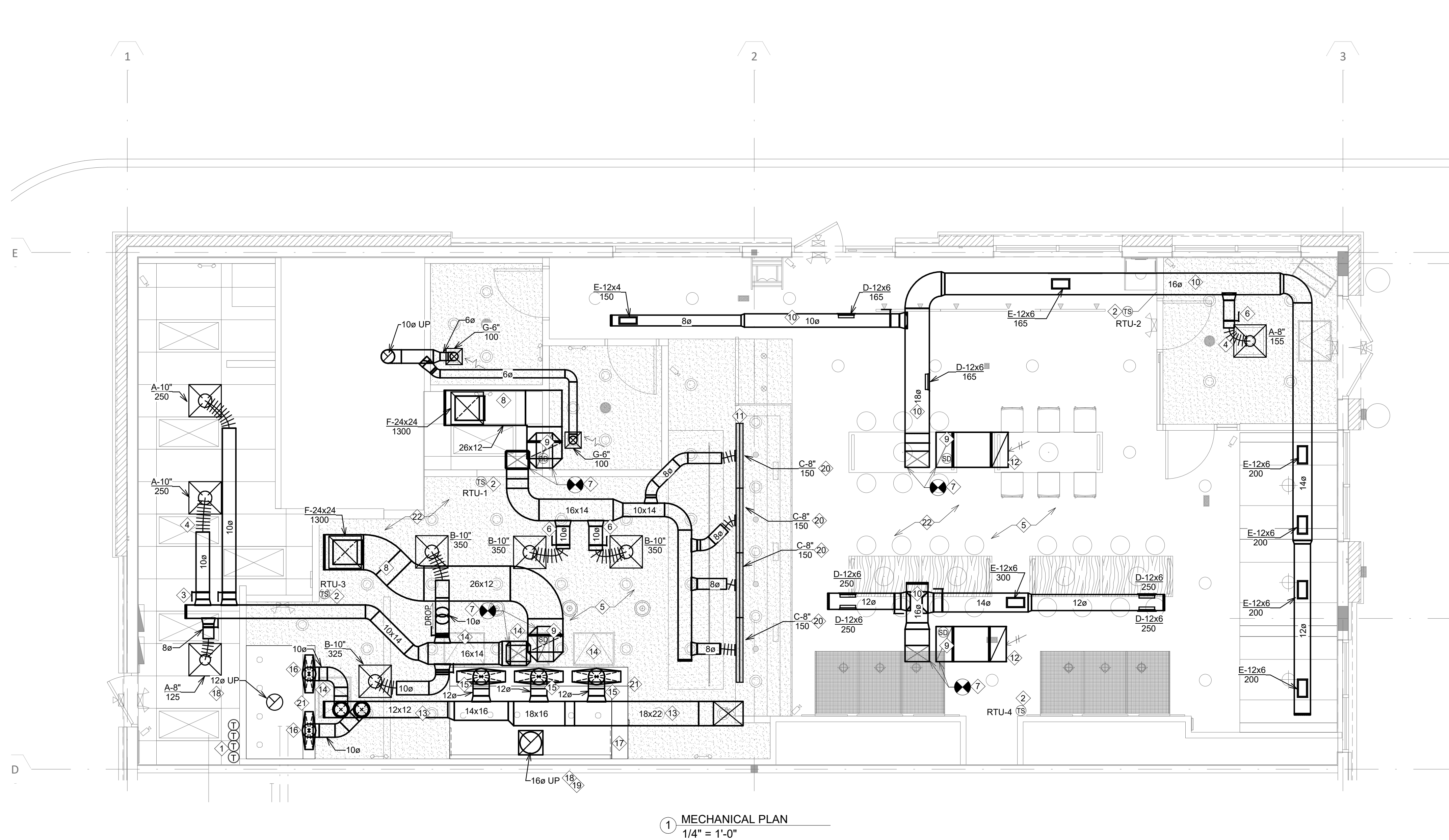


MECHANICAL SYMBOLS LEGEND			
DUCTWORK			
	SUPPLY AIR		RETURN DUCT UP, NEGATIVE PRESSURE
	RETURN AIR		EXHAUST DUCT UP, NEGATIVE PRESSURE
	EXHAUST AIR		SUPPLY DUCT DN, POSITIVE PRESSURE
	STANDARD BRANCH, NO SPLITTER - SUPPLY FLOW TO RIGHT - RETURN/EXHAUST FLOW TO LEFT		RETURN DUCT DN, NEGATIVE PRESSURE
	BELLMOUTH WITH BALANCING DAMPER		EXHAUST DUCT DN, NEGATIVE PRESSURE
	FLEXIBLE DUCT		SUPPLY DIFFUSER/REGISTER BLANKOFF INDICATED
	TURNING VANES		RETURN GRILLE/REGISTER
	FLEXIBLE CONNECTION		EXHAUST GRILLE/REGISTER
	MANUAL VOLUME DAMPER		LINEAR DIFFUSER
	MOTORIZED DAMPER		CONCENTRIC DUCT TRANSITION
	FIRE DAMPER & ACCESS PANEL		ECCENTRIC DUCT TRANSITION
	SMOKE DAMPER & ACCESS PANEL		RECTANGULAR-TO-ROUND DUCT TRANSITION
	COMBINATION FIRE/SMOKE DAMPER & ACCESS PANEL		DUCT OFFSETS
	SUPPLY GRILLE OR REGISTER		DUCT OUTLINE
	RETURN OR EXHAUST GRILLE OR REGISTER	CONTROLS	
	SUPPLY DUCT UP, POSITIVE PRESSURE		TAMPERPROOF THERMOSTAT
ANNOTATION			ROOM PRESSURE MONITOR
	QUANTITY TYPE SIZE CFM		AQUA STAT
	GRILLE, REGISTER, & DIFFUSER IDENTIFICATION		THERMOSTAT W/GUARD
	HYDRONIC FINED TUBE RADIATION & RADIANT PANEL IDENTIFICATION		CARBON MONOXIDE SENSOR
	ELECTRIC BASEBOARD RADIATION IDENTIFICATION		HUMIDISTAT OR R.H. SENSOR
	DETAIL NUMBER SHEET NUMBER		REFRIGERANT SENSOR
	SECTION NUMBER SHEET NUMBER		SMOKE DETECTOR
	EQUIP DESIGNATION EQUIP NUMBER		SPACE TEMPERATURE SENSOR
	POINT OF CONNECTION, NEW TO EXISTING		STATIC PRESSURE SENSOR
	POINT OF DISCONNECTION		THERMOSTAT
			CARBON DIOXIDE SENSOR



KEY NOTES:
1 PROVIDE NEW HONEYWELL COMMERCIAL VISION PRO 8000 MODEL #TB8220 TOUCHSCREEN 7-DAY PROGRAMMABLE THERMOSTAT WITH CONTROL FOR UP TO 2 STAGES OF HEATING, 2 STAGES OF COOLING. VERIFY COMPATIBILITY WITH LANDLORD PROVIDED HVAC UNITS PRIOR TO INSTALLATION. INSTALL ON WALL ABOVE MANAGERS DESK & WIRE TO EQUIPMENT PER MANUFACTURERS INSTALLATION INSTRUCTIONS. PROGRAM THERMOSTAT SET POINTS. COORDINATE SETTINGS WITH TENANT REQUIREMENTS AND LOCATION WITH DETAIL 6/A600. LABEL T-STAT BY UNIT SERVED.
2 PROVIDE REMOTE TEMPERATURE SENSOR COMPATIBLE WITH THERMOSTAT. MOUNT AT 60" A.F.F. COORDINATE REQUIREMENTS AND VERIFY COMPATIBILITY WITH HONEYWELL THERMOSTATS. PROVIDE INSULATED BACKER IF INSTALLED ON EXTERIOR WALL. LABEL SENSOR BY UNIT SERVED.
3 INSTALL TAKE OFF IN SUPPLY AIR DUCTWORK. PROVIDE MANUAL VOLUME DAMPER. (TYPICAL FOR ALL)
4 FLEX DUCT 4'-0" MAX. LENGTH. (TYPICAL) SEE DETAIL 2/M200.
5 FURNISH AND INSTALL ALL NEW DUCTWORK IN ACCORDANCE WITH SMACNA & AISC STANDARDS. HOLD ALL NEW DUCTWORK AS HIGH AS POSSIBLE/PRACTICAL. MOUNT TIGHT TO BOTTOM OF STRUCTURE UNLESS OTHERWISE NOTED. PROVIDE TRANSITIONS AS REQUIRED. DUCT DIMENSIONS ARE CLEAR INTERNAL AIR PATH DIMENSIONS. SUPPORT FROM STRUCTURE. COORDINATE WITH LIGHTING AND ARCHITECTURAL ELEMENTS TO AVOID CONFLICT. VERIFY ALL CONDITIONS PRIOR TO BID.
6 VOLUME DAMPER TO BE ACCESSIBLE THROUGH TRM PLASTER FRAME. COORDINATE LOCATION IN FIELD.
7 CONNECT NEW DUCT TO EXISTING DUCT DROP WITH TRANSITION - DO NOT "HARD TAP" DROPS FROM UNIT. VERIFY EXISTING DROP SIZE IN FIELD.
8 RETURN AIR GRILLE CONNECTION SHALL BE GALV. SHEET DUCT. FLEX DUCT IS NOT ACCEPTABLE (TYPICAL).
9 DUCT SMOKE DETECTOR FURNISHED AND INSTALLED BY LANDLORD FIRE ALARM CONTRACTOR IN RETURN MAIN DUCT AND REMOTE TEST STATION WITH VISIBLE AND AUDIBLE ALARM, AND TIED INTO CENTRAL ALARM SYSTEM IF REQUIRED. SMOKE DETECTOR SHALL SHUT DOWN HVAC UNIT UPON DETECTION OF SMOKE. COORDINATE FINAL LOCATION OF REMOTE TEST STATION WITH AHJ.
10 SPIRAL DUCTWORK SHALL BE LINED PER SPECIFICATION, AND HAVE A BRIGHT GALVANIZED FINISH. COORDINATE WITH ARCHITECTURAL PLANS.

KEY NOTES:
11 LINEAR DIFFUSERS TO BE ALIGNED TO APPEAR AS A CONTINUOUS DIFFUSER. SEE ARCHITECTURAL SHEETS FOR EXACT LOCATION. ADJUST DIFFUSER THROW BEHIND THE SERVICE COUNTER. COORDINATE WITH TENANT PROJECT MANAGER.
12 EXTEND RETURN AIR DUCT AND PROVIDE ELBOW TURNED UP (TOWARDS DECK). COVER OPENING WITH 1/2" X 1/2" WIRE MESH. LINE RETURN AIR DUCT WITH 1" ACOUSTIC INSULATION.
13 DUCTWORK TO BE ROUTED AS HIGH AS POSSIBLE, UP BETWEEN JOISTS, X-BRACING, AND OR JOIST WEBS WHERE FEASIBLE. COORDINATE ROUTING IN FIELD.
14 PROVIDE ACCESS PANELS IN HARD LID CEILING FOR SERVICE ACCESS TO IRIS DAMPERS, BALANCE DAMPERS, HOOD, AND/OR GREASE DUCT CLEANOUTS. VERIFY EXACT SIZE REQUIREMENTS AND LOCATION WITH ARCHITECTURAL. COORDINATE WITH LIGHTING.
15 EXTEND 12" DIA. AIR DUCT TO PLENUM SUPPLY HOOD WITH TRANSITION. INSTALL 12" DIA. CONTINENTAL FAN MANUFACTURING IRIS DAMPER MODEL IR-12 (NO EXCEPTIONS) WITH AIRFLOW MEASUREMENT TAPS AND NEOPRENE GASKET. HVAC CONTRACTOR SHALL INSTALL REDUCER/INCREASER AT IRIS DAMPER FOR CONNECTION TO DUCTWORK. BALANCE TO 633 CFM EACH.
16 EXTEND 10" DIA. AIR DUCT TO PLENUM SUPPLY HOOD WITH TRANSITION. INSTALL 10" DIA. CONTINENTAL FAN MANUFACTURING IRIS DAMPER MODEL IR-10 (NO EXCEPTIONS) WITH AIRFLOW MEASUREMENT TAPS AND NEOPRENE GASKET. HVAC CONTRACTOR SHALL INSTALL REDUCER/INCREASER AT IRIS DAMPER FOR CONNECTION TO DUCTWORK. BALANCE TO 380 CFM EACH.
17 HOOD CONTROL PANEL AND FIRE SUPPRESSION SYSTEM TO BE FURNISHED AS PART OF HOOD PACKAGE BY OTHERS AND INSTALLED BY MECHANICAL CONTRACTOR. SEE HOOD DRAWINGS FOR ADDITIONAL INFORMATION.
18 NEW PREFABRICATED STAINLESS STEEL DUCT COMPLYING WITH UL-1978, FURNISHED BY OTHERS AS PART OF HOOD PACKAGE AND INSTALLED BY MECHANICAL CONTRACTOR. ROUTE NEW DUCT UP TO NEW EXHAUST FAN ON ROOF. VERIFY EXACT LOCATION AND ROUTING IN FIELD. SEE HOOD PLANS FOR ADDITIONAL INFORMATION. COORDINATE ADDITIONAL DUCT SECTIONS AND FITTING WITH HOOD SUPPLIER PRIOR TO START OF WORK.
19 PYROSCAT DUCT WRAP XL (OR EQUAL) FURNISHED BY OTHERS AS PART OF HOOD PACKAGE AND INSTALLED BY MECHANICAL CONTRACTOR. INSTALLED PER MANUFACTURERS INSTRUCTIONS TO COMPLY WITH ASTM E2336. SEE DETAIL S 3/M200 AND 4/M200. COORDINATE QUANTITY OF WRAP WITH HOOD SUPPLIER PRIOR TO START OF WORK.

KEY NOTES:
20 PROVIDE YOUNG REGULATOR 270-275 CABLE CONTROL DAMPER FOR LINEAR SLOT DIFFUSERS. SEE DETAIL ON 1/M200 FOR ADDITIONAL INFORMATION.
21 HOOD AND MAKE-UP AIR PLENUM FURNISHED BY OTHERS. - INSTALLED BY MECHANICAL CONTRACTOR. REFER TO THE HOOD MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION.
22 INSULATE ALL DUCTWORK PER SPECIFICATION - SEE SHEET M300.
ALL FLEX DUCT MUST BE INSTALLED PER THE ADC (AIR DIFFUSION COUNCIL) INSTALLATION STANDARDS (MOST CURRENT EDITION), INCLUDING A BEND RADIUS OF ONE DUCT DIAMETER OR GREATER, PROPERLY SEALED AND SECURED WITH 2 INCH BEADED COLLARS, PROPERLY SUPPORTED AND FULLY EXTENDED DUCT. FAN CALCULATIONS FOR THIS PROJECT WERE SIZED FOR 4 FOOT MAXIMUM FLEX DUCT INSTALLED PER THE ADC INSTALLATION STANDARDS. FLEX DUCT SHOWN ON PLANS IS FOR SCHEMATIC PURPOSES ONLY AND SHALL IN NO INSTANCE EXCEED 4 FOOT.

