

# Mechanical-Electrical-Plumbing Drawings for **HYPNO - CHICK RESTAURANT**

## 255 ANGER'S DRIVE, SUITE 'A' STEAMBOAT SPRINGS, CO 80487

### GENERAL MECHANICAL-ELECTRICAL-PLUMBING SPECIFICATIONS

- ALL WORK SHALL BE DONE IN STRICT CONFORMANCE WITH THE LOCAL BUILDING CODES.
- ALL MATERIALS SHALL BE NEW, FIRST CLASS, AND INSTALLED TO MANUFACTURER'S WRITTEN SPECIFICATIONS.
- ALL SYSTEMS SHALL BE COMPLETE AND OPERABLE IN EVERY WAY.
- DO ALL EXCAVATION, BACK FILLING, CUTTING, PATCHING, OFFSETTING, ADJUSTING, AND BALANCING AS REQUIRED TO COMPLETE THE JOB.
- SPECIFIC MODELS ARE SPECIFIED TO ESTABLISH QUALITY ONLY. SUBSTITUTIONS MAY BE MADE WITH ENGINEER'S APPROVAL.
- GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR ONE YEAR FROM FINAL ACCEPTANCE. PROVIDE FIVE YEAR AIR CONDITIONING COMPRESSOR WARRANTY.
- INSPECT JOB SITE PRIOR TO BIDDING TO DETERMINE EXACT JOB REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR CONSTRUCTION DETAILS.
- ARCHITECTURAL DRAWING DIMENSIONS SHALL GOVERN IN ALL CASES. COORDINATE ENGINEERING DRAWINGS WITH ARCHITECTURAL DRAWINGS FOR ALL EQUIPMENT LAYOUTS AND LOCATIONS.
- LAYOUTS AND ROUTINGS SHOWN ON THE PLANS ARE APPROXIMATE AND GENERAL IN NATURE. CONTRACTORS ARE REQUIRED TO INSPECT THE JOBSITE FOR INTERFERENCES, OBSTRUCTIONS, AND CONFLICTS AND NOTIFY THE ENGINEER OF THE SAME, AND INCLUDE IN THEIR BID AND WORK SCOPE ALL ASSOCIATED COSTS TO MODIFY THE LAYOUTS AND ROUTINGS AS NECESSARY TO ACCOMMODATE THE INSTALLATION OF THEIR WORK AROUND SUCH INTERFERENCES, OBSTRUCTIONS, AND CONFLICTS.
- CONTRACTOR IS TO INCLUDE COSTS FOR ALL PERMITS, INSPECTIONS, TAPS, METERS & FUEL ASSOCIATED WITH HIS WORK.
- CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND UNDERSTANDING ALL DRAWINGS AND ASPECTS OF THE PROJECT SCOPE, AND FOR INCLUDING IN HIS BID ALL WORK ASSOCIATED WITH HIS TRADE, REGARDLESS OF WHICH DRAWING OR SHEET IT IS SHOWN ON.

BASED ON THE FOLLOWING CODES	
2015	INTERNATIONAL MECHANICAL CODE
2015	INTERNATIONAL PLUMBING CODE
2015	INTERNATIONAL FUEL GAS CODE
2015	INTERNATIONAL ENERGY EFFICIENCY CODE
2015	INTERNATIONAL FIRE CODE
2017	NATIONAL ELECTRIC CODE

DRAWING LIST	
MEP1	MEP COVER SHEET
A101	ARCHITECTURAL SHEET
A102	CEILING PLAN AND DETAILS
KE100	KITCHEN EQUIPMENT LAYOUT PLAN
M100	HVAC PLAN
MD100	HVAC DETAILS AND SCHEDULES
EP100	ELECTRIC PLAN
EL100	ELECTRIC LIGHTING PLAN
P100	PLUMBING PLAN
H100	HOOD PLAN
H101	HOOD PLAN
H102	HOOD PLAN
H103	HOOD PLAN
H104	HOOD PLAN
H105	HOOD PLAN
H106	HOOD PLAN

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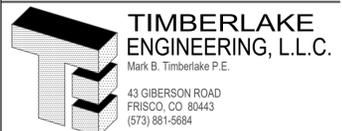
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SOME DEVIATION FROM SCALE MAY OCCUR.

REVISIONS:	DATE:

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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319



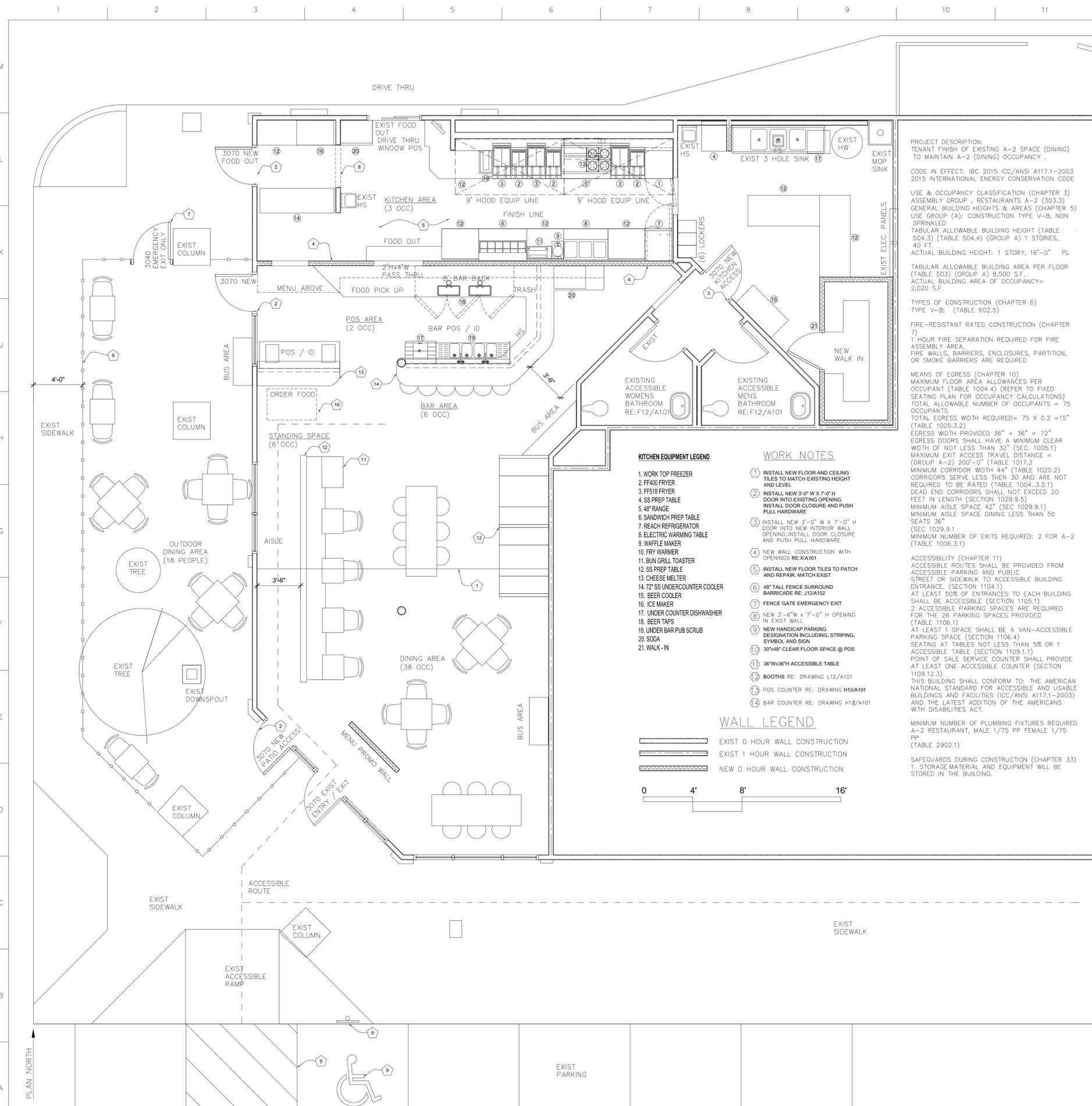
**MECHANICAL - ELECTRICAL - PLUMBING COVER SHEET**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**MEP1**



**A1 FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

**PROJECT DESCRIPTION:**  
TENANT FINISH OF EXISTING A-2 SPACE (DINING) TO MAINTAIN A-2 (DINING) OCCUPANCY .

**CODE IN EFFECT:** IBC 2015 ICC/ANSI A117.1-2003 2015 INTERNATIONAL ENERGY CONSERVATION CODE

**USE & OCCUPANCY CLASSIFICATION (CHAPTER 3)**  
ASSEMBLY GROUP , RESTAURANTS A-2 (303.3)

**GENERAL BUILDING HEIGHTS & AREAS (CHAPTER 5)**  
USE GROUP (A): CONSTRUCTION TYPE V-B, NON SPRINKLED

**TABULAR ALLOWABLE BUILDING HEIGHT (TABLE 504.3)** (TABLE 504.4) (GROUP A) 1 STORIES, 40 FT.  
ACTUAL BUILDING HEIGHT: 1 STORY, 16'-0" PL

**TABULAR ALLOWABLE BUILDING AREA PER FLOOR (TABLE 503)** (GROUP A) 8,500 S.F.  
ACTUAL BUILDING AREA OF OCCUPANCY= 2,020 S.F.

**TYPES OF CONSTRUCTION (CHAPTER 6)**  
TYPE V-B; (TABLE 602.5)

**FIRE-RESISTANT RATED CONSTRUCTION (CHAPTER 7)**  
1 HOUR FIRE SEPARATION REQUIRED FOR FIRE ASSEMBLY AREA.  
FIRE WALLS, BARRIERS, ENCLOSURES, PARTITION, OR SMOKE BARRIERS ARE REQUIRED

**MEANS OF EGRESS (CHAPTER 10)**  
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1004.4) (REFER TO FIXED SEATING PLAN FOR OCCUPANCY CALCULATIONS)  
TOTAL ALLOWABLE NUMBER OF OCCUPANTS = 75 OCCUPANTS  
TOTAL EGRESS WIDTH REQUIRED= 75 X 0.2 = 15" (TABLE 1005.3.2)  
EGRESS WIDTH PROVIDED 36" + 36" = 72"  
EGRESS DOORS SHALL HAVE A MINIMUM CLEAR WIDTH OF NOT LESS THAN 30" AND ARE NOT REQUIRED TO BE RATED (TABLE 1004.3.2.1)  
MAXIMUM EXIT ACCESS TRAVEL DISTANCE = (GROUP A-2) 200'-0" (TABLE 1017.2)  
MINIMUM CORRIDOR WIDTH 44" (TABLE 1020.2)  
CORRIDORS SERVE LESS THAN 30 AND ARE NOT REQUIRED TO BE RATED (TABLE 1004.3.2.1)  
MAXIMUM EXIT ACCESS TRAVEL DISTANCE = (GROUP A-2) 200'-0" (TABLE 1017.2)  
MINIMUM AISLE SPACE 42" (SEC 1029.9.1)  
MINIMUM AISLE SPACE DINING LESS THAN 50 SEATS 36" (SEC 1029.9.1)  
MINIMUM NUMBER OF EXITS REQUIRED: 2 FOR A-2 (TABLE 1006.3.1)

**ACCESSIBILITY (CHAPTER 11)**  
ACCESSIBLE ROUTES SHALL BE PROVIDED FROM ACCESSIBLE PARKING AND PUBLIC STREET OR SIDEWALK TO ACCESSIBLE BUILDING ENTRANCE. (SECTION 1104.1)  
AT LEAST 50% OF ENTRANCES TO EACH BUILDING SHALL BE ACCESSIBLE (SECTION 1105.1)  
2 ACCESSIBLE PARKING SPACES ARE REQUIRED FOR THE 26 PARKING SPACES PROVIDED (TABLE 1106.1)  
AT LEAST 1 SPACE SHALL BE A VAN-ACCESSIBLE PARKING SPACE (SECTION 1106.4)  
SEATING AT TABLES NOT LESS THAN 5% OR 1 ACCESSIBLE TABLE (SECTION 1109.1.1)  
POINT OF SALE SERVICE COUNTER SHALL PROVIDE AT LEAST ONE ACCESSIBLE COUNTER (SECTION 1109.1.3)  
THIS BUILDING SHALL CONFORM TO: THE AMERICAN NATIONAL STANDARD FOR ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1-2003) AND THE LATEST ADDITION OF THE AMERICANS WITH DISABILITIES ACT.

**MINIMUM NUMBER OF PLUMBING FIXTURES REQUIRED A-2 RESTAURANT, MALE 1/75 PP FEMALE 1/75 PP (TABLE 2902.1)**

**SAFEGUARDS DURING CONSTRUCTION (CHAPTER 33)**  
1. STORAGE MATERIAL AND EQUIPMENT WILL BE STORED IN THE BUILDING.

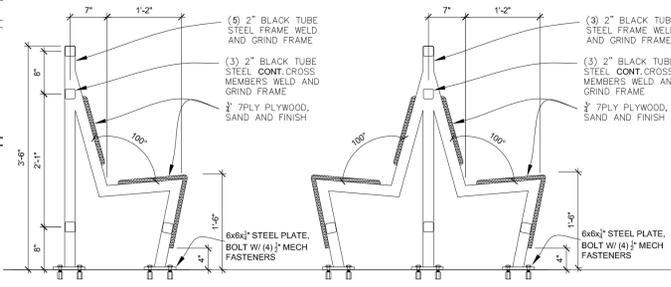
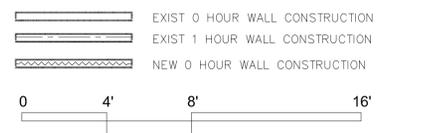
**KITCHEN EQUIPMENT LEGEND**

1. WORK TOP FREEZER
2. FF400 FRYER
3. FF518 FRYER
4. SS PREP TABLE
5. 48" RANGE
6. SANDWICH PREP TABLE
7. REACH REFRIGERATOR
8. ELECTRIC WARMING TABLE
9. WAFFLE MAKER
10. FRY WARMER
11. BUN GRILL TOASTER
12. SS PREP TABLE
13. CHEESE MELTER
14. 72" SS UNDERCOUNTER COOLER
15. BEER COOLER
16. ICE MAKER
17. UNDER COUNTER DISHWASHER
18. BEER TAPS
19. UNDER BAR PUB SCRUB
20. SODA
21. WALK - IN

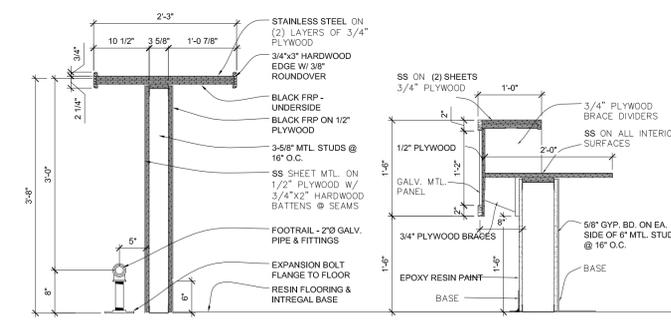
**WORK NOTES**

1. INSTALL NEW FLOOR AND CEILING TILES TO MATCH EXISTING HEIGHT AND LEVEL
2. INSTALL NEW 3'-0" W X 7'-0" H DOOR INTO EXISTING OPENING. INSTALL DOOR CLOSURE AND PUSH PULL HARDWARE
3. INSTALL NEW 3'-0" W X 7'-0" H DOOR INTO NEW INTERIOR WALL OPENING. INSTALL DOOR CLOSURE AND PUSH PULL HARDWARE
4. NEW WALL CONSTRUCTION WITH OPENINGS RE-XAIR
5. INSTALL NEW FLOOR TILES TO PATCH AND REPAIR. MATCH EXIST
6. 48" TALL FENCE SURROUND BARRICADE RE: J12/A102
7. FENCE GATE EMERGENCY EXIT
8. NEW 3'-6" W X 7'-0" H OPENING IN EXIST WALL
9. NEW HANDICAP PARKING DESIGNATION INCLUDING, STRIPING, SYMBOL AND SIGN
10. 30"x48" CLEAR FLOOR SPACE @ POS
11. 36"Wx36"H ACCESSIBLE TABLE
12. BOOTHS RE: DRAWING L12/A101
13. POS COUNTER RE: DRAWING H13/A101
14. BAR COUNTER RE: DRAWING H12/A101

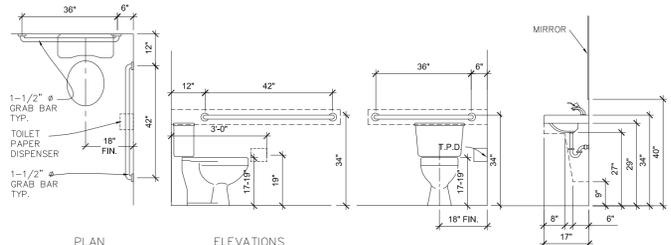
**WALL LEGEND**



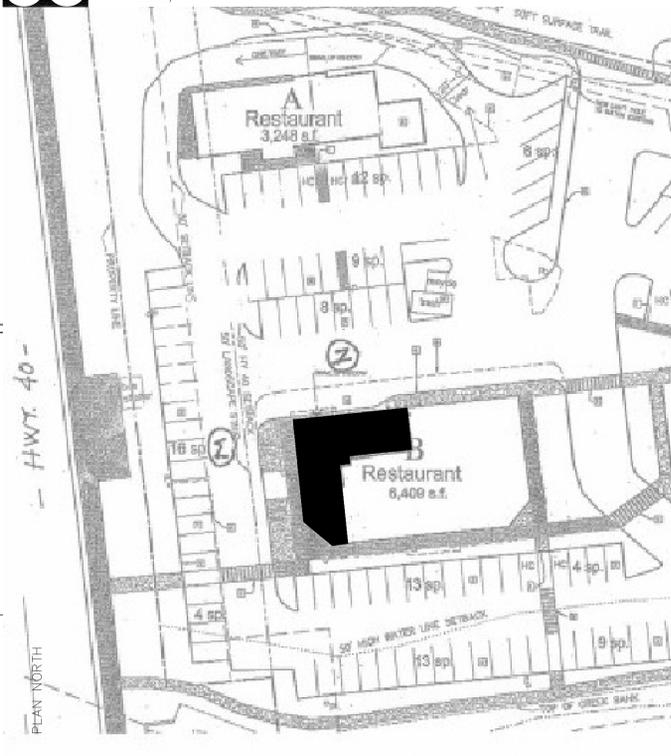
**L12 SINGLE / DOUBLE ROW BOOTH SECTION**  
SCALE: 3/16" = 1'-0"



