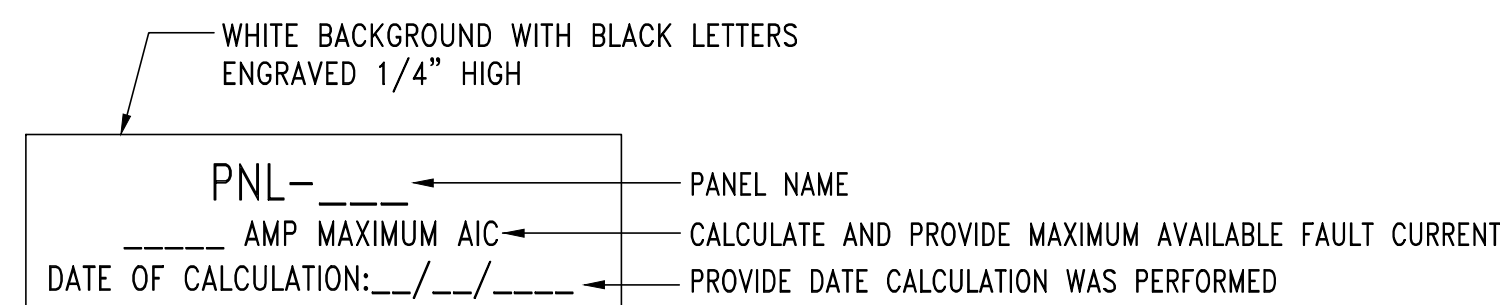
4 DETAIL - TYPICAL GROUND BUS INSTALLATION

POWER RISER DIAGRAM NOTES:

1. INSTALLATION AND CONNECTION OF ALL DEVICES SHALL BE IN ACCORDANCE WITH NEC, MANUFACTURER'S RECOMMENDATIONS, AND STATE AND LOCAL CODES.
2. CONTRACTOR IS RESPONSIBLE FOR THE CONNECTING, INSTALLATION, AND MARKING OF ALL POWER FEEDER CONDUCTORS FOR THE PROPER PHASE SEQUENCE AND LOADING. CONTRACTOR SHALL TEST EACH FEEDER AND EQUIPMENT FEEDERS WITH A PHASE METER PRIOR TO CONNECTING LOADS.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND VERIFYING WITH ALL DIVISIONS THE ACTUAL NAMEPLATE DATA OF ALL EQUIPMENT AND DEVICES SUPPLIED ON THIS PROJECT PRIOR TO BID. CONTRACTOR SHALL THEN PROVIDE THE PROPERLY SIZED OVERCURRENT DEVICES (CIRCUIT BREAKERS, CONDUCTORS, DISCONNECTS, FUSES, ETC.) TO PROPERLY PROTECT THE EQUIPMENT PER THE NEC. ENGINEER'S DESIGN BASED ON DATA GIVEN TO HIM BY DESIGNERS OF OTHER DIVISIONS, ACTUAL NAMEPLATE DATA COULD DIFFER.
4. SEAL ALL CONDUITS FROM THE EXTERIOR WITH A SEALING COMPOUND, ONCE ALL CABLING HAS BEEN INSTALLED.
5. ALABAMA POWER COMPANY WILL BE FURNISHING THE OVERHEAD SECONDARY TO THE WEATHERHEADS. COORDINATE WITH ALABAMA POWER ALL REQUIREMENTS SET FORTH BY THE UTILITY COMPANY AND PAY FOR ALL FEES TO GET POWER CONNECTED TO BUILDING. COORDINATE PRIOR TO BID AND BID ACCORDINGLY.
6. PROVIDE UNISTRUT SUPPORT ACROSS STRUCTURE WITH ANCHOR BOLT TO SUPPORT THE MOUNTING OF WEATHERHEADS TO THE SIDE OF THE BUILDING.

NOTES:

1. CONTRACTOR SHALL CALCULATE AND PROVIDE NAMEPLATE ON THE SERVICE ENTRANCE EQUIPMENT THAT INDICATES THE MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE THE CALCULATION WAS PERFORMED. SEE NAMEPLATE REQUIREMENTS BELOW.



TYPICAL SERVICE ENTRANCE FAULT CURRENT NAMEPLATE

5 DETAIL - SERVICE ENTRANCE FAULT CURRENT NAMEPLATE

RENOVATIONS  
TO THE  
CLAY COUNTY CAREER ACADEMY  
FOR THE  
CLAY COUNTY BOARD OF EDUCATION  
ASHLAND, ALABAMA

MCKEE and ASSOCIATES  
ARCHITECTS, INC.

631 SOUTH HULL STREET • MONTGOMERY, ALABAMA 36104 (334) 834-9933



SHEET TITLE : POWER RISER, DETAILS & NOTES

MCKEE JOB # : 21.239

PSCA # :

DRAWN BY : J. TILLERY

DATE : 05.18.2022

REVISED DATE :

REVISED DATE :

REVISED DATE :

SHEET NO. : E7.1

