

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2—FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: **LITTLE HEATHENS BREWERY**
Address: **3264 RAY ROAD, SPRING LAKE, NC** Zip Code **28390**
Proposed Use: **BEER BREWERY**
Owner or Authorized Agent: **JASON WELLS** Phone **(910) 436-9191** E-Mail **jason@wellsrealty.com**
Owned By: City/County Private State
Code Enforcement Jurisdiction: City County **HARNETT** State **NORTH CAROLINA**

CONTACT: **GEORGE M. ROSE, P.E.**

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #
Architectural	N/A	N/A		george@gmrpe.com
Civil	COASTAL PLAINS ENGINEERING	CHRISTOPHER S. LOCKLEAR	20193	910-521-7219
Electrical	N/A	N/A		coastalplainseng@gmail.com
Fire Alarm	COASTAL PLAINS ENGINEERING	CHRISTOPHER S. LOCKLEAR	20193	910-521-7219
Plumbing	COASTAL PLAINS ENGINEERING	CHRISTOPHER S. LOCKLEAR	20193	910-521-7219
Mechanical	N/A	N/A		
Sprinkler-Standpipe	N/A	N/A		
Structural	N/A	N/A		
Precast	N/A	N/A		
Retaining Walls >5'	N/A	N/A		
Building	GEORGE M. ROSE, P.E.	GEORGE M. ROSE	11915	910-411-5622

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

2018 NC EXISTING BUILDING CODE: Prescriptive Repair Chapter 14
 Level I Level II Level III
 Alteration Historic Property Change of Use

CONSTRUCTED: **2004** ORIGINAL OCCUPANCY(S) (Ch. 3):
RENOVATED: **VACANT** CURRENT OCCUPANCY(S) (Ch. 3):
RISK CATEGORY (Table 1604.5) Current: I II III IV Proposed: I II III IV

BASIC BUILDING DATA
Construction Type: I-A I-B II-A II-B III-A III-B IV V-A V-B
(check all that apply)

Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 130

Standpipes: No Yes Class: I II III Wet Dry

Fire District: No Yes (Primary) Flood Hazard Area: No Yes

Special Inspections Required: No Yes

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	RENOVATED (SQ FT)	SUB-TOTAL
6th Floor				
5th Floor				
4th Floor				
3rd Floor				
2nd Floor				
Mezzanine				
1st Floor	2,313		2,313	
Basement				
TOTAL	2,313		2,313	

ALLOWABLE AREA
Primary Occupancy Classification: **SELECT ONE**

Assembly A-1 A-2 A-3 A-4 A-5
Business
Educational
Factory F-1 Moderate F-2 Low
Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
Institutional I-1 CONDITION I-2
 I-3 CONDITION I-1 I-2 I-3 I-4
 I-4

Mercantile
Residential R-1 R-2 R-3 R-4
Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage

Utility and Miscellaneous

Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 - List Code Sections): _____
Special Provisions (Chapter 5 - List Code Sections): _____
Mixed Occupancy: No Yes Separation: _____ Hr. Exception: _____
 Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
 Separated Use (508.4)
See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.
of each use divided by the allowable floor area for each use shall not exceed 1.

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

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2.4 AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
1	ASSEMBLY A-2	2,313	19,000		

- Frontage area increases from Section 506.3 are computed thus:
 - Perimeter which fronts a public way or open space having 20 feet minimum width = (F)
 - Total Building Perimeter = (P)
 - Ratio (F/P) = (F/P)
 - W = Minimum width of public way = (W)
 - Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30 =$ (%)
- Unlimited area applicable under conditions of Section 507.
- Maximum Building Area = Total number of stories in the building x D (minimum 3 stories) (506.2).
- The maximum area of open parking garages must comply with Table 406.5.4.
- Frontage increase is based on the unspinklered area value in Table 506.2.

ALLOWABLE HEIGHT

BUILDING HEIGHT	ALLOWABLE HEIGHT (TABLE 503)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55'	20'	
Building Height in Stories (Table 504.4)	2	1	

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

PERCENTAGE OF WALL OPENINGS CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PROPERTY LINES)	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	REQ'D	RATING PROVIDED (w/ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing walls Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor construction including supporting beams and joists							
Roof construction including supporting beams and joists							
Roof construction including supporting beams and joists							
Roof ceiling Assembly							
Column supporting roof							
Shafts Enclosures - Exit							
Shafts Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation	2		G1		U419		
Party/Fire Wall Separation	2		G1		U419		
Smoke Barrier Separation							
Tenant/Dwelling Unit/Sleeping Unit Sep							
Incidental Use Separation							

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENINGS CALCULATIONS

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

LIFE SAFETY SYSTEM REQUIREMENTS
Life Safety Plan Sheet #: **G1 (2/G1)**

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

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

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

Existing building: No Yes (Provide Code or Statute reference)

Climate Zone: 3A 4A 5A

Method of Compliance: Energy Code ASHRAE 90.1 Performance Prescriptive (if "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

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

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

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

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

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

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL PARKING SPACES		ACCESSIBLE SPACES PROVIDED		TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	
EXISTING AS REQ'D					
TOTAL					

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SHOWERS/TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE EXISTING	0	0	0	0	0	1	0	0	0	0
NEW	1	1	0	0	1	1	0	0	0	0
REQUIRED	1	1	0	0	1	1	0	0	0	0

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

STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:
Importance Factors: Snow (I_s) 1.0
Snow (I_e) 1.0
Live Loads: Roof 20 psf
Mezzanine 100 psf
Floor 100 psf
Ground Snow Load: 10 psf
Wind Load: Ultimate Wind Speed 120 mph (ASCE-7)
Exposure Category _____

SEISMIC DESIGN CATEGORY: A B C D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) I II III IV
Spectral Response Acceleration A B C S₁ S₂ S₃
Site Classification (ASCE 7) A B C D
Data Source: Field Test Presumptive Historical Data
Basic structural system: Building Frame Dual w/Intermediate R/C or Special Steel Bearing Wall Dual w/Special Moment Frame Simplified Equivalent Lateral Force Dynamic
Analysis Procedure: Moment Frame Inverted Pendulum Equivalent Lateral Force No

LATERAL DESIGN CONTROL: Earthquake Wind

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

SHELL VARIABLE FORM (for all spaces - see plan)
(THIS SECTION REQUIRED FOR ALL SHELL ALTERATIONS TO SHELL AND INTERIOR COMPLETION PROJECTS)
Check each applicable line to match scope of work. Edit as necessary to provide clear detail of installation.

Mechanical:
 No work
 Equipment set with without power
 Trunk line installed with without outlets
 Gas Line
 Install complete operational system

Other: _____

Plumbing:
 No work
 Install water service and sewer
 Install building drain add or water distribution main with
 without branches
 Install complete plumbing system
Other: ROUGH-INS ARE INCOMPLETE, ADD'N IN-SLAB WORK IS REQUIRED. WATER SERVICE IS EXISTING (PRESENTLY INSTALLED).

Sprinkler:
 Install complete sprinkler system

Building:
 Install slab partial complete
 Install demising walls
 Install interior partitioning partial complete
 Install Ceilings
 White box (additional interior completion permits are required for Certificate of Occupancy and power)

Other: _____

Electrical:
 House panel
 Service laterals to meter centers/panels located on buildings
 Demise wall and ceilings only
 Conduit, duct, raceway in slab
 Power and lighting circuits to "J" Box
 Install light fixtures
 Install Heat/Air Elevator Generator Parking lot lighting
 Install complete system

Other: SUITE PANEL AND SERVICE ARE EXISTING (PRESENTLY INSTALLED).
Please provide full information on any alternate methods and means incorporated into the design of this project. Provide specific details and incorporate into plan submittal any supporting documents or agreement

SPECIAL INSTRUCTIONS (CHAPTER 17)
SPECIAL INSPECTIONS SHALL BE CONDUCTED ON ALL PROJECTS THAT FALL WITHIN BUILDING CATEGORIES AND/OR CONTAIN ELEMENTS SUBJECT TO SPECIAL INSPECTIONS AS PRESCRIBED BY REVISED SECTION 1704.
To schedule a required pre-construction meeting with the City of Fayetteville, please call Doug Maples at (910) 433-1703. The main line number for the Development Services Center is (910) 433-1701.
List whom will inspect the required special inspections:
Fabricator of load bearing components _____
Soil tests _____
Concrete, caissons, piles, piers, pre-cast _____
Post tension concrete _____
Modular construction _____
Steel and connections, welds, bolts, anchors _____
Fire spray tests _____
Smoke control _____
Seismic, wind designs, Quality Assurance _____
Retaining walls _____
Masonry _____
Wood _____
Alternate Methods _____
EIFS _____
Other (describe) _____
Other (describe) _____
Owner or agent _____

SPECIAL APPROVALS:
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)
NONE

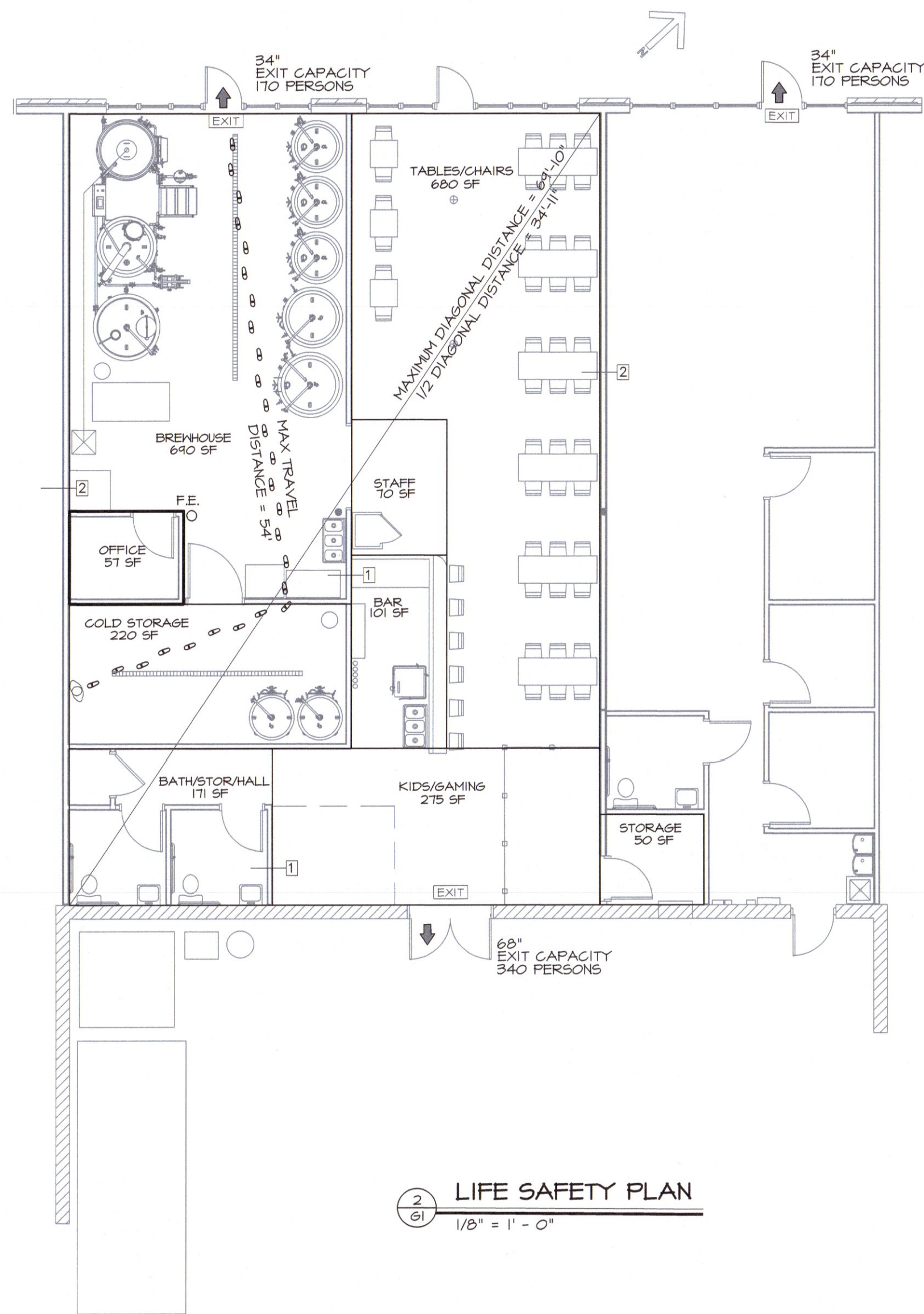


VICINITY MAP
NO SCALE

COUNTY OF HARNETT
2018 APPENDIX B
BUILDING CODE SUMMARY
for:
INTERIOR UPFIT PLAN
LITTLE HEATHENS BREWERY
3264 RAY ROAD
SPRING LAKE, NORTH CAROLINA
28390



BC



2 LIFE SAFETY PLAN
1/8" = 1' - 0"

LEGEND

- ABC FIRE EXTINGUISHER SUGGESTED LOCATION
- EXIT ROUTE
- EXIT WIDTH
- EXIT SIGN

WALL TYPES

- ONE LAYER 5/8" SHEETROCK ON EACH SIDE OF 20 GA 3-5/8" X 12" METAL STUDS AT 16" O.C.
- TWO LAYERS 5/8" SHEETROCK ON EACH SIDE OF 20 GA 3-5/8" X 12" METAL STUDS AT 16" O.C. TO UNDERSIDE OF ROOF DECK. 2-HOUR ASSEMBLY PER UL 1419