**H12 BAR SECTION** SCALE: 3/16" = 1'-0"  
**H13 POS SECTION** SCALE: 3/16" = 1'-0"



**F12 EXISTING ACCESSIBLE FIXTURES MENS / WOMENS**  
SCALE: 3/16" = 1'-0"



**A12 EXISTING PARKING DIAGRAM**  
SCALE: NTS

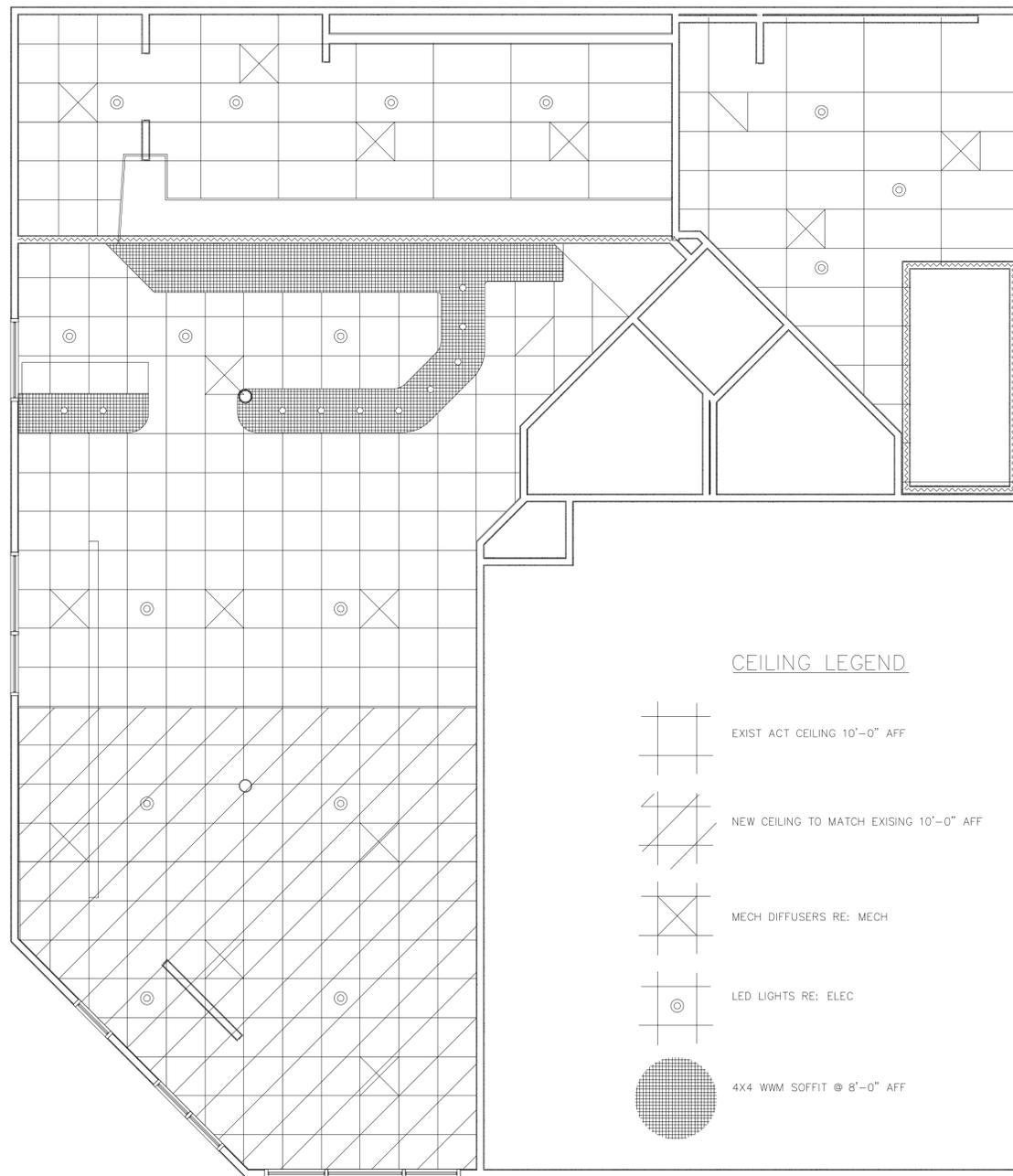
**GENERAL NOTES**

1. BY CONTRACTUAL ARRANGEMENT THESE DOCUMENTS ARE LIMITED IN DETAIL THE OWNER HAS REQUESTED THE ARCHITECT TO PROVIDE PARTIAL ARCHITECTURAL SERVICES. IF ADDITIONAL DETAILS OR GUIDANCE IS NEEDED, THE ARCHITECT SHALL BE NOTIFIED.
2. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
3. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
4. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB.
5. COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
6. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
7. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.

HYPNOTIC CHICKEN  
STEAMBOAT SPRINGS, CO

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Drawn: SB	Project Number: 200622
Checked: SB	CAD File Name (Number): SBARCH020520-SECTION-NORTHSECTIONCONSTRUCTION
Drawing Title: ARCHITECTURAL	
No. Revisions:	Date:
Submission Date: 12/03/2016	Drawing Number: A101
Plot Date: 12/03/2016	

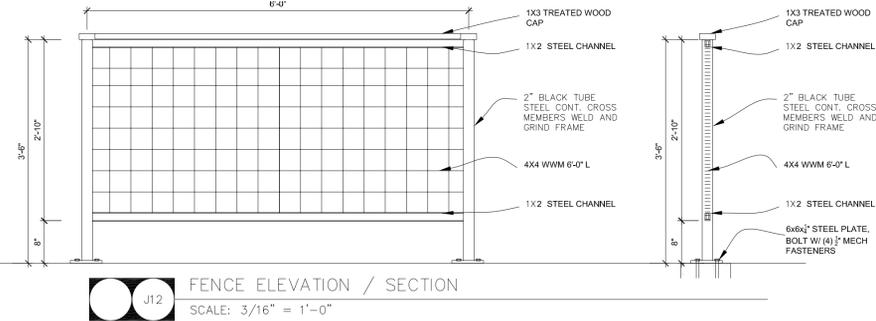


PLAN NORTH

**C3** REFLECTED CEILING PLAN  
SCALE: 1/4" = 1'-0"

CEILING LEGEND

-  EXIST ACT CEILING 10'-0" AFF
-  NEW CEILING TO MATCH EXISING 10'-0" AFF
-  MECH DIFFUSERS RE: MECH
-  LED LIGHTS RE: ELEC
-  4X4 WWM SOFFIT @ 8'-0" AFF



**J12** FENCE ELEVATION / SECTION  
SCALE: 3/16" = 1'-0"

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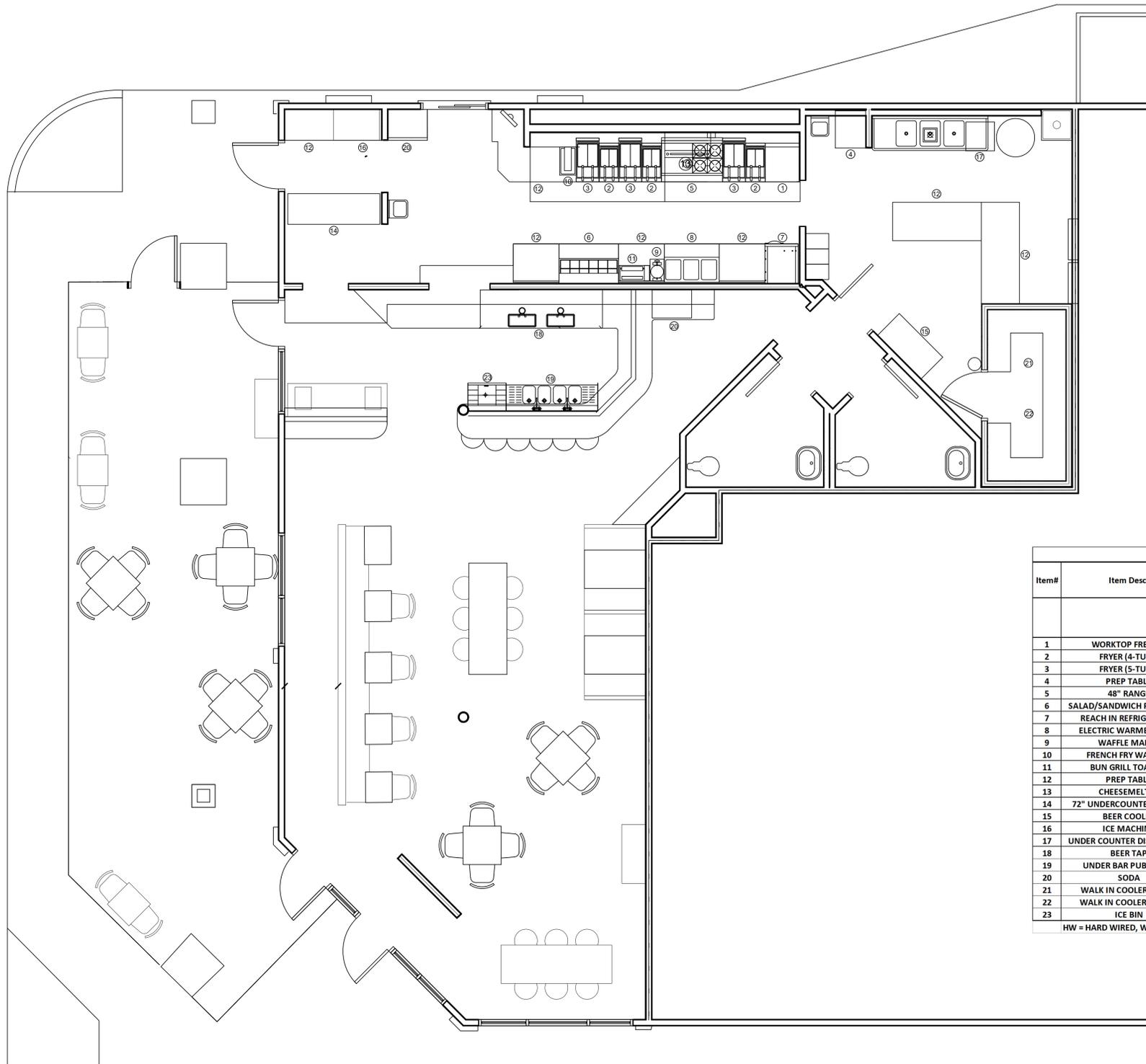
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Checked: SB	CAD File Name (Number): SBARCH0320-SECTION-NORTHSECTION.DWG	
Drawing Title: CEILING PLAN , DETAILS		
No.	Revisions:	Date:
Submission Date: 12/03/2016	Drawing Number: A102	Plot Date: 12/03/2016

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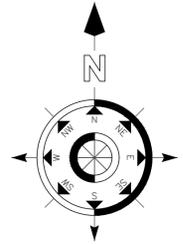
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Restaurant Equipment Utility Connection Table												
Item#	Item Desc.	Electrical					Plumbing					
		Voltage	Amps	Watts	Breaker	Plug	Water	Sewer	GAS		REGULATOR SUPPLIED WITH EQ?	
									CONN	KBTU'S	PRESSURE	
1	WORKTOP FREEZER	120/1	2.1		20	5-15P						
2	FRYER (4-TUBE)								3/4"	120		
3	FRYER (5-TUBE)								3/4"	150		
4	PREP TABLE											
5	48" RANGE	120/1	3.4		20	5-15P			1"	200	5"	N
6	SALAD/SANDWICH PREP TABLE	120/1	7.8		20	5-15P						
7	REACH IN REFRIGERATOR	120/1	2.7		20	5-15P						
8	ELECTRIC WARMER TABLE	120/1	12.5	1500	20	5-15P						
9	WAFFLE MAKER	120/1	11.7	1400	20							
10	FRENCH FRY WARMER	120/1	8.3	1000	20	5-15P						
11	BUN GRILL TOASTER	208/1	7.7	1600	20	6-20P						
12	PREP TABLE											
13	CHEESEMELTER	120/1	3.4		20				3/4"	40	5"	Y
14	72" UNDERCOUNTER COOLER	120/1	6.0		20	5-15P						
15	BEER COOLER	120/1	6.0		20	5-15P						
16	ICE MACHINE	120/1	12.0		20	5-15P		FD				
17	UNDER COUNTER DISHWASHER	208/1	37.2		50	HW	3/4" HW	1-1/2"				
18	BEER TAP	120/1	5.5		20	5-15P		FD				
19	UNDER BAR PUB SCRUB	120/1	3.0		20	5-15P						
20	SODA	120/1	3.0		20	5-15P		FD				
21	WALK IN COOLER (EVAP)	120/1	5.0		20	HW		FD				
22	WALK IN COOLER (COND)	208/1	10.0		20	HW		FD				
23	ICE BIN							FD				

HW = HARD WIRED, WITH LOCAL DISCONNECT IF NOT WITHIN SIGHT OF DISCONNECTING MEANS



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**KITCHEN EQUIPMENT LAYOUT**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE: 01-12-2020 SHEET NO.