GENERAL NOTES:	
A. INSTALL VOLUME DAMPER IN DUCT TAKE-OFF TO EACH DIFFUSER, GRILLE, AND REGISTER.	M. ALL EQUIPMENT, INSTALLATIONS, AND MATERIAL SHALL COMPLY WITH ALL APPLICABLE LOCAL CODES AND LANDLORD CRITERIA.
B. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR MAY, AT THEIR OPTION, REPLACE RECTANGULAR DUCTWORK SHOWN WITH ROUND, SPIRAL DUCT OF EQUIVALENT CAPACITY.	N. REMOVE ALL UNUSED PIPING, DUCTWORK, AND ACCESSORIES - DO NOT ABANDON.
C. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN SUSPENDED CEILING SPACES AND IN SHAFTS PROVIDED UNLESS NOTED OR INDICATED OTHERWISE.	O. VERIFY LOCATION OF ANY PENETRATION THRU ROOF WITH LANDLORD. ALL ROOF PENETRATIONS, PATCHING, AND FLASHING SHALL BE BY LANDLORD'S ROOFING CONTRACTOR AT MECHANICAL CONTRACTOR EXPENSE.
D. VERIFY ALL DUCT CONNECTION SIZES TO FANS, COILS, AND EXISTING DUCTWORK.	P. PRIOR TO OCCUPANCY OF THE PREMISES, GENERAL CONTRACTOR IS REQUIRED TO PROVIDE AN AIR BALANCE REPORT. AN APPROVED, INDEPENDENT, CERTIFIED AIR-BALANCE COMPANY MUST PERFORM THE TEST REPORT. PROVIDE COPY TO TENANT AND ARCHITECT.
E. COOPERATE WITH THE OTHER TRADES TO ELIMINATE ANY CONFLICTS BETWEEN PIPING, DUCTWORK, STRUCTURAL, ELECTRICAL WORK, ETC.	Q. PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.
F. DIFFUSER, REGISTER, AND SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH LIGHT FIXTURE LOCATIONS AND SHALL BE IN ACCORDANCE WITH CEILING PATTERNS AS SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.	R. HVAC CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE ROUTING OF DUCTWORK WITH WATER, VENT, WASTE & STORM PIPING STRUCTURE, CEILING ELEVATION, ELECTRICAL SWITCHGEAR AND PANEL BOARDS, LIGHTS, SPRINKLER PIPING, STRUCTURE, AND ALL OTHER TRADES. PLANS MAY NOT INDICATE ALL OFFSETS.
G. ALL SQUARE DIFFUSERS SHALL HAVE THE AIR VOLUME EQUALLY IN FOUR DIRECTIONS UNLESS INDICATED OTHERWISE.	S. SEAL DUCT SEALER PER SMACNA REQUIREMENTS AS INDICATED IN SPECIFICATIONS.
H. MECHANICAL CONTRACTOR TO VERIFY RATINGS OF ALL WALLS WITH ARCHITECTURAL DRAWINGS. SEAL PIPE PENETRATIONS TO MATCH THE WALL RATINGS. PROVIDE ALL SUPPLY AND RETURN DUCTS PASSING THROUGH FIRE RATED WALLS WITH APPROVED FIRE DAMPERS.	T. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT TO REMAIN IS SECURED TO STRUCTURE PER MANUFACTURERS INSTRUCTIONS.
I. RUNOUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSERS NECK SIZE.	U. PROVIDE STAINLESS STEEL ESCUTCHEON THROUGH WALL AND CEILING PENETRATIONS.
J. TENANTS CONTRACTORS SHALL VERIFY WITH HVAC PLAN TO COORDINATE THE REQUIREMENT OF PLENUM RATED FIXTURES, PIPING, WIRING, ETC. FAILURE TO DO SO COULD RESULT IN THE REMOVAL AND REPLACEMENT OF THESE ITEMS AT NO ADDITIONAL COST TO THE TENANT - NO PVC PIPING ALLOWED IN PLENUM.	
K. CONTRACTOR SHALL STENCIL TENANT NAME AND SPACE NUMBER ON UNIT.	
L. THE TENANTS MECHANICAL CONTRACTOR SHALL GO TO THE SITE AND VERIFY THE SIZE, DESIGN, SUPPORT AND LOCATION FOR ALL EXISTING AND FUTURE MECHANICAL EQUIPMENT AND UTILITY TAPS PRIOR TO ANY EQUIPMENT ORDERING, WORK, DUCTWORK FABRICATION ETC. NOTIFY THE TENANTS PROJECT MANAGER OR PROJECT ENGINEER IMMEDIATELY WITH ANY DISCREPANCIES. FAILURE TO DO SO COULD RESULT IN EQUIPMENT AND/OR MATERIALS REPLACEMENT AT NO ADDITIONAL EXPENSE TO THE TENANT.	

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MISSOURI STATE CERTIFICATE OF AUTHORITY #001661  
mechanical + electrical consulting engineering

SEAL/SIGNATURE:



PROJECT:

**BIBIBOP**  
asian grill

STREETS OF  
WEST PRYOR  
2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: TAB

CHECKED BY: GMS

ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:  
**MECHANICAL PLAN**

**M100**

CONSULTANT:



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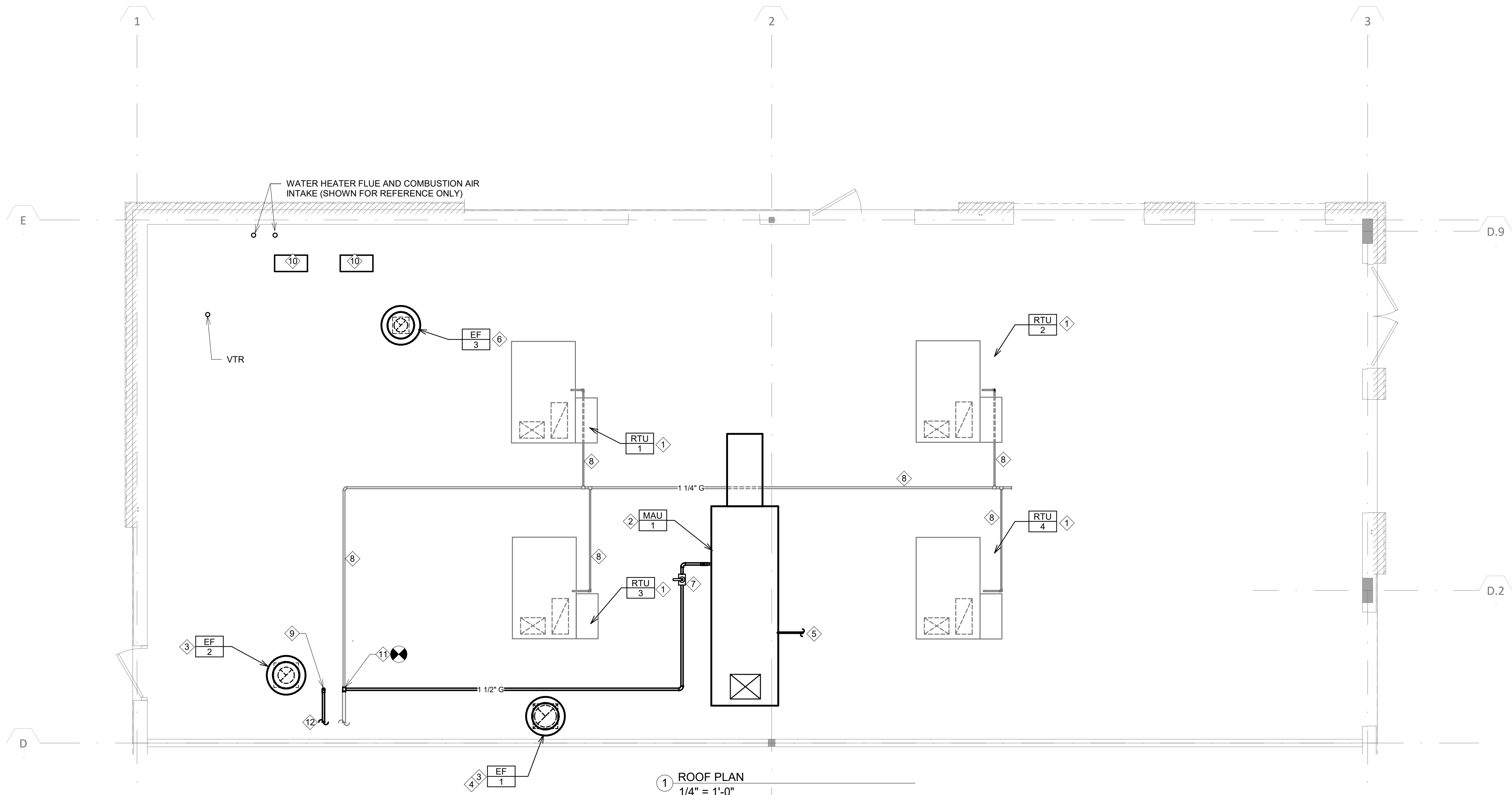
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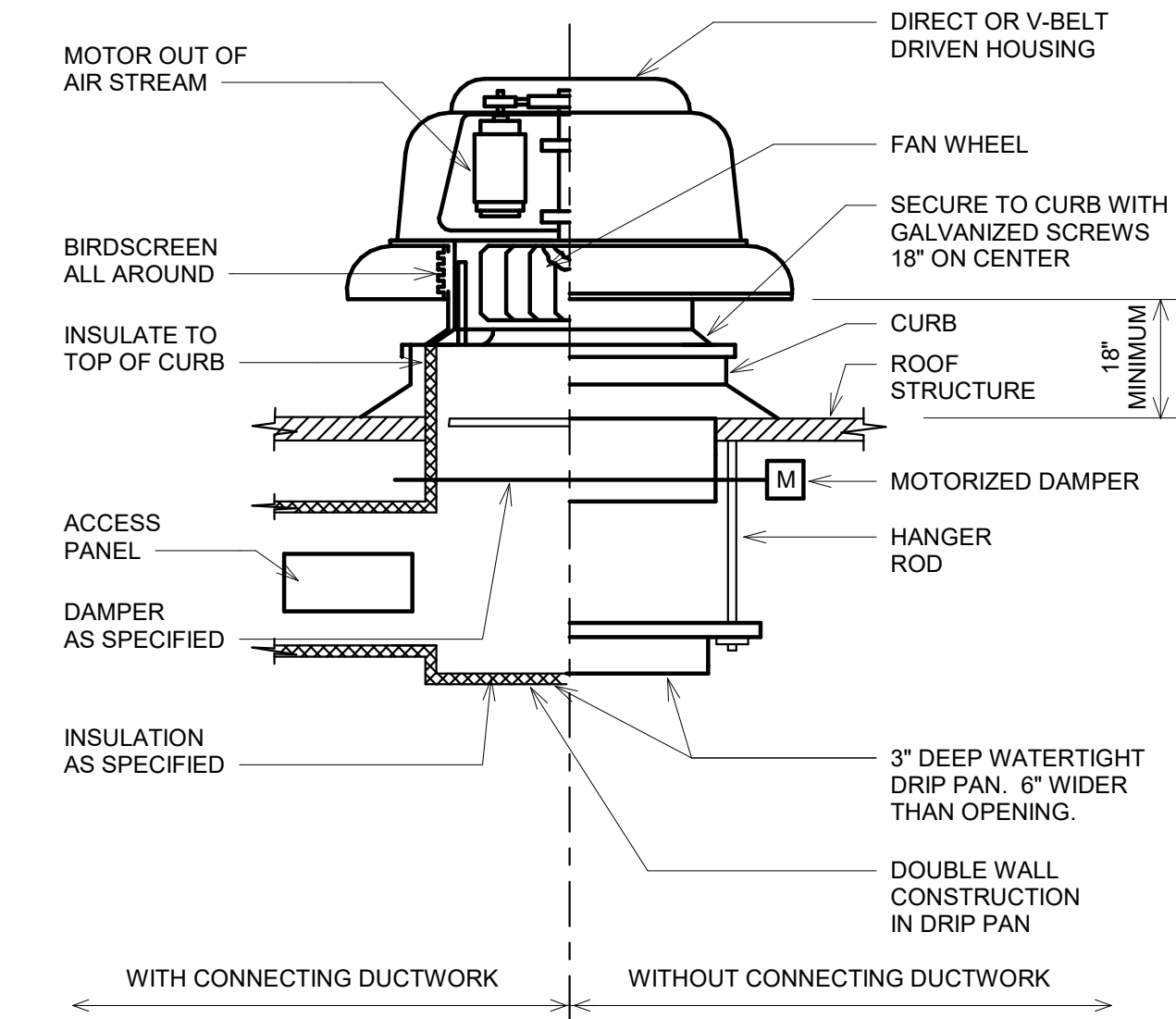
PERMIT ISSUE 01.25.2021