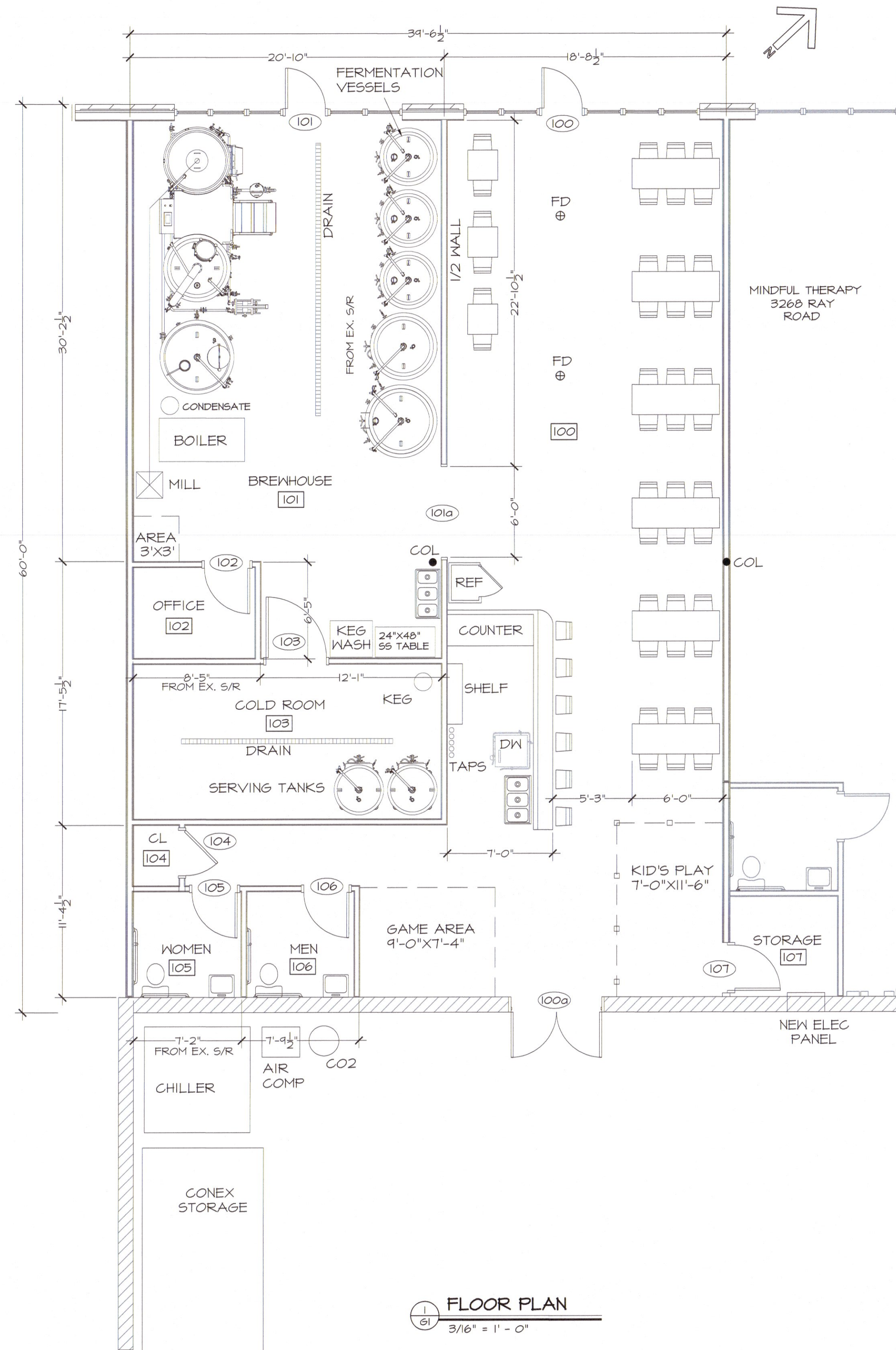
ROOM NUMBER	ROOM NAME	ROOM AREA	WALLS	BASE	FLOOR	CEILING	NOTES
						MATL HEIGHT	
100	TABLES & CHAIRS	680	SHEETROCK	RUBBER	CONCRETE	ACOUS 10'-0"	
101	BREWHOUSE	640	SHEETROCK/FRP	RUBBER	CONCRETE	ACOUS 10'-0"	WASHABLE CEILING TILES
102	OFFICE	57	SHEETROCK	RUBBER	CONCRETE	ACOUS 10'-0"	WASHABLE CEILING TILES
103	COLD STORAGE	220	SHEETROCK/FRP	RUBBER	CONCRETE	ACOUS 10'-0"	
104	CLOSET		SHEETROCK	RUBBER	CONCRETE	ACOUS 10'-0"	
105	WOMEN		SHEETROCK	RUBBER	CONCRETE	ACOUS 10'-0"	
106	MEN		SHEETROCK	RUBBER	CERAMIC	ACOUS 10'-0"	
107	STORAGE	50	SHEETROCK	RUBBER	CERAMIC	ACOUS 10'-0"	

* PORTION OF CEILING HIGHER TO ACCOMMODATE BREWING EQUIPMENT

OCCUPANCY AND PLUMBING FIXTURE INFORMATION

GROSS INTERIOR SQUARE FOOTAGE = 2,313 SF
 TYPE OF CONSTRUCTION: III-B
 ASSEMBLY A-2 OCCUPANCY
 SPACE OCCUPANCY BY NET SF USING TABLE 1004.1.2
 TABLES/CHAIRS: 680 SF/15 SF PER PERSON = 46 PERSONS
 BREWHOUSE (COMM KITCHEN)/STORAGE (COMM KITCHEN) = 640 + 220 + 50 = 960 SF
 960 SF/200 SF PER PERSON = 5 PERSONS
 OFFICE: 57 SF/100 SF PER PERSON = 1 PERSON
 KIDS/GAMING (ASSEMBLY) = 275 SF/11 SF PER PERSON = 25 PERSONS
 BAR/STAFF AREA = 171 SF/200 SF/PERSON = 2 PERSONS
 TOTAL SUITE B OCCUPANCY = 46 + 5 + 1 + 25 + 2 = 79 PERSONS
 MALE TOILETS REQUIRED = 1 PER 40 = 1 TOTAL (1 PROVIDED)
 MALE LAVATORIES REQUIRED = 1 PER 75 = 1 TOTAL (1 PROVIDED)
 FEMALE TOILETS REQUIRED = 1 PER 40 = 1 TOTAL (1 PROVIDED)
 FEMALE LAVATORIES REQUIRED = 1 PER 75 = 1 TOTAL (1 PROVIDED)
 MAXIMUM TRAVEL DISTANCE: 54 FEET
 MAXIMUM ALLOWABLE TRAVEL DISTANCE: 200 FEET (PER 1017.2)
 THE COMMON PATH OF TRAVEL IS LESS THAN 30 FEET. (PER 1029.8)
 THERE ARE NO DEAD END CORRIDORS OVER 20 FEET. (PER 1020.4)
 MIN. NO. OF EXITS REQ'D: TWO (PER SECTION 1006.2.1)
 NUMBER OF EXITS PROVIDED: TWO
 MAXIMUM DIAGONAL LENGTH = 69'-10" (1/2 DIAGONAL = 34'-11")
 DOORS DO NOT HAVE PANIC HARDWARE (PER 1010.1.10)
 DOORS DO NOT HAVE DELAYED EGRESS LOCKS (PER 1008.1.9.1)
 DOORS DO NOT HAVE ELECTROMAGNETIC EGRESS LOCKS (PER 1010.1.9.3)
 DOORS DO NOT HAVE HOLD OPEN DEVICES.
 THERE ARE NO EMERGENCY ESCAPE WINDOWS (PER 1030)
 THERE ARE NO SLEEPING AREAS (SMOKE COMPARTMENTS)
 EGRESS ILLUMINATION PROVIDED AT EACH EXIT (PER 1008)
 THIS SPACE IS NOT PROTECTED BY FIRE SPRINKLERS.
 NO. OF FIRE EXTINGUISHERS PROVIDED: 1 TOTAL
 PROVIDE FIRE EXTINGUISHERS UNDER THE FOLLOWING CONDITIONS:
 1. WITHIN 30' OF COMMERCIAL COOKING EQUIPMENT
 2. IN AREAS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED, USED OR DISPENSED.
 3. WHERE REQUIRED BY SECTIONS IN TABLE 906.1, N.C. BUILDING CODE
 4. SPECIAL-HAZARD AREAS WHERE REQUIRED BY FIRE CODE OFFICIAL.

DOOR NUMBER	DOOR SIZE	STYLE	ROUGH OPENING	DOOR SWING	JAMB TYPE	LOCK SET	REMARKS
100	3/0X7/0	1	38"X86"			KEYED	EXISTING
100a	3/0X7/0	1	38"X86"			KEYED	EXISTING
101	3/0X7/0	1	38"X86"			KEYED	EXISTING
101a	6/0X7/0	1	38"X86"		WOOD	KEYED	CASED OPENING
102	3/0X7/0	2	38"X86"	LH	WOOD	KEYED	
103	4/0X7/0	3	50"X86"	LH	WOOD	PASSAGE	
104	3/0X7/0	2	38"X86"	LH	WOOD	PASSAGE	
105	3/0X7/0	3	38"X86"	LH	WOOD	PRIVACY	
106	4/0X7/0	2	38"X86"	LH	WOOD	PRIVACY	
107	3/0X7/0	3	38"X86"	RH	WOOD	PASSAGE	



1 FLOOR PLAN
3/16" = 1' - 0"



REVISIONS

4-11-23 EQUIPMENT

GEORGE M. ROSE, P.E.
 P.O. BOX 53441
 FAYETTEVILLE, NC 28305
 O 910-465-5622 M 910-471-5622 EMAIL: george@gmrs.com

INTERIOR UPFIT PLAN
LITTLE HEATHENS BREWERY
 SPRING LAKE, NC
 3266 RAY ROAD
FLOOR PLAN AND LIFE SAFETY PLAN

DATE: JUL 2023
 DRAWN BY: GMR
 CHECKED: GMR
 SCALE: NOTED

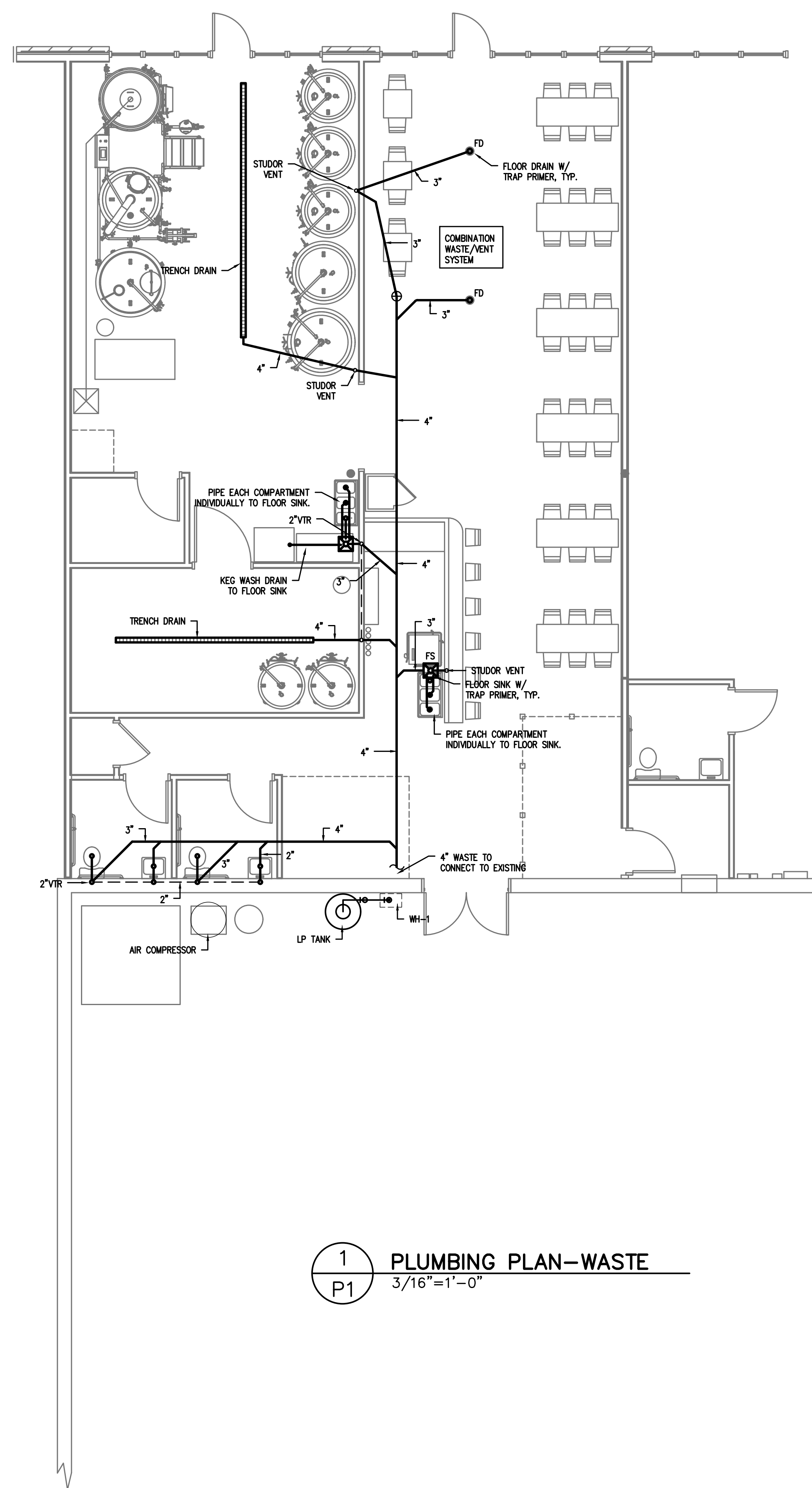
SHEET NO.
G1

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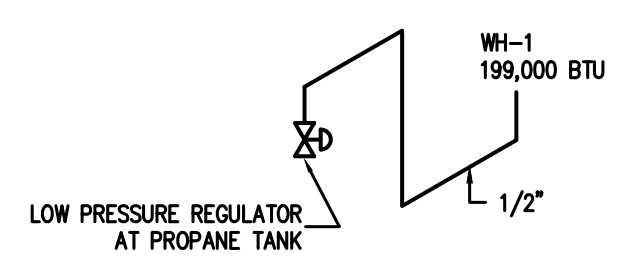
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PROJECT NO: 2023-124
 DRAWN BY: CSL/MJL
 DATE: 08-03-23
 REVISIONS: 10-02-23