DRAWN BY: MBT

PROJECT NO: 19001

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

**KE100**

# HVAC SPECIFICATIONS

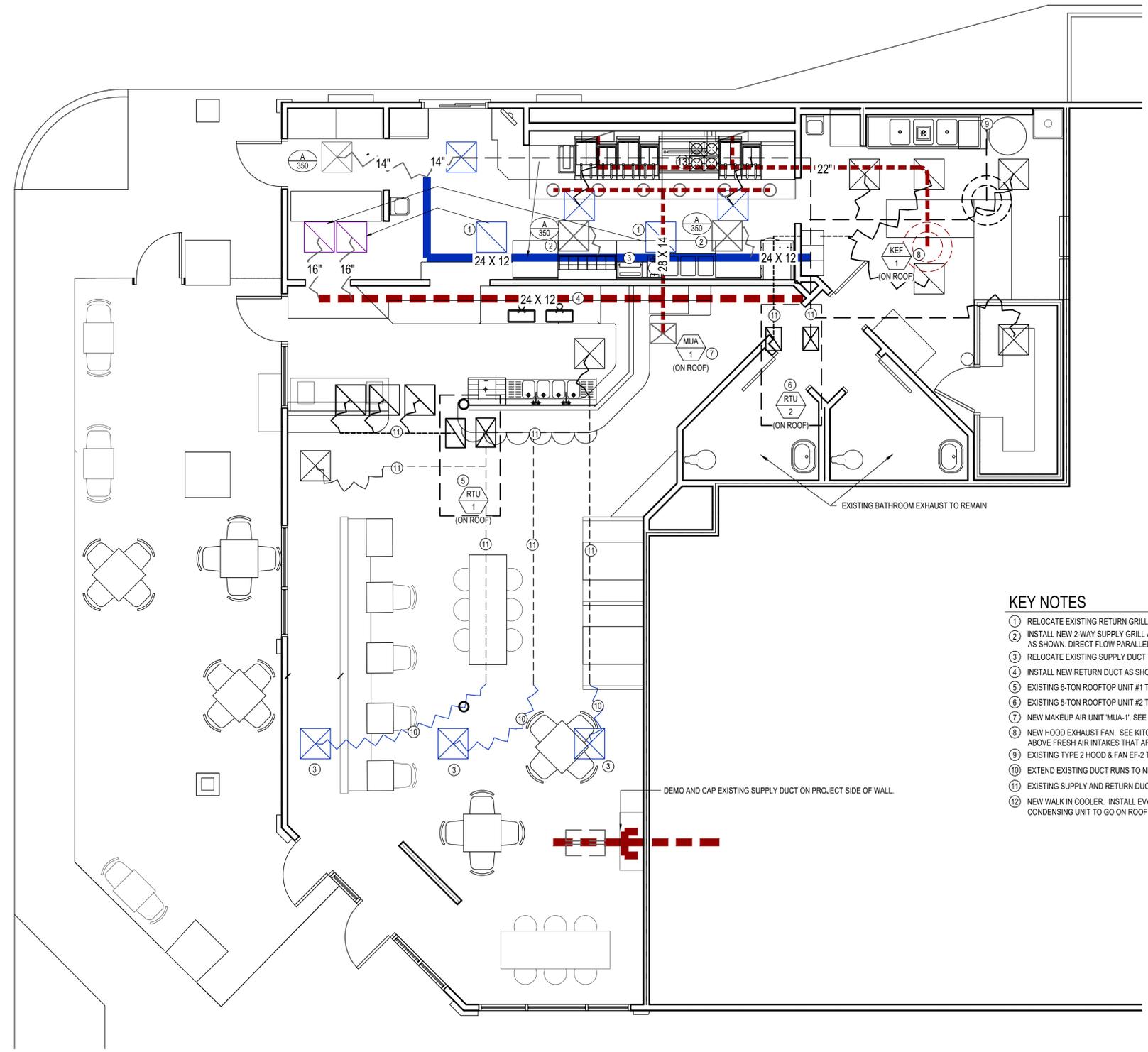
1. INSULATION:
  - 1.1. ALL INTERNAL DUCT LINER TO BE 1" AND EQUAL TO "CERTAINTED TOUGHGUARD T" UNLESS NOTED OTHERWISE.
  - 1.2. ALL DUCT WRAP SHALL BE 2" WITH VAPOR BARRIER EQUAL TO "CERTAINTED SOFTTOUCH DUCT WRAP" WITH FSK JACKET UNLESS NOTED OTHERWISE.
  - 1.3. EXHAUST AIR DUCTS IN UNCONDITIONED SPACES SHALL HAVE DUCT WRAP.
  - 1.4. OUTDOOR AIR DUCTS IN CONDITIONED SPACES SHALL HAVE DUCT WRAP.
  - 1.5. ALL EXTERIOR DUCTS SHALL HAVE 2" THICK CLOSED CELL FLEXIBLE ELASTOMERIC DUCT WRAP AND 26 GA ALUMINUM JACKET WITH OVERLAPPED SEAMS SEALED WATERTIGHT AND SLOPED TO AID DRAINAGE.
  - 1.6. REFRIGERANT PIPING:
    - 1.6.1. SPLIT SYSTEMS - SUCTION LINE ONLY TO BE 1/2" ARMAFLEX.
    - 1.6.2. VRV / VRF SPLIT SYSTEMS - BOTH SUCTION AND LIQUID LINES TO BE AS FOLLOWS:
      - 3/4" ARMAFLEX FOR 3/8" THRU 7/8" PIPES
      - 1" ARMAFLEX FOR 1 1/8" THRU 1 5/8" PIPES
- 1.7. CONDENSATE PIPING: 1/2" ARMAFLEX IN UNCONDITIONED SPACES ONLY.
2. ALL DUCTWORK SHALL BE MIN. 26 GA. UP TO 16", 24 GA. UP TO 20", 22 GA. UP TO 24", 20 GA. UP TO 26", AND 18 GA. UP TO 36" OF GALVANIZED STEEL, SEALING CLASS "B", FABRICATED AND INSTALLED IN STRICT CONFORMANCE TO SMACNA SPECIFICATIONS. ALL TEES, ELBOWS, OR CHANGES IN DIRECTIONS SHALL HAVE TURNING VANES.
3. AIR CONDITIONING EQUIPMENT SHALL BE AS SPECIFIED ON DRAWINGS, UNLESS APPROVED OTHERWISE BY THE ENGINEER. EQUIPMENT SHALL BE "COMMERCIAL" RATED IN ALL CASES EXCEPT RESIDENTIAL APPLICATIONS.
4. GRILLES AND REGISTERS SHALL BE PRICE, OR APPROVED EQUAL.
5. ALL TEMPERATURE CONTROLS SHALL BE MIN. 18 GA. COPPER, PLENUM RATED CABLE.
6. DUCTWORK DIMENSIONS ARE INSIDE DIMENSIONS.
7. ALL HORIZONTAL FURNACES MUST BE EQUIPPED WITH GALVANIZED STEEL DRAIN PAN, WITH DRAIN PIPED TO FLOOR DRAIN OR INDIRECT WASTE, IN AN OBVIOUS, VISIBLE LOCATION, PER IPC.
8. ALL SUPPLY BRANCHES TO INDIVIDUAL DIFFUSERS MUST BE SUPPLIED WITH BALANCING DAMPERS; WHERE BRANCH TAKEOFFS ARE INACCESSIBLE (ATTICS, SOFFITS, ETC) BALANCE DAMPER SHALL BE PROVIDED AT FACE OF DIFFUSER, WHERE BRANCH TAKEOFFS ARE ACCESSIBLE (ABOVE DROP CEILING, EXPOSED DUCTS, ETC) BALANCE DAMPER SHALL BE LOCATED AT BRANCH TAKEOFF.
9. ALL SYSTEMS MUST BE FIELD BALANCED TO WITHIN 10% OF THE DESIGN FLOWS INDICATED ON THE DRAWINGS. CERTIFIED AIR BALANCING IS NOT REQUIRED. CONTRACTOR MUST SUBMIT BALANCING REPORT PRIOR TO RECEIVING FINAL PAYMENT.
10. FLEX DUCT (TERMAFLEX M-KE OR EQUAL) IS ALLOWED FOR FINAL CONNECTION FROM STEEL DUCTWORK TO AIR TERMINAL DEVICES ONLY, LENGTHS NOT TO EXCEED 8'-0", AND SUPPORTED AS SHOWN ON HVAC DETAILS SHEET.
11. MINIMUM SPLIT SYSTEM EFFICIENCIES FOR HEATING AND COOLING SHALL BE:
  - 11.6. HEATING AFUE = 90%
  - 11.7. COOLING SEER = PER LATEST EDITION OF ASHRAE 90.1
12. MINIMUM ROOFTOP UNIT EFFICIENCIES SHALL MEET STANDARDS PER LATEST EDITION OF ASHRAE 90.1.
13. FINAL CONNECTIONS TO AIR HANDLING EQUIPMENT ARE NOT SHOWN. CONTRACTOR TO INCLUDE TRANSITIONS AND FITTINGS AS REQUIRED TO TRANSITION FROM EQUIPMENT DUCT CONNECTION SIZES TO TRUNK LINE SIZES SHOWN ON PLANS.
14. DUCTWORK SHALL NOT BE INSTALLED SUCH THAT IT RESTRICTS ACCESS TO ELECTRICAL JUNCTION BOXES OR DIRECTLY OVER ELECTRICAL PANELS.
15. REFRIGERANT PIPING MUST BE COPPER TYPE ACR OR TYPE L.
16. AIR CONDITIONING EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB. ROOFTOP UNITS AND FANS SHALL BE ON FACTORY ROOF CURBS. ROOFTOP MOUNTED CONDENSING UNITS SHALL BE MOUNTED ON TREATED 4X4S WHICH ARE PLACED ON A WALK MAT COMPATIBLE WITH THE ROOFING SYSTEM, TO BE PURCHASED FROM THE ROOFING CONTRACTOR. ROOFTOP MOUNTED PIPING AND VRV/VRF EQUIPMENT SHALL BE ON A SUPPORT FRAME MOUNTED TO "ROOFTOP BLOCK". GROUND MOUNTED EQUIPMENT TO BE ON 4-INCH THICK, REINFORCED CONCRETE BASE THAT IS 4 INCHES LARGER, ON EACH SIDE, THAN UNIT.
17. ALL EQUIPMENT LOCATED OUTDOORS SHALL BE EQUIPPED WITH FACTORY HAIL GUARDS TO PROTECT EXPOSED COILS.
18. EQUIPMENT LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO CONFIRM THAT EQUIPMENT MOUNTED GREATER THAN 30" ABOVE ADJACENT GRADE, SHALL BE LOCATED MINIMUM 10'-0" FROM EDGE, UNLESS A GUARD OR PARAPET (MIN. 42" TALL) PROTECTS THE EDGE.
19. PROTECT DUCT INTERIORS FROM MOISTURE, DEBRIS, DUST & FOREIGN MATERIALS IN ACCORDANCE WITH SMACNA "DUCT CLEANLINESS FOR NEW CONSTRUCTION" GUIDELINES.

# HVAC SYMBOL LEGEND

-  TYPE OF EQUIPMENT (SEE EQUIPMENT SCHEDULE)
-  REFERENCE NUMBER
-  TYPE OF DIFFUSER (SEE DIFFUSER SCHEDULE)
-  CFM / FACE SIZE
-  SUPPLY DIFFUSER  
IF OTHER THAN 4-WAY, SHADING INDICATES NO FLOW ZONE
-  RETURN GRILLE
-  BALANCE DAMPER
-  MOTORIZED DAMPER
-  CEILING RADIATION DAMPER
-  SUPPLY DUCT
-  EXISTING SUPPLY DUCT
-  RETURN DUCT
-  EXISTING RETURN DUCT
-  EXHAUST DUCT (D.V. DESIGNATES DRYER VENT)
-  EXISTING EXHAUST DUCT (D.V. DESIGNATES DRYER VENT)
-  OUTSIDE AIR DUCT
-  FLEX DUCT
-  VENT / COMBUSTION AIR
-  CONDENSATION LINE
-  REFRIGERANT LINE
-  TIE INTO EXISTING
-  THERMOSTAT
-  CO2 DETECTOR

# GENERAL NOTES

1. REFER TO M100 FOR REMAINING HVAC NOTES, LEGENDS, DETAILS & SCHEDULES.
2. DUCTWORK & EQUIPMENT LABELED "EX." OR "EXISTING" IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.



# KEY NOTES

- 1 RELOCATE EXISTING RETURN GRILLE AS SHOWN.
- 2 INSTALL NEW 2-WAY SUPPLY GRILLE AT LOCATION SHOWN. CONNECT TO RELOCATED SUPPLY DUCT AS SHOWN. DIRECT FLOW PARALLEL TO HOOD, NOT TOWARD HOOD.
- 3 RELOCATE EXISTING SUPPLY DUCT TO LOCATION SHOWN.
- 4 INSTALL NEW RETURN DUCT AS SHOWN.
- 5 EXISTING 6-TON ROOFTOP UNIT #1 TO REMAIN. ADJUST OA TO AMOUNTS SHOWN IN TABLE BELOW.
- 6 EXISTING 5-TON ROOFTOP UNIT #2 TO REMAIN. ADJUST OA TO AMOUNTS SHOWN IN TABLE BELOW.
- 7 NEW MAKEUP AIR UNIT "MUA-1". SEE HOOD SHEETS.
- 8 NEW HOOD EXHAUST FAN. SEE KITCHEN HOOD DETAIL AND HOOD SHEETS. LOCATE DISCHARGE 36" ABOVE FRESH AIR INTAKES THAT ARE LOCATED WITHIN 10'-0" HORIZONTALLY.
- 9 EXISTING TYPE 2 HOOD & FAN EF-2 TO REMAIN.
- 10 EXTEND EXISTING DUCT RUNS TO NEW GRILLE LOCATIONS AS SHOWN.
- 11 EXISTING SUPPLY AND RETURN DUCTS TO REMAIN
- 12 NEW WALK IN COOLER. INSTALL EVAPORATOR AND CONDENSING UNIT, PIPING, AND START UP. CONDENSING UNIT TO GO ON ROOF.

# HVAC PLAN

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

AIR DEVICES SCHEDULE									
MARK	MFR.*	MODEL*	MOUNTING	SERVICE	THROW	FACE SIZE	MATERIAL	FINISH	REMARKS
A	PRICE	*	CEILING	SUPPLY	8'	24X24	STEEL	WHITE	WITH BUTTERFLY DAMPER

\* SELECT MODEL TO MATCH STYLE OF EXISTING GRILLES.

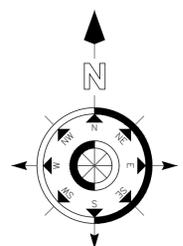
AIR BALANCE CALCULATION (CFM)				
SOURCE	INTAKE	EXHAUST	NET	NET %
KEF-1		3466	-3466	
BR EF	200	-200		
EF-2		400	-400	
MUA	2772		2772	
RTU-1	800		800	
RTU-2	500		500	
<b>TOTAL</b>	<b>4,072</b>	<b>-4,066</b>	<b>6</b>	<b>0%</b>

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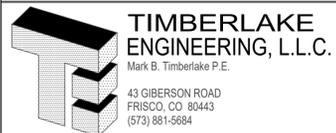
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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319



# HVAC PLAN

## HYPNO-CHIC RESTAURANT

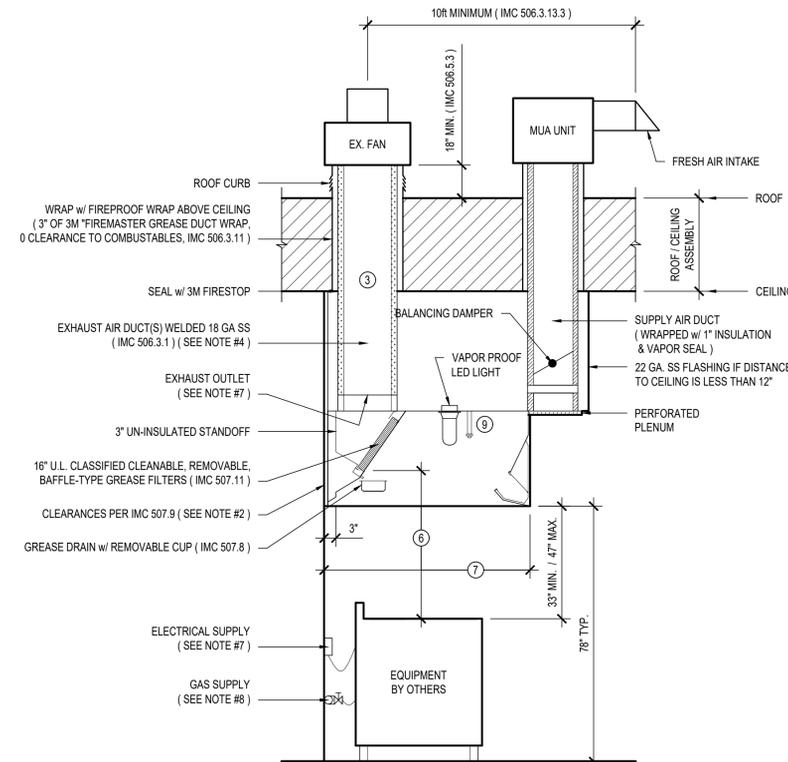
255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.	
DRAWN BY:	MBT		
PROJECT NO.:	19001		
SCALE:	1/4"=1'-0"		

# M100

<b>Building:</b> HYPNO-CHICK RESTAURANT			
<b>System Tag/Name:</b>			
<b>Operating Condition Description:</b>			
<b>Units (select from pull-down list):</b> IP			
<b>Inputs for System</b>			
Floor area served by system	As sf 660		
Population of area served by system (including diversity)	Ps P 100% diversity 46		
Design primary supply fan airflow rate	Vpsd cfm 2,400		
OA req'd per unit area for system (Weighted average)	Ras cfm/sf 0.16		
OA req'd per person for system area (Weighted average)	Rps cfm/tp 7.5		
<b>Inputs for Potentially Critical Zones</b>			
Zone Name	Zone Tag	enter name	enter name
Space type	Select from pull-down list	Restaurant dining rooms	Office space
Floor Area of zone	Az sf 660		
Design population of zone	Pz P (default value listed; may be overridden)	46.2	0
Design total supply to zone (primary plus local recirculated)	Vtzd cfm 2,400		
Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?	Local recirc. air % representative of ave system return air	Er	
<b>Inputs for Operating Condition Analyzed</b>			
Percent of total design airflow rate at conditioned analyzed	Ds % 100%	100%	100%
Air distribution type at conditioned analyzed	Ep	CS	CS
Zone air distribution effectiveness at conditioned analyzed	Ez	1.00	1.00
Primary air fraction of supply air at conditioned analyzed	Ep		
<b>Results</b>			
Ventilation System Efficiency	Ev	1.00	
Outdoor air intake required for system	Vot cfm 465	- MAXIMUM OA REQUIRED	
Outdoor air per unit floor area	Vot/As cfm/sf 0.71		
Outdoor air per person served by system (including diversity)	Vot/Ps cfm/tp 10.1		
Outdoor air as a % of design primary supply air	Ypd cfm 19%		

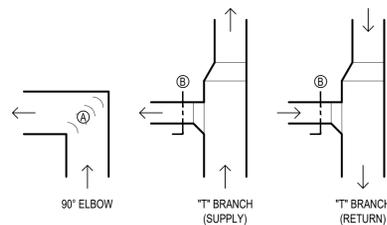
MAX CFM	NECK SIZE
90	6" DIA
200	8" DIA
350	10" DIA
500	12" DIA



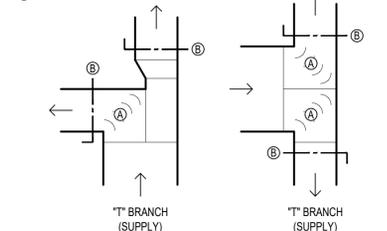
TYPICAL CLASS 1 KITCHEN HOOD DETAIL

NOTES

- 24" MIN. IF NON-EXPOSED OR EXPOSED FLAME BURNERS. 40" MIN IF CHARCOAL OR CHARBROIL TYPE FLAME.
- THE SPECIFIED HOODS ARE RATED & UL LISTED FOR 0' CLEARANCE TO COMBUSTIBLES WHEN SUPPLIED WITH THE FACTORY INSTALLED 3" STANDOFFS.
- MIN. AIR VELOCITY - 500 < FPM < 2500. (IMC 506.3.4) HORIZONTAL PORTIONS OF GREASE DUCT TO SLOPE 2%, AND BE PROVIDED WITH ONE (12 X 12 MIN. SIZE) CLEAN OUT SPACE NOT MORE THAN 20' APART. (IMC 506.3.8&9).
- 18" CLEARANCE TO COMBUSTIBLES, OR 6" CLEARANCE IF COMBUSTIBLES PROTECTED WITH 1-HR. RATED MATERIAL (IMC 506.3.11). SLOPED SURFACES MIN. 2% SLOPE (IMC 506.7).
- EXHAUST OUTLET PER 12' SECTION OF HOOD. (IMC 507.15).
- HOOD TO EXTEND 6" MIN. PAST COOKING SURFACE ON ALL SIDES. (IMC 507.15).
- ALL ELECTRICAL EQUIPMENT UNDER HOOD SHALL BE FED FROM SHUNT-TRIP CIRCUIT BREAKERS WHICH SHALL BE CONNECTED TO THE HOOD FIRE SUPPRESSION SYSTEM TO SHUT DOWN CIRCUITS ON FIRE INDICATION.
- ALL GAS FIRED EQUIPMENT UNDER HOOD SHALL BE FED FROM A MAIN THAT IS CONTROLLED BY A MASTER GAS SOLENOID VALVE, WHICH IS CONTROLLED BY THE HOOD FIRE SUPPRESSION SYSTEM TO SHUT DOWN THE GAS LINE ON FIRE INDICATION.
- FIRE SUPPRESSION SYSTEM, WITH CONTROLS TO SHUT DOWN GAS AND ELECTRICAL TO EQUIPMENT UNDER HOOD. FIRE SUPPRESSION CONTROL DRAWINGS MUST BE SUBMITTED BY THE FIRE SUPPRESSION CONTRACTOR AND APPROVED BY LOCAL CODE ENFORCEMENT PRIOR TO HOOD INSTALLATION.
- THIS DRAWING SHOWS GENERAL DESIGN REQUIREMENTS ONLY SEALED HOOD SHOP DRAWINGS TO BE APPROVED BY LOCAL CODE ENFORCEMENT PRIOR TO HOOD INSTALLATION.