SHEET TITLE:  
**MECHANICAL ROOF  
PLAN**

**M110**



2 KITCHEN PRV EXHAUST FAN DETAIL  
NO SCALE



3 POWER ROOF VENTILATOR DETAIL  
NO SCALE

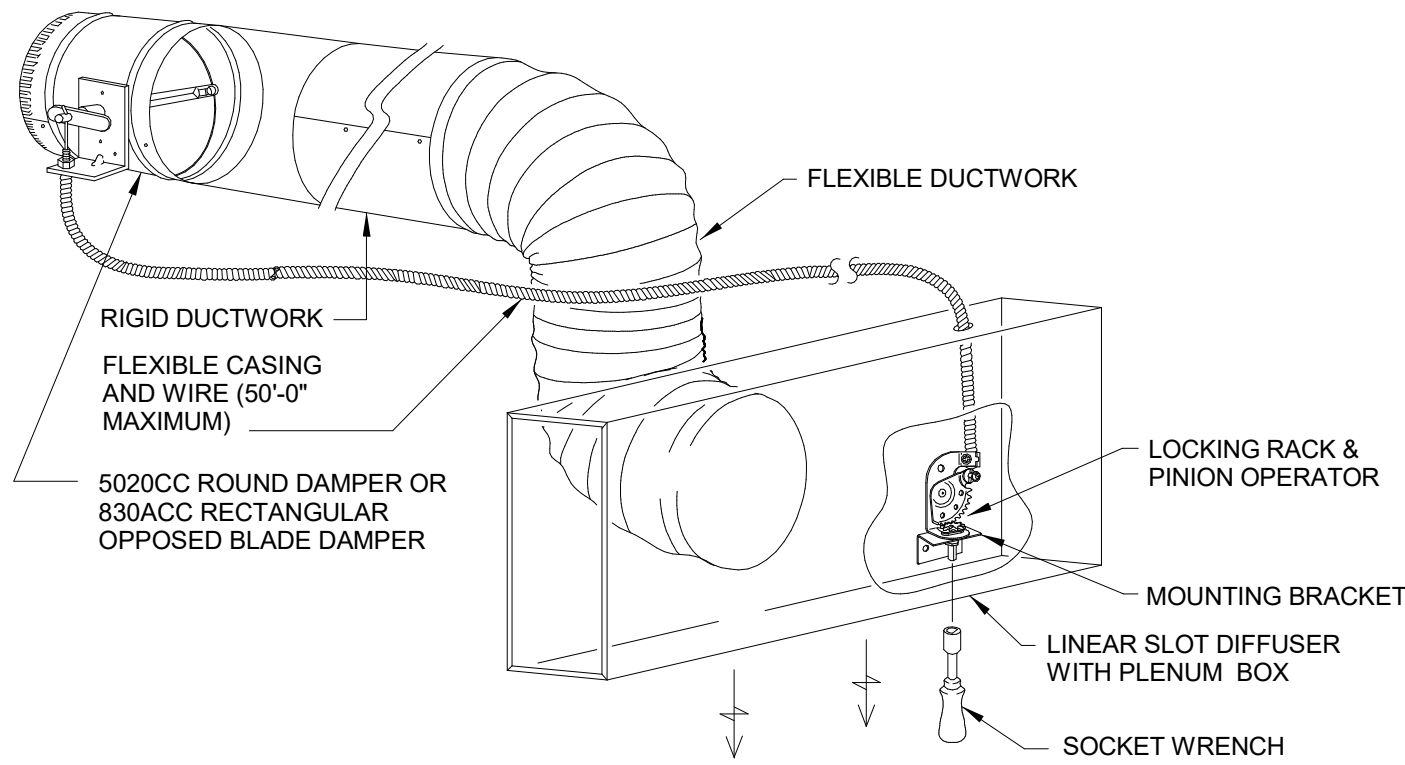
OUTSIDE AIR CALCULATION			
OUTSIDE AIR CALCULATION BASED ON THE 2015 IMC			
<b>AREA #1 - SEATING AREA</b>		NET SQ. FOOTAGE:	870
0.18 CFM/SQFT. X 870 SQ. FT. =			157
7.5 CFM / PERSON X 42 PEOPLE =			315
		VENTILATION:	472 CFM
<b>AREA #2 - UTILITY/PREP AREA</b>		NET SQ. FOOTAGE:	115
0.06 CFM/SQFT. X 115 SQ. FT. =			7
7.5 CFM / PERSON X 2 PEOPLE =			15
		VENTILATION:	22 CFM
<b>AREA #3 - OFFICE</b>		NET SQ. FOOTAGE:	60
0.06 CFM/SQFT. X 60 SQ. FT. =			4
5.0 CFM / PERSON X 1 PERSON =			5
		VENTILATION:	9 CFM
<b>AREA #4 - HALLWAY</b>		NET SQ. FOOTAGE:	175
0.06 CFM/SQFT. X 175 SQ. FT. =			11
		VENTILATION:	11 CFM
<b>AREA #5 - SCULLERY/STORAGE</b>		NET SQ. FOOTAGE:	375
0.12 CFM/SQFT. X 375 SQ. FT. =			45
7.5 CFM / PERSON X 2 PERSON =			15
		VENTILATION:	60 CFM
<b>VENTILATION SUBTOTAL:</b>			594 CFM
<b>VENTILATION EFFECTIVENESS:</b>			0.8
<b>MINIMUM VENTILATION REQUIRED:</b>			743 CFM
<b>MINIMUM VENTILATION SUPPLIED:</b>			920 CFM
<b>AREA #6 - KITCHEN (MIN. EXHAUST)</b>		NET SQ. FOOTAGE:	465
0.7 CFM/SQFT. EXHAUST X 465 SQ. FT. =		EXHAUST:	326 CFM
<b>MINIMUM EXHAUST REQUIRED:</b>			326 CFM
<b>MINIMUM EXHAUST SUPPLIED:</b>			2300 CFM

AIR BALANCE SCHEDULE						
TAG	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	SUPPLY AIR (CFM)	EXHAUST AIR (CFM)	SPACE PRESSURE	NOTES
EF-1				-2300	-2300	1
EF-2				-950	-950	1
EF-3				-200	-200	1
MAU-1	+2660				+2660	1
RTU-1	+150	1150	1300		+150	1
RTU-2	+350	1250	1600		+350	1
RTU-3	+150	1150	1300		+150	1
RTU-4	+270	1030	1300		+270	1
				TOTAL	+130	
<b>NOTES:</b>						
1. GENERAL CONTRACTOR SHALL CONTRACT A SEPARATE TEST AND BALANCE CONTRACTOR FOR FINAL SETUP OF ALL SYSTEMS, THEIR OPERATION, AND BALANCING.						

#### KEY NOTES:

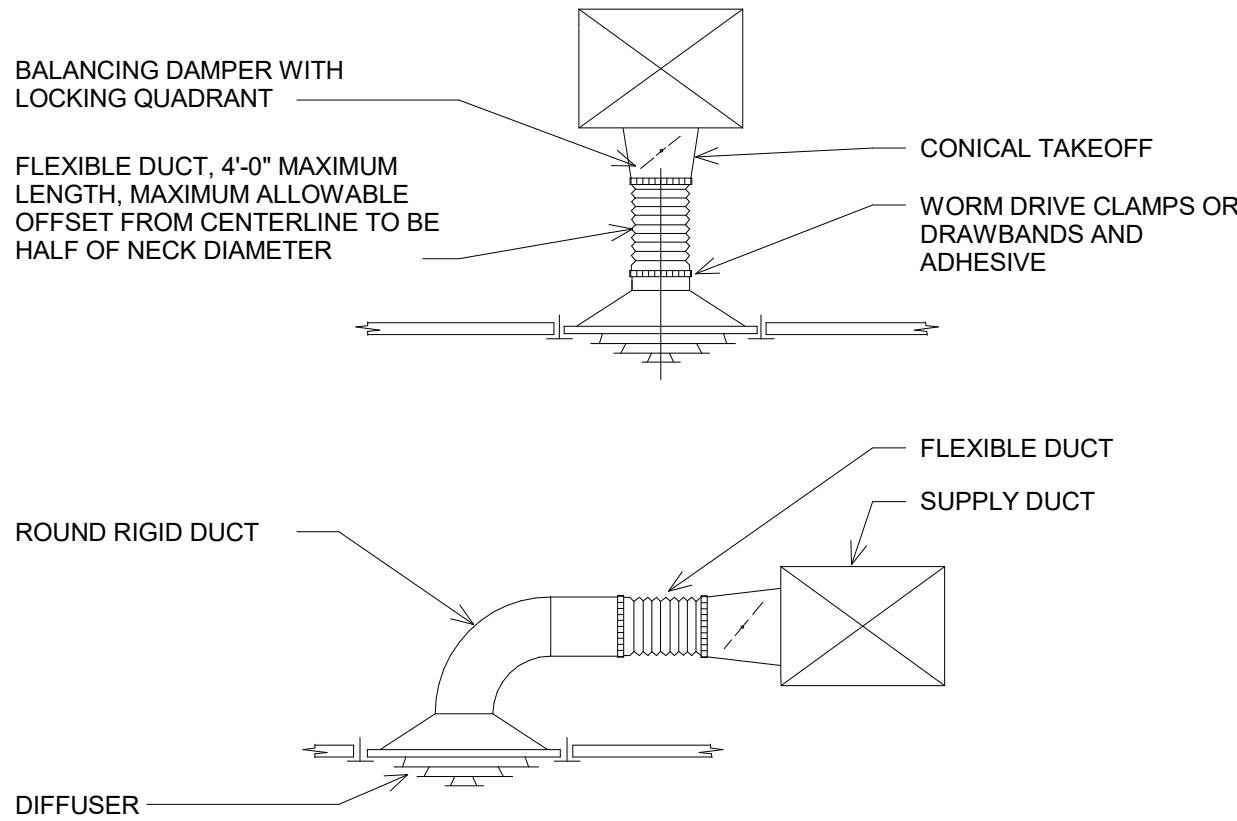
- RTU PROVIDED BY LANDLORD FOR TENANT USE. VERIFY LOCATION AND ORIENTATION IN FIELD PRIOR TO START OF WORK.
- NEW MAKE-UP AIR UNIT AND CURB FURNISHED BY OTHERS AS PART OF HOOD PACKAGE AND INSTALLED BY MECHANICAL CONTRACTOR. SEE HOOD PLANS FOR ADDITIONAL INFORMATION. ROOF WORK TO BE COMPLETED BY LANDLORD APPROVED ROOFING CONTRACTOR.
- NEW EXHAUST FAN AND CURB FURNISHED BY OTHERS AS PART OF HOOD PACKAGE AND INSTALLED BY MECHANICAL CONTRACTOR. VERIFY EXACT LOCATION IN FIELD. LOCATION ON DRAWINGS IS APPROXIMATE ONLY. SEE HOOD PLANS FOR ADDITIONAL INFORMATION. WINDBAND EXTENSIONS TO BE FURNISHED WITH THE FANS AS PART OF HOOD PACKAGE TO MAINTAIN MINIMUM DISTANCE OF 3'-0" ABOVE ALL FRESH AIR INTAKES WITHIN 10'-0" RADIUS OF FAN. SEE DETAIL 2/M110.
- PROVIDE APPROVED ROOF PROTECTION MEMBRANE AT GREASE EXHAUST FAN, FURNISHED AND INSTALLED BY LANDLORD APPROVED ROOFING CONTRACTOR AT TENANT CONTRACTOR EXPENSE. COORDINATE WITH LANDLORD FIELD REPRESENTATIVE.
- NEW 1" CONDENSATE PIPE W/ MIN. 3" DEEP P-TRAP TO SPLASHBLOCK ON ROOF.
- NEW EXHAUST FAN AND CURB PROVIDED BY MECHANICAL CONTRACTOR. SEE DETAIL 3/M110. MAINTAIN MIN. DISTANCE OF 10'-0" FROM ALL FRESH AIR INTAKES. COORDINATE EXACT LOCATION IN FIELD.
- PROVIDE NEW BALL VALVE, DIRT LEG, AND UNION AT UNIT.
- EXISTING GAS PIPING ON ROOF TO REMAIN.
- GAS PIPE DN THRU ROOF. SEE 1/P110 FOR GAS PIPING WITHIN SPACE.
- CONDENSERS FOR WALK-IN COOLER (BY OTHERS) SHOWN FOR REFERENCE. SEE P110 FOR ADDITIONAL INFORMATION.
- CONNECT NEW 1-1/2" GAS PIPING TO EXISTING 2" GAS PIPING ON ROOF. VERIFY EXACT LOCATION AND ROUTING IN FIELD.
- EXTEND NEW 1-1/2" GAS PIPING TO EXISTING GAS METER BANK AND CONNECT IMMEDIATELY DOWNSTREAM OF METER. VERIFY PIPE ROUTING AND METER LOCATION IN FIELD.





NOTES:

- THE 270-275 BOWDEN CABLE CONTROL SYSTEM IS DESIGNED FOR USE WITH EXTERNALLY CONTROLLED ROUND OR RECTANGULAR DAMPERS, AND CAN BE MOUNTED IN A WIDE VARIETY OF LOCATIONS INCLUDING CEILING JOISTS, LAY-IN CEILINGS, BEHIND GRILLES, ON OR INSIDE OTHER VARIOUS TYPES OF DIFFUSERS, ETC.
- CABLE SHALL CONSIST OF BOWDEN CABLE 0.054" STAINLESS STEEL CONTROL WIRE ENCAPSULATED IN 1/16" FLEXIBLE GALVANIZED SPIRAL WIRE SHEATH.
- LOCKING RACK AND PINION GEAR DRIVE SHALL BE CONSTRUCTED OF 14 GAUGE STEEL AND SHALL BE USED TO CONVERT ROTARY MOTION INTO PUSH-PULL MOTION.
- CONTROL SHAFT SHALL BE "D"-STYLE FLATTENED 1/4" DIAMETER WITH 265° ROTATION PROVIDING 1-1/2" LINEAR TRAVEL CAPABILITY.



NOTE:

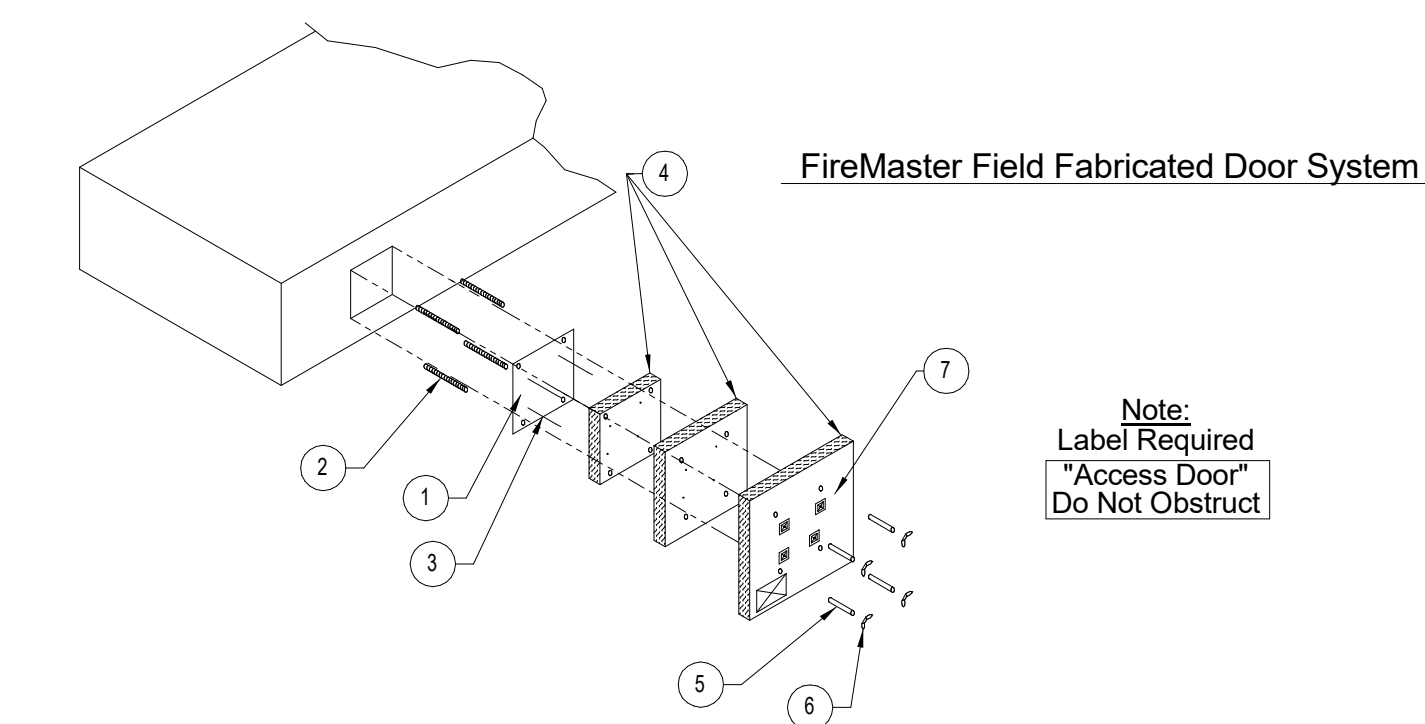
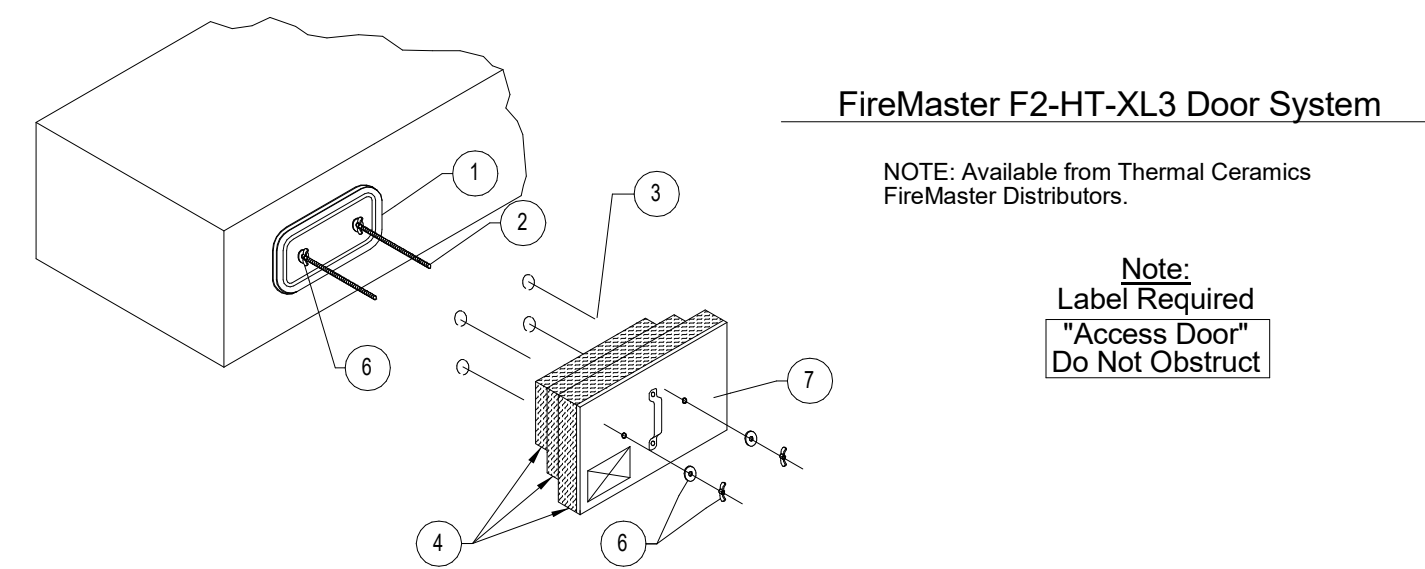
- TOP DETAIL IS TO BE FOLLOWED WHEN CENTERLINE OF DIFFUSER IS UNDER THE DUCT ENOUGH TO PERMIT A BOTTOM TAKEOFF WITH A FLEXIBLE DUCT OFFSET OF LESS THAN HALF THE NECK DIAMETER. BOTTOM DETAIL TO BE USED IN ALL OTHER CASES

1 YOUNG REGULATOR  
270-275 BOWDEN CABLE CONTROL SYSTEM  
NO SCALE

2 CEILING DIFFUSER RUNOUT DETAIL  
NO SCALE

REFER TO HOOD SHEETS  
FOR HOOD INFORMATION

Thermal Ceramics  
FireMaster®FastWrap®XL  
Access Door Systems  
Commercial Kitchen Grease Duct Enclosure System

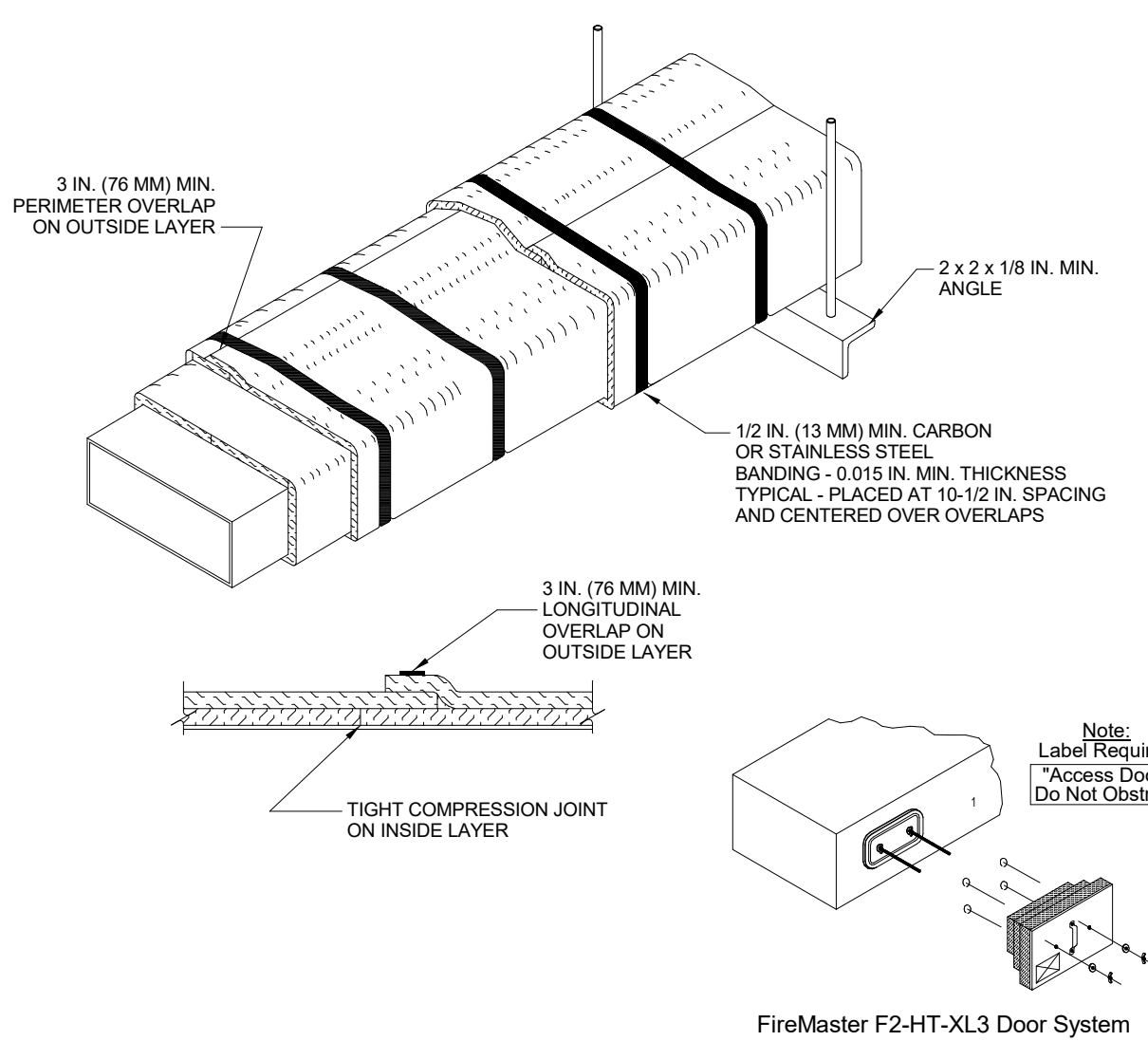


LEGEND	
1	DuctMate F2-HT Access Door or 16 Gage Field Fabricated Access Door.
2	All Thread Rods.
3	Installation Pins with Speed Clips.
4	Three Layers of FireMaster FastWrap XL Blanket with Minimum 1" Overlaps and All Edges Sealed with Aluminum Tape.
5	Spool Pieces for Threaded Rods
6	Wing Nuts and Washers
7	Outer Cover Plate Labeled "ACCESS DOOR - DO NOT OBSTRUCT"

The integrity of the duct wrap insulation product is limited to the quality of the installation.

4 GREASE DUCT ACCESS DOOR DETAIL  
NO SCALE

- THERMAL CERAMICS FIREMASTER FASTWRAP XL OR PYROSCAT XL HAS BEEN TESTED IN ACCORDANCE WITH ASTM E2536 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND MEETS THE REQUIREMENTS FOR ONE OR TWO HOUR ENCLOSURES. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH EITHER ASTM E 814 OR UL 1479. ICC-ES APPROVAL PER REPORT ESR 2213 OR ESR 2832. UNDERWRITER'S LABORATORIES (UL) LISTINGS SHOW COMPLIANCE TO UL 1479 FOR THROUGH PENETRATION FIRESTOP SYSTEMS.
- COMPLIANT TO THE FOLLOWING CODES:  
NFPA 96  
CURRENT INTERNATIONAL MECHANICAL CODES  
CURRENT UNIFORM MECHANICAL CODE.
- INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON INSIDE LAYER AND 3 INCH MINIMUM OVERLAPS ON BOTH PERIMETER AND LONGITUDINAL OVERLAPS ON OUTSIDE LAYER.
- GREASE EXHAUST DUCT RUNS FROM THE HOOD EXHAUST CONNECTION UP TO THE EXHAUST FAN ON THE ROOF WITH MINIMAL TURNS OR BENDS AND MAINTAINING MINIMUM 1/4 UNIT VERTICAL RISE PER 12 UNITS HORIZONTAL RUN. NFPA 96 COMPLIANT ACCESS DOORS LOCATED AS REQUIRED BY CODE.
- THERMAL CERAMICS FIREMASTER ACCESS DOORS AS SPECIFIED IN ICC-ES BUILDING CODE REPORTS ESR 2213 OR ESR 2832.
- ROOF MOUNTED EXHAUST FAN IS MOUNTED ON A HINGED BASE WHICH ALLOWS ACCESS TO THE DUCT FROM THE ROOF.
- SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE AT LEAST A MINIMUM OF 3/8 IN. DIAMETER. USE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
- THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
- THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED ON THE DUCT FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.



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GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

DIFF. TAG	APPLICATION	MOUNTING TYPE	DESCRIPTION	FINISH	ACCESSORIES	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
A	SUPPLY	LAY-IN	24" x 24"	WHITE	OBD	TITUS	TMS	1, 3
B	SUPPLY	LAY-IN	24" x 24"	WHITE	OBD	TITUS	PAR	2, 3
C	SUPPLY	SURFACE	4'-0" LONG	WHITE	MPI-SP PLENUM	TITUS	ML-38	4
D	SUPPLY	DUCT	SEE PLANS	CLEAR ANODIZED	OBD	TITUS	S300FS	5
E	SUPPLY	DUCT	SEE PLANS	CLEAR ANODIZED	OBD	TITUS	S300FS	6
F	RETURN	LAY-IN	24" X 24"	WHITE		TITUS	50F	7
G	EXHAUST	SURFACE	12" x 12"	WHITE	OBD	TITUS	350RL	8

MECHANICAL NOTES:

- SUPPLY AIR DIFFUSER WITH OPPOSED BLADE DAMPER.
- PERFORATED DIFFUSER WITHOUT PATTERN CONTROLLER FOR MINIMUM THROW.
- PROVIDE TRIM PLASTER FRAME IF INSTALLED IN GYP. CEILING.
- LINEAR SLOT DIFFUSER WITH (4) 3/4" SLOTS - PROVIDE MPI-SP INSULATED PLENUM BOX. COORDINATE FRAME TYPE WITH GC AND ARCHITECT.
- SPIRAL DUCT MOUNTED, DOUBLE DEFLECTION SUPPLY REGISTER WITH INTEGRAL AIR SCOOP. INSTALL PER METHOD 1 - SEE DETAIL 5/M200.
- SPIRAL DUCT MOUNTED, DOUBLE DEFLECTION SUPPLY REGISTER WITH INTEGRAL AIR SCOOP. INSTALL PER METHOD 2 - SEE DETAIL 6/M200.
- 1/2" X 1/2" EGGRATE GRILLE.
- 35° DEFLECTION GRILLE.

FAN SCHEDULE

EQUIPMENT TAG	TYPE	CFM	ESP (IN W.C.)	HP	RPM	TIP SPEED	DRIVE TYPE	ELEC.	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
EF 1	UPBLAST	2300	0.9	1.5	967	-	DIRECT	SEE ELEC	CAPTIVE AIRE	DU180HFA	1, 4
EF 2	UPBLAST	950	0.5	0.5	1348	-	DIRECT	SEE ELEC	CAPTIVE AIRE	DU50HFA	1, 4
EF 3	DOWNBLAST	200	0.5	0.1	1522	-	DIRECT	SEE ELEC	GREENHECK	G-080-VG	2, 3, 5

MECHANICAL NOTES:

- FANS FURNISHED WITH HOOD PACKAGE BY OTHERS - INSTALLED BY MECHANICAL CONTRACTOR. SEE HOOD DRAWINGS FOR ADDITIONAL INFORMATION.
- FURNISHED AND INSTALLED BY CONTRACTOR.
- PROVIDE WITH MOTORIZED BACKDRAFT DAMPER - DAMPER MAY BE FACTORY FURNISHED, OR INSTALLED SEPARATELY BY CONTRACTOR.
- SEE DETAIL 2/M110.
- SEE DETAIL 3/M110.

MAKE UP AIR UNIT SCHEDULE

EQUIPMENT TAG	SYSTEM	FAN			HEATING		COOLING		CONDENSER QUANTITY & NOMINAL TONS	ELECTRICAL DATA	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
		CAPACITY (CFM)	S.P. INCHES W.G.	HP	GAS INPUT (MBH)	GAS OUTPUT (MBH)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)					
MAU 1	GREASE HOOD	2660	0.5	3.0	205	189	50.1	32.8	1 X 5-TON	SEE ELEC	CAPTIVE AIRE	A2-D.500-20D-MPU	1, 2

MECHANICAL NOTES:

- FURNISHED BY OTHERS - INSTALLED BY M.C. SEE HOOD DRAWINGS FOR MORE INFORMATION.
- UNIT FURNISHED WITH INDOOR DIRECT FIRED HEATING, FAN, FILTER, AND EVAPORATOR COIL SECTIONS, AND OUTDOOR CONDENSING UNITS TO BE INSTALLED ON ROOF. SEE HOOD DRAWINGS FOR MORE INFORMATION.