SHEET NO:
 P1

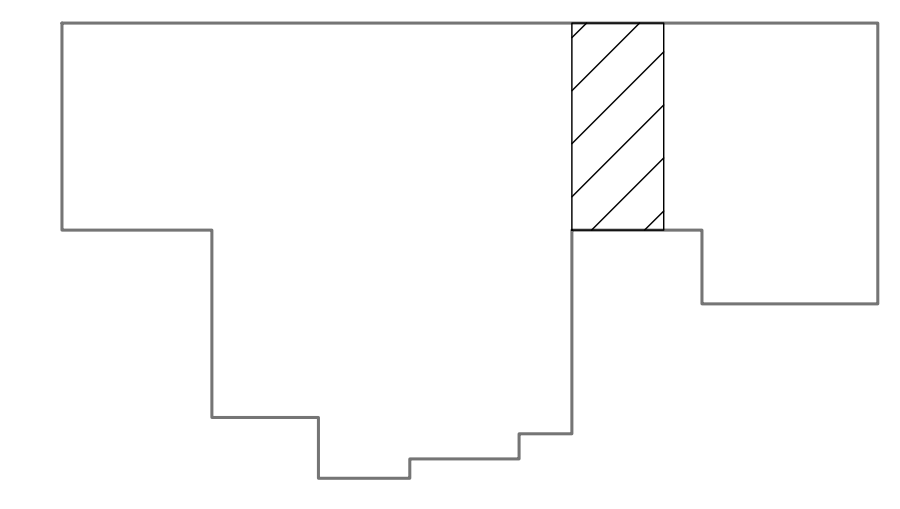


1 PLUMBING PLAN-WASTE
 3/16"=1'-0"

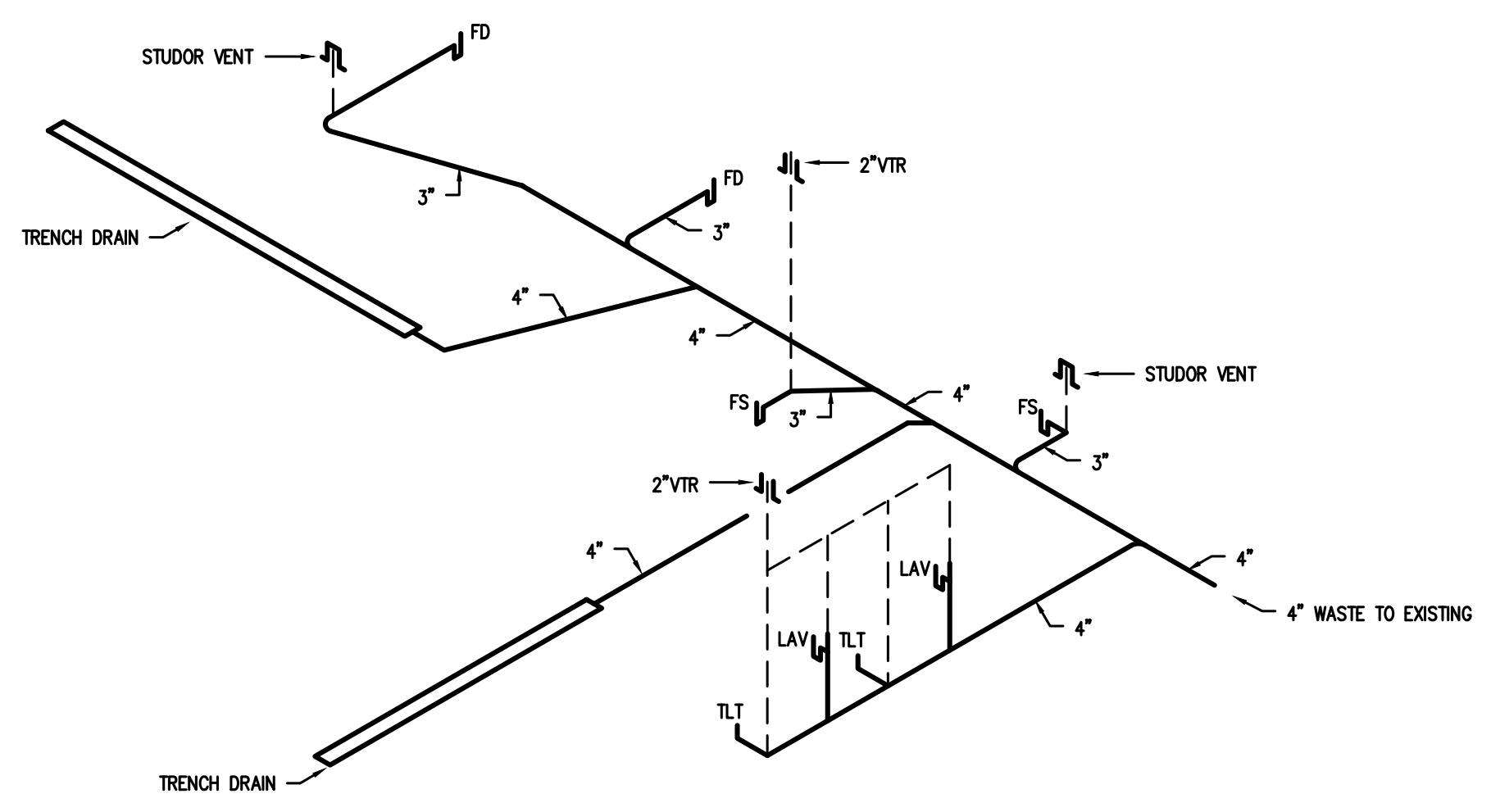


3 GAS RISER
 N.T.S.

NOTE:
 ALL PIPING SCHED. 40 BLACK STEEL
 TOTAL GAS DEMAND-199,000 BTU
 MAX. DEVELOPED LENGTH OF PIPING 10 FEET
 SEE GAS PIPING TABLE 402.4(2B).



2 KEY PLAN
 N.T.S.



4 WASTE RISER DETAIL
 N.T.S.



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 Pamlico, NC
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 www.coastalplainseng.com

LITTLE HEATHENS BREWERY
 3266 RAY ROAD, SPRING LAKE, NC

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PROJECT NO: 2023-124
 DRAWN BY: CSL/MJL
 DATE: 08-03-23
 REVISIONS: 10-02-23

SHEET NO:
P2

SYMBOL	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	ACCESSORIES	SUPPLY	WASTE	VENT	REMARKS
P-1	AMERICAN STD.	270AA.001	GADET 3 RIGHT HEIGHT ELONGATED TOILET VITREOUS CHINA, 1.6 GPF - ADA	CHURCH 295C ELONGATED SEAT OPEN FRONT LESS COVER	3/4" C.W.	3"	2"	
P-2	AMERICAN STD.	0321.026	LAVATORY, WALL-TYPE	AMERICAN STANDARD, 2385.400 FAUCET	1/2" H.W./C.W.	2"	1-1/2"	
P-3	2 BOWL UNDERBAR SINK WITH FAUCET-PER EQUIPMENT SUPPLIER				1/2" H.W./C.W.	2"		
P-4	MOTAK	DSP3	HIGH TEMP UNDERCOUNTER GLASS WASHER		3/4" H.W.			
P-5	2 BOWL COMMERCIAL SINK-PER EQUIPMENT SUPPLIER				1/2" H.W./C.W.	2"		
WH-1	RINNAI	CU199E	199,000 BTU GAS TANKLESS WATER HEATER		3/4" H.W./C.W.	-	-	SEE PLAN FOR LOCATION

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AS WELL AS ALL LOCAL AND OTHER APPLICABLE CODES.

ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.

WATER LINES BELOW GRADE SHALL BE TYPE "K" COPPER (NO JOINTS BELOW GRADE) AND ABOVE GRADE TYPE "L" COPPER SUPPORTED AS REQUIRED AND SHALL BE HYDROSTATICALLY TESTED FOR TWO HOURS AT 100 PSI. ALL WATER PIPING AT WATER FIXTURES SHALL BE PROVIDED WITH 18" AIR CHAMBERS OR SHOCK ABSORBERS. STOPS SHALL BE PROVIDED ON HOT AND COLD WATER LINES. HOT WATER PIPING SHALL BE INSULATED WITH 1" CLOSED CELL RUBBER. THE ENTIRE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.

SANITARY SEWER LINES SHALL BE PVC.

PROVIDE PRESSURE REDUCING VALVE IF STREET WATER EXCEEDS 80 PSI.

GAS PIPING WILL BE SCHEDULE 40 BLACK STEEL WITH BLACK MALLEABLE IRON SCREW-TYPE FITTINGS.

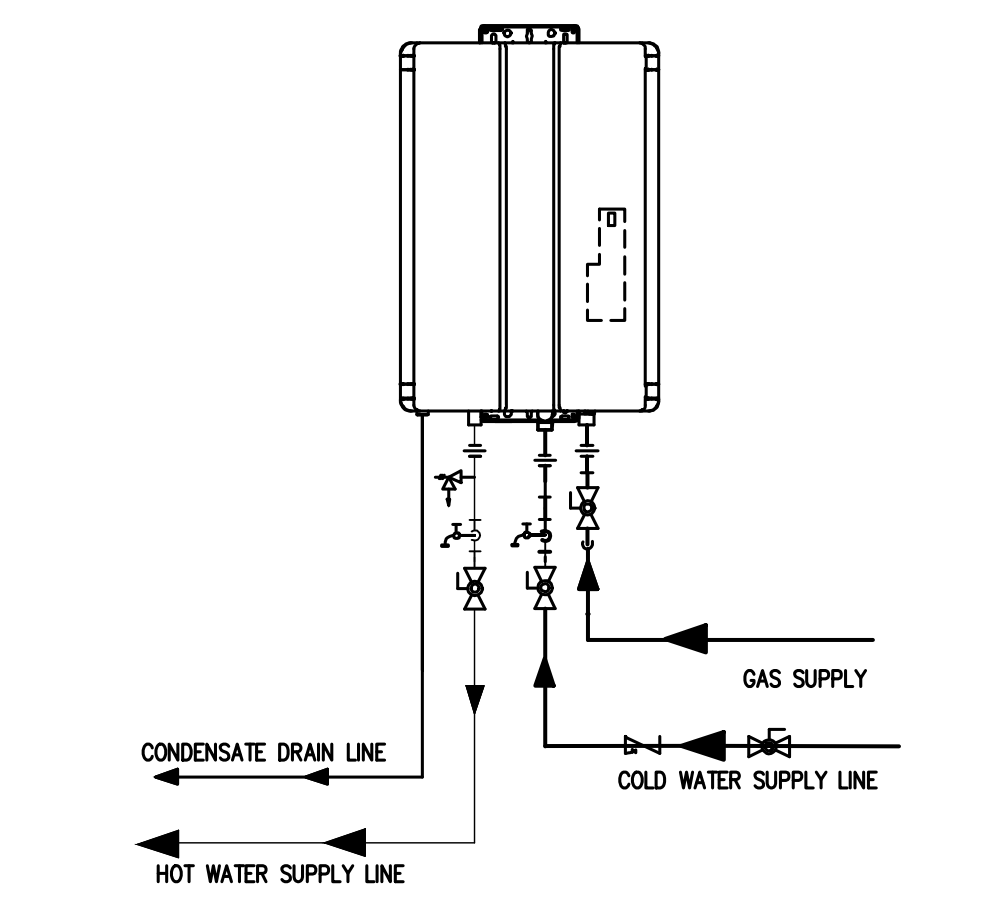
THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK AND SHALL INSTALL FIRE RATED SLEEVES WHEREVER PENETRATIONS OF RATED WALLS OR FLOORS ARE MADE. THE PATCHING SHALL BE BY THE PLUMBING CONTRACTOR. THE PLUMBING CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS AND ARCHITECTURAL SITE PLANS FOR WORK BY OTHERS.

LOCATION OF UTILITIES (WASTE AND WATER LINES, MANHOLES ETC.) THAT ARE TO BE CONNECTED TO ARE ASSUMED. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO VERIFY THESE LOCATIONS AND MAKE THE FINAL CONNECTION AS REQUIRED.

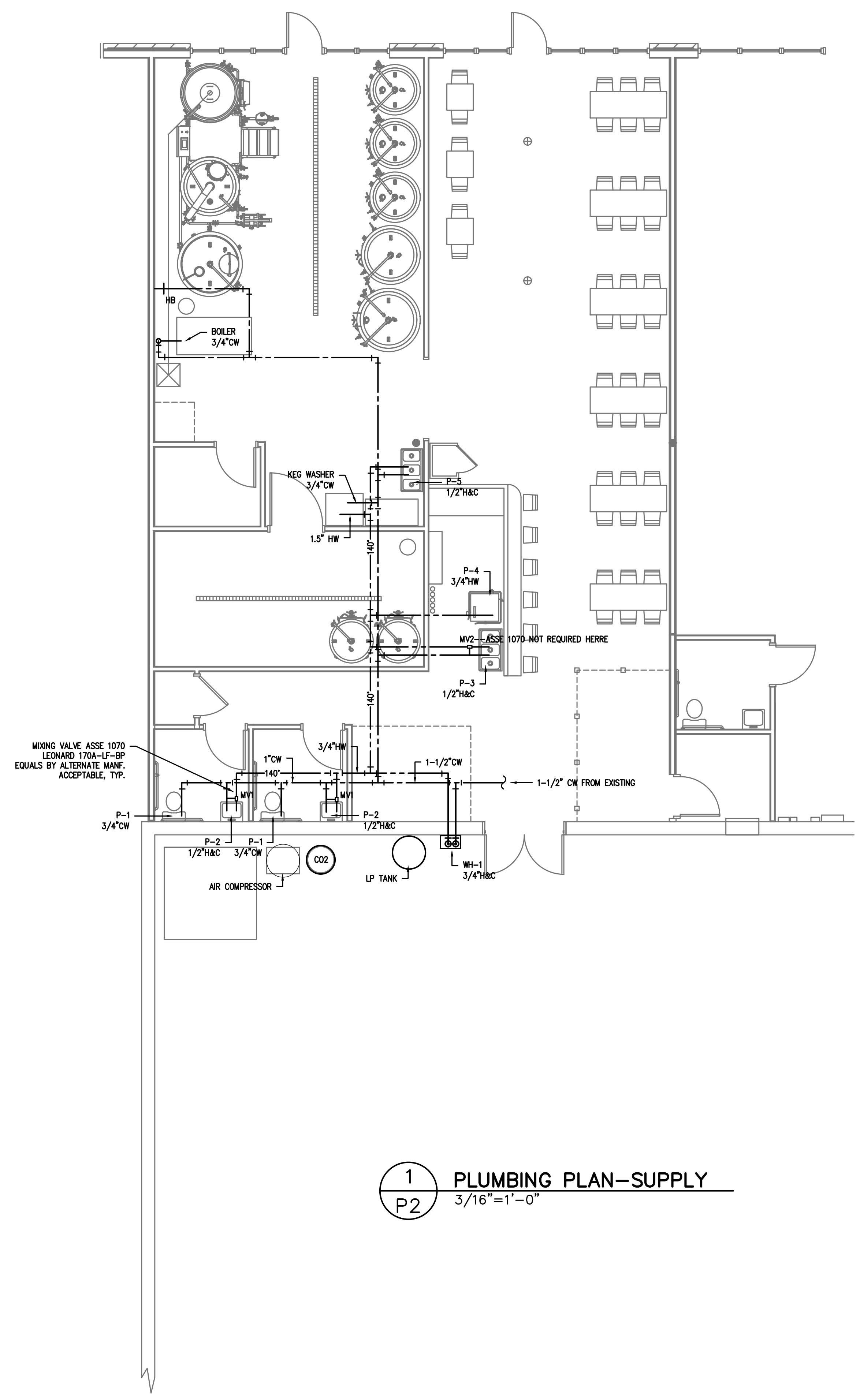
ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMERS.