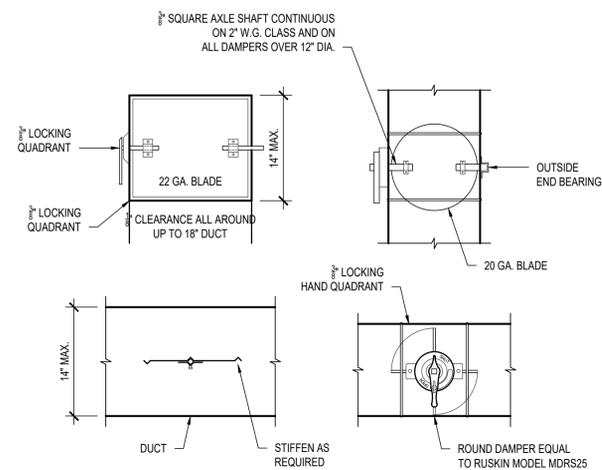


(A) TURNING VANES  
(B) VOLUME DAMPER

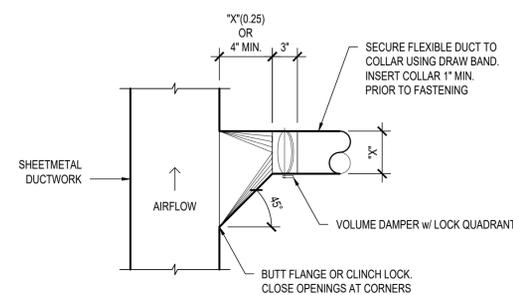


NOTE: SEE FLOOR PLAN FOR DIMENSIONS

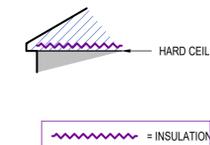
DUCTWORK FITTINGS DETAIL



RECTANGULAR & ROUND VOLUME DAMPERS



45° TAKEOFF DETAIL



DUCTWORK INSIDE THERMAL ENVELOPE INSULATION SCHEDULE				DUCTWORK OUTSIDE THERMAL ENVELOPE INSULATION SCHEDULE			
TYPE OF DUCTWORK	INSULATION			TYPE OF DUCTWORK	INSULATION		
	1/2" LINER	1" LINER	1 1/2" WRAP / 2" WRAP		1/2" LINER	1" LINER	1 1/2" WRAP / 2" WRAP
RECTANGULAR SUPPLY	X			RECTANGULAR SUPPLY	X	X	
RECTANGULAR RETURN	X			RECTANGULAR RETURN	X	X	
RECTANGULAR EXHAUST				RECTANGULAR EXHAUST		X	
RECTANGULAR OUTSIDE AIR			X	RECTANGULAR OUTSIDE AIR			
ROUND SUPPLY			X	ROUND SUPPLY			X
ROUND RETURN				ROUND RETURN			X
ROUND EXHAUST				ROUND EXHAUST		X	
ROUND OUTSIDE AIR			X	ROUND OUTSIDE AIR			
SPIRAL SUPPLY				SPIRAL SUPPLY			X
SPIRAL RETURN				SPIRAL RETURN			X
SPIRAL EXHAUST				SPIRAL EXHAUST		X	
SPIRAL OUTSIDE AIR			X	SPIRAL OUTSIDE AIR			

TYP. DUCT INSULATION DETAIL

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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319

**TIMBERLAKE ENGINEERING, L.L.C.**  
Mark B. Timberlake P.E.  
43 GIBERSON ROAD  
FRISCO, CO 80443  
(573) 881-5684

HVAC DETAILS & SCHEDULES

**HYPNO-CHICK RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**MD100**

### ELECTRICAL SPECIFICATIONS

- ALL CONDUCTORS SHALL BE THHN COPPER ABOVE GRADE, XHHW-2 BELOW GRADE, MINIMUM #12 OR LARGER AS REQUIRED OR SHOWN.
- ALL SERVICE WIRING, EXPOSED TO WEATHER, OR WIRING BELOW GRADE, SHALL BE IN RIGID GALVANIZED CONDUIT OR SCH. 40 PVC.
- ALL OTHER WIRING SHALL BE IN EMT, SCHEDULE 40 PVC, OR MC CABLE, UNLESS PROTECTED AND ENCLOSED WITHIN BUILDING MATERIALS, IN WHICH CASE TYPE NM CABLE MAY BE USED.
- WALL SWITCHES SHALL BE LEVITON #CS120 SERIES, OR APPROVED EQUAL. 20A. COLOR SHALL BE DETERMINED BY ARCHITECT. DIMMER SWITCHES SHALL BE SELECTED BY CONTRACTOR TO BE COMPATIBLE WITH LIGHT FIXTURES PROVIDED. COLOR SHALL BE DETERMINED BY ARCHITECT.
- DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT LEVITON #F580 SERIES, OR APPROVED EQUAL. 20A. GROUNDING, MATCHING COVER PLATE, COLOR AS DETERMINED BY ARCHITECT. USE SIDE WIRING ONLY.
- ARC-FAULT CIRCUIT INTERRUPTER BREAKERS SHALL BE COMBINATION TYPE BY SQUARE D, AND SHALL HAVE A DEDICATED NEUTRAL WIRE THROUGHOUT THE CIRCUIT.
- THE ENTIRE SYSTEM SHALL BE ELECTRICALLY CONTINUOUS AND PROPERLY GROUNDING. EVERY FEEDER AND BRANCH CONDUIT SHALL HAVE CODE SIZED GREEN INSULATED GROUND CONDUCTOR.
- FURNISH AND INSTALL ALL LIGHTING FIXTURES, LAMPS, FUSES, BREAKERS, ETC. TO COMPLETE THE BRANCH CIRCUITS INDICATED.
- ALL 120V, 20A LIGHTING AND RECEPTACLE CIRCUITS REQUIRING MORE THAN 100' OF CONDUCTORS (ONE WAY) SHALL BE #10 CONDUCTORS, MINIMUM.
- PROVIDE TYPEWRITTEN BREAKER SCHEDULE IN EACH PANELBOARD INDICATING ITEMS AND DEVICES SERVED BY ALL BREAKERS IN EACH PANEL.
- PERMANENTLY LABEL DISCONNECTS FOR HVAC EQUIPMENT WITH EQUIPMENT SERVED, AND PANEL AND CIRCUIT NUMBER.
- UNDERGROUND SPLICES TO BE MADE WITH DEVICES RATED FOR THAT APPLICATION.
- ALL ELECTRICAL PANELS AND DISCONNECTS SHALL HAVE A PERMANENT ARC-FLASH LABEL AFFIXED PER NEC 110.16.

### POWER SYMBOL LEGEND

- xx-xx POWER RECEPTACLE
- MOUNTING HEIGHT (INCHES)
- IF OTHER THAN 18" AFF (BOTTOM OF BOX)
- "WP" INDICATES WEATHERPROOF OUTDOOR RECEPTACLE.
- "AW" INDICATES ABOVE WINDOW RECEPTACLE
- "C" INDICATES ABOVE CEILING
- "E" INDICATES EXISTING RECEPTACLE TO REMAIN
- GFI DUPLEX CONVENIENCE OUTLET
- QUADPLEX CONVENIENCE OUTLET
- 208V OUTLET
- USB OUTLET EQUAL TO LEVITON #T5832 OR APPROVED EQUAL
- DATA / TELEPHONE JACK (MOUNTED @ 18" AFF U.N.O.)
- OUTLET BOX WITH 1" CONDUIT UP TO CEILING SPACE w/ PULL STRING.
- PHONE & DATA WIRING BY OWNER'S SUBCONTRACTOR.
- PHONE / DATA CABLING TO BE PLENUM RATED.
- DATA CABLING TO BE CAT6.
- JUNCTION BOX
- DISCONNECT
- TIE INTO EXISTING

### LIGHTING SYMBOL LEGEND

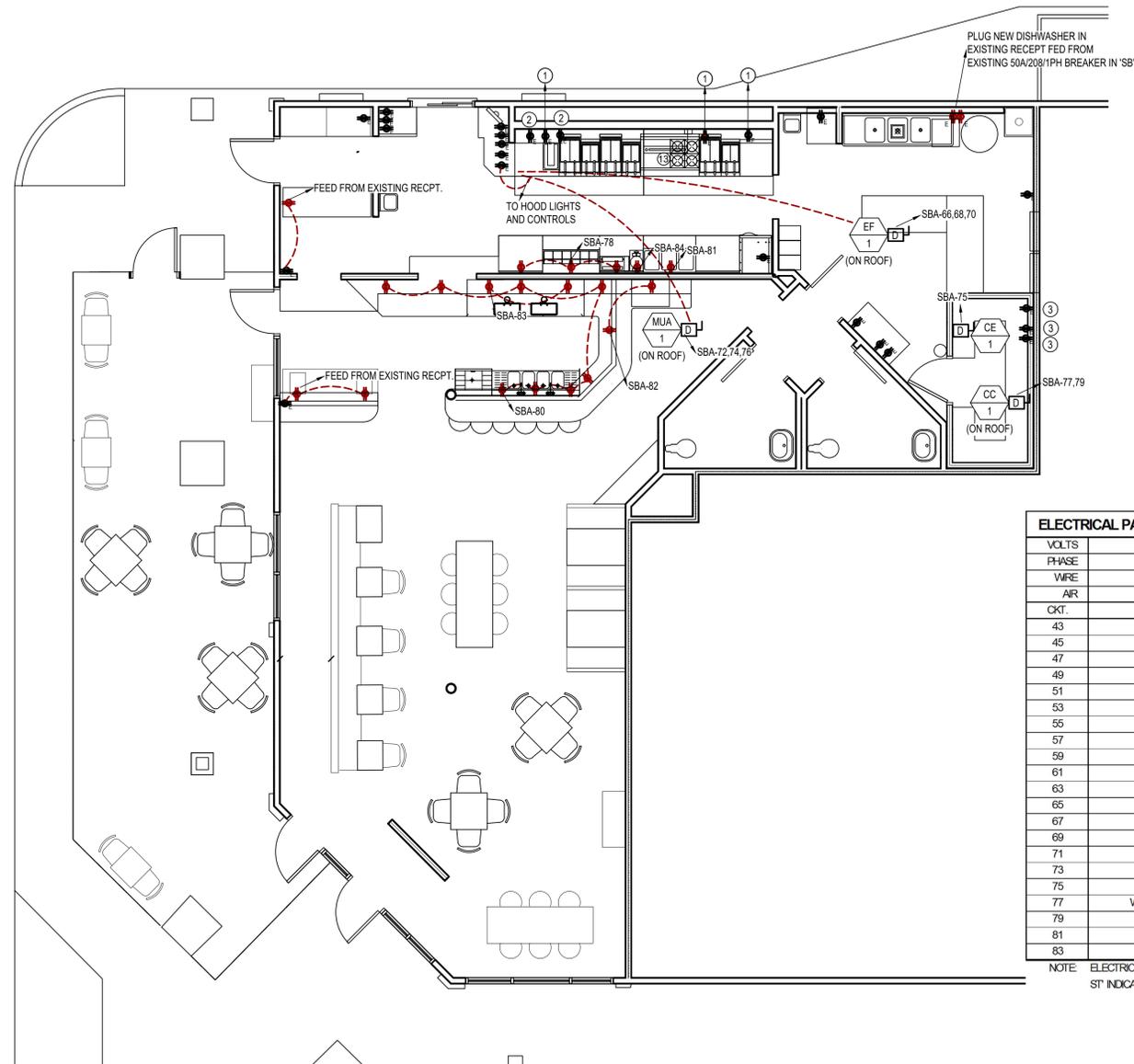
- X1 LIGHTING FIXTURE
- UN-SWITCHED NIGHT LIGHT
- DARKENED INDICATES FIXTURE WITH EMERGENCY BALLAST
- INDICATES FIXTURE TYPE
- TOGGLE SWITCH
- TYPE OF SWITCH
- DIMMER SWITCH

### LIGHTING PLAN GENERAL NOTES

- EXISTING LIGHTING TO REMAIN.

### POWER PLAN GENERAL NOTES

- EQUIPMENT LABELED "E", "EX", OR EXISTING IS EXISTING EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.



### POWER PLAN KEY NOTES

- EXISTING RECEPTACLE AND WIRING TO REMAIN AND USED FOR NEW EQUIPMENT. ELECTRICIAN TO TRACE CIRCUIT AND INSTALL NEW SHUNT TRIP BREAKER ON CIRCUITS FEEDING OUTLET. SHUNT TRIP TO BE CONTROLLED BY HOOD FIRE SUPPRESSION SYSTEM.
- EXISTING RECEPTACLE. ELECTRICIAN TO TRACE CIRCUIT AND EITHER DISCONNECT FROM POWER SOURCE OR INSTALL NEW SHUNT TRIP BREAKER ON CIRCUITS FEEDING OUTLET. SHUNT TRIP TO BE CONTROLLED BY HOOD FIRE SUPPRESSION SYSTEM.
- DEMO EXISTING RECEPTACLES, INSTALL NEW BLANK FACEPLATE, AND REMOVE CONDUCTORS BACK TO NEAREST JBOX ABOVE CEILING.

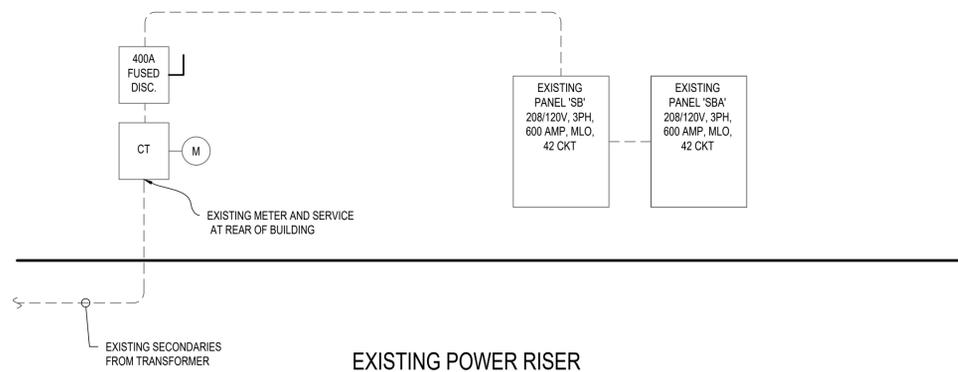
### ELECTRICAL PANEL SCHEDULE

ELECTRICAL PANEL SCHEDULE							PANEL NO.		SBA
VOLTS	208	MAIN CAPACITY:			600 MLO			"A" AMPS =	44
PHASE	3	MOUNTING:			RECESSED			"B" AMPS =	34
WIRE	SEE RISER	BUS MATERIAL:			COPPER			"C" AMPS =	59
AIR	SEE RISER	SQUARE D MODEL:			NQ				
CKT.	LOCATION/DESC.	BREAKER	AMPS	PH	AMPS	BREAKER	LOCATION/DESC.	CKT.	
43	EXISTING			A			EXISTING	44	
45	EXISTING			B			EXISTING	46	
47	EXISTING			C			EXISTING	48	
49	EXISTING			A			EXISTING	50	
51	EXISTING			B			EXISTING	52	
53	EXISTING			C			EXISTING	54	
55	EXISTING			A			EXISTING	56	
57	EXISTING			B			EXISTING	58	
59	EXISTING			C			EXISTING	60	
61	EXISTING			A	8	20-1 ST	UNDER HOOD RECEPTS	62	
63	EXISTING			B		\	SHUNT TRIP SPACE	64	
65	EXISTING			C	10	20-3	HOOD EF	66	
67	EXISTING			A	10	\	\	68	
69	EXISTING			B	10	\	\	70	
71	EXISTING			C	4	15-3	HOOD MUA	72	
73	EXISTING			A	4	\	\	74	
75	WALK-IN EVAP	20-1	5	B	4	\	\	76	
77	WALK-IN CONDENSER	20-2	10	C	15	20-1	BUN WARMER, SAND TABLE	78	
79	\	\	10	A	12	20-1	BAR OUTLETS	80	
81	WARMER TABLE	20-1	12	B	3	20-1	WAITRESS STAND, BAR OUTLETS	82	
83	BEER TAPS	20-1	11	C	9	20-1	WAFFLE MAKER	84	

NOTE: ELECTRICIAN TO VERIFY ALL EQUIPMENT POWER REQUIREMENTS PRIOR TO ANY EQUIPMENT & BREAKER PURCHASE OR INSTALLATION.  
ST\* INDICATES SHUNT TRIP BREAKER, WIRED TO HOOD FIRE SUPPRESSION CONTACTS.

### POWER PLAN

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



ELECTRICAL LOAD CALCULATION - EXISTING BUILDING (NEC 220-35)				
METER#	AMPS	VA	MULTIPLIER	TOTAL
MAX 1-YR DEMAND	--	31,600	1.25	39,500
NEW LOAD (SUM OF ALL PHASES)	137	16,440	1	16,440
TOTAL NEW SERVICE LOAD (VA)	--	--	--	55,940
TOTAL NEW SERVICE LOAD (AMPS/PHASE)	--	56,940	360	155
EXISTING ELECTRIC SERVICE IS 400 AMP, 208V, 3 PHASE, THEREFORE ADDED ELECTRICAL LOAD IS ACCEPTABLE.				

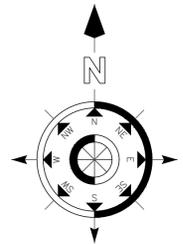
PEAK USED OCCURRED DURING LAST OCCUPANCY, PRIOR TO VACANCY, PER UTILITY. NEW LOADS HAVE BEEN INCLUDED, BUT NO CREDIT TAKEN FOR OLD EQUIPMENT THAT WAS REMOVED, AS THOSE LOADS ARE UNKNOWN. THEREFORE THIS CALCULATION IS QUITE CONSERVATIVE.