ROOFTOP UNIT SCHEDULE

EQUIPMENT TAG	DISCHARGE	TON	ESP	CFM	OA CFM	DB (F)	WB (F)	AMBIENT	TOTAL	SENSIBLE	EER	INPUT (MBH)	OUTPUT	AFUE %	ELECTRICAL DATA	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
RTU 1	VERTICAL	4.0	0.75	1300	150	78.5	67.8	100	EXISTING	EXISTING	EXISTING	110	88	EXISTING	SEE ELEC	CARRIER	48FCEA05B2M5	1, 2
RTU 2	VERTICAL	5.0	1.00	1600	350	80.4	67.7	100	EXISTING	EXISTING	EXISTING	110	88	EXISTING	SEE ELEC	CARRIER	48FCEA06B3M5	1, 2
RTU 3	VERTICAL	4.0	0.75	1300	150	78.5	67.8	100	EXISTING	EXISTING	EXISTING	110	88	EXISTING	SEE ELEC	CARRIER	48FCEA05B2M5	1, 2
RTU 4	VERTICAL	4.0	0.75	1300	270	80.4	67.7	100	EXISTING	EXISTING	EXISTING	110	88	EXISTING	SEE ELEC	CARRIER	48FCEA05B2M5	1, 2

MECHANICAL NOTES:

- UNIT FURNISHED AND INSTALLED BY LANDLORD FOR TENANT USE.
- TENANT CONTRACTOR TO BALANCE UNIT TO AIRFLOW INDICATED.

finn daniels  
ARCHITECTS

2145 Ford Parkway, Suite 301  
Saint Paul, Minnesota 55116  
651.690.5525  
www.finn-daniels.com

CONSULTANT:



DUNHAM  
50 South Sixth Street / Suite 1100  
Minneapolis, Minnesota 55402-1540  
phone: 612.465.7550 fax: 612.465.7551  
web: dunhameng.com  
MISSOURI STATE CERTIFICATE OF AUTHORITY #001661  
mechanical + electrical consulting engineering

SEAL/SIGNATURE:



PROJECT:



BIBIBOP  
asian grill

STREETS OF  
WEST PRYOR  
2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: TAB

CHECKED BY: GMS

ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:

MECHANICAL  
SCHEDULES AND  
DETAILS

M200

1. THE DRAWINGS OF PIPING AND DUCTWORK SYSTEMS SHALL BE INSTALLED SUBSTANTIALLY AS SHOWN ON THE PLANS. THE EXACT POSITION OF EACH AND EVERY PIPE, DUCT, OFFSET AND TRANSITION CANNOT BE GIVEN BY SCALING THE DRAWINGS BUT SHALL IN EVERY CASE BE PLACED SO AS TO AVOID INTERFERENCE WITH OTHER WORK. ALL NECESSARY CHANGES IN THE LOCATION OF PIPE OR DUCTWORK FOR ITS PROPER INSTALLATION AND TO AVOID CONFLICT WITH OTHER TRADES SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL CHARGE.

**SPRINKLER HEADS:**

- 3.1. ALL SPRINKLER HEADS SHALL BE NEW U.L. F.M. LISTED AND APPROVED AUTOMATIC SPRAY TYPE AS MANUFACTURED BY GRINNELL, RELIABLE, STAR, OR VIKING.
- ALL SPRINKLER HEADS SHALL BE QUICK RESPONSE RATED FOR ORDINARY TEMPERATURE UNLESS INDICATED OTHERWISE ON DRAWINGS OR REQUIRED BY LOCAL CODES.
- 3.2. VERIFY HEAD TYPES AND COLORS WITH TENANT AND SUBMIT WITH SPRINKLER DRAWINGS FOR PERMIT.
- 3.3. LOCATIONS OF ALL HEADS SHOULD BE APPROVED BY TENANT AND THE LOCAL FIRE PROTECTION OFFICIAL BEFORE INSTALLATION.

**B. ACT LAYING CEILING - SEMI-RECESSED WITH WHITE ESCUTCHEONS AND WHITE HEADS.**

- 3.1. GYP BOARD HARD LID CEILING - FULLY RECESSED CONCEALED HEADS PAINT COVER PLATES TO MATCH ADJACENT GYP BOARD.
- 3.2. OPEN CEILING - ROUGH BRONZE UPRIGHT HEAD.

**E. PIPING:**

- 1.1. SCHEDULE 40, BLACK STEEL PIPE, ASTM A-53 FOR FERROUS PIPING, WELDED AND SEAMLESS, ANSI B-36-10/70 FOR WROUGHT STEEL PIPE.
- 1.2. CAST IRON OR MALLEABLE IRON SCREWED FITTINGS FOR PIPES 2 INCHES AND SMALLER. SCREWED OR CAST IRON FLANGED JOINTS FOR PIPES LARGER THAN 2 INCHES.
- 1.3. GALVANIZED OR BLACK MALLEABLE IRON WITH BRASS SEAT SCREWED UNIONS FOR PIPES 2 INCHES AND SMALLER.
- 1.4. VICTALITE TIE COUPLINGS ARE ACCEPTABLE, WHERE APPROVED BY CODE AND THE LANDLORD.
- 1.5. HANGERS SHALL COMPLY WITH LANDLORD AND CODE REQUIREMENTS.

**F. SPRINKLER SPACING SHALL NOT EXCEED 13'00". FT. IN "SALES/DIPOING" AREAS AND 100 SQ. FT. IN "BACK OF HOUSE" AREAS, COMPLY WITH LANDLORD'S DESIGN CRITERIA. PIPE SIZING SHALL BE BASED ON NFPA ORDINARY HAZARD.**

**G. ALL SPRINKLER LINES SHALL BE INSTALLED CONCEALED, AVOIDING INTERFERENCE WITH OTHER TRADES. WHERE POSSIBLE, REWORK THE EXISTING SPRINKLER SYSTEM TO MEET THE NEW REQUIREMENTS OF THIS DESIGN AND INCLUDE ALL COSTS TO RAISE OR RELOCATE EXISTING PIPING TO OBTAIN CEILING HEIGHTS SHOWN ON DRAWINGS. IN NEW CONSTRUCTION THE LANDLORD MAY PROVIDE ONLY A STUB-IN TO THE SPACE. THE CONTRACTOR SHALL CONNECT AND EXTEND NEW PIPING AS REQUIRED. VERIFY ALL REQUIREMENTS PRIOR TO BID.**

**I. PROVIDE AND INSTALL A VALVED TEST CONNECTION IN AN ACCESSIBLE LOCATION FOR THE SPRINKLER SYSTEM AS REQUIRED OR REQUESTED BY THE MALL, LOCAL INSPECTOR, OR TENANT'S INSURANCE CARRIER.**

**J. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY LEAKS IN ANY OF THE EQUIPMENT INSTALLED BY THEM. ALL REPAIRS OR REPLACEMENT OF DAMAGES SHALL BE AT THIS CONTRACTOR'S EXPENSE.**

**K. PROPERLY COMPLETED AND SIGNED "SPRINKLER CONTRACTOR'S MATERIAL AND TEST CERTIFICATES" SHALL BE FURNISHED TO THE LANDLORD, AND AUTHORITIES HAVING JURISDICTION.**

11. SUBMIT (4) COPIES OF THE AIR BALANCE REPORT TO THE TENANT'S PROJECT MANAGER.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

PERMIT ISSUE 01.25.2021

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# M300



FOR QUESTIONS, CALL THE:  
OHIO REGIONAL OFFICE  
806 MORRISON ROAD, GAHANNA, OH 43230  
PHONE: (800) 948-6945  
FAX: (615) 227-5925

CUSTOMER APPROVAL TO MANUFACTURE:  
  
Approved as Noted ☐  
Approved with NO Exception Taken ☐  
Revise and Resubmit ☐  
SIGNATURE \_\_\_\_\_  
Your Title: \_\_\_\_\_ Date: \_\_\_\_\_

HANGING ANGLE LOCATIONS

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24"H)	DIM FROM FRONT (30"H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2--PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246"	—
VHB/VHB-G	36"x36"	42"x42"	48"x48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"


CALCULATIONS UTILIZED

EXHAUST CFM=LENGTH OF HOOD X CFM/IN.FT. (LOAD)  
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED  
TOTAL DUCT AREA=144 X  $\frac{\text{CFM}}{\text{FPM}}$   
DUCT LENGTH=  $\frac{\text{DUCT DEPTH}}{\text{TOTAL DUCT AREA}}$


\*CAPTIVE ARE DUCT CONNECTION SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 300-400 FPM.

BUILDING CODES


CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:  



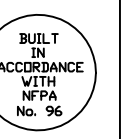
ETL  
3034804-001  
& 3034804-002  
Listed under ETL File number 3034804-001/002



STANDARD 710



Intertek



BUILT TO ORDER  
IN ACCORDANCE WITH NFPA #96

HOOD INFORMATION – JOB#4664448

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)						TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG		SWITCHES		
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW	QUANTITY	LOCATION	
1		5430 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	230	2300			4'	16"	2300	1647	-0.770"	1900	430 SS WHERE EXPOSED	ALONE	ALONE		
2		4230 VHB-G-PSP-F-ND	CAPTIVEAIRE	7' 0"	700 DEG	II	N/A	136	950			4'	12"	950	1210	-0.106"	760	430 SS 100%	ALONE	ALONE	1 FAN 1 LIGHT	FRONT RIGHT FACE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)						FIRE SYSTEM	HOOD HANGING WEIGHT
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY		
1		CAPTRATE SOLD FILTER	7	20"	16'	85% SEE FILTER SPEC	5	RECESSED	NO	LEFT	12"x54"x30"	CAS ELECTRIC WET CHEMICAL	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	941 LBS
2							4	RECESSED	NO							NO	340 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 128.00" HIGH X 190.00" LONG 430 SS VERTICAL.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
2		RISER SENSOR INSTALL 3IN DBL.
		FIELD WRAPPER 18.00" HIGH FRONT, RIGHT.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	132'	14'	6'	MUA	8"	36"		633	0.179"
						MUA	8"	36"		633	0.179"
						MUA	8"	36"		633	0.179"
						MUA	6"	28"		380	0.118"
2		Front	84'	9'	6'	MUA	6"	28"		380	0.118"
						MUA	6"	28"		380	0.118"

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLD FILTER

THE CAPTRATE GREASE-STOP SOLD FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-Baffle DESIGN IN CONJUNCTION WITH A SLOTTED REAR Baffle DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLD WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER

PRESSURE DROP VS. FLOW RATE

CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:  
NFPA #96.  
NSF STANDARD #2.  
UL STANDARD #1046.  
INT. MECH. CODE (IMC).  
ULC-S649.

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.

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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

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.

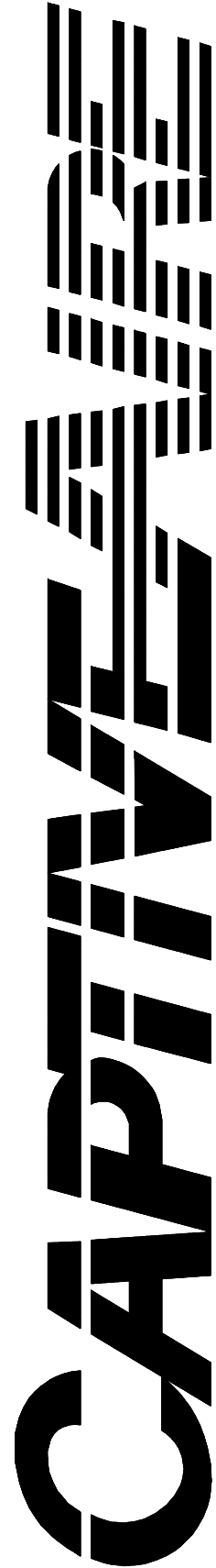
DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.  
AC-PSP WALL (CANADA) - CA PATENT 2820509.  
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

REVISIONS

DESCRIPTION	DATE:
Δ	
Δ	
Δ	
Δ	



Northern Ohio Office

Bibibop - Streets Of West Pryor

2050 NW Lowenstein Dr,

Lee's Summit, MD, 64081

DATE: 12/22/2020

DWG.#: 4664448

DRAWN BY: MAP-52

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

**finn daniels**  
ARCHITECTS


2145 Ford Parkway, Suite 301  
Saint Paul, Minnesota 55116  
651.690.5525  
www.finn-daniels.com

CONSULTANT:

SEAL/SIGNATURE:

INCLUDED FOR REFERENCE  
ONLY - INFORMATION HAS  
BEEN USED TO DESIGN  
DUCTWORK SERVING  
EQUIPMENT FURNISHED BY  
CAPTIVE AIRE

PROJECT:

  
asian grill  
STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057

BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

DRAWN BY:

CHECKED BY:

ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:

HOOD  
PLANS

H101

FOR REFERENCE ONLY



FOR QUESTIONS, CALL THE:  
OHIO REGIONAL OFFICE  
806 MORRISON ROAD, GAHANNA, OH 43230  
PHONE: (603) 248-8945  
FAX: (919) 227-5925

CUSTOMER APPROVAL TO MANUFACTURE:  

Approved as Noted☐

Approved with NO Exception Taken☐

Revise and Resubmit☐

SIGNATURE: \_\_\_\_\_


Your Title: \_\_\_\_\_ Date: \_\_\_\_\_

HANGING ANGLE LOCATIONS			
HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24"H)	DIM FROM FRONT (30"H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2-PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246"	-
VHB/VHB-G	36"x36"	42"x42"	48"x48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"

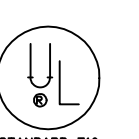
CALCULATIONS UTILIZED	
EXHAUST CFM=LENGTH OF HOOD X CFM/UNIT, (LOAD)	
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED	
TOTAL DUCT AREA=144 X _____	CFM
_____	FPM(*)
DUCT LENGTH= _____	TOTAL DUCT AREA
_____	DUCT DEPTH

BUILDING CODES


CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



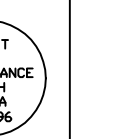
ETL  
FACTORY  
#3054804-001  
#3054804-002  
Listed under ETL File number 3054804-001/002



UL  
STANDARD 710



ETL  
intertek



BUL  
T  
ACCORDANCE  
WITH  
NFPA 96

CLEARANCE TO COMBUSTIBLES	
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

GENERAL NOTES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.

2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.

3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.

4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.

5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.

6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.

7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.

8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.

9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.

10. 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

11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.

12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.

13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.

15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

SECTION VIEW - MODEL 5430ND-2-PSP-F  
HOOD - #1

TOUCH-SCREEN  
USER INTERFACE

ND-2 Series with PSP Accessory Specification

The model ND-2 with PSP Accessory is a compensating canopy hood rated for all types of cooking equipment. The hood shall have the size, shape and performance specified on drawings.

Construction shall be type 430 stainless steel, with a #3 or #4 polish where exposed. The manufacturer, ETL and NSF shall determine the individual component construction. Construction shall be dependent on the structural application to minimize distortion and other defects. All seams, joints and penetrations of the hood enclosure to the lower outermost perimeter that directs and captures grease-laden vapor and exhaust gases shall have a liquid-tight continuous external weld in accordance with NFPA 96. The hood shall be wall type with a minimum of four connections for hanger rods. Connectors shall have 9/16" holes pre-punched in 1 1/2" x 1 1/2" angle iron at the factory to allow for hanger rod connection by others.