GENERAL PLUMBING SYMBOLS	
	UNION
	PIPE UP
	PIPE DOWN
	POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
	TEE
	ELBOW
	WALL CLEANOUT
	FLOOR CLEANOUT
	GATE VALVE
	COLD WATER
	HOT WATER
	VENT PIPING
	WASTE PIPING
	ROOF DRAIN PIPING

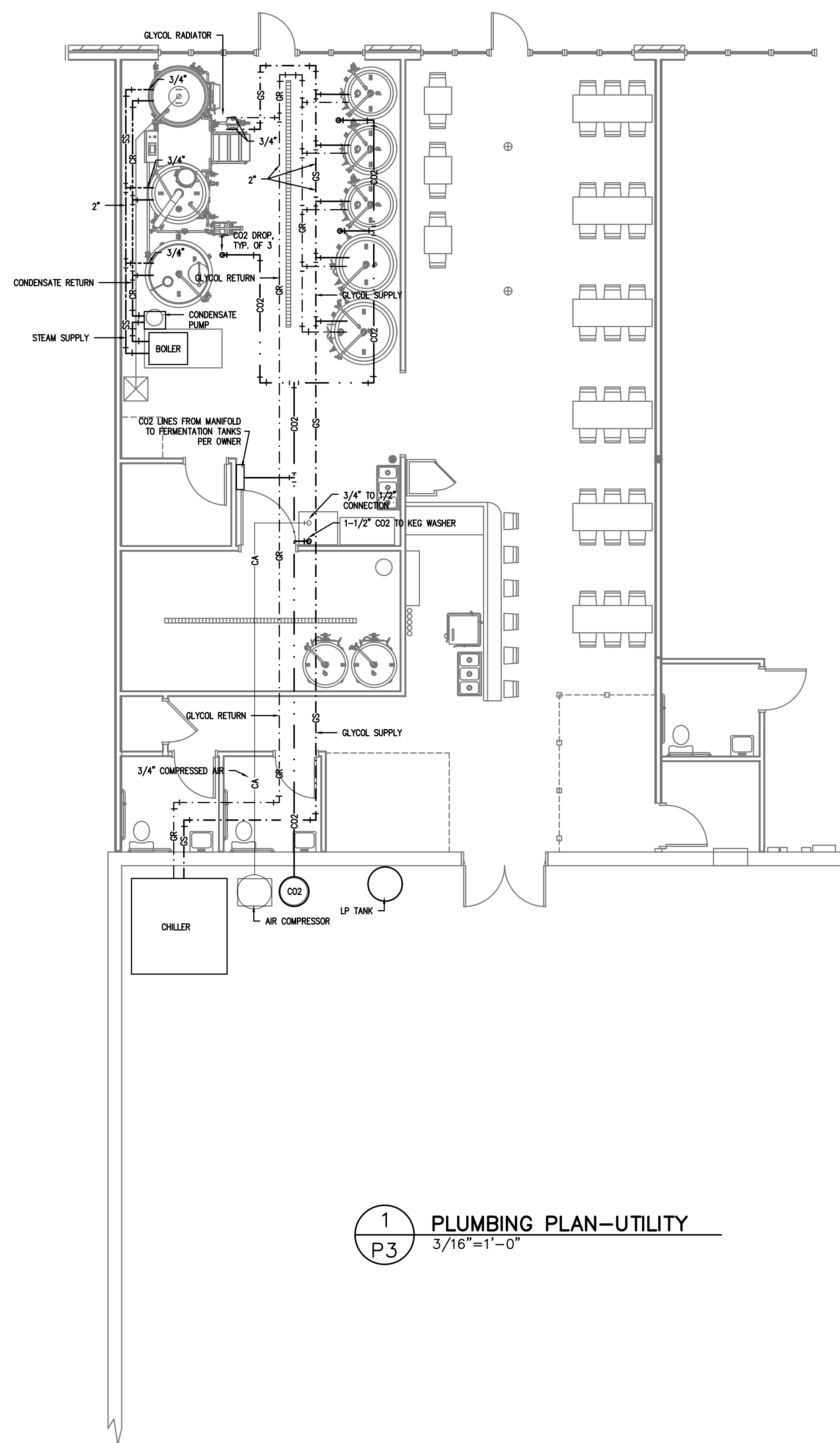
2 PLUMBING NOTES
 N.T.S.



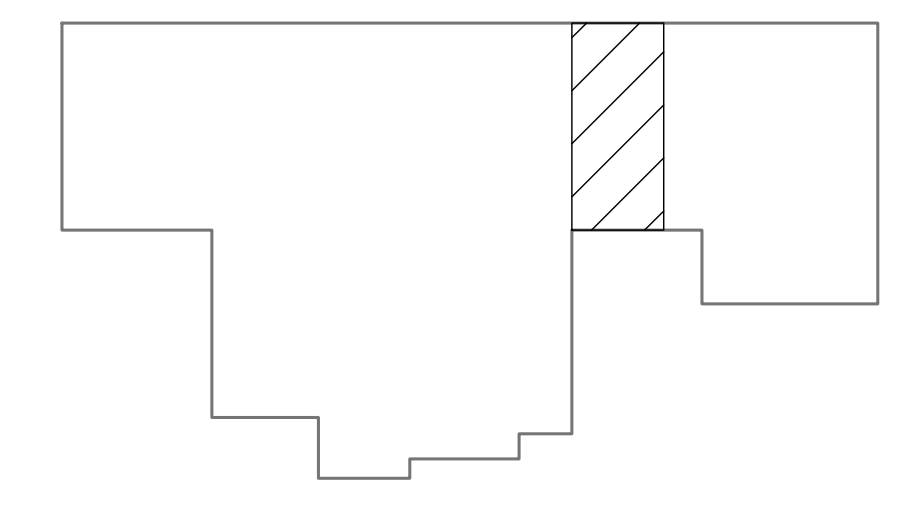
3 WATER HEATER DETAIL
 N.T.S.



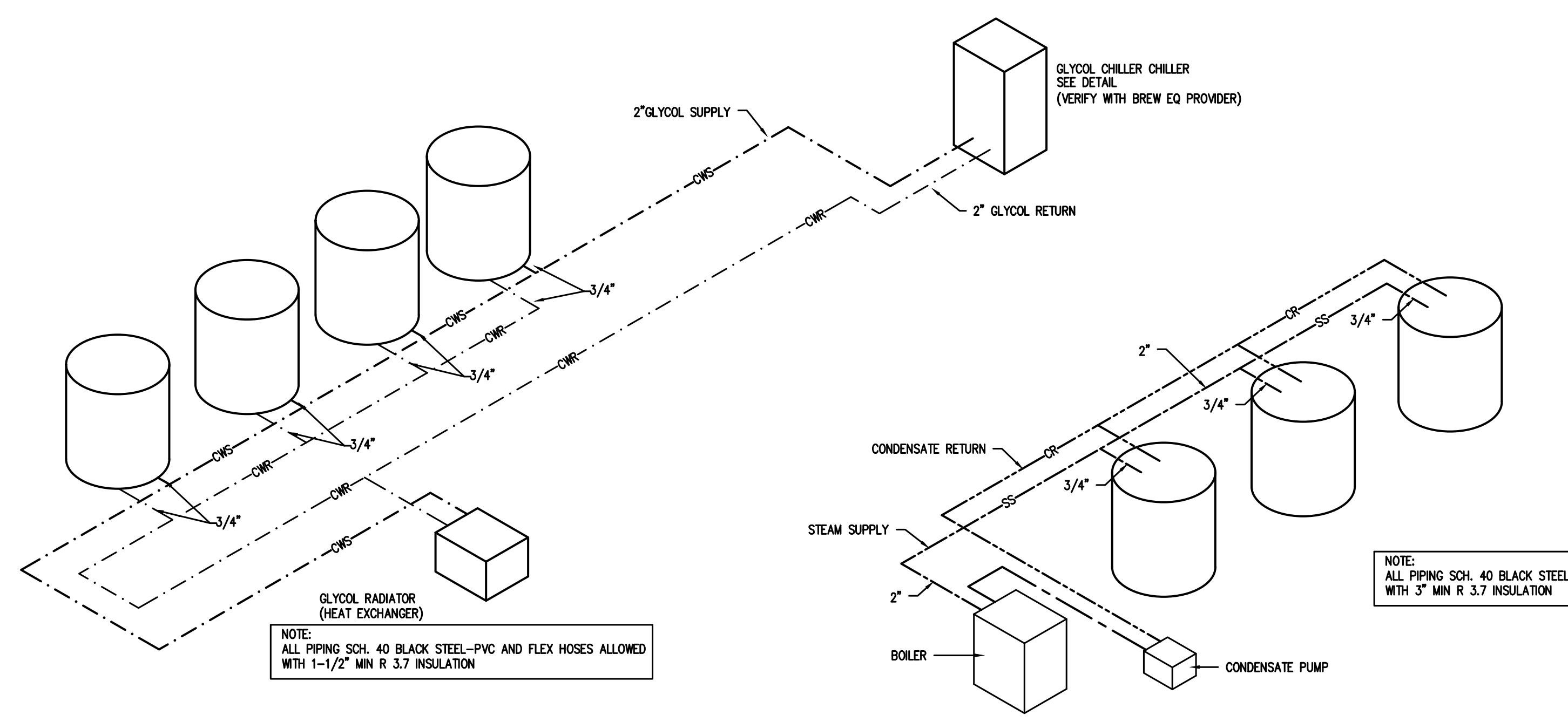
1 PLUMBING PLAN-SUPPLY
 3/16"=1'-0"



1
P3 **PLUMBING PLAN-UTILITY**
3/16"=1'-0"



2
P1 **KEY PLAN**
P3



3
P3 **CHILLED WATER PIPING DIAGRAM**
NTS

4
P3 **STEAM PIPING RISER DIAGRAM**
NTS

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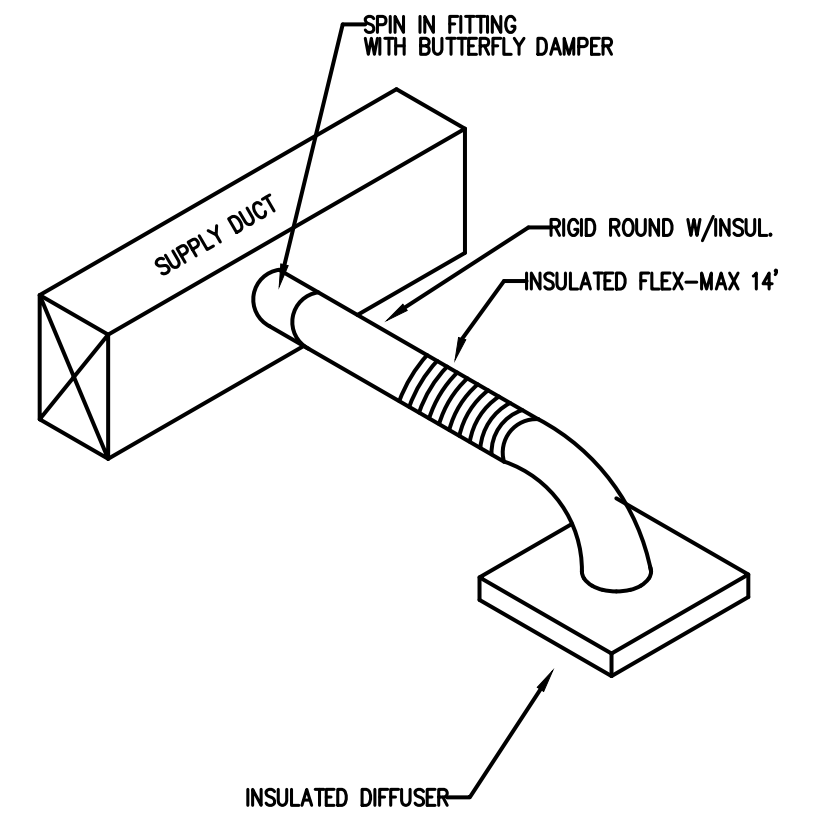
LITTLE HEATHENS BREWERY
 3266 RAY ROAD, SPRING LAKE, NC

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PROJECT NO: 2023-124
 DRAWN BY: CSL/MJL
 DATE: 08-03-23
 REVISIONS: 10-02-23

SHEET NO:
 P3



1
M1
DIFFUSER TAKE OFF DETAIL
N.T.S.

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 4A
winter dry bulb: 18°
summer dry bulb: 97°

Interior design conditions
winter dry bulb: 75°
summer dry bulb: 75°
relative humidity: 50%

Building heating load: 74,599 BTU

Building cooling load: 71,750 BTU

Mechanical Spacing Conditioning System

Unitary
description of unit: PACKAGED HEAT PUMP
heating efficiency: 8.0 HSPF
cooling efficiency: 14.0 SEER
size category of unit: <65,000 BTU/H

Boiler
Size category. If oversized, state reason: _____

Chiller
Size category. If oversized, state reason: _____

List equipment efficiencies: _____

MARK ON PLANS	CFM	AIR PATTERN	NECK SIZE	RUNOUT SIZE	REMARKS
(A)	50-125	4 WAY	6 X 6	6"	PRICE SERIES ASCD OFF WHITE, ALUM.
(B)	150-275	4 WAY	8 X 8	8"	PRICE SERIES ASCD OFF WHITE, ALUM.
(C)	300-400	4 WAY	10 X 10	10"	PRICE SERIES ASCD OFF WHITE, ALUM.
(D)		N/A	12 X 12	SEE PLAN	PRICE SERIES 630 OFF WHITE, ALUM., RETURN
(E)		N/A	20 X 20	SEE PLAN	PRICE SERIES 630 OFF WHITE, ALUM., RETURN
(G)		N/A	24 X 18	SEE PLAN	PRICE SERIES 630FF OFF WHITE, ALUM., FILTER RETURN

MARK	LOCATION	SERVICE	CFM	S.P.	WATTS	RPM	VOLT	PHASE	DRIVE	REMARKS
EF1,2	CEILING	TOILETS	70	0.25"	20.2	850	120	1	DIRECT	CEILING MOUNTED FAN. PROVIDE W/B.D.D. AND WALL CAP GREENHECK SPA-70 OR EQ. 6" FLEX TO ROOF/WALL CAP
EF3	CEILING	MILL	1000	0.35"	1/2HP	1725	120	1	DIRECT	INLINE EXHAUST FAN WITH SPEED CONTROL GREENHECK SQ-120-1/2VG OR EQ.