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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319



POWER & LIGHTING PLAN

### HYPNO-CHIC RESTAURANT

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

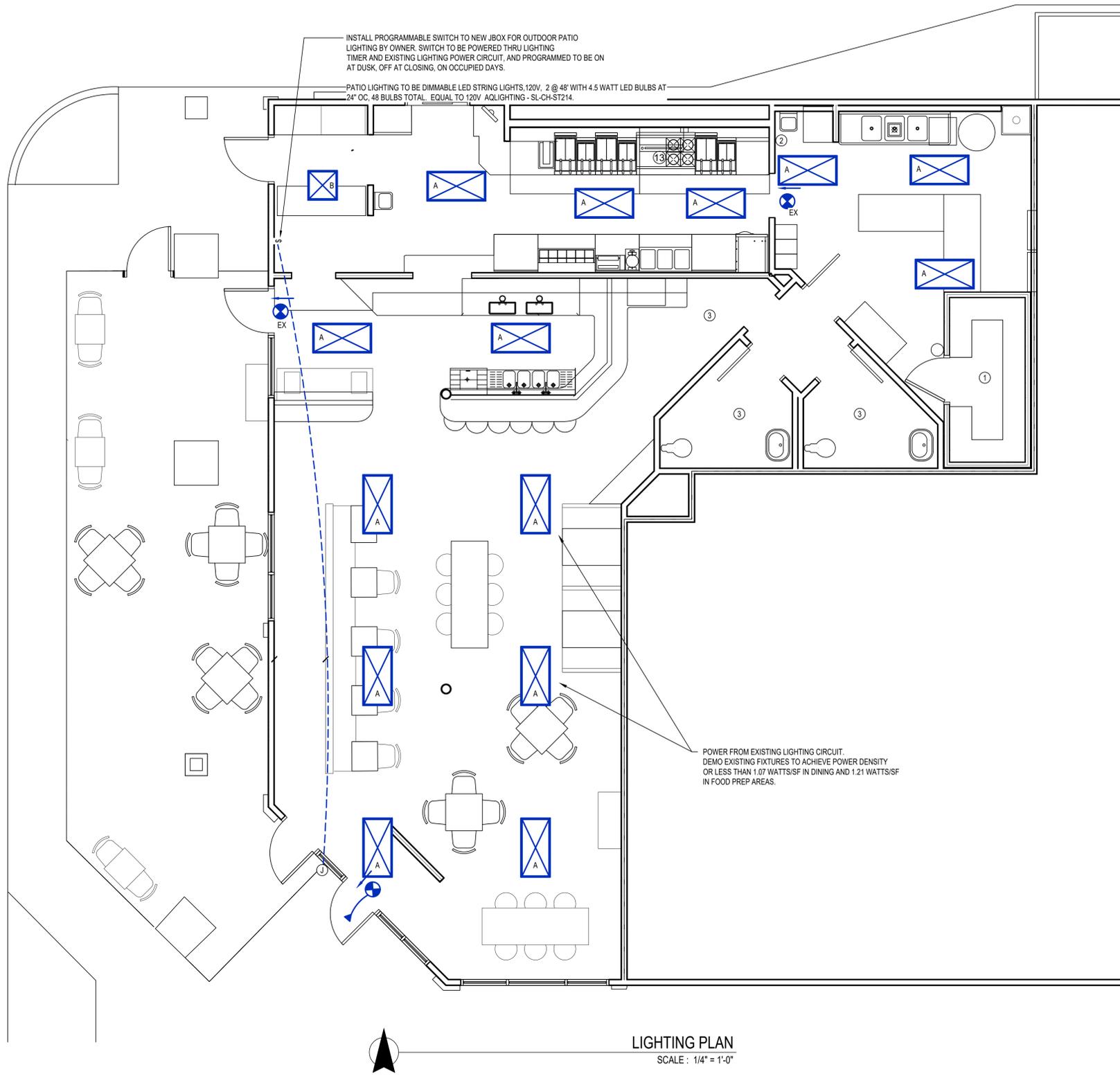
DATE: 01-12-2020 SHEET NO.

DRAWN BY: MBT

PROJECT NO: 19001

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

EP100



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

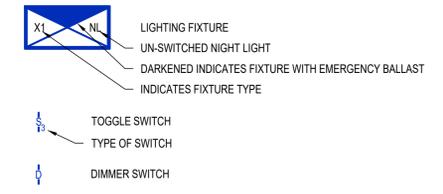
**GENERAL NOTES**

1. ALL EMERGENCY, EXIT, AND NIGHT LIGHTS TO BE UN-SWITCHED, WIRED ON CIRCUIT WITHIN SAME ROOM.
2. EQUIPMENT LABELED "EX." OR "EXISTING" IS EXISTING EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE.

**KEY NOTES**

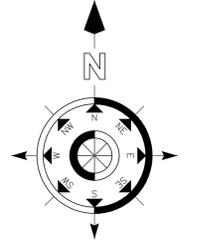
1. ELECTRICIAN TO INSTALL AND WIRE WALK IN LIGHT FIXTURES, PROVIDED WITH WALK-IN.
2. LOCATION OF EXISTING LIGHTING SWITCHES. REPLACE EXISTING SWITCHES WITH WATTSTOPPER RT-200 PROGRAMMABLE SWITCH TO TURN LIGHTING OFF DURING UNOCCUPIED HOURS.
3. EXISTING LIGHTING IN BATHROOMS AND HALLWAY TO REMAIN.

**LIGHTING SYMBOL LEGEND**



**ELECTRICAL SPECIFICATIONS**

1. ALL CONDUCTORS SHALL BE THHN COPPER ABOVE GRADE, XHHW-2 BELOW GRADE, MINIMUM #12 OR LARGER AS REQUIRED OR SHOWN.
2. ALL SERVICE WIRING, EXPOSED TO WEATHER, OR WIRING BELOW GRADE, SHALL BE IN RIGID GALVANIZED CONDUIT OR SCH. 40 PVC.
3. ALL OTHER WIRING SHALL BE IN EMT, SCHEDULE 40 PVC, OR MC CABLE, UNLESS PROTECTED AND ENCLOSED WITHIN BUILDING MATERIALS, IN WHICH CASE TYPE NM CABLE MAY BE USED.
4. WALL SWITCHES SHALL BE LEVITON #CS120 SERIES, OR APPROVED EQUAL, 20A, COLOR SHALL BE DETERMINED BY ARCHITECT. DIMMER SWITCHES SHALL BE SELECTED BY CONTRACTOR TO BE COMPATIBLE WITH LIGHT FIXTURES PROVIDED, COLOR SHALL BE DETERMINED BY ARCHITECT.
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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319

**TIMBERLAKE ENGINEERING, L.L.C.**  
Mark B. Timberlake P.E.  
43 GIBERSON ROAD  
FRISCO, CO 80443  
(573) 881-5684

**LIGHTING PLAN**

**HYPNO-CHIC RESTAURANT**

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**EL100**

LIGHTING SCHEDULE												
MARK	MANUFACTURER*	MODEL NO.*	TYPE	VOLTS	AMPS	WATTS	LUMENS	CCT (*K)	CRI	LAMPS	MOUNTING	REMARKS
A	METALLUX	24FP4735C	2x4 FLAT PANEL	120	0.34	40.4	4990	3600	80	LED	GRID	
B	METALLUX	22FP4235C	2x2 FLAT PANEL	120	0.32	38.9	4641	3500	80	LED	GRID	

\* OR EQUAL

DO NOT SCALE THIS DRAWING. SOME DEVIATION FROM SCALE MAY OCCUR.

REVISIONS:	DATE:

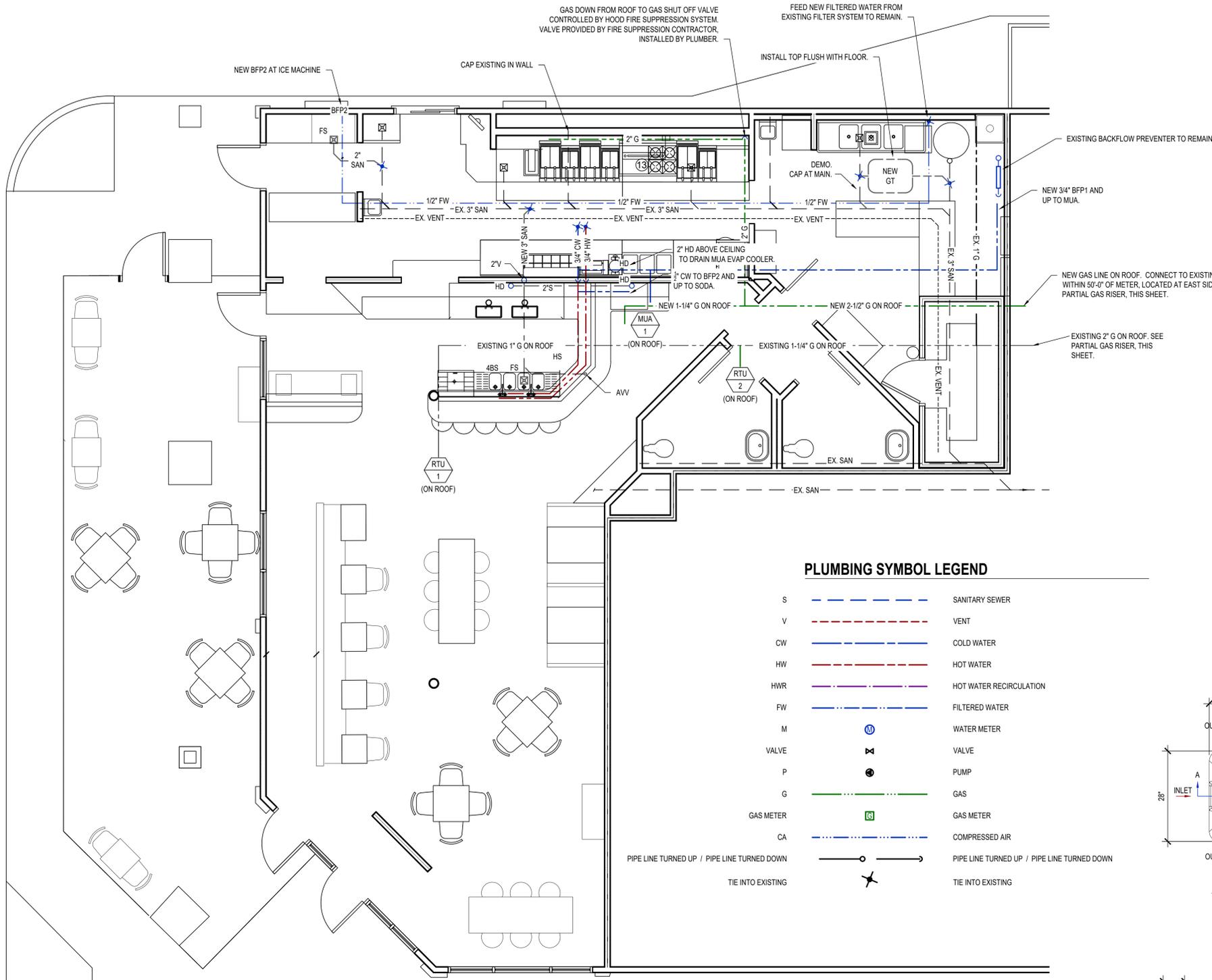
THE PROFESSIONAL ENGINEER'S SEAL ON THIS DRAWING HAS BEEN AFFIXED IN ACCORDANCE WITH THE REQUIREMENTS OF STATE REGULATIONS. IN AFFIXING THIS SEAL THE ENGINEER TAKES RESPONSIBILITY FOR THE WORK SHOWN ON THIS DRAWING ONLY, AND HEREBY DISCLAIMS ANY AND ALL RESPONSIBILITY FOR OTHER PROJECT DRAWINGS NOT DIRECTLY BEARING THIS SEAL.

### PLUMBING SPECIFICATIONS

- WASTE AND VENT PIPING INSIDE BUILDING SHALL BE SCH. 40 PVC DWV PLASTIC WITH SOLVENT WELD FITTINGS BELOW GRADE, AND SCH. 40 PVC DWV PVC, COPPER OR NO-HUB CAST IRON ABOVE GRADE. MINIMUM SLOPE: 1/4" PER FT 1 1/4" TO 2 1/2" PIPE, 1/8" PER FT 3" TO 6", 1/16" PER FT 8" AND LARGER. PVC TO BE SOLID CORE - CELLULAR CORE IS NOT ACCEPTABLE.
- WATER PIPING SHALL BE TYPE "K" COPPER BELOW GRADE, TYPE "L" COPPER ABOVE GRADE. THERE SHALL BE NO JOINTS IN WATER PIPING BELOW SLABS. UNDERGROUND COPPER JOINTS TO BE SILVER SOLDERED. IF PEX PIPING IS USED, PIPE SIZES MUST BE INCREASED BY ONE PIPE SIZE ABOVE WHAT IS SHOWN ON PLANS. ALTERNATIVELY, PEX-A PIPING MAY BE USED AT SIZES INDICATED IF MANUFACTURER'S ENGINEERED PLANS ARE PROVIDED SHOWING ACCEPTABLE PRESSURE DROP AND FLUID VELOCITIES.
- LP & NATURAL GAS PIPING ABOVE GRADE SHALL BE SCH. 40 BLACK STEEL PIPE WITH CLASS 150 MALLEABLE IRON THREADED FITTINGS. ALL NEW EXTERIOR GAS PIPING SHALL BE PAINTED TO MATCH BUILDING WHERE EXPOSED ON BUILDING FACE AND YELLOW IN ALL OTHER LOCATIONS. ROOFTOP MOUNTED PIPING SHALL BE FASTENED TO AND SUPPORTED BY "ROOFTOP BLOC".
- INSULATE ALL DOMESTIC WATER PIPING, INCLUDING BELOW SLAB, WITH 1/2" THICK PLENUM RATED ARMAFLEX.
- PLUMBING FIXTURES SHALL BE AS INDICATED ON DRAWING. FURNISH AND INSTALL CHROME STOP VALVES, SUPPLIES, ESCUTCHEONS AND TRAPS AS REQUIRED FOR ALL FIXTURES.
- ALL SEWER VENT TERMINATIONS SHALL BE LOCATED MINIMUM 10' HORIZONTALLY OR 3' HIGHER THAN ANY AIR INTAKE. PLUMBER IS RESPONSIBLE TO REROUTE ANY VENT TERMINATIONS AS REQUIRED TO ACCOMPLISH THIS REQUIREMENT.

### GENERAL NOTES

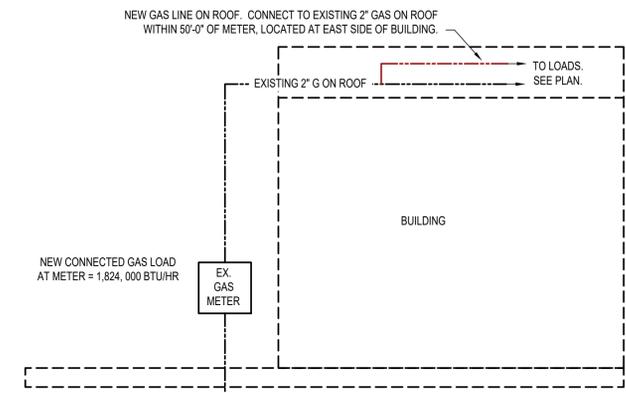
- REFER TO PD100 FOR REMAINING PLUMBING NOTES, LEGENDS, DETAILS & SCHEDULES
- PLUMBING EQUIPMENT & PIPING LABELED "EX." OR "EXISTING" IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.



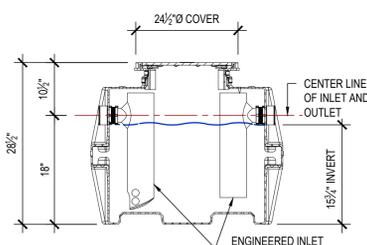
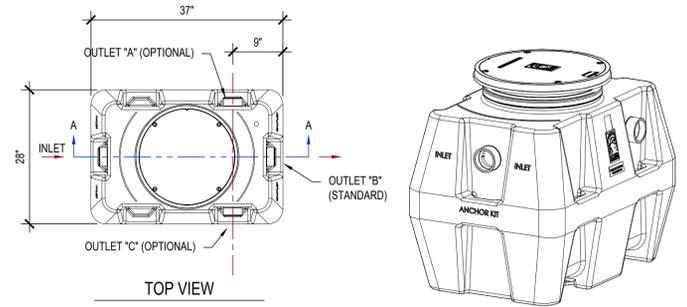
### PLUMBING SYMBOL LEGEND

S	---	SANITARY SEWER
V	---	VENT
CW	---	COLD WATER
HW	---	HOT WATER
HWR	---	HOT WATER RECIRCULATION
FW	---	FILTERED WATER
M	⊙	WATER METER
VALVE	⊗	VALVE
P	⊙	PUMP
G	---	GAS
GAS METER	⊙	GAS METER
CA	---	COMPRESSED AIR
PIPE LINE TURNED UP / PIPE LINE TURNED DOWN	↗ / ↘	PIPE LINE TURNED UP / PIPE LINE TURNED DOWN
TIE INTO EXISTING	✈	TIE INTO EXISTING

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



### PARTIAL GAS RISER



SECTION A-A

### SCHIER PRODUCTS #GB-50

- 4" PLAIN END INLET/OUTLET
- UNIT WEIGHT - W/COMPOSITE COVERS: 92 LBS.; W/CAST IRON COVERS: 172 LBS. (FOR WET WEIGHT ADD 433 LBS.)
- MAXIMUM OPERATING TEMPERATURE: 149° F CONTINUOUS
- CAPACITIES - LIQUID: 52 GAL.; GREASE: 249 LBS. SOLIDS: 12.5 GAL.
- BUILT-IN FLOW CONTROL. FOR SERIES INSTALLATIONS, ONLY INSTALL FLOW CONTROL ON THE FIRST UNIT IN THE SERIES IF NECESSARY.
- FOR GRAVITY DRAINAGE APPLICATIONS ONLY.
- DO NOT USE FOR PRESSURE APPLICATIONS.
- COVER PLACEMENT ALLOWS FULL ACCESS TO TANK FOR PROPER MAINTENANCE.
- VENT NOT REQUIRED UNLESS PER LOCAL CODE.
- ENGINEERED INLET AND OUTLET DIFFUSERS WITH INSPECTION PORTS ARE REMOVABLE TO INSPECT / CLEAN PIPING. FOR SERIES INSTALLATIONS, THE TOP OF THE INLET DIFFUSER ON THE FIRST UNIT IN THE SERIES MUST BE SEALED.
- INTEGRAL AIR RELIEF / ANTI-SIPHON / SAMPLING ACCESS.