The hood shall be furnished with UL classified filters, supplied in size and quantity as required by ventilator. The filters shall extend the full length of the hood and the filler panels shall not be more than 6" in width.

The hood manufacturer shall supply complete computer generated submittal drawings including hood sections view(s) and hood plan view(s). These drawings must be available to the engineer, architect and owner for their use in construction, operation and maintenance.

Exhaust duct collar to be 4" high with 1" flange. Duct sizes, CFM and static pressure requirements shall be as shown on drawings. Static pressure requirements shall be precise and accurate; air velocity and volume information shall be accurate within 1-ft increments along the length of the ventilator.

UL incandescent light fixtures and globes shall be installed and pre-wired to a junction box. The light fixtures shall be installed with a maximum of 4" spacing on center and allow up to a 100 watt standard light bulb.

The hood shall have:


- A double wall insulated front to eliminate condensation and increase rigidity. The insulation shall have a flexural modulus of 475 EI, meet UL 181 requirements and be in accordance with NFPA 90A and 90B.
- An integral front baffle to direct grease laden vapors toward the exhaust filter bank.
- A built-in wiring chase provided for outlets and electrical controls on the hood face and shall not penetrate the capture area or require an external chase way.
- Removable grease cup for easy cleaning.

The hood shall be ETL Listed as "Exhaust Hood Without Exhaust Damper", NSF Listed and built in accordance with NFPA 96.

The hood shall be listed for 450°F cooking surfaces at 150 CFM/Ft, 600°F cooking surfaces at 200 CFM/Ft, and 700°F cooking surfaces at 250 CFM/Ft. The hood shall be ETL Listed as "Exhaust Hood Without Exhaust Damper".

REVISIONS

DESCRIPTION	DATE:
Δ	
Δ	
Δ	
Δ	



Northern Ohio Office

www.captiveaire.com

806 Morrison Rd, Gahanna, OH, 43230 PHONE: FAX: (919) 227-5925 EMAIL: reg52@captiveaire.com

Bibibop - Streets Of West Pryor

2050 NW Lowenstein Dr,

Lee's Summit, MO, 64081

DATE: 12/22/2020


DWG.#: 4664448

DRAWN BY: MAP-52

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 2




2145 Ford Parkway, Suite 301  
Saint Paul, Minnesota 55116  
651.690.5525  
www.finn-daniels.com

CONSULTANT:

SEAL/SIGNATURE:

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PROJECT:



asian grill

STREETS OF WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

DRAWN BY:

CHECKED BY:

ISSUES AND REVISIONS:

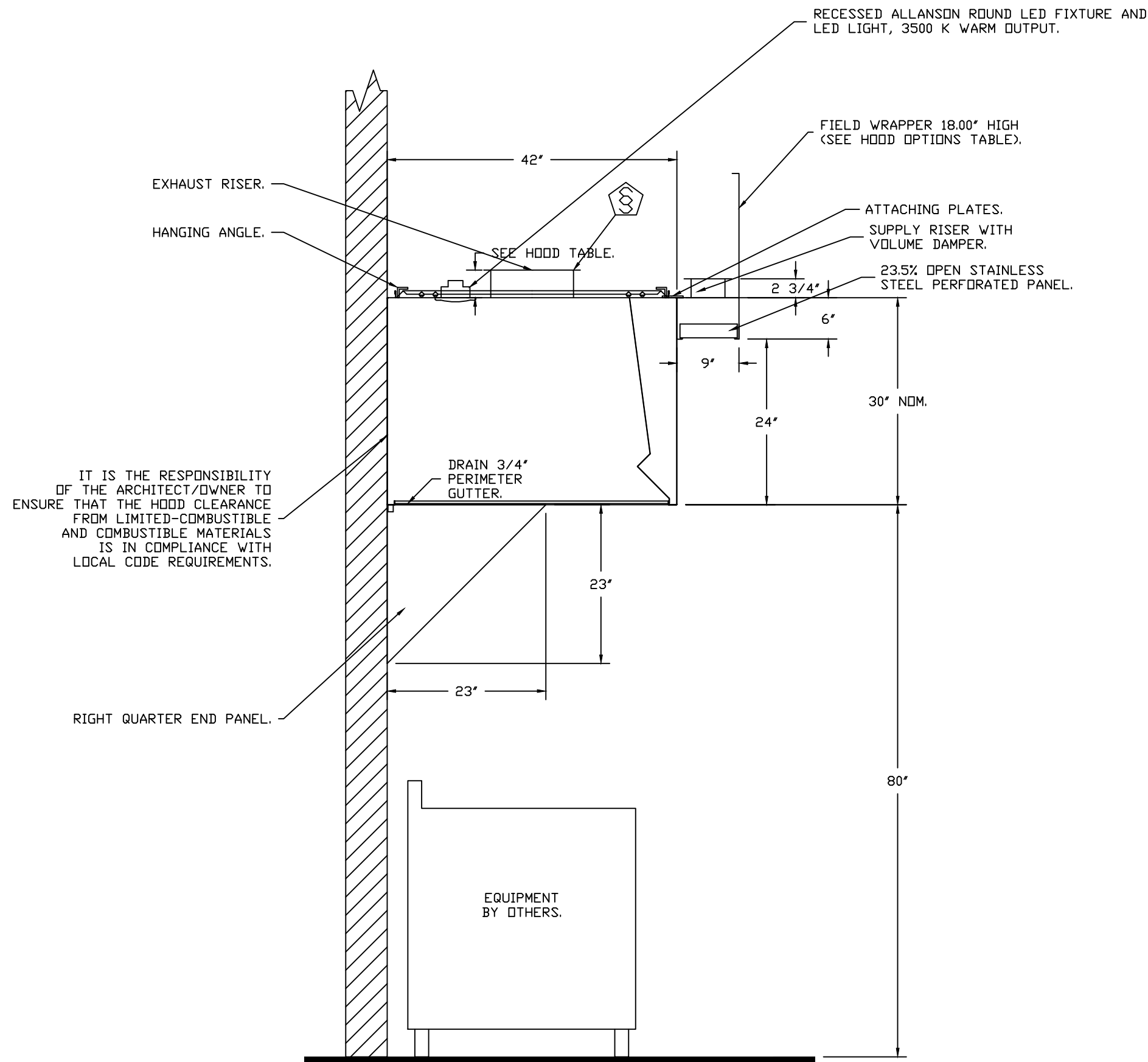
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SHEET TITLE:  
HOOD PLANS

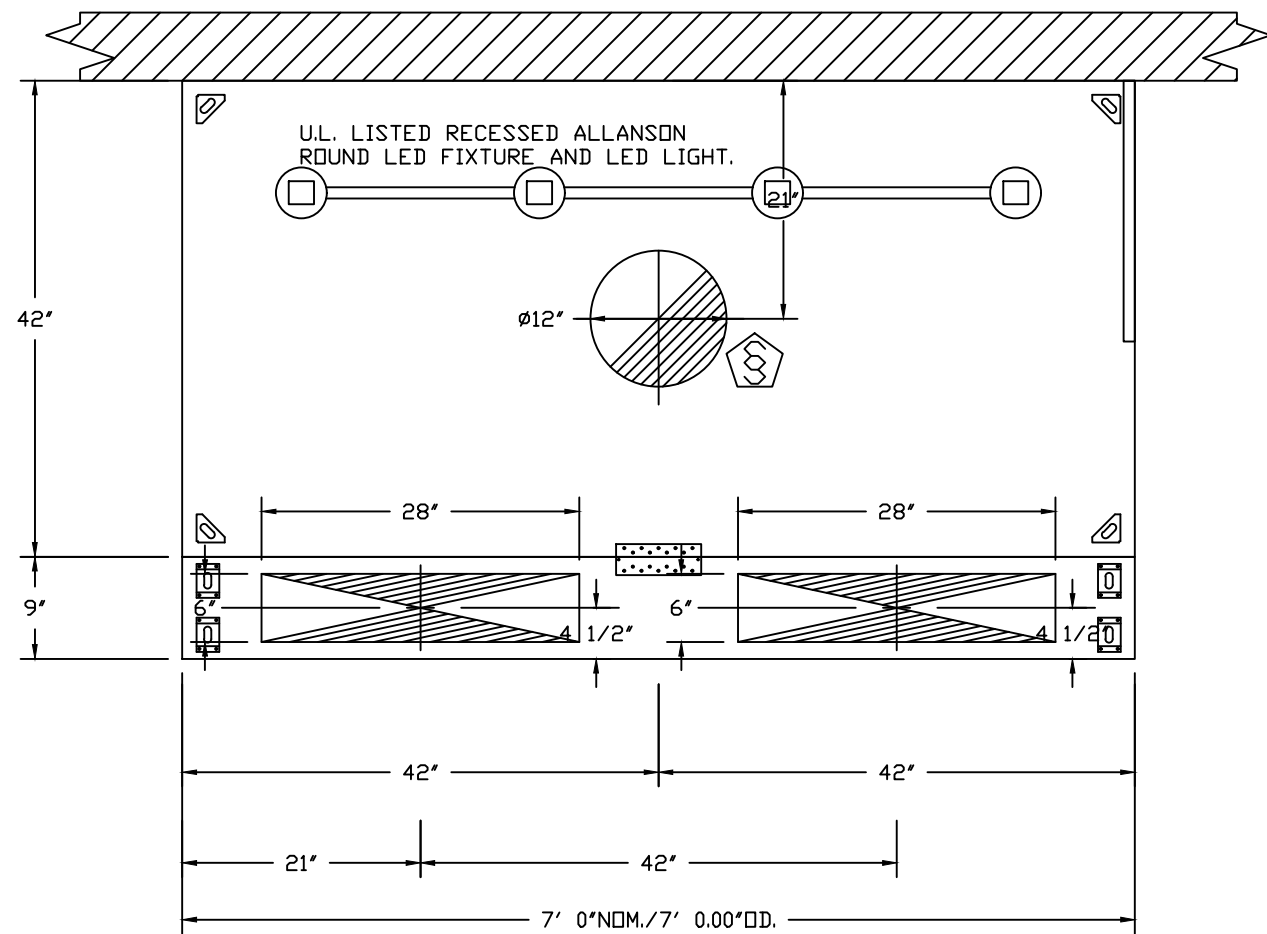
H102

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SECTION VIEW - MODEL 4230VHB-G-PSP-F-ND  
HOOD - #2



PLAN VIEW - HOOD #2  
7' 0.00" LONG 4230VHB-G-PSP-F-ND

VERIFY CEILING HEIGHT  
/ "  
Height required to verify that the hood  
will fit and to size the enclosure panels

VHB-G Series Specification

The VHB-G series heat/condensate hood is a single wall vent hood used in non-grease applications for the removal of heat, vapor etc. Hood shall have the size, shape and performance specified on the drawings.

Construction shall be type 304 stainless steel with a #3 or #4 polish where exposed. Hood shall have a full perimeter gutter with a 1/2" OD Bolt thread drain connection. Hood shall be wall or island type with fully welded 10 gauge corner hanging angles. Corner hanging angles have a .625 x 1.500 slot pre-punched at the factory, allowing hanging rods to be used for quick and safe installations. Hanging rod and connection is provided by and installed by others.

The hood manufacturer shall supply complete submittal drawings including hood section views(s) and hood plan view(s). These drawings must be made available to the engineer, architect and owner for their use in construction, operation and maintenance.

Exhaust duct collar to be 4' high with 1' flanges. Duct sizes, CFM and static pressure requirements shall be as shown on the drawings. Hood shall be ETL Sanitation listed.

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DESCRIPTION	DATE:



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Bibikop - Streets Of West Pryor  
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DATE: 12/22/2020
DWG.#: 4664448
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MASTER DRAWING
SHEET NO. 3

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PROJECT:



BIBIBOP

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STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
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HOOD  
PLANS

H103

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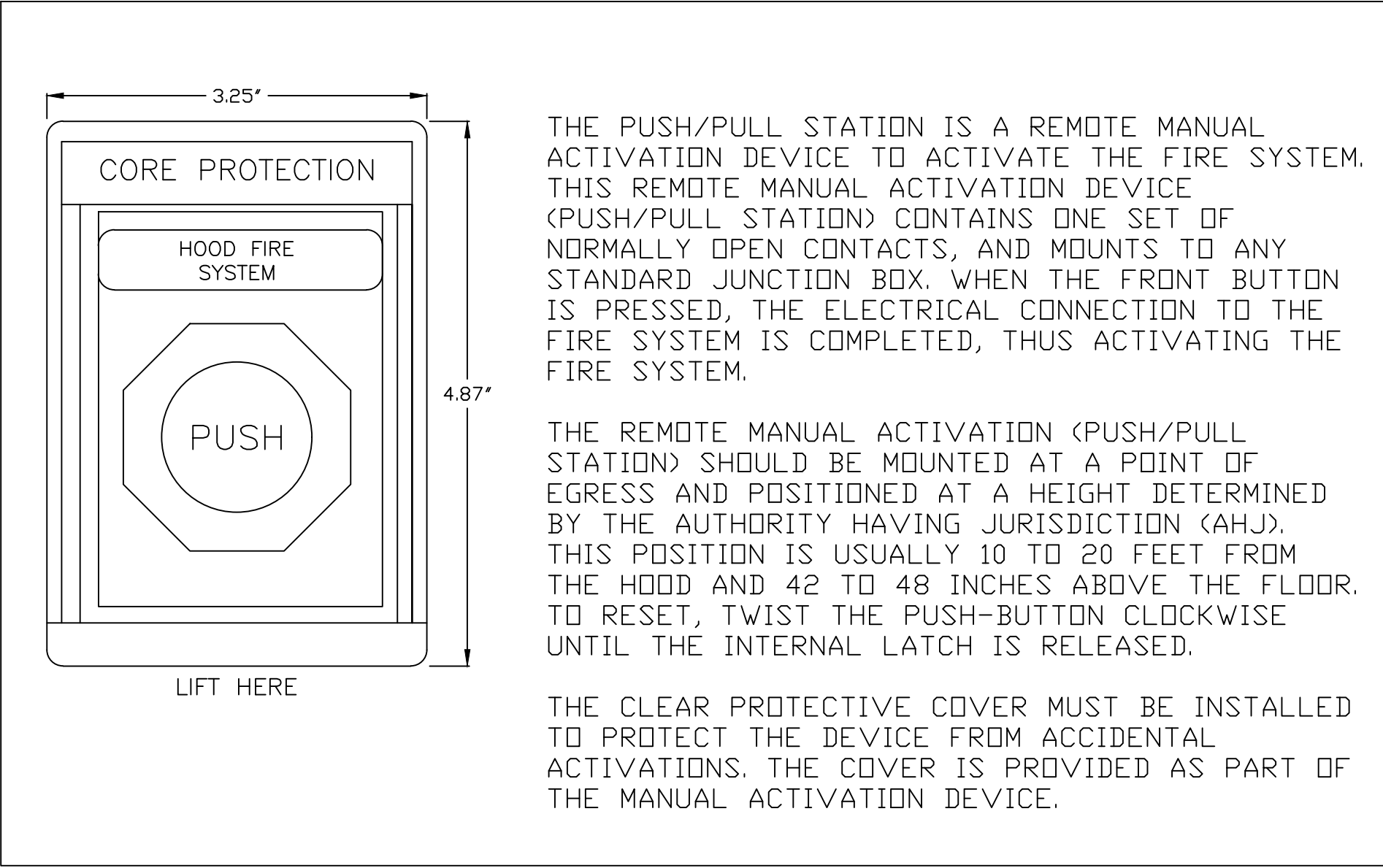
FIRE SYSTEM INFORMATION – JOB#4664448