OUTSIDE AIR CALCULATION -2018 NC MECHANICAL CODE (TABLE 403.3.1.1) $V_{bz} = R_p P_z + R_a A_z$

OCCUPANCY TYPE:	SF	# OF OCCUPANTS	O.A. CFM PER PERSON (Rp)	O.A. CFM PER SqFt (Ra)	O.A. CFM REQUIRED (Vbz)	EXHAUST CFM REQUIRED
	(Az)	(Pz)				
RTU-1	BREW HOUSE	670		0.06	40.2	
	OFFICE	48	1	5	7.88	
	TOTAL CFM REQUIRED				48.08	0
	TOTAL CFM FURNISHED				48.08	0
RTU-2	SEATING AREA	590	41	7.5	413.7	
	TOTAL CFM REQUIRED				413.7	0
	TOTAL CFM FURNISHED				413.7	0
	RTU-3	SEATING AREA	221	15	7.5	152.28
BAR		116	11	7.5	103.38	
STORAGE		47		0.06	2.82	
GAMING AREA		65	2	7.5	26.7	
CORRIDOR		177		0.06	10.62	
MEN		50			0	70
WOMEN		50			0	70
TOTAL CFM REQUIRED					295.8	140
TOTAL CFM FURNISHED				295.8	140	

ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 NC MECHANICAL CODE.

ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL IN ACCORDANCE WITH ASHRAE & SMACNA. DUCT SIZES SHOWN ARE NET FREE AREA REQUIRED. ALL SUPPLY AND RETURN DUCTS AND FLEX SHALL BE INSULATED WITH MIN. R-6.0 INSULATION UNLESS OTHERWISE NOTED IN THE DRAWING.

ALL EXPOSED ROUND DUCT SHALL BE DOUBLE WALL INSULATED. EXPOSED RECTANGULAR DUCT SHALL BE INTERNALLY LINED WITH INSULATION.

ALL DUCTS SHALL BE AIR TIGHT, RIGID AND FREE FROM VIBRATION AND NOISE. ALL LAP JOINTS SHALL BE IN THE DIRECTION OF FLOW. VOLUME OR SPLITTER DAMPERS SHALL BE INSTALLED WHERE NECESSARY TO GUIDE AND CONTROL THE AIR FLOW. PROVIDE SHEET METAL SLEEVES AND COLLARS WHERE DUCTS PASS THROUGH WALLS.

STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ARCHITECT.

MECHANICAL CONTRACTOR TO CONFIRM BREAKER/DISCONNECT SIZES OF HIS EQUIPMENT WITH THE ELECTRICAL CONTRACTOR.

FURNISH AND INSTALL A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN DUCT OF THE A/C UNIT IN ACCORDANCE WITH 2018 NC MECHANICAL CODE. THE DETECTOR SHALL BE WIRED TO SHUT DOWN THE FAN IN THE EVENT THE DETECTOR IS ACTIVATED. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE DUCT DETECTOR AND RUN THE NECESSARY CONTROL WIRING FROM THE DETECTOR TO HIS EQUIPMENT. SMOKE DETECTORS ARE ONLY REQUIRED FOR UNITS SUPPLYING 2000 CFM OR MORE.

MECHANICAL CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT SYSTEM COMPLIANCE STATEMENT REQUIRES A WRITTEN T&B REPORT. FINAL PROJECT SIGNOFF WILL BE DENIED WITHOUT THIS REPORT.

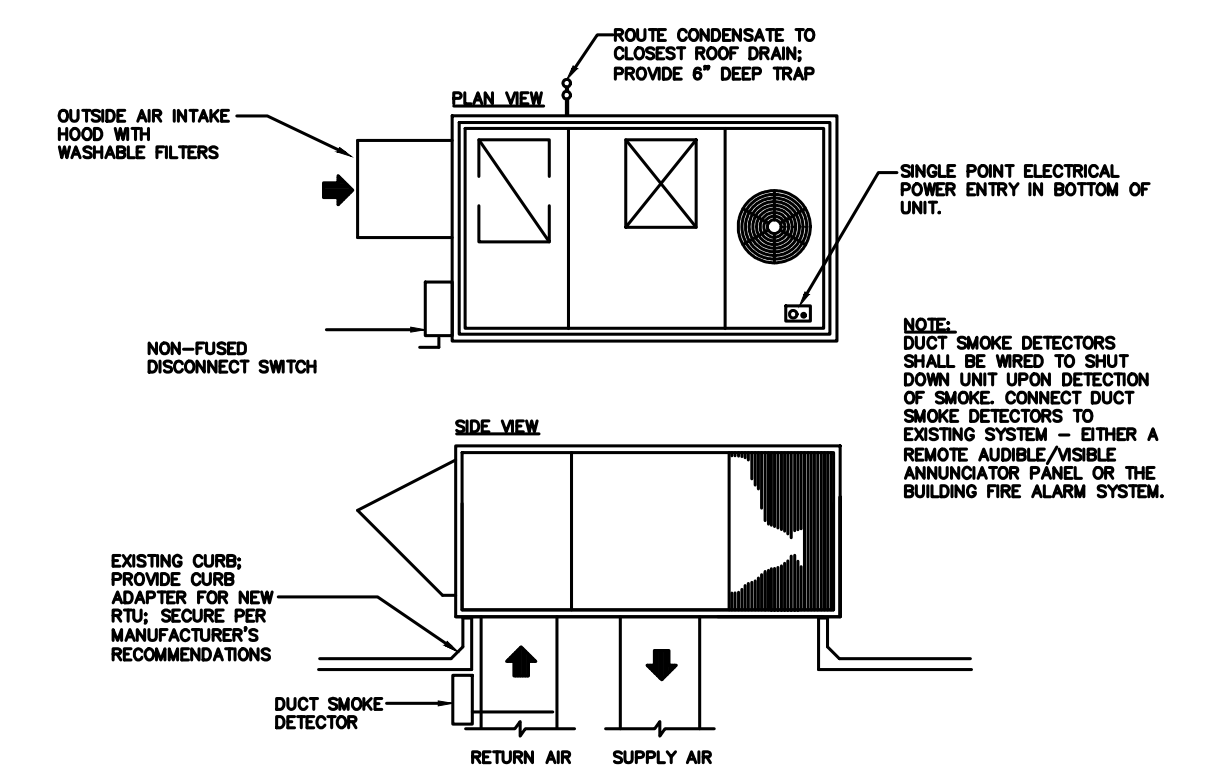
MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS AND ROUTING OF ALL DUCTWORK WITH OTHER TRADES TO AVOID CONFLICTS.

ALL EQUIPMENT MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURER'S STANDARD GUARANTEE IF LONGER. ANY FAULTY MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

ALL THERMOSTATS SHALL BE OF A PROGRAMMABLE TYPE.

BUILDING CONTRACTOR SHALL PROVIDE PERMANENT ACCESS TO ROOF STRUCTURE FOR ACCESS TO MECHANICAL EQUIPMENT WHEN ROOF STRUCTURE IS GREATER THAN 16'-0" HIGH.

3
M1
HVAC NOTES
N.T.S.



2
M1
ROOF TOP UNIT DETAIL
N.T.S.

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REVISIONS: 10-02-23

SHEET NO: M1

Oct 02, 2023



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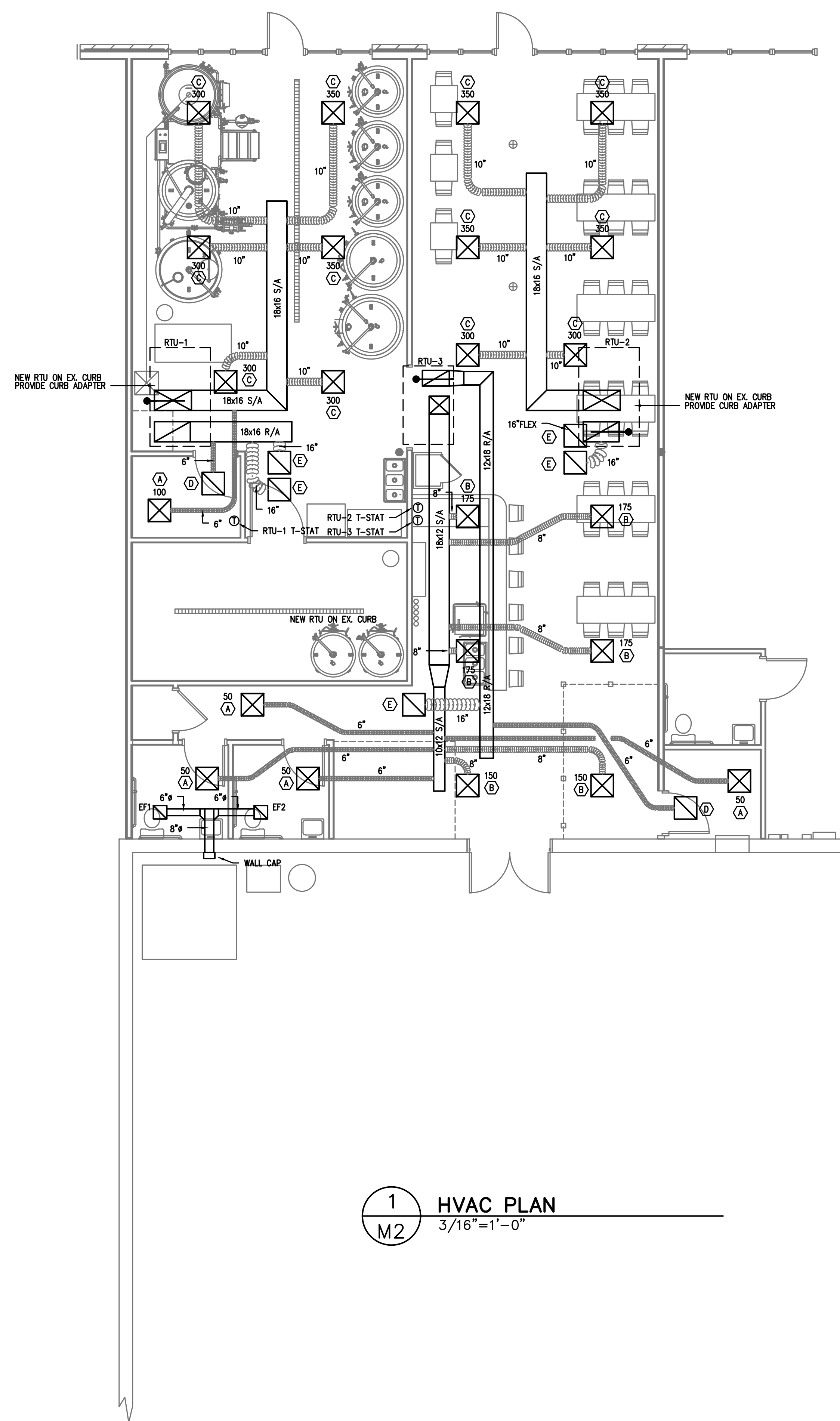
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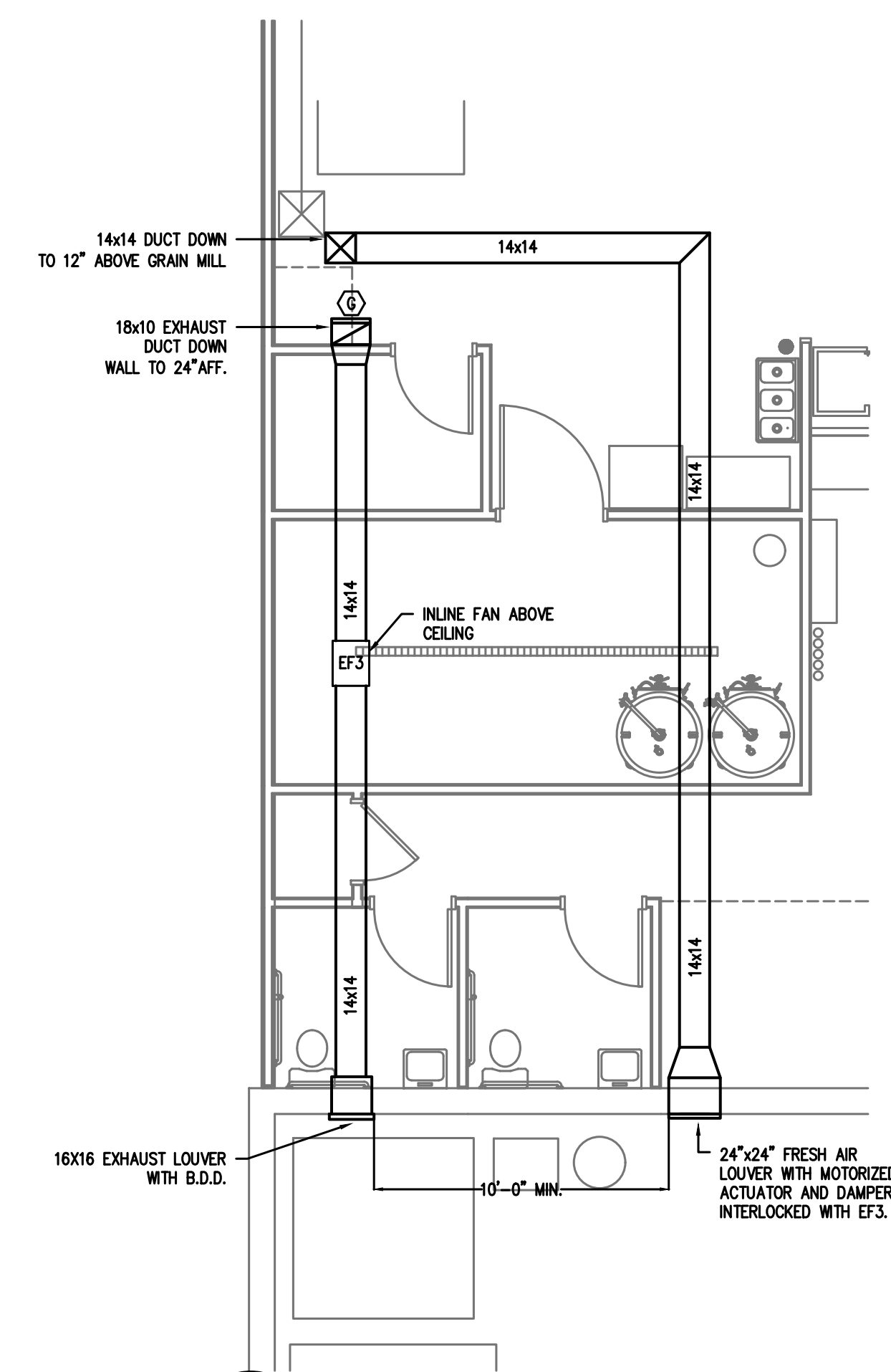
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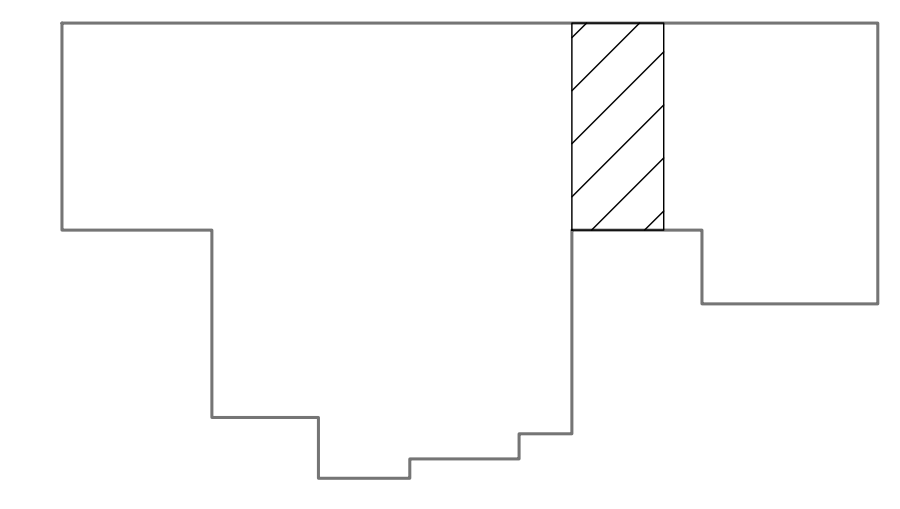
SHEET NO:
M2