MARK	DESCRIPTION	MANUFACTURER	MODEL NO.	REMARKS
4BS	3 BASIN SINK			BY KITCHEN SUPPLIER
AVV	AIR ADMITTANCE VALVE	OATEY "SUREVENT"	39016	1-1/2" OR 2", GOOD FOR UP TO 20 DFU, LOCATE IN ACCESSIBLE LOCATION ABOVE FLOOD RIM OF FIXTURE
BFP1	BACKFLOW PREVENTER	WILKINS	975XL2	SIZE AS INDICATED ON DRAWINGS
BFP2	BACKFLOW PREVENTER	WILKINS	740	STAINLESS STEEL / PIPED TO NEAREST INDIRECT DRAIN
FS	FLOOR SINK	SOUX CHIEF	861-PN	PVC BODY, NICKEL-BRONZE FRAME AND GRATE
GT	GREASE TRAP - ABOVE OR BELOW GRADE	SCHIER PRODUCTS	GB-50	50 GPM, 41 LIQUID GALLONS, 128 LBS CAPACITY, LIFETIME WARRANTY
HD	HUB DRAIN WITH TRAP GUARD			WITH PROSET TG33-ZURN TRAP GUARD
HS	HAND SINK			BY KITCHEN SUPPLIER

FIXTURE	WATER		WASTE	VENT	WATER HAMMER ARRESTOR REQUIRED
	COLD	HOT			
LAVATORY	1/2"	1/2"	1 1/2"	1 1/4"	YES
WATER CLOSET - FLUSH VALVE	1"		4"	2"	YES
WATER CLOSET - TANK	1/2"		4"	2"	YES
URINAL	3/4"		2"	1 1/4"	YES
MOP SINK	1/2"	1/2"	3"	1 1/2"	NO
HAND SINK	1/2"	1/2"	2"	1 1/4"	NO
HAIR SINK	1/2"	1/2"	2"	1 1/4"	NO
SHOWER	1/2"	1/2"	3"	1 1/2"	NO
FLOOR DRAIN			3"	2"	NO
DF	1/2"		1 1/2"	1 1/4"	NO

NOTE:  
WASTE PIPING BELOW SLAB TO BE A MINIMUM OF 3".  
PROVIDE SHUT-OFF VALVES IN CW & HW LINES AT EACH FIXTURE.

### TYP. GREASE INTERCEPTOR DETAIL



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**PLUMBING PLAN**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

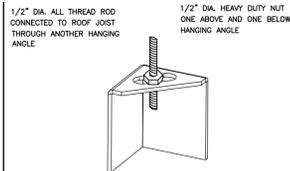
DATE: 01-12-2020 SHEET NO.

DRAWN BY: MBT

PROJECT NO: 19001

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

**P100**



1/2" DIA. ALL-THREAD ROD CONNECTED TO ROOF JOIST THROUGH ANOTHER HANGING ANGLE.

1/2" DIA. HEAVY DUTY NUT ONE ABOVE AND ONE BELOW HANGING ANGLE.

\* ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR HANGING ANGLE IS PRE-PUNCHED AT FACTORY.

**HANGING ANGLE DETAILS**

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SNO-2	228	294	-
ISLAND ND-2WI	269	300	350
NDI	346	422	475

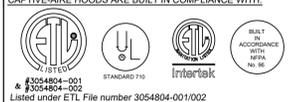
**ETL HOOD LISTING DETAIL**

EXHAUST CFM=LENGTH OF HOOD X CFM/IN/FT. (LOAD)  
 SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED CFM  
 TOTAL DUCT AREA=144 X (FFM)<sup>2</sup>  
 DUCT LENGTH= DUCT DEPTH

\* CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1000 FPM AND A SUPPLY VELOCITY OF 1000 FPM

**CALCULATIONS UTILIZED**

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



3054804-001  
 3054804-002  
 Listed under ETL File number 3054804-001/002

**BUILDING CODES**

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE	REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED	
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF	
COMBUSTIBLE	1" INSULATED STANDOFF	

**CLEARANCE TO COMBUSTIBLES**

**INSTALLATION**

- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
- ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
- HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
- ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTORS' PLANS.
- COOKING EQUIPMENT TO SHUT-OFF IN EVENT OF FIRE.
- EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
- ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREMIEES. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
- LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
- SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

**BALANCE**

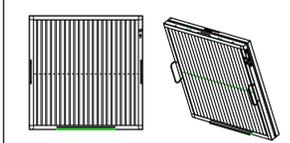
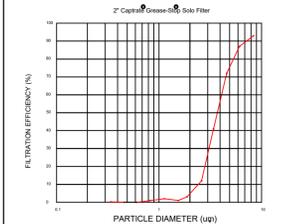
- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DRIVING AREA.
- RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

**ADDITIONAL**

- WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
- SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

**GENERAL NOTES**

FILTER COLLECTION EFFICIENCY



CaptiveAire Captrate Solo Filter  
 ETL Listed Grease Extracting Filters  
 Made From 430 Stainless Steel

**FILTER DETAIL**

**HOOD INFORMATION - Job#4157525**

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)			MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG.			
								WIDTH	LENG.	HEIGHT				END TO END	ROW		
1	KH-L	5424 ND-2-ACPS-P	8' 8"	600 Deg.	Heavy	200	1733	4"	14"	1733	1621	-0.647"	1386	548	430 SS Where Exposed	LEFT	ALONE
2	KH-R	5424 ND-2-ACPS-P	8' 8"	600 Deg.	Heavy	200	1733	4"	14"	1733	1621	-0.647"	1386	548	430 SS Where Exposed	RIGHT	ALONE

**HOOD INFORMATION**

HOOD NO.	TAG	TYPE	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGHIT	
			QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #			SWITCHES QUANTITY
1	KH-L	Captrate Solo Filter	6	20"	16"	85% See Filter Spec.	5	Recessed	NO	Wall Mnt	12"x48"x24"	Ansul R102	3.0/3.0	DCV-1111	1 Light 1 Fan	YES	570 LBS
2	KH-R	Captrate Solo Filter	6	20"	16"	85% See Filter Spec.	5	Recessed	NO							YES	570 LBS

**HOOD OPTIONS**

HOOD NO.	TAG	OPTION
1	KH-L	FIELD WRAPPER 18.00" High Front BACKSPLASH 122.00" High X 246.00" Long 430 SS Vertical LEFT SIDESPLASH 122.00" High X 72.00" Long 430 SS Vertical LEFT END STANDOFF (FINISHED) 1" Wide 54" Long Insulated LEFT WALL AS END PANEL
2	KH-R	FIELD WRAPPER 18.00" High Front BACKSPLASH 122.00" High X 140.00" Long 430 SS Vertical RIGHT SIDESPLASH 122.00" High X 72.00" Long 430 SS Vertical RIGHT END STANDOFF (FINISHED) 1" Wide 54" Long Insulated RIGHT WALL AS END PANEL

**PERFORATED SUPPLY PLENUM(S)**

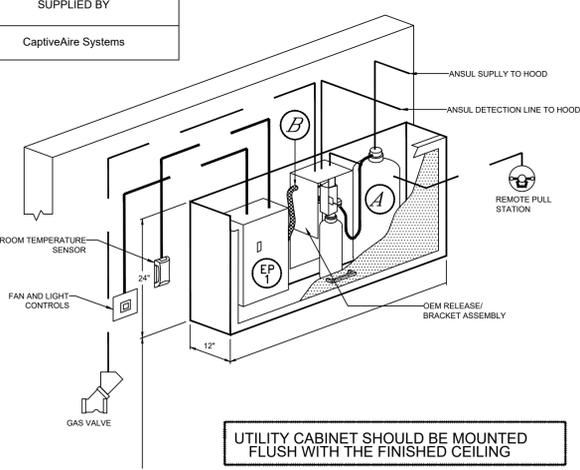
HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG.	DIA.	CFM	S.P.
1	KH-L	Front	105"	24"	6"	MUA	12"	28"		693	0.182"
						MUA	12"	28"		693	0.182"
						AC	8"	16"		274	0.084"
						AC	8"	16"		274	0.084"
2	KH-R	Front	105"	24"	6"	MUA	12"	28"		693	0.182"
						MUA	12"	28"		693	0.182"
						AC	8"	16"		274	0.084"
						AC	8"	16"		274	0.084"

**Fire System Information - Job#4157525**

FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		Ansul R102	3.0/3.0	4	Wall Utility Cabinet Left	N/A

**GAS VALVE(S)**

FIRE SYSTEM NO.	TAG	TYPE	SIZE	SUPPLIED BY
1		Mechanical	2.000	CaptiveAire Systems



**WALL MOUNTED UTILITY CABINET**

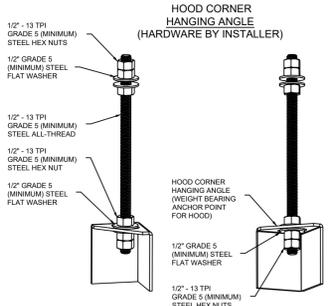
- (A) ANSUL R-102 WET CHEMICAL FIRE SUPPRESSION SYSTEM
- (B) FACTORY PREWIRED CONDUIT FROM FIRE SYSTEM MICRO-SWITCH TO SUPPLY FAN SHUT-DOWN RELAY
- (EP) PREWIRED ELECTRICAL PANEL

FOR QUESTIONS, CALL THE COLORADO REGIONAL SALES OFFICE  
 7300 S. Alton Way, #5B, Centennial, CO 80112  
 PHONE: (720) 570-0981  
 FAX: (919) 227-5999

**\*\*\* NOTE \*\*\***  
 ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK. WOOD STUDS OR ANY OTHER COMBUSTIBLE MATERIAL WITHIN 18" OF HOOD NOT ALLOWED

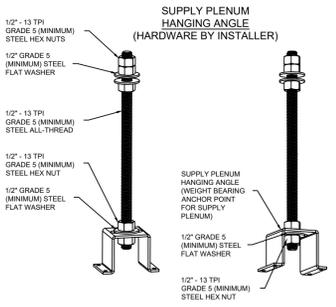
**\*\*\* NOTE \*\*\***  
 HOOD MANUFACTURER RECOMMENDS NO RETURNS OR 4-WAY DIFFUSERS WITHIN 10 FEET OF HOOD IN ALL DIRECTIONS.

**\*\*\* NOTE \*\*\***  
 MAKE-UP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.



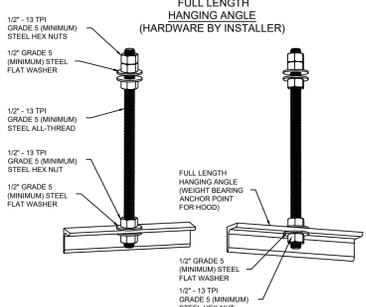
**ASSEMBLY INSTRUCTIONS**

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



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**System Design Verification (SDV)**

If ordered, CAS Service will perform a System Design Verification (SDV) once all equipment has had a complete start up per the Operation and Installation Manual. Typically, the SDV will be performed after all inspections are complete.

Any field related discrepancies that are discovered during the SDV will be brought to the attention of the general contractor and corresponding trades on site. These issues will be documented and forwarded to the appropriate sales office. If CAS Service has to resolve a discrepancy that is a field issue, the general contractor will be notified and billed for the work. Should a return trip be required due to any field related discrepancy that cannot be resolved during the SDV, there will be additional trip charges.

During the SDV, CAS Service will address any discrepancy that is the fault of the manufacturer. Should a return trip be required, the general contractor and appropriate sales office will be notified. There will be no additional charges for manufacturer discrepancies.

NOTE: DESIGN AND MODEL NUMBERS ARE BASED ON CAPTIVEAIRE AS MANUFACTURER.

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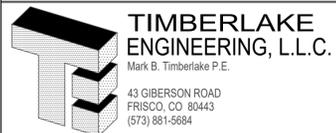
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Mark Timberlake, P.E. FEB. 10, 2020  
 PE-0049319



**HOOD PLAN**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**H100**

**EXHAUST FAN INFORMATION - Job#4157525**

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	KEF	DU240HFA	3466	1.500	1002	3.000	1.8990	3	208	10.2	788 FPM	278	21

**MUA FAN INFORMATION - Job#4157525**

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	MCA	MOCP	EVAP COOLER ENTERING DB TEMP.	EVAP COOLER ENTERING WB TEMP.	EVAP COOLER LEAVING DB TEMP.	EVAP COOLER LEAVING WB TEMP.	WEIGHT (LBS.)	SONES
2	KMAU	A2-D.250-20D	20MF-2-MOD	A2-D.250	2000	2772	0.500	1346	1.500	0.9480	3	208	4.4	5.5A	15A	90.0°F	60.0°F	70.0°F	60.0°F	949	12.2

**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(%)
2	KMAU	169780	156198	74 deg F	7 in. w.c. - 14 in. w.c.	Natural	92

**FAN OPTIONS**

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	KEF	1 - Grease Box 1 - Fan Base Ceramic Seal - Installed At Plant - For Grease Ducts 1 - Motorized Backdraft Damper for A2-D Housing 1 - Low Fire Start 1 - Inlet Pressure Gauge, 0-35" 1 - Manifold Pressure Gauge, -5 to 15" wc
2	KMAU	1 - Freeze Protection Drain Kit for Evaporative Coolers 1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only 1 - Size 2 Direct Fired Heater Low CFM Profile Package. Used on Heaters under 2500 cfm.

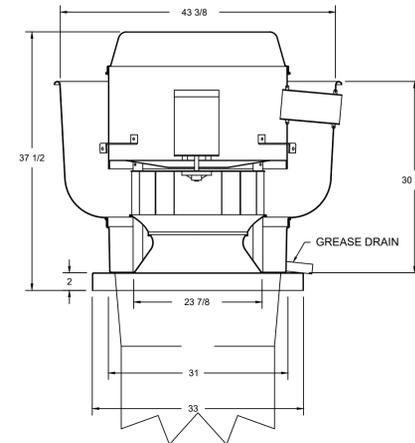
**FAN ACCESSORIES**

FAN UNIT NO.	TAG	EXHAUST				SUPPLY		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF	YES						
2	KMAU						YES	

**CURB ASSEMBLIES**

NO.	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF	59 LBS	Curb	31.500"W x 31.500"L x 26.000"H Vented Hinged
2	# 2	KMAU	90 LBS	Curb	31.000"W x 79.000"L x 20.000"H Insulated
	# 2			Rail	4.000"W x 4.000"L x 36.000"H

FAN #1 DU240HFA - EXHAUST FAN (KEF)



**FEATURES:**

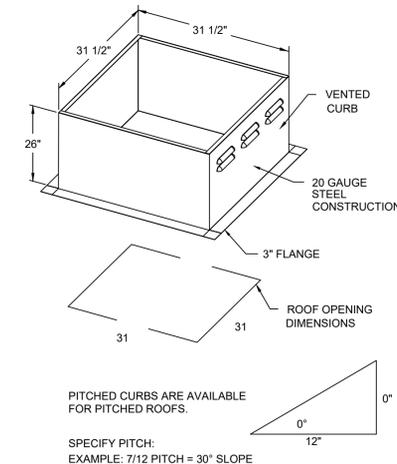
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

**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.

**ABNORMAL FLARE-UP TEST**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

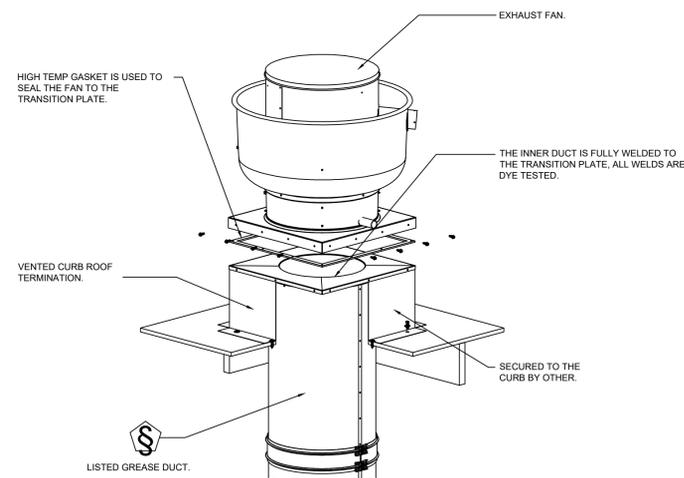
**OPTIONS**

- GREASE BOX
- FAN BASE CERAMIC SEAL - INSTALLED AT PLANT - FOR GREASE DUCTS.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:  
EXAMPLE: 7/12 PITCH = 30° SLOPE



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Mark Timberlake, P.E. FEB. 10, 2020  
PE-0049319

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**HOOD PLAN**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**H101**