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		CAS ELECTRIC WET CHEMICAL	4.0/4.0	12	FIRE CABINET LEFT	LEFT, HOOD 1

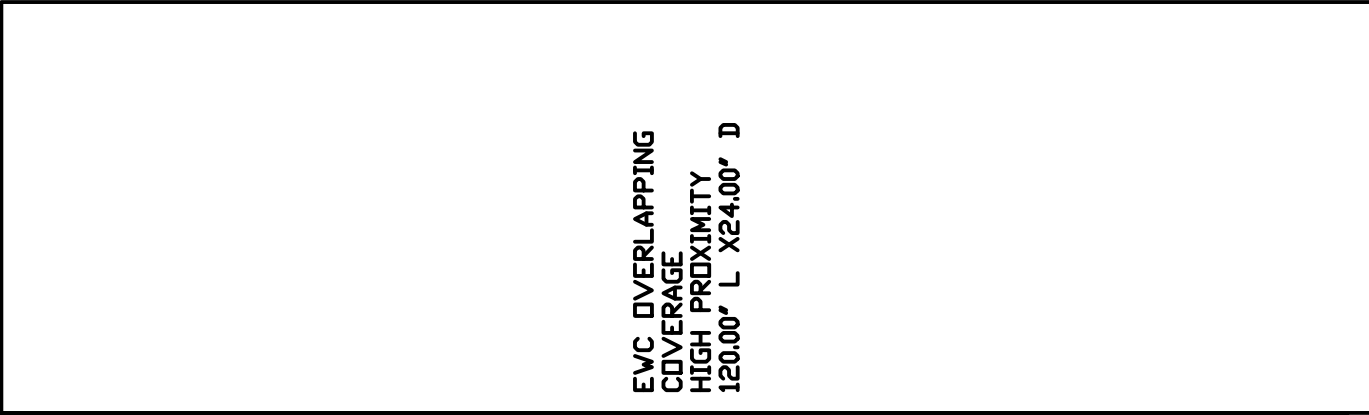
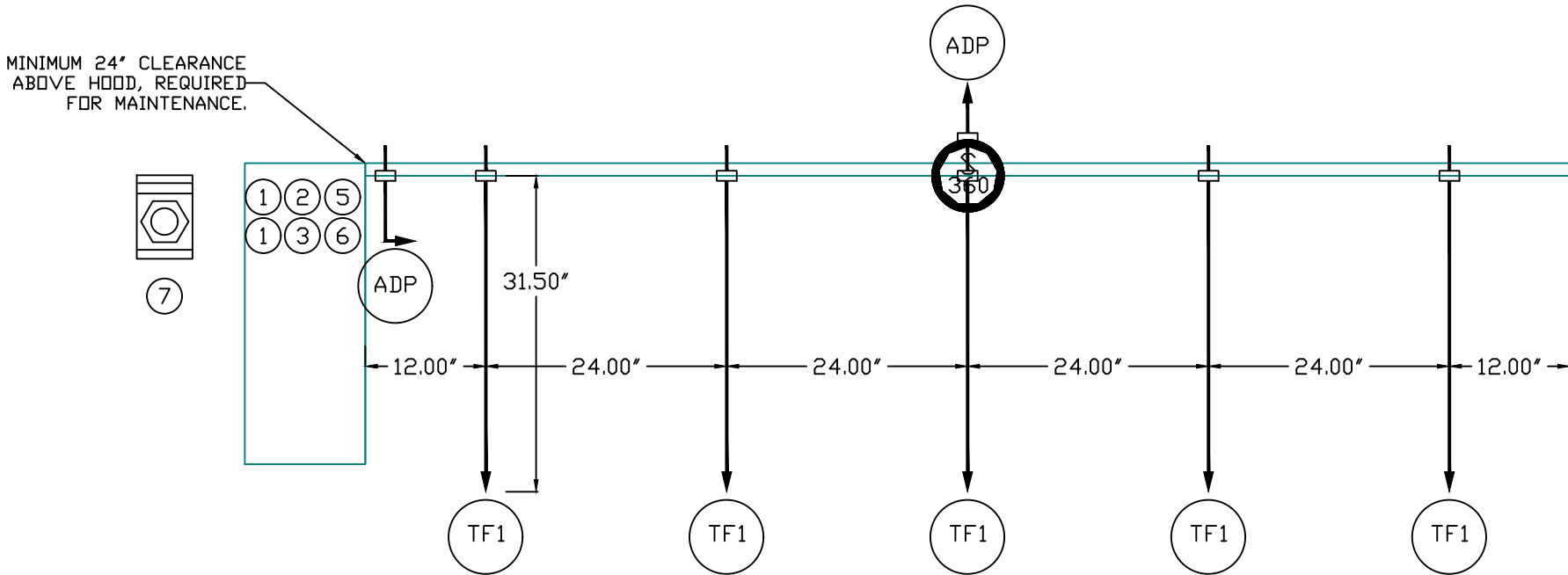
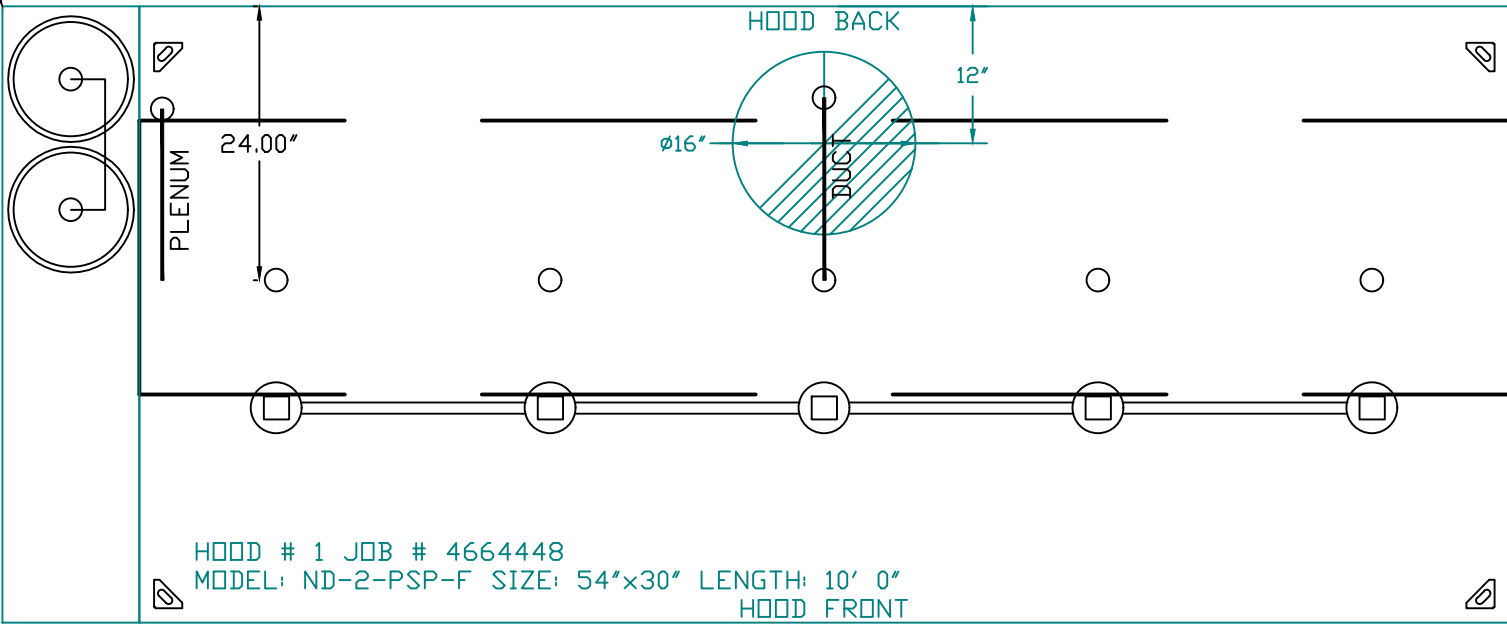
GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

ELECTRIC WET CHEMICAL PULL STATION DETAIL



- SYSTEM REQUIRES A MINIMUM OF 7 FT. BETWEEN TANK AND NEAREST APPLIANCE. NOZZLE FOR MOST APPLIANCES. SEE MANUAL FOR DETAILS.



LEGEND – FIRE CABINET CAS-EWC SYSTEM

- 1 4 GALLON TANK.
- 2 PRIMARY ACTUATOR RELEASE.
- 3 SECONDARY ACTUATOR RELEASE.
- 4 PRESSURE SUPERVISION SWITCH.
- 5 PRIMARY HOSE ASSEMBLY.
- 6 SECONDARY HOSE ASSEMBLY.
- 7 REMOTE MANUAL ACTUATION DEVICE.
- TF1 NOZZLE ASSEMBLY (TF1).
- ADP NOZZLE ASSEMBLY (ADP).
- R NOZZLE ASSEMBLY (R).
- S SWIVEL ADAPTER.

GAS VALVES AND STRAINERS																
GAS VALVE SIZING							GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS		
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/ VERTICAL	8214280	4417K68	(SC)EGVA2

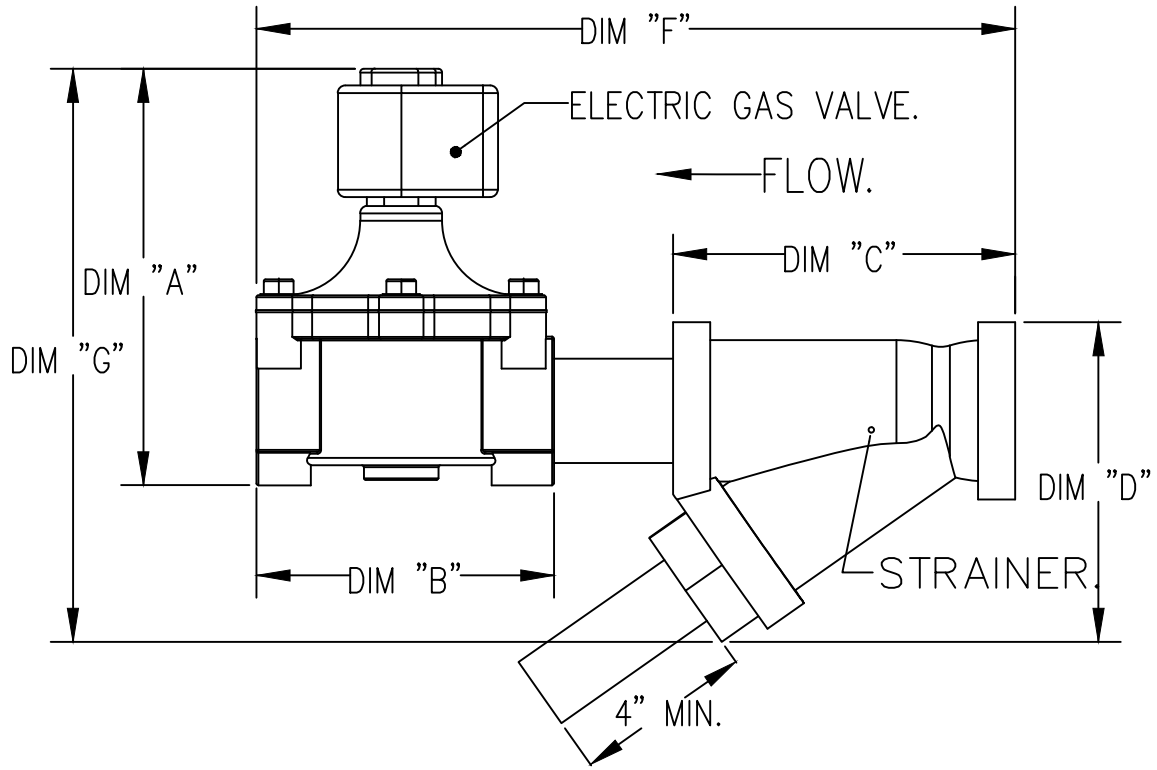
GAS VALVE FOR FS#1→

ALL GAS VALVES/STRAINERS

PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS

TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP<sup>2.5</sup> TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)<sup>0.5</sup>.



VERIFY GAS VALVE SIZE

-- 1.0" -- 1.25" -- 1.5"  
-- 2.0" -- 3.0"

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE, TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST) ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES; ONE MECHANICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST. EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

NOTES

- FIELD PIPE DROPS AS SHOWN.
- SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE COVERING A RANGE, FRYER, OR WOK TO REFLECT GENERAL PIPING REQUIREMENTS.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.
- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

JOB #: 4664448.  
JOB NAME: BIBIBOP - STREETS OF WEST PRYOR.

SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 12.  
HOOD # 1 10' 0.00' LONG x 54' WIDE x 30' HIGH.  
RISER # 1 SIZE: 0' x 0'.

- NOTES
- FIELD PIPE DROPS AS SHOWN.
  - PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
  - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
  - OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
  - IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
  - FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- MINIMUM 24" CLEARANCE ABOVE HOOD, REQUIRED FOR MAINTENANCE.

- FOR THE FIRST SET OF NOZZLES NEAREST THE TANK, PIPE TO THE END OF THE NOZZLE RUN THEN RETURN THE PIPE TO THE NEAREST NOZZLES TO TANK.

JOB #: 4664448.  
JOB NAME: BIBIBOP - STREETS OF WEST PRYOR.