1 HVAC PLAN
 3/16"=1'-0"



2 HVAC PLAN—MILL EXHAUST/FRESH AIR
 3/16"=1'-0"



2 KEY PLAN
 N.T.S.

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR CEILING MOUNTED S/A DIFFUSER
	RECTANGULAR CEILING MOUNTED R/A OR EXHAUST GRILLE
	RUNNOUT TO DIFFUSER W/VOLUME DAMPER AND CONE EXTRACTOR
	90 DEG. ELBOW W/ TURNING VANES
	CONDENSATE DRAIN PIPING
	REFRIGERANT PIPING
	HEATING AND COOLING THERMOSTAT. MOUNT 5'-0" A.F.F. AUTOMATIC CHANGEOVER.
	SYSTEM EMERGENCY SHUT-OFF SWITCH (RED LABELED)
	DUCT SMOKE DETECTOR - FURNISHED BY M.C., INSTALLED BY M.C., WIRED BY M.C.
S/A	SUPPLY AIR
R/A	RETURN AIR
O/A	OUTSIDE AIR
S/D	SPLITTER DAMPER
M.D.	MANUAL DAMPER WITH LOCKING QUADRANTS
B.D.D.	BACKDRAFT DAMPER
A.F.F.	ABOVE FINISHED FLOOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
	CEILING FIRE/RADIATION DAMPER
	VERTICAL FIRE DAMPER
	DUCT SMOKE DETECTOR

PACKAGED UNIT SCHEDULE																		
UNIT NO.	TOTAL CFM	O.A. CFM	EXT. S.P.	EVAP. FAN FLA	COMPRESSOR AMPS	NO. OF COMPR.	FAN AMPS	NO. OF FANS	UNIT MCA	UNIT MOCF	UNIT VOLT	UNIT PHASE	CAPACITIES			REMARKS	UNIT NET WEIGHT	ACCESSORIES
													COOLING BTU	IEER	HEATING BTU			
RTU-1	2000	48	0.60"	7.6	17.5	1	1.5	1	63	70	208	3	61,000	14.3	59,000	TRANE: WSC060H3 5 TON PACKAGED HEAT PUMP ELEC HEATING/COOLING	682 LBS.	9.0KW STRIP HEAT
RTU-2	2000	413	0.60"	7.6	17.5	1	1.5	1	63	70	208	3	61,000	14.3	59,000	TRANE: WSC060H3 5 TON PACKAGED HEAT PUMP ELEC HEATING/COOLING	682 LBS.	9.0KW STRIP HEAT
RTU-3	1200	296	0.60"	5.7	15	1	1.1	1	42	50	208	3	39,500	14.3	36,000	TRANE: WSC036H3 3 TON PACKAGED HEAT PUMP ELEC HEATING/COOLING	507 LBS.	4.5KW STRIP HEAT



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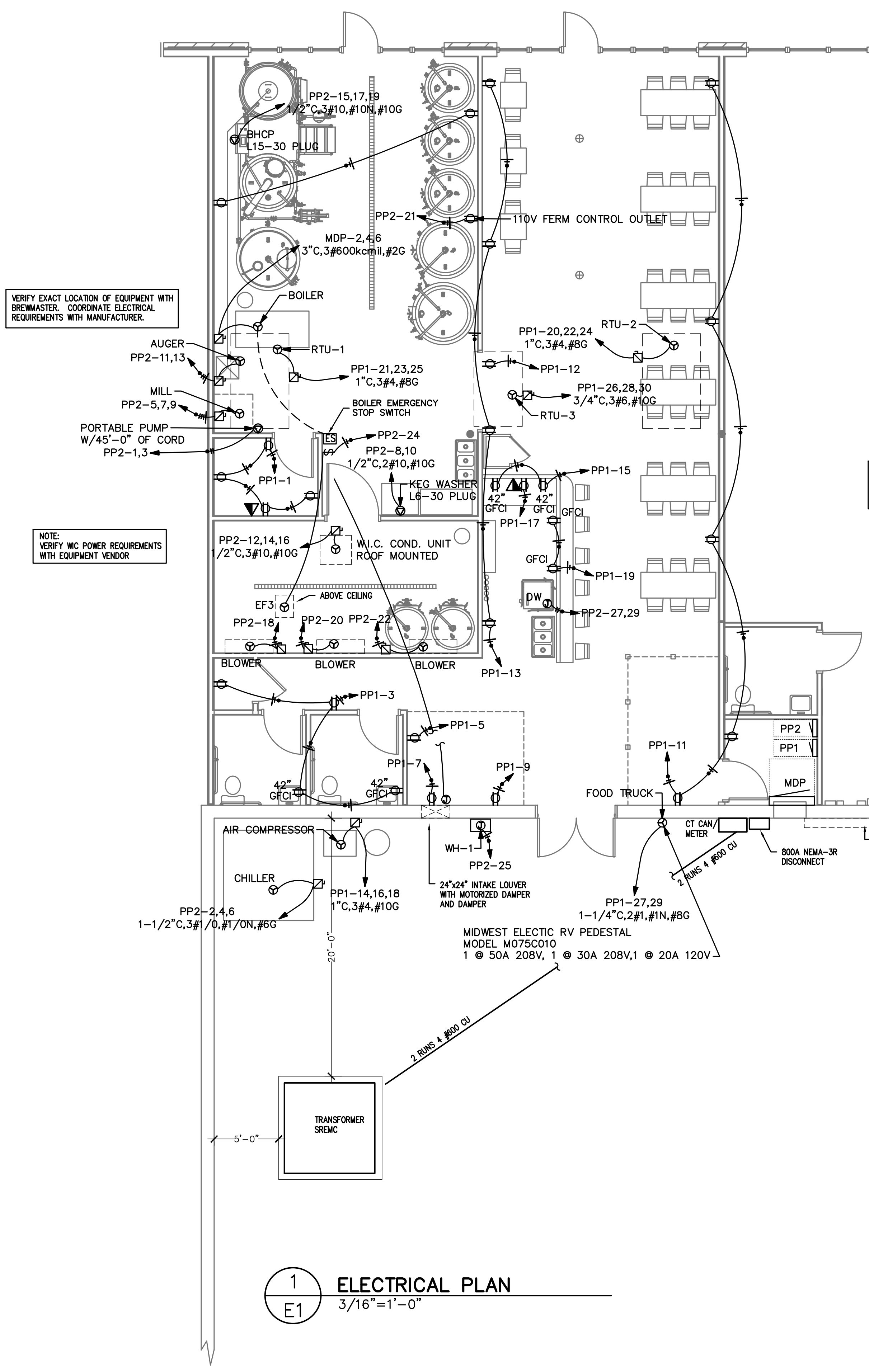
PROJECT NO: 2023-124
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SHEET NO: **E1**

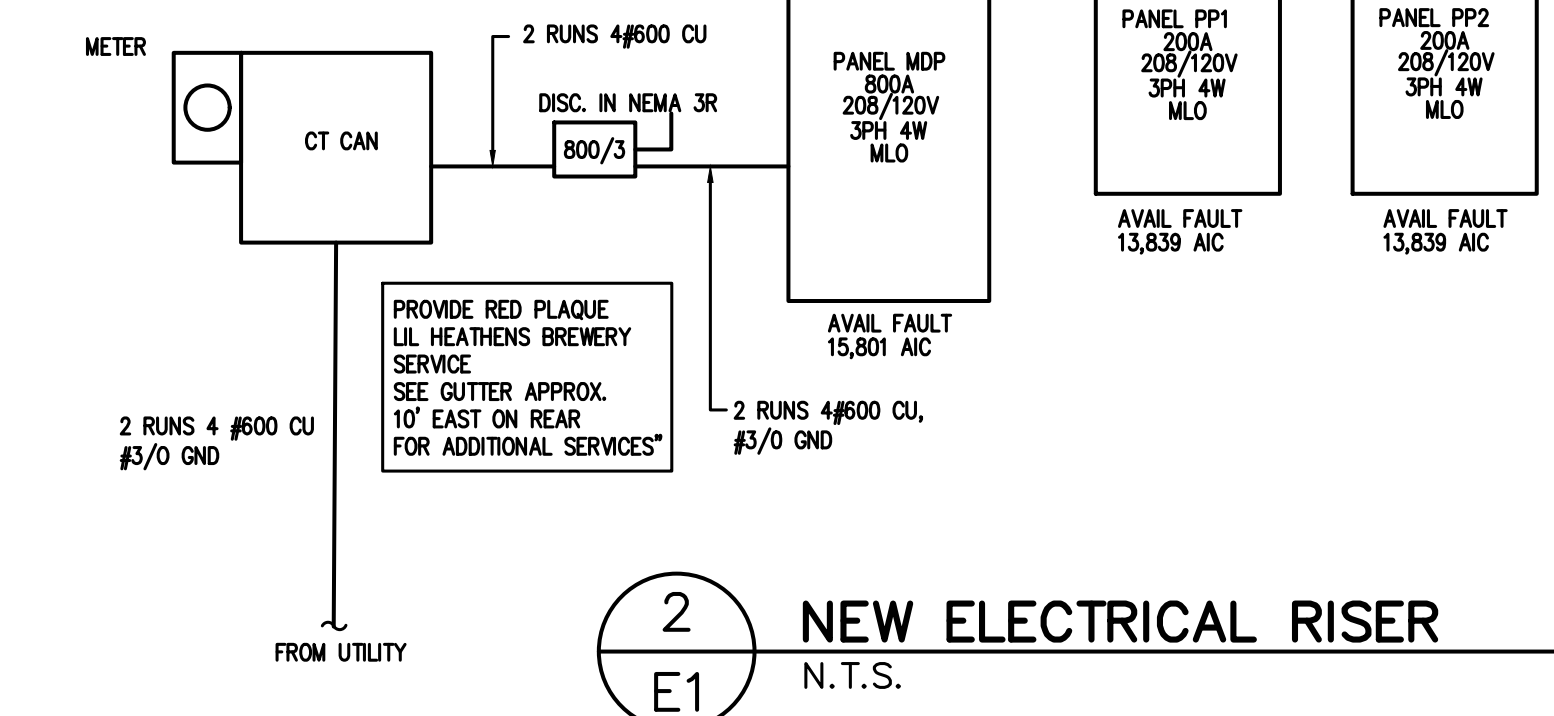
ROOM		VOLTS 208Y/120V 3P 4W		AIC 22,000				
MOUNTING FLUSH		BUS AMPS 800		MAIN BKR MLO				
FED FROM UTILITY		NEUTRAL 100%		LUGS STANDARD				
NOTE								
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	
1	225/3	74	PANEL PP1	a	2	400/3	BOILER	
3	---	---	---	b	4	---	---	
5	---	---	---	c	6	---	---	
7	225/3	60.8	PANEL PP2	a	8	20/1	0	SPACE
9	---	---	---	b	10	20/1	0	SPACE
11	---	---	---	c	12	20/1	0	SPACE
		CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING		1.73	2.17 (125%)	KITCHEN EQUIPMENT		11.9	8.35 (70%)	
APPLIANCE		9.6	9.6 (100%)	CONTINUOUS LOAD		8.6	10.8 (125%)	
LARGEST MOTOR		27	6.75 (25%)	NONCONTINUOUS LOAD		113	113 (100%)	
MOTORS		46.1	46.1 (100%)	HEATING		46.3	46.3 (100%)	
RECEPTACLES		5.6	5.6 (50%>10)	COOLING		23.8	0 (0%)	
				TOTAL LOAD		249		
				BALANCED 3-PHASE LOAD		690 A		
				PHASE A		96.9%		
				PHASE B		103%		
				PHASE C		100%		