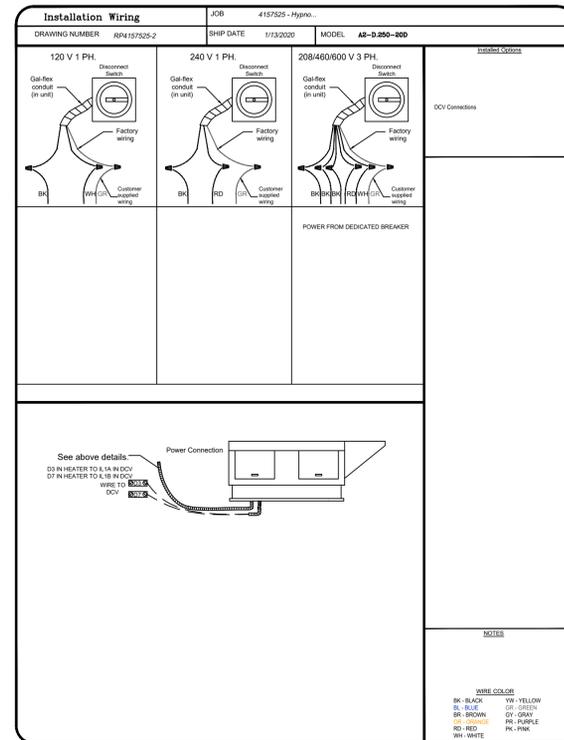
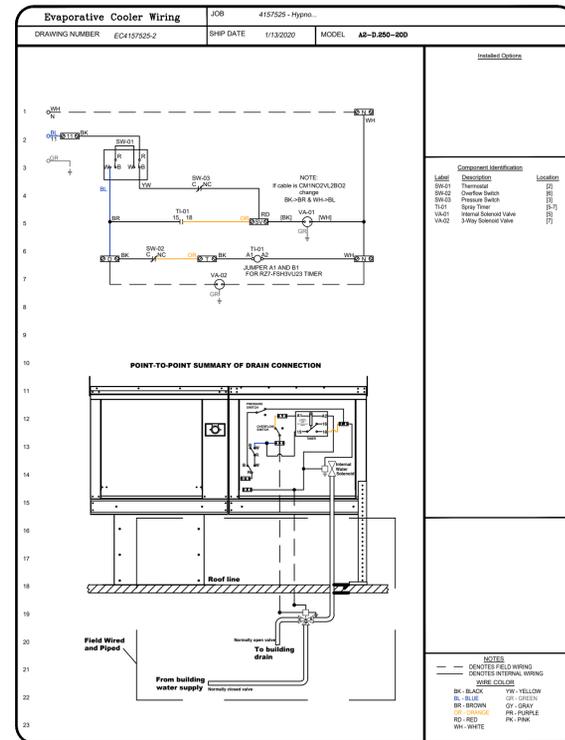
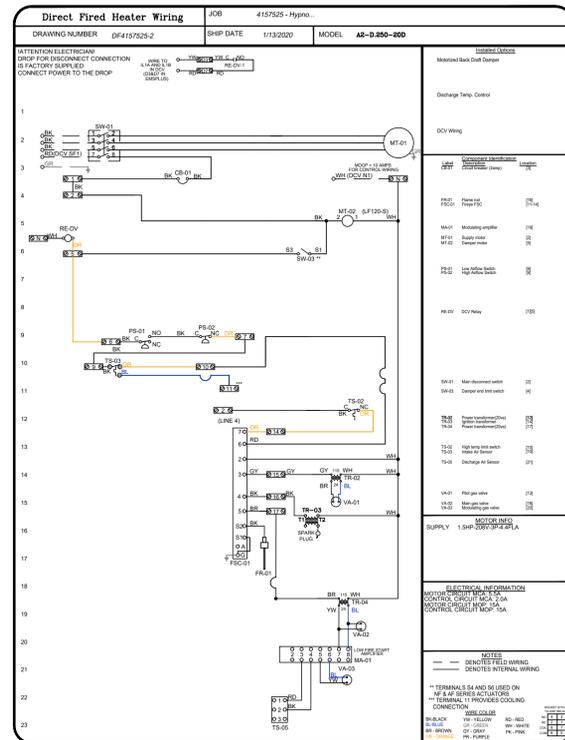
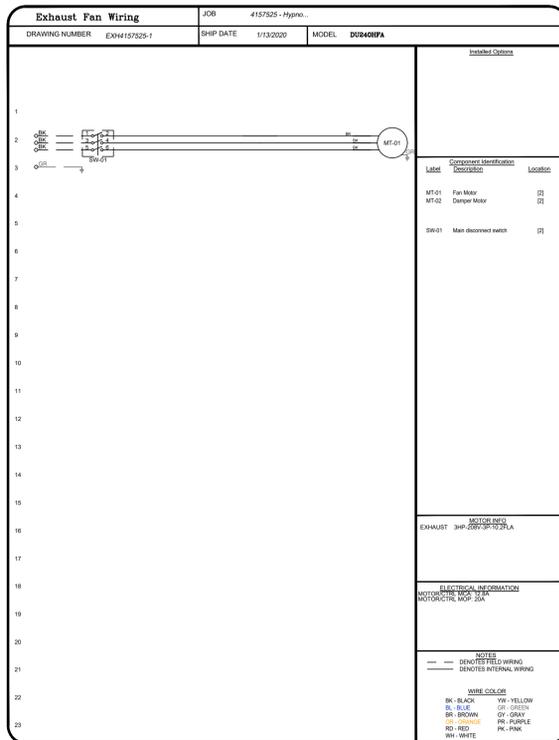
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HOOD PLAN

**HYPNO-CHIC RESTAURANT**

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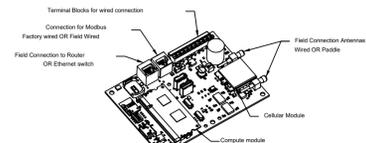
DRAWN BY: MBT  
PROJECT NO: 19001  
SCALE: 1/4"=1'-0"

**H102**

NOTE: DESIGN AND MODEL NUMBERS ARE BASED ON CAPTIVEAIRE AS MANUFACTURER.

**ELECTRICAL PACKAGE - Job#4157525**

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	H.P.	VOLT	FLA	
1		DCV-1111	Wall Utility Cabinet Left	12 - Wall Utility Cab. on Left End	1 Light		KEF	Exhaust	3	3,000	208	10.2
				Hood # 1	1 Fan		KMAU	Supply	3	1,500	208	4.4

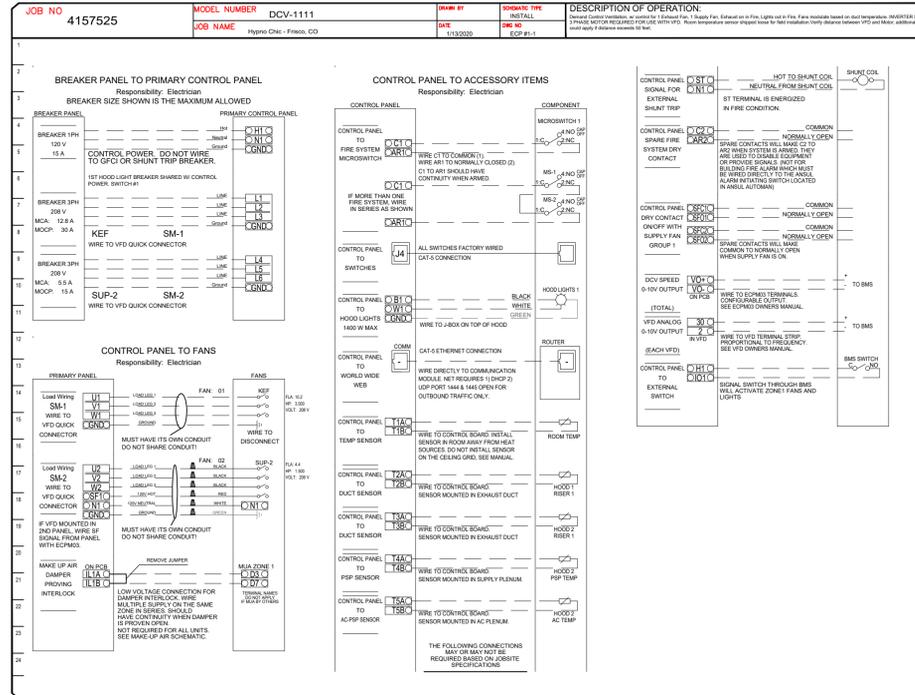


**CASink Monitor and Control**

- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

**MONITORING AND CONTROL POINTS LIST**

DCV Packages	Function	SC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	MUA Discharge Temperature	MONITOR
MUA Discharge Temperature	MONITOR	Kitchen RTU Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR	Controller Faults	MONITOR
Fan Speed	MONITOR	Fan Faults	MONITOR
Fan Airflow	MONITOR	Fan Status	MONITOR
Fan Power	MONITOR	PCU Faults	MONITOR
VFD Faults	MONITOR	PCU Filter Clap Percentages	MONITOR
Controller Faults	MONITOR	Fine Condition	MONITOR
Fan Faults	MONITOR	COBE Fire System	MONITOR
Fan Status	MONITOR	Building Pressure	MONITOR
PCU Faults	MONITOR	Fine Buttons(s)	MONITOR & CONTROL
PCU Filter Clap Percentages	MONITOR	Light Buttons(s)	MONITOR & CONTROL
Fine Condition	MONITOR	COBE Fire System	MONITOR & CONTROL
COBE Fire System	MONITOR	Wash Buttons	MONITOR & CONTROL
Building Pressure	MONITOR		
Prep Time Buttons	MONITOR & CONTROL		
Fine Buttons	MONITOR & CONTROL		
Light Buttons	MONITOR & CONTROL		
Wash Buttons	MONITOR & CONTROL		



**HOOD CONTROL PANEL- DEMAND CONTROL VENTILATION (DCV)**

Written Specifications: The hood control panel with demand control ventilation automatically modulates fans based on cooking load. Modulation allows for energy savings compared to fans running on high speed during cooking operation.

Listings: Models Electrical Control Panel are ETL Listed under file number 101754591COL-001 and complies with UL508A Standards and CAN/CSA C22.2, No. 14-05 Standards.

ECPM03 Circuit Board is ETL Listed under file number 100901773BOX-001 and complies with UL 61010-1 Standard and CAN/CSA C22.2, No. 61010-1 Standards.

Sequence of Operations: The hood control panel interlocks the exhaust fan with makeup air unit.

The hood control panel is capable of operating in one or more of the following states at any given time.

**Automatic:** The DCV hood control package is designed to thermostatically activate the exhaust fans and make-up air for an exhaust hood whenever elevated temperatures are sensed in the exhaust system. This option will meet the requirements of IMC 507.1.1 and IMC 508.1 by providing a thermostat(s) mounted in the duct or hood riser to sense increased exhaust temperatures.

Once the duct temperature reaches the activation point, the exhaust fans and MAU will be activated. The controls also provide hysteresis to prevent cycling of the fans after the cooking appliances have been turned off and the heat in the exhaust system is reduced. The hysteresis is factory set 2 degrees and will keep the exhaust running until the temperature falls 2 degrees below the activation set point. A hysteresis timer also exists to keep the fans running for at least 30 min after being activated by the temperature rise.

The panel is factory configured to shut down supply fans, turn on the exhaust fans and turn off the hood lights in a fire condition.

The DCV turns down to 20-25% of total exhaust in prep mode. The system is capable of turning down to 0% when operating automatically if it does not sense a need for hood operation. The DCV will modulate the fans it is controlling based on demand and the low speed and high speed settings are fully adjustable based on demand.

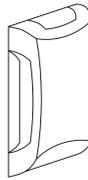
In the event of a fire, there are two forms of activation. The mechanical remote pull may be activated or the mechanical detection link in the hood may melt. The Ansul Automaton takes this mechanical activation and converts it to an electric notification signal via the microswitch and building-initiating switch. In either event, the DCV will be electrically notified via the Ansul Automaton. The DCV will then turn ON the exhaust fan, turn off the make-up air unit and turn off the hood lights. The Ansul Automaton will close the mechanical gas valve to close the gas line or if an electric gas valve is used, the hood control panel will send a signal to the shunted portion of the breaker panel to remove power from the cooking appliances. The building-initiating switch can be used to notify the building alarm system.

**Manual:** The system operates based on human input from an HMI.

**Schedule:** A weekly schedule can be set to run fans for a specified period throughout the day. There are three occupied times per day to allow for the user to set up a time that is suitable to their needs. Any time that is within the defined occupied time, the system will run suitable to their needs. Any time that is within the defined occupied time, the system will run at modulation mode and follow the fan procedure algorithm based on temperature during this time. During unoccupied time, the system will have an extra offset to prevent unintended activation of the system during a time where the system is not being occupied.

**Other:** The system operates based on the input from an external source (DDC, BMS or hard-wired interlock)

**ROOM TEMPERATURE SENSOR**



The Room Temperature sensor is a 10K Ohm Thermistor. The sensor provides constant room temperature to the controller. It should be installed on a wall somewhere in the space but not directly under the hood or close to an appliance so that the reading is not affected by heat.

Typically a system will have one room temperature sensor. However, systems configured with 2 fan zones have the option to be ordered with 2 room temperature sensors, one for each zone. They should be mounted in the space accordingly.

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**HOOD PLAN**

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE: 01-12-2020 SHEET NO.

DRAWN BY: MBT

PROJECT NO: 19001

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

**H103**

NOTE: DESIGN AND MODEL NUMBERS ARE BASED ON CAPTIVEAIRE AS MANUFACTURER.

DuctWork #1 Parts - Job#4157525

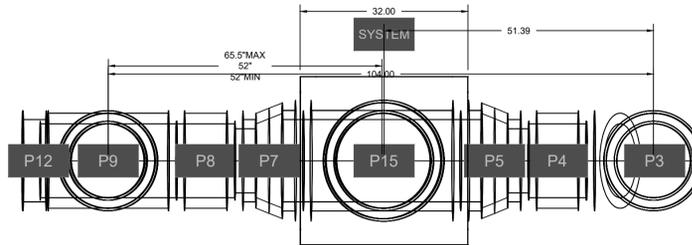
Tag	Part #	CFM	S.P.	Weight	Velocity	QTY	Description	
P1	DW1411DWLT-2R-S	1733	-0.004	14.89	1621.12	1	Double Wall Duct - 14" Inner Duct, 11" long - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P2	DW1401DWOFFSETASY-2R-S	1733	-0.003	12.97	1621.12	1	Double Wall Duct - 14" Inner Duct Riser & 1 Degree Offset - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P3	DW1490DWASY-2R-S	1733	-0.1125	33.30	1621.12	1	Double Wall Duct - 14" Inner 90 Duct - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P4	DW1411DWLT-2R-S	1733	-0.004	14.89	1621.12	1	Double Wall Duct - 14" Inner Duct, 11" long - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P5	DW1418DWRNDADPEC2ASY-2R-S	1733	-0.036	18.52	1621.12	1	Double Wall Duct - 14" X 18" RND2RND Eccentric Adapter - 2 Layers Reduced Clearance - 18" X 22" Stainless Steel Outer Shell.	
P6	DW18DWTEASY-2R-S	3466	-0.4875	55.68	1961.35	1	Double Wall Duct - 18" Inner Tee Duct - 2 Layers Reduced Clearance - 22" Stainless Steel Outer Shell.	
P7	DW1418DWRNDADPEC2ASY-2R-S	1733	-0.036	18.52	1621.12	1	Double Wall Duct - 14" X 18" RND2RND Eccentric Adapter - 2 Layers Reduced Clearance - 18" X 22" Stainless Steel Outer Shell.	
P8	DW1427DWAJD-2R-S	1733	-0.004	52.12	1621.12	1	Double Wall Adjustable Duct - 14" Inner Duct - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell. Min Length = 11" / Max Length = 24.5" / Adjustment = 13.5" / Adjustable Section May Need To Be Cut. Includes single and double wall "V" Clamps.	
P9	Assembled w/P12	DW14DWTEASY-2R-S	1733	-0.1125	41.37	1621.12	1	Double Wall Duct - 14" Inner Tee Duct - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.
P10	DW1401DWOFFSETASY-2R-S	1733	-0.003	12.97	1621.12	1	Double Wall Duct - 14" Inner Duct Riser & 1 Degree Offset - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P11	DW1427DWAJD-2R-S	1733	-0.005	52.12	1621.12	1	Double Wall Adjustable Duct - 14" Inner Duct - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell. Min Length = 11" / Max Length = 24.5" / Adjustment = 13.5" / Adjustable Section May Need To Be Cut. Includes single and double wall "V" Clamps.	
P12	Assembled w/P9	DW14DWACCCDOORCOV-2R-S		22.25		1	Double Wall Duct - 14" Inner Access Door & 18" Access Door Cover With Clamps - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Shell.	
P13	DW1801DWOFFSETASY-2R-S	3466	-0.003	14.66	1961.35	1	Double Wall Duct - 18" Inner Duct Riser & 1 Degree Offset - 2 Layers Reduced Clearance - 22" Stainless Steel Outer Shell.	
P14	Assembled w/P15	DW1847DWAJDTP-2R-S	3466	-0.01	108.88	1	Double Wall Adjustable Duct Transition Plate - 18" Inner Duct - 2 Layers Reduced Clearance - 22" Stainless Steel Outer Shell. Min Length = 11" / Max Length = 48.5" / Adjustment = 30.5" / Adjustable Section May Need To Be Cut. Includes single and double wall "V" Clamps.	
P15	Assembled w/P14	DW3118TPDBEX	3466	0	11.50	1	Duct to Curb Transition 3/4" Down Turn, 31-1/2" Curb to 18" Duct, 16 GA Aluminumized, Non-Standard Part. For Use With Exhaust Fans.	
	DW18DWRISER-2R-S			8.15		1	Double Wall Riser Cover - Used On 14" Inner Riser, 4" long - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Riser Shell Assembly. Includes Insulation & Single V Clamps For Inner & Outer Connections.	
	DW18DWRISER-2R-S			8.15		1	Double Wall Riser Cover - Used On 14" Inner Riser, 4" long - 2 Layers Reduced Clearance - 18" Stainless Steel Outer Riser Shell Assembly. Includes Insulation & Single V Clamps For Inner & Outer Connections.	
	3M-2000PLUS			0.80		4	Duct - 3M Fire Barrier 2000 Plus Silicone - Used as sealant to Seal Duct Joints.	
	DW14DWCLASY-2R-S			7.21		5	Duct - 14" Duct - 18" Double "V" Clamp - 2R Insulation & Single "V" Clamp Included - Reduced Clearance.	
	DW18DWCLASY-2R-S			8.70		3	Duct - 18" Duct - 22" Double "V" Clamp - 2R Insulation & Single "V" Clamp Included - Reduced Clearance.	
Total Weight				566.29				