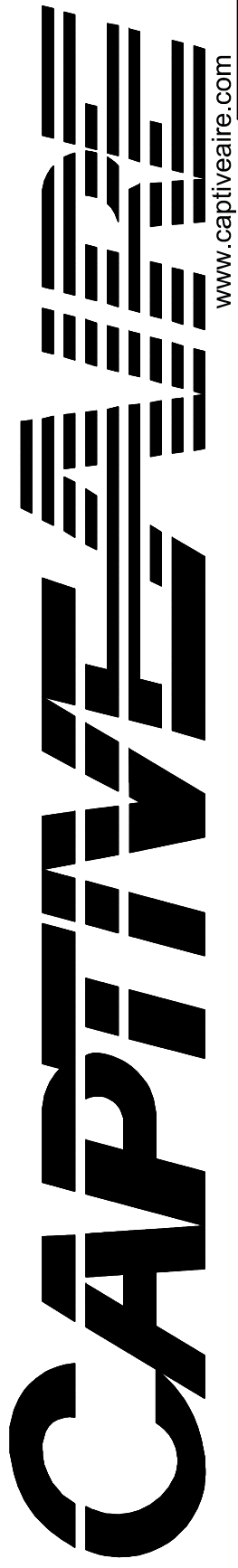
SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 12.  
HOOD # 1 10' 0.00' LONG x 54' WIDE x 30' HIGH.  
RISER # 1 SIZE: 16" DIA.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND – FIRE CABINET CAS-EWC SYSTEM

- 1 4 GALLON TANK.
- 2 PRIMARY ACTUATOR RELEASE.
- 3 SECONDARY ACTUATOR RELEASE.
- 4 PRESSURE SUPERVISION SWITCH.
- 5 PRIMARY HOSE ASSEMBLY.
- 6 SECONDARY HOSE ASSEMBLY.
- 7 REMOTE MANUAL ACTUATION DEVICE.
- TF1 NOZZLE ASSEMBLY (TF1).
- ADP NOZZLE ASSEMBLY (ADP).
- R NOZZLE ASSEMBLY (R).
- S SWIVEL ADAPTER.

REVISIONS	
DESCRIPTION	DATE:



Bibibop - Streets Of West Pryor  
2050 Nw Lowenstein Dr.,  
Lee's Summit, MO, 64081

DATE: 12/22/2020

DWG.#:  
4664448

DRAWN BY:  
MAP-52

SCALE:  
3/4" = 1'-0"

MASTER DRAWING

SHEET NO.  
4

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PROJECT:

**BIBIBOP**  
asian grill  
STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

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SHEET TITLE:  
**HOOD  
PLANS**

**H104**

FOR REFERENCE ONLY



ELECTRICIAN:  
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC.  
2. WIRE ALL FANS PER INCLUDED SCHEMATIC.  
3. WIRE SHUNT TRIP BREAKER (OPTIONAL).  
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL).  
5. WIRE GAS VALVE.

## CAS ELECTRIC WET CHEMICAL PROTECTION LOW-VOLTAGE DETAIL

ALARM CONTRACTOR:  
1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS.  
2. COMPLETE FINAL HOOKUP OF SYSTEM.  
3. VERIFY FINAL FIRE SYSTEM TEST.

Diagram illustrating the required clearances and wiring for a fire alarm control panel in a kitchen environment.

**Clearances:**

- 36 INCHES CLEARANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS. THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN.
- 36 INCHES CLEARANCE REQUIRED OF ALL UTILITY CABINET DOORS. THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN.

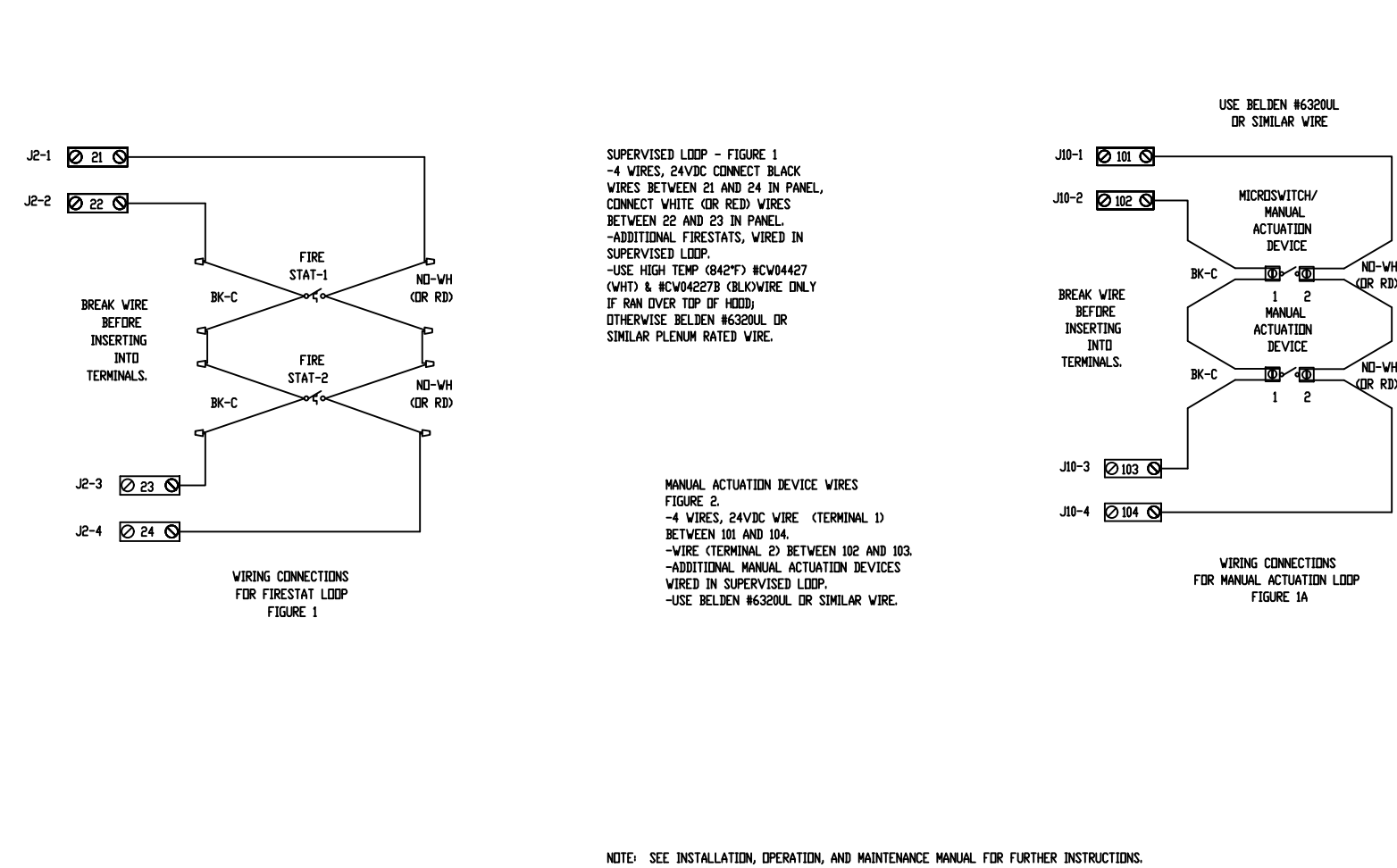
**Wiring and Components:**

- SHUNT TRIP BREAKER (OPTIONAL)
  - 2 WIRES, 120VAC
  - ST TO ALIN SHUNT BREAKER
  - NEUTRAL TO A2 IN SHUNT TRIP BREAKER
- POWER TO ELECTRIC APPLIANCE.
- EXHAUST HOOD
- ELECTRIC
- GAS
- COOKING APPLIANCE(S)
- GAS VALVE FLOWER
  - 2 WIRES & GROUND
  - 24 VIRE WIRE TO 25 & NO.
  - 120 VAC WIRE TO GAS & NL
- STRAINER MUST BE INSTALLED UPSTREAM OF VALVE.
- WIRING REQUIREMENTS:
  - 2 WIRES & GROUND
  - 2 WIRES TO LAMP SERVICES
  - WIRE TO H1 AND H2 SERVICES
  - POWER MUST NOT ORIGINATE FROM SHUNT TRIP BREAKER
  - TROUBLE CONTACT
  - 2 WIRES WIRED TO NORMALLY OPEN CONTACTS CLOSE IN FIRE CONDITION
  - CIRCUIT CONTROL PANEL AL1 AND AL2
  - SEE FIGURE 2.
  - TROUBLE CONTACT
  - 2 WIRES TO NORMALLY OPEN CONTACTS CLOSE IN TROUBLE CONDITION
  - CIRCUIT CONTROL PANELS TBL AND TBC
  - SEE FIGURE 4.
  - SUPERVISED LOOP
    - 4 WIRES, 24VDC, CONNECT BLACK WIRES BETWEEN 21 AND 24 IN PANEL
    - CONNECT WHITE OR RED WIRES BETWEEN 22 AND 23 IN PANEL
    - ADDITIONAL FIRESTATS, WIRED SUPERVISED LOOP
    - USE HIGH TRIP GAGN (NOMINAL 40MT) & 40W42278 (GLOWWIRE) IF RAN OVER TRIP OF HEED OTHERWISE, BELDEN HESSULOR OR SIMILAR PLENUM RATED WIRE
    - SEE FIGURE 1.

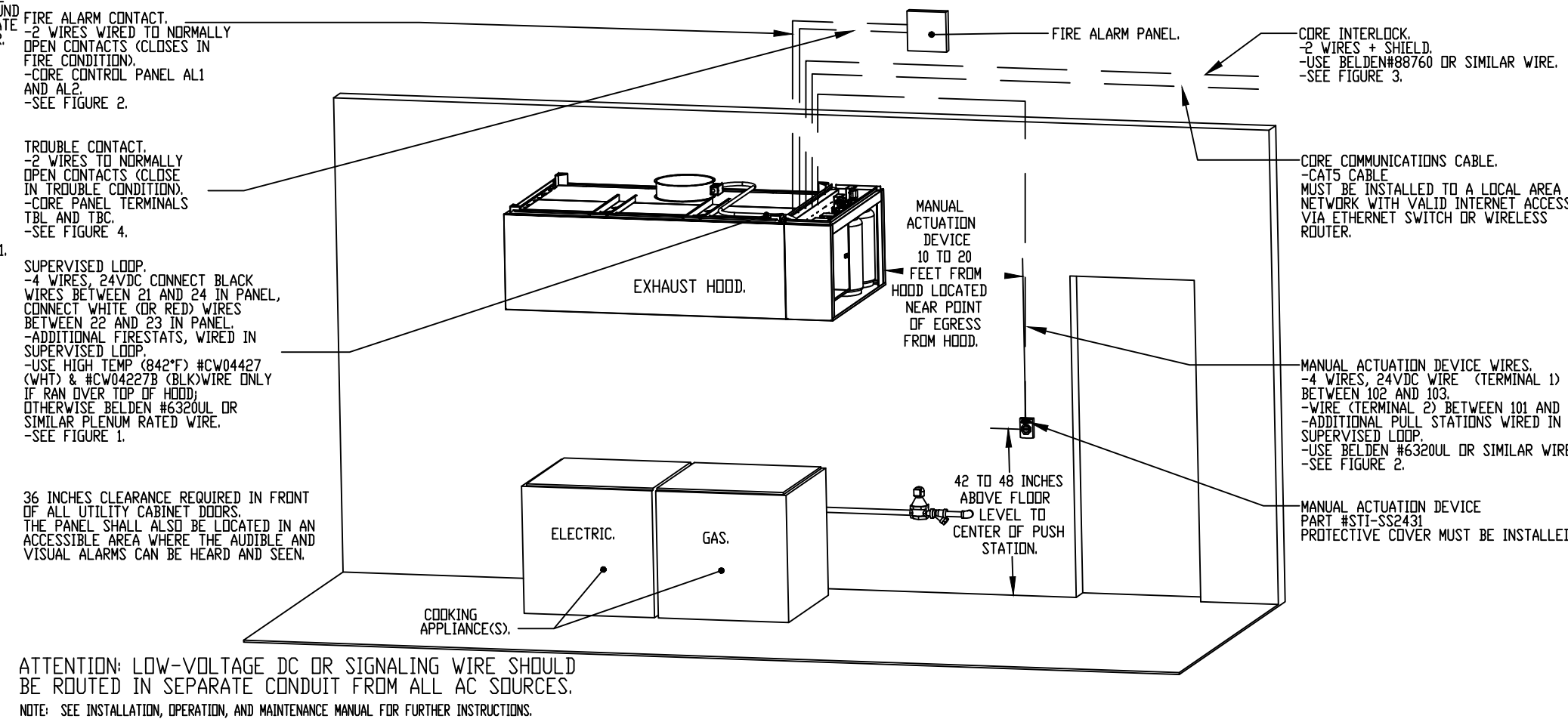
ATTENTION: LOW-VOLTAGE WIRING SHALL BE ROUTED IN SEPARATE CONDUIT FROM 120VAC WIRING.

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD  
BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES.



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

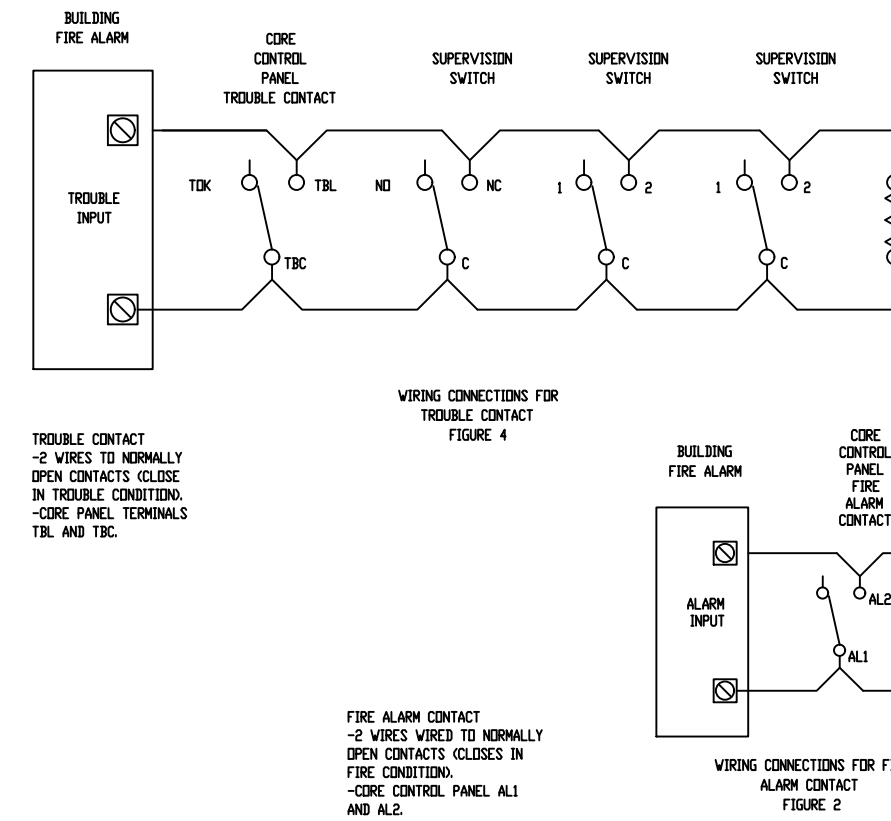


CORE ELECTRIC WET CHEMICAL (EWC) PROTECTION FIRE SYSTEMS CAN BE INSTALLED FOR HOOD FIRE PROTECTION, AS WELL AS POLLUTION CONTROL UNIT FIRE PROTECTION. IN THE EVENT OF A FIRE, OR ON MANUAL ACTUATION CORE EWC PROTECTION IS ACTIVATED.

IF THE INSTALLED FIRESTAT IN THE AIRSTREAM