ROOM		VOLTS 208Y/120V 3P 4W		AIC 22,000				
MOUNTING FLUSH		BUS AMPS 225		MAIN BKR MLO				
FED FROM MDP		NEUTRAL 100%		LUGS STANDARD				
NOTE								
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	
1	20/1	0.72	OFFICE RECEPTACLE	a	2	20/1	0.733	BREWHOUSE EF1, EF2, LIGHTING
3	20/1	0.72	RESTROOM RECEPTACLE	b	4	20/1	0.61	SEATING LIGHTING
5	20/1	0.18	GAME RECEPTACLE	c	6	20/1	0.136	NITE LIGHTING
7	20/1	0.18	GAME RECEPTACLE	a	8	20/1	0.156	SEATING CEILING FAN
9	20/1	0.18	GAME RECEPTACLE	b	10	20/1	0.098	CONNEX STORAGE LIGHTING
11	20/1	0.9	SEATING RECEPTACLE	c	12	20/1	0.18	REFRIG. RECEPTACLE
13	20/1	0.72	SEATING AREA RECEPTACLE	a	14	60/3	11.6	AIR COMPRESSOR
15	20/1	0.36	BAR RECEPTACLE	b	16	---	---	---
17	20/1	0.18	P.O.S RECEPTACLE	c	18	---	---	---
19	20/1	0.36	BAR RECEPTACLE	a	20	70/3	17.4	RTU-2
21	70/3	17.4	RTU-1	b	22	---	---	---
23	---	---	---	c	24	---	---	---
25	---	---	---	a	26	50/3	11.5	RTU-3
27	100/2	9.6	FOOD TRUCK	b	28	---	---	---
29	---	---	---	c	30	---	---	---
31	20/1	0	SPACE	a	32	20/1	0	SPACE
33	20/1	0	SPACE	b	34	20/1	0	SPACE
35	20/1	0	SPACE	c	36	20/1	0	SPACE
37	20/1	0	SPACE	a	38	20/1	0	SPACE
39	20/1	0	SPACE	b	40	20/1	0	SPACE
41	20/1	0	SPACE	c	42	20/1	0	SPACE
		CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING		1.73	2.17 (125%)	MOTORS		11.6	11.6 (100%)	
APPLIANCE		9.6	9.6 (100%)	RECEPTACLES		4.68	4.68 (50%>10)	
LARGEST MOTOR		11.6	2.91 (25%)	HEATING		46.3	46.3 (100%)	
				COOLING		23.8	0 (0%)	
				TOTAL LOAD		77.3		
				BALANCED 3-PHASE LOAD		215 A		
				PHASE A		89.6%		
				PHASE B		106%		
				PHASE C		104%		

ROOM		VOLTS 208Y/120V 3P 4W		AIC 22,000				
MOUNTING FLUSH		BUS AMPS 225		MAIN BKR MLO				
FED FROM MDP		NEUTRAL 100%		LUGS STANDARD				
NOTE								
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	
1	20/2	2.88	PORTABLE PUMP	a	2	125/3	27	CHILLER
3	---	---	---	b	4	---	---	---
5	20/3	1.75	MILL	c	6	---	---	---
7	---	---	---	a	8	30/2	4.9	KEG WASHER
9	---	---	---	b	10	---	---	---
11	20/2	1.66	AUGER	c	12	30/3	4.11	W.I.C. COND. UNIT
13	---	---	---	a	14	---	---	---
15	30/3	8.6	BHCP	b	16	---	---	---
17	---	---	---	c	18	20/1	1.5	BLOWER
19	---	---	---	a	20	20/1	1.5	BLOWER
21	20/1	0.18	FERM CONTROL RECEPTACLE	b	22	20/1	1.5	BLOWER
23	20/1	0.54	BREWERY RECEPTACLE	c	24	20/1	1.18	EF3
25	20/1	0.2	WH-1	a	26	20/1	0	SPACE
27	20/2	3.33	DW	b	28	20/1	0	SPACE
29	---	---	---	c	30	20/1	0	SPACE
31	20/1	0	SPACE	a	32	20/1	0	SPACE
33	20/1	0	SPACE	b	34	20/1	0	SPACE
35	20/1	0	SPACE	c	36	20/1	0	SPACE
37	20/1	0	SPACE	a	38	20/1	0	SPACE
39	20/1	0	SPACE	b	40	20/1	0	SPACE
41	20/1	0	SPACE	c	42	20/1	0	SPACE
		CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR		27	6.75 (25%)	KITCHEN EQUIPMENT		11.9	8.35 (70%)	
MOTORS		34.5	34.5 (100%)	CONTINUOUS		8.6	10.8 (125%)	
RECEPTACLES		0.92	0.92 (50%>10)	NONCONTINUOUS		4.9	4.9 (100%)	
				TOTAL LOAD		66.2		
				BALANCED 3-PHASE LOAD		184 A		
				PHASE A		100%		
				PHASE B		104%		
				PHASE C		96.2%		



AVAILABLE FAULT CALCULATIONS
 200-07 OF 4 RUNS 4 #600 CU TO
 150 KVA PADMOUNT TRANSFORMER 1.8KZ
 9,600A AIC



GROUNDING ELECTRODE DETAILS
 GROUNDING ELECTRODE CONDUCTORS SHALL BE #3/0 BARE COPPER. OTHER MATERIAL AND INSTALLATION PER NEC

① CONNECT TO METALLIC WATER PIPE AS REQ'D.

② #3/0 COPPER GROUND TO BUILDING STEEL/FOUNDATION REBAR

③ 3/4"x10' LONG COPPER CLAD GROUNDING ROD W/ #6 COPPER GROUND.



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 DRAWN BY: CSL/MJL
 DATE: 08-03-23
 REVISIONS: 10-02-23

SHEET NO: E2

○	LIGHT FIXTURE INCANDESCENT OR H.I.D.	⊗	EXIT LIGHT FIXTURE
○	LIGHT FIXTURE WALL MOUNTED	NL	NIGHT LIGHT
□	FLUORESCENT LIGHT FIXTURE	⚡	EMERGENCY LIGHT W/ 90 MIN. BATTERY
Ⓛ	DUPLEX RECEPTACLE (+18")	Ⓛ	GFI TYPE RECEPTACLE
Ⓛ	ISOLATED GROUND TYPE D.R.	D.R.	DUPLEX RECEPTACLE
(+0")	CENTERLINE HEIGHT OF DEVICE BOX ABOVE FINISH FLOOR	Ⓛ	DUPLEX RECEPTACLE
S	SINGLE POLE SWITCH (+42")	Ⓛ	SW. WITH PILOT LIGHT
S ₃	3-WAY SWITCH (+42")	Ⓛ	3-WAY SW. W/ PILOT LIGHT(+42")
S ₄	4-WAY SWITCH (+42")	Ⓛ	SPECIAL PURPOSE OUTLET
S _K	KEYED SINGLE POLE SWITCH (+42")	S ₃	KEYED THREE-WAY SWITCH
N/F	N/F DISCONNECT SWITCH	Ⓛ	FUSED DISCONNECT SWITCH
RT	RAINTIGHT (NEMA 3R)	(60/50/3)	AMP SIZE/FUSE SIZE/POLES
Ⓛ	STARTER	Ⓛ	MANUAL STARTER SWITCH
Ⓛ	MOTOR SYMBOL	Ⓛ	MANUAL STARTER SWITCH W/ PILOT LIGHT
Ⓛ	RELAY	Ⓛ	PHOTOCONTROL
Ⓛ	PUSHBUTTON OR CONTROL STATION	Ⓛ	JUNCTION BOX (J.B.)
◁	TELEPHONE O.B. (3/4" C. TO CEILING SPACE)	O.B.	OUTLET BOX
◁	DATA O.B. (3/4" C. TO CEILING SPACE)	Ⓛ	CHILD-PROOF
◁	TELEPHONE & DATA O.B. (3/4" C. TO CEILING SPACE)	Ⓛ	CHILD-PROOF
Ⓛ	PLAN NOTE SYMBOL	WP	WEATHERPROOF
C/B	CIRCUIT BREAKER	CKT.	CIRCUIT
---	CONCEALED CONDUIT (2#12 AWG AND APPROVED GROUND MINIMUM - TYPICAL)	C.	CONDUIT
---	CONDUIT BELOW FLOOR OR GRADE	---	CONDUIT EXPOSED
Ⓛ	HOMERUN: NUMBER OF WIRES, PANEL DESIGNATION, CIRCUIT NUMBERS		
Ⓛ	BRANCH CIRCUIT PANELBOARD	Ⓛ	MAIN DISTRIBUTION PANEL
Ⓛ	QUAD RECEPTACLE	Ⓛ	CATV OUTLET
Ⓛ	ALARM OUTLET BOX (3/4" CONDUIT TO CEILING SPACE)		

2 KEY PLAN
 N.T.S.

CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY FOR SERVICE. A COMPLETE AND WORKING SYSTEM IS REQUIRED FOR COMPLIANCE WITH THESE DOCUMENTS. DETERMINE THE POINT OF CONNECTION TO THE UTILITY WITH THE UTILITY REPRESENTATIVE AND PROVIDE ACCORDINGLY FOR A COMPLETE WORKING SYSTEM.

WIRE AND CABLE SHALL BE INSULATED, TYPE THWN OR THHN, 600 VOLTS, WITH COPPER CONDUCTORS. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTORS SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED. NO REMEX PERMITTED.

EMT SHALL BE GALVANIZED STEEL TUBING, 1/2-INCH MINIMUM SIZE, EQUAL TO ELECTRUTE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS.

PLASTIC CONDUIT SHALL BE RIGID, 3/4-INCH MINIMUM NON-METALLIC, HEAVY DUTY, HIGH IMPACT, POLYVINYLCHLORIDE (PVC), TYPE 1 WILL BE USED FOR CONCRETE ENCASEMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT.

FLEXIBLE METAL CONDUIT SHALL BE 1/2-INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, MAXIMUM LENGTH 72 INCHES FOR LIGHTING AND 36" FOR MOTORS. FLEXIBLE METAL CONDUIT SHALL BE LIQUIDTIGHT OR WATER TIGHT WITH PVC JACKET WHERE USED IN DAMP, WET OR OUTSIDE AREAS, AND LIQUIDTIGHT OR WATER TIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TEL. OUTLETS TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 2 INCHES BETWEEN RECEPTACLES AND TEL. OUTLETS.

ALL CONDUCTOR SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA.

CONTRACTOR SHALL ALIGN FIXTURES, SMOKE DETECTORS, CEILING DIFFUSERS ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION. AT NO TIME WILL AN IONIZATION DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN AIR GRILLE.

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT THE CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED, RECOMPUTING WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

ALL CONDUIT TERMINATING IN THE CEILING CAVITIES IS TO BE LABELED.

ALL CONDUIT SHALL BE COLOR CODED WITH 1/2" WIDE TAPE, 10'-0" ON CENTER IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT AND OWNER, PRIOR TO INSTALLATION, FOR USE WITH ACTUAL EQUIPMENT.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER/ARCHITECT. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER/ARCHITECT AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE.

ALL FUSES DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.

WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ARCHITECT/ENGINEER.

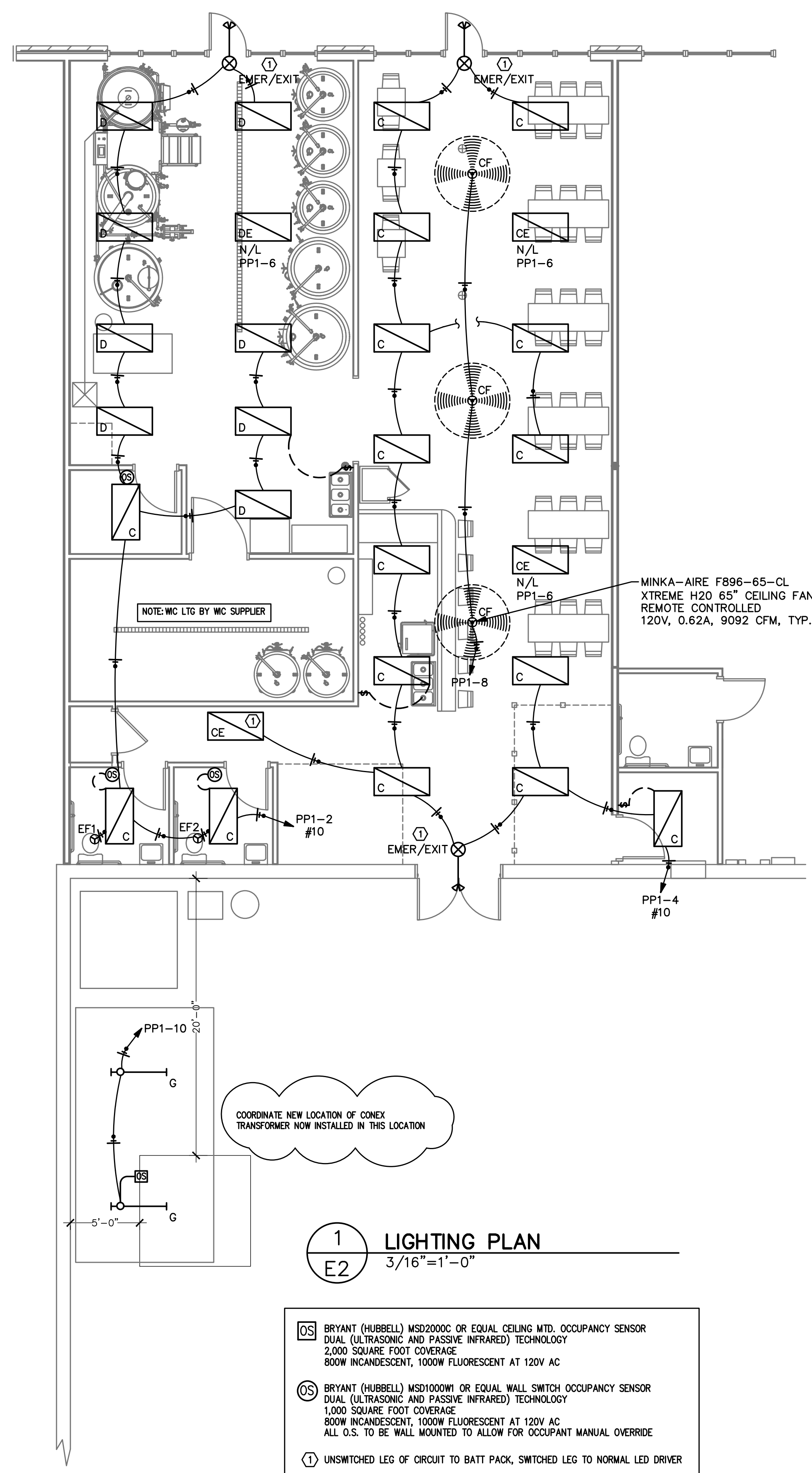
ALL WORK IS TO BE DONE IN STRICT COMPLIANCE WITH THE LATEST VERSION OF THE NEC AND APPLICABLE STATE CODES