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

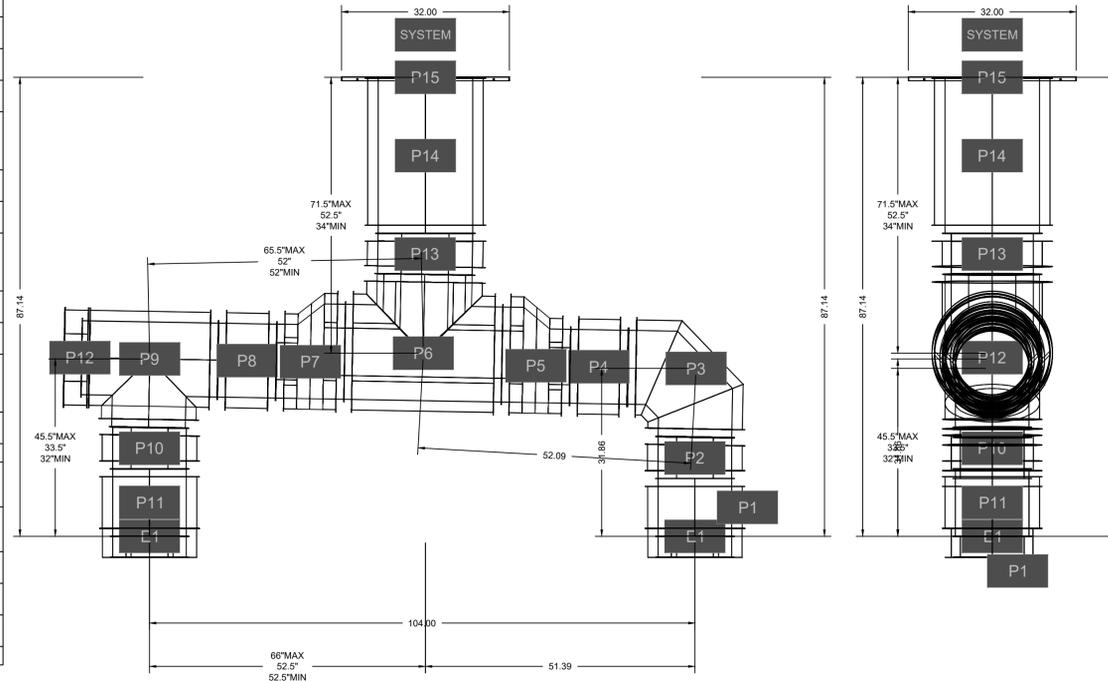
HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (ft)
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'

VERTICAL			
TYPE	WALL SUPPORT (ft)	CURB SUPPORT (ft)	FLOOR SUPPORT (ft)
2R & 2R HT	20'	24'	24'
3R	10'	24'	24'
3Z	10'	24'	24'



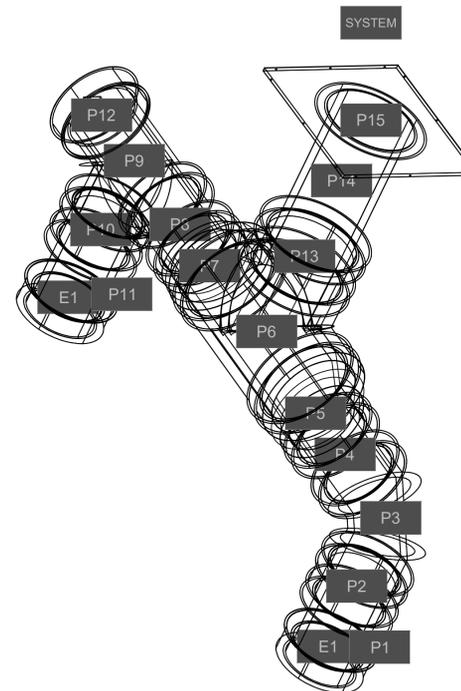
DuctWork #1 Front View

DuctWork #1 Side View



DuctWork #1 Top View

DuctWork #1 SE View



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HOOD PLAN

**HYPNO-CHIC RESTAURANT**

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**H104**

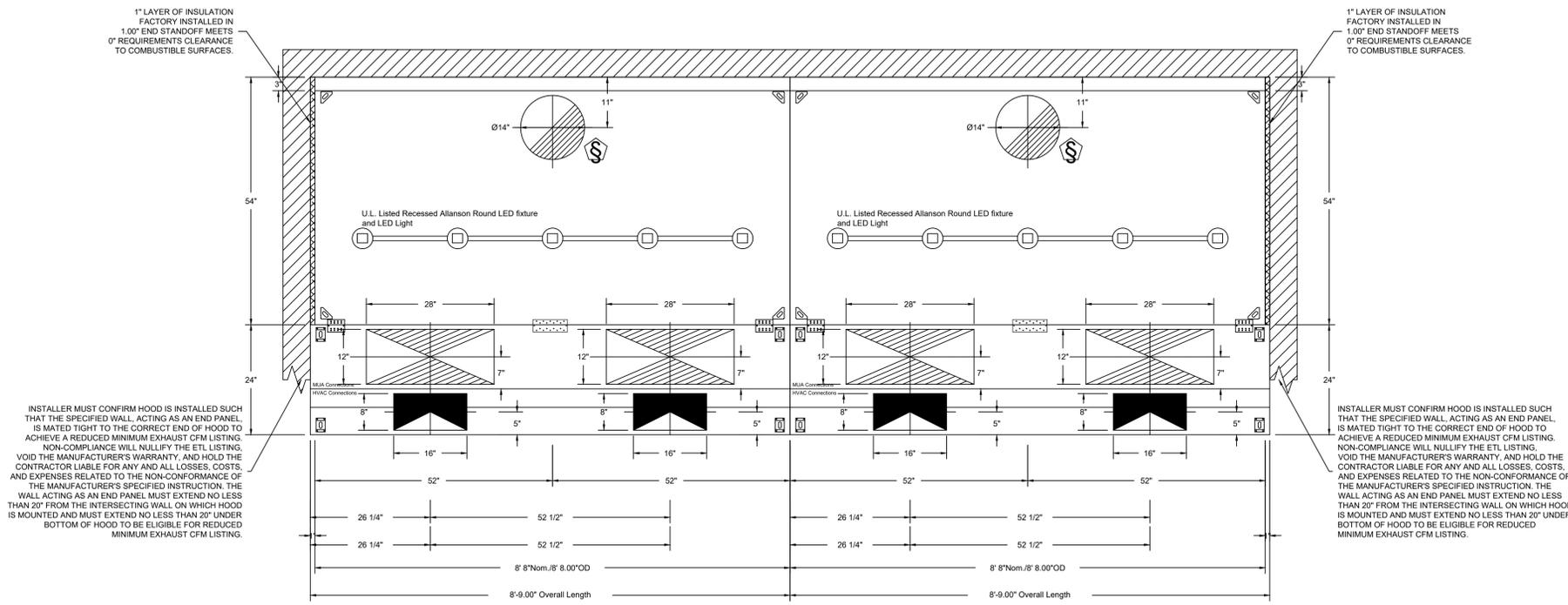
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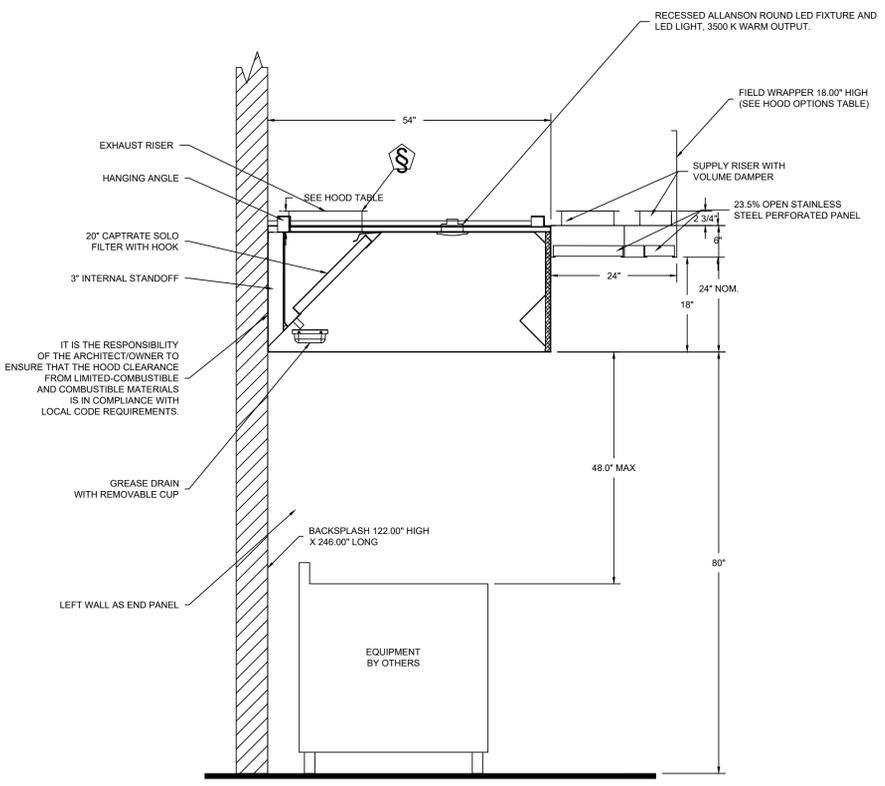
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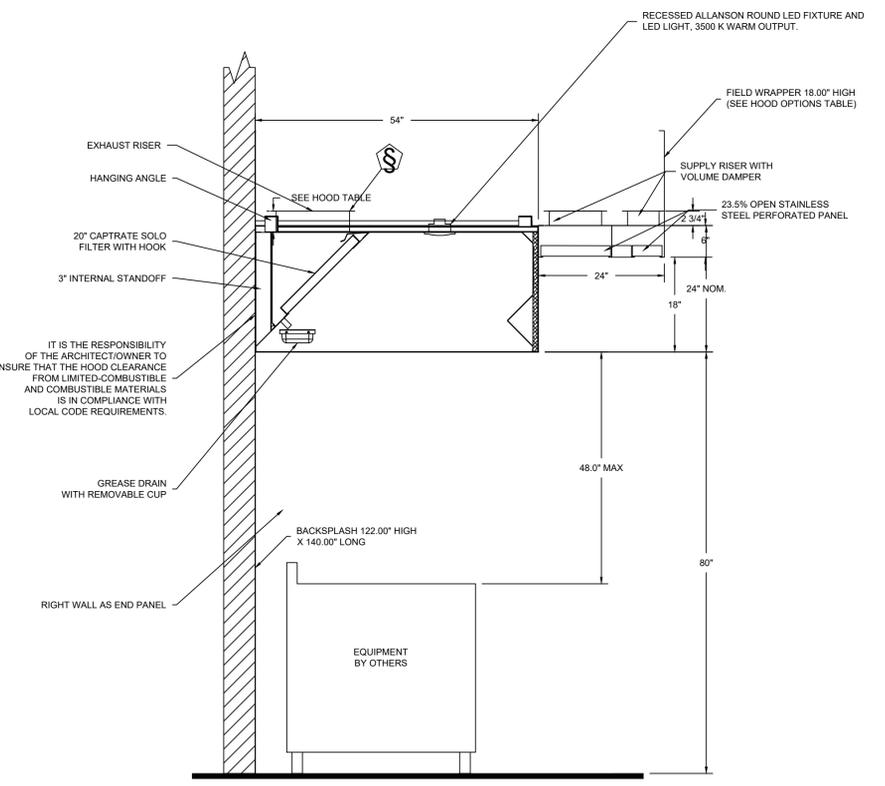
PLAN VIEW - Hood #1 (KH-L)  
8' 8.00" LONG 5424ND-2-ACPSP-F

PLAN VIEW - Hood #2 (KH-R)  
8' 8.00" LONG 5424ND-2-ACPSP-F

ACPSP ships loose for field installation



SECTION VIEW - MODEL 5424ND-2-ACPSP-F  
HOOD - #1 (KH-L)



SECTION VIEW - MODEL 5424ND-2-ACPSP-F  
HOOD - #2 (KH-R)



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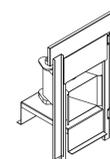
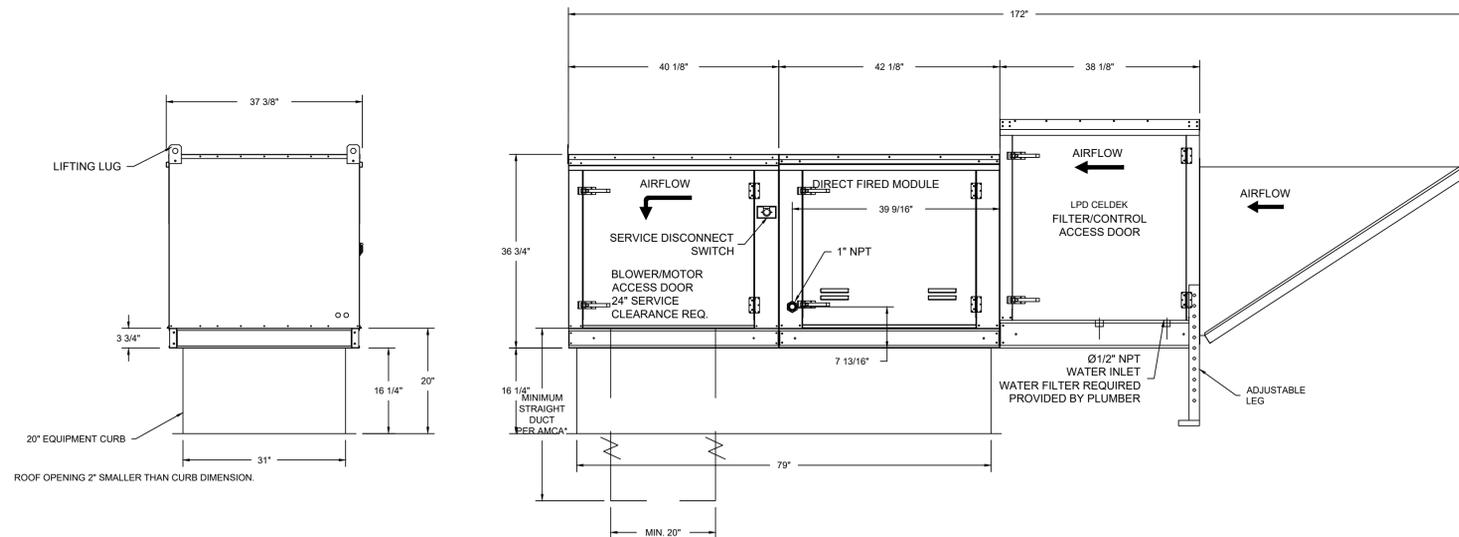
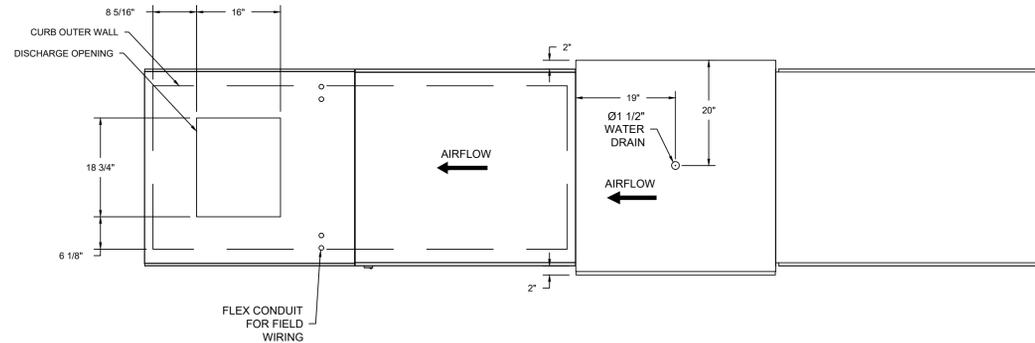
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**H105**

- FAN #2 A3-D.250-200 - HEATER (KMAU)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" DIRECT DRIVE FAN
  2. EVAP COOLER (LPD CELDEK) - W/INTAKE HOOD W/IEZ FILTERS
  3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
  4. MOTORIZED BACK DRAFT 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
  5. LOW FIRE START - ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
  6. GAS PRESSURE GAUGE, 0.05" 2" DIAMETER, 1/4" THREAD SIZE
  7. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
  8. FREEZE PROTECTION DRAIN CONTROL KIT FOR EVAPORATIVE COOLERS, INCLUDES 3-WAY WATER SOLENOID VALVE 8316G064 (SHIPPED LOOSE), PRESSURE SWITCH INSTALLED UPSTREAM OF 2WAY SOLENOID IN UNIT, BRASS TEE, 2 NPT HALF INCH NIPPLES, AND TWO STAGE THERMOSTAT T678A1361.
  9. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
  10. PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.

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. 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 = 1°F. TEMP. RISE = 74°F.  
 BTUs CALCULATED OFF ACTUAL AIR DENSITY  
 OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 219146  
 INPUT BTUs AT ALTITUDE OF 0.0 ft. = 238203  
 OUTPUT BTUs AT ALTITUDE OF 9075 ft. = 156198  
 INPUT BTUs AT ALTITUDE OF 9075 ft. = 169781



Direct Fired (DF) Profile Plate Assembly

**Direct Fired Profile Plate Specifications:**  
**Description:** Direct fired burners shall have patented (US Patent No. US9609523B2), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve clean combustion by limiting by-product levels to a maximum of 50ppm of carbon monoxide (CO) and 50ppm of nitrogen dioxide (NO2). Units shall be configured with the blower mounted downstream of the burner. This arrangement will ensure a consistent airflow, regardless of inlet air temperature.  
**Application:** Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.  
**Certifications:** All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z53.4 and CSA 3.7 (non-recirculating DF heaters) and ANSI Z83.18 (recirculating DF heaters).  
**General Construction:**  
 -Profile plates shall be formed from G90 galvanized steel.  
 -Profile plates shall vary in size per unit.  
 -Profile plates shall be mounted along the same plane as the discharge of the burner.  
 -Design shall incorporate properly torqued, permanently mounted spring hinges.  
 -Spring hinges shall be made from plated steel.

Direct Fired

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Mark Timberlake, P.E. FEB. 10, 2020  
 PE-0049319

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HOOD PLAN

**HYPNO-CHIC RESTAURANT**

255 ANGLER'S DRIVE, SUITE A, STEAMBOAT SPRINGS, CO 80487

DATE:	01-12-2020	SHEET NO.
DRAWN BY:	MBT	
PROJECT NO.:	19001	
SCALE:	1/4"=1'-0"	

**H106**

NOTE: DESIGN AND MODEL NUMBERS ARE BASED ON CAPTIVEAIRE AS MANUFACTURER.