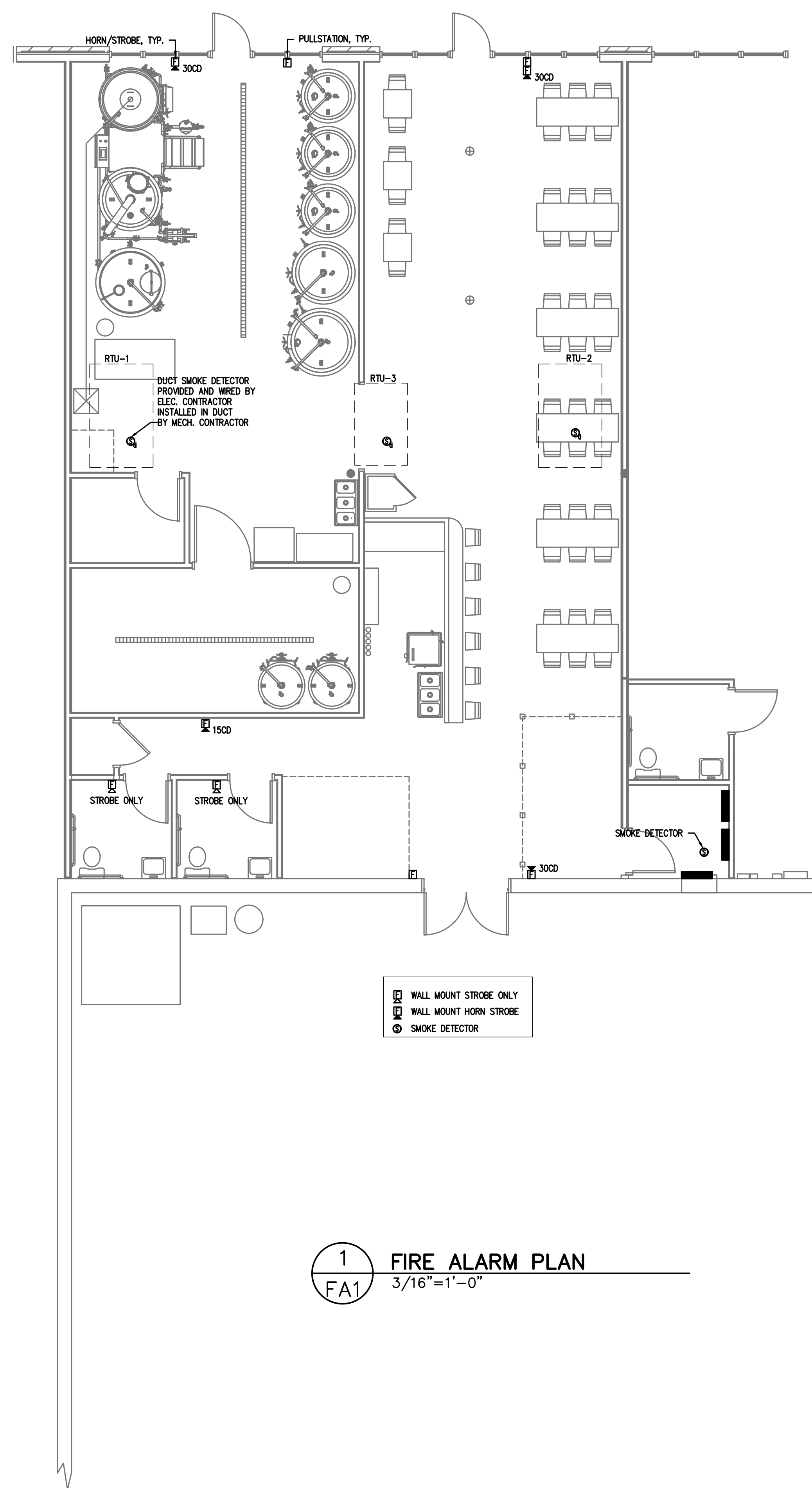
RECESSED FIXTURES INSTALLED IN RATED ASSEMBLIES SHALL BE INSTALLED WITH AN ENCLOSURE SO AS TO MAINTAIN THE RATING OF ASSEMBLY.

3 ELECTRICAL NOTES
 N.T.S.

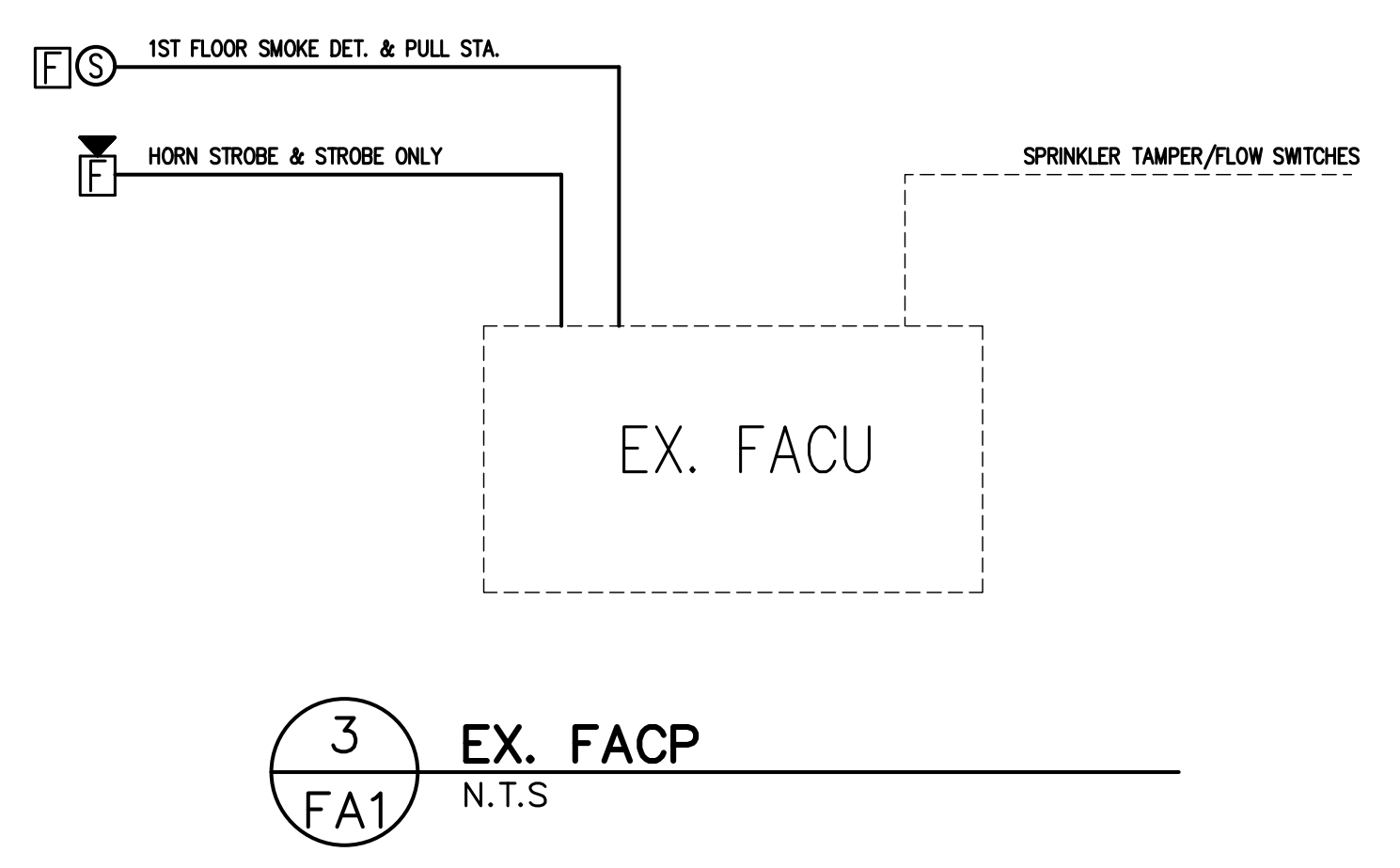
LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	MOUNTING	MODEL	INPUT WATTS	VOLTS	TOTAL LUMENS
C	□	(1) LED	2x4 LAY-IN FLAT PANEL	RECESSED	LITHONIA EPANL 2x4 6000LMHE 80CRI 40K MINI MOVLT	43	MULTIPLE	6127
CE	□	(1) LED	2x4 LAY-IN FLAT PANEL W/ BATTERY PACK	RECESSED	LITHONIA EPANL 2x4 6000LMHE 80CRI 40K MINI MOVLT E10WCP	43	MULTIPLE	6127
D	□	(1) LED	2x4 LAY-IN FLAT PANEL	RECESSED	LITHONIA EPANL 2x4 7200LMHE 80CRI 40K MINI MOVLT	50	120V 1P 2W	7232
DE	□	(1) LED	2x4 LAY-IN FLAT PANEL W/ BATTERY PACK	RECESSED	LITHONIA EPANL 2x4 7200LMHE 80CRI 40K MINI MOVLT E10WCP	50	120V 1P 2W	7232
EMER/EXIT	⊗	(2) 1.5W LED	COMBINATION EXIT/EMERGENCY UNIT WITH 90 MINUTE BATTERY AND MATCHING LED OUTDOOR REMOTE HEADS	WALL/CEILING	HUBBELL CCRRC CORD	4	120V 1P 2W	0
G	— —	(1) LED	TAMPER RESISTANT VAPORTITE LED STRIP	SURFACE	METALUX 4VRVT3LD56WPCUNVL840CDIWLW	49	120V 1P 2W	6000

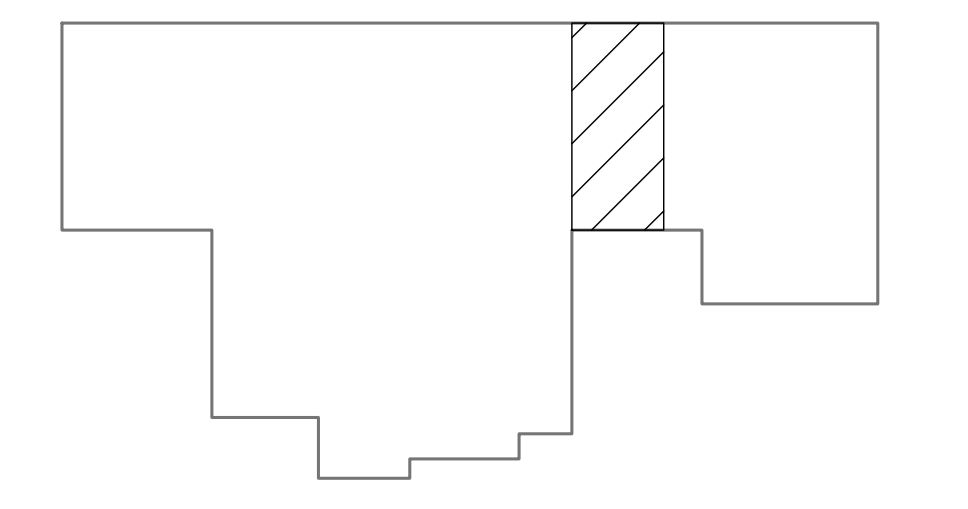




1
FA1 FIRE ALARM PLAN
3/16" = 1'-0"

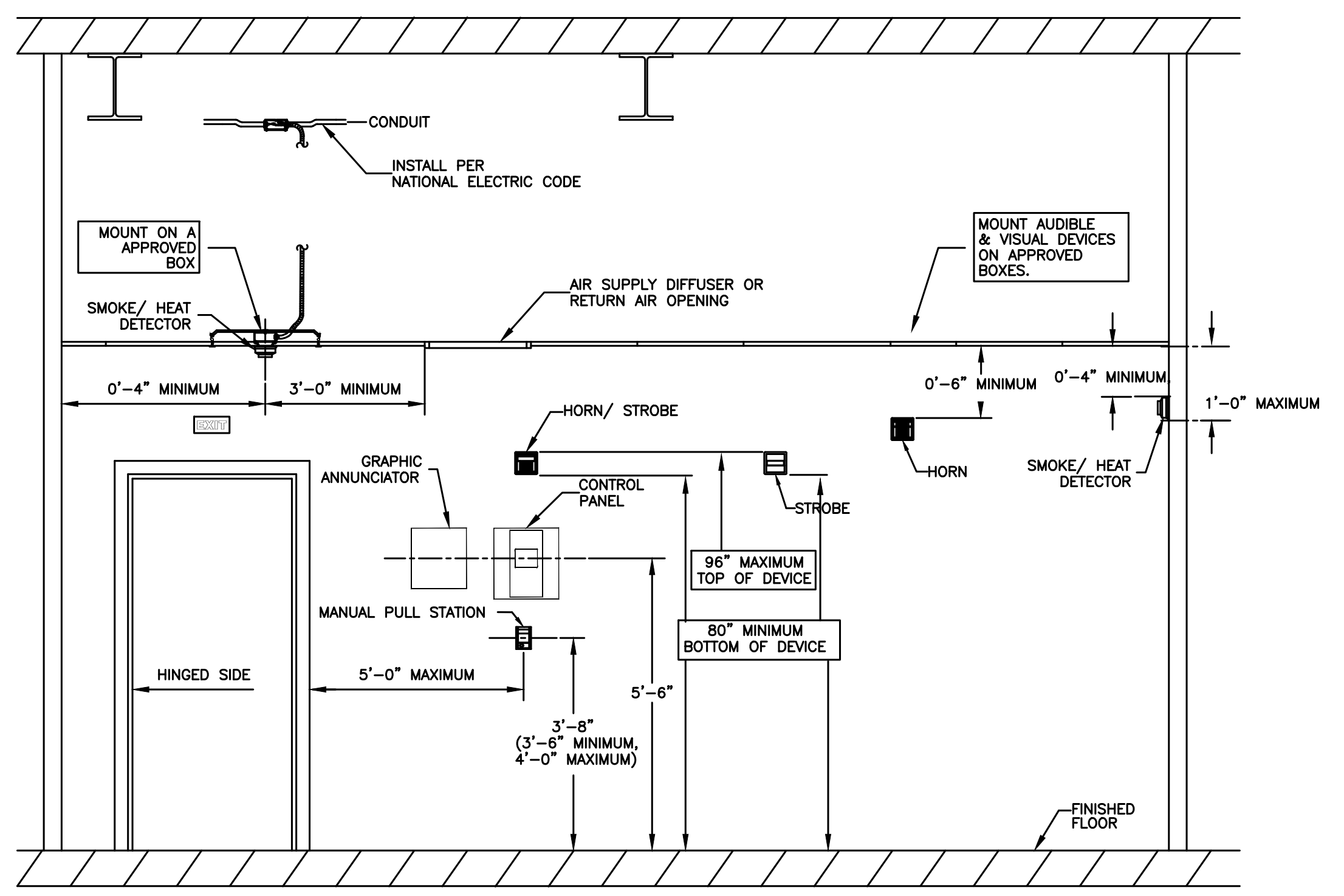


3
FA1 EX. FACP
N.T.S.



2
FA1 KEY PLAN
N.T.S.

**NFPA 72 AND ADA DEVICE
INSTALLATION REQUIREMENTS**



2
FA1 MOUNTING DETAILS
N.T.S.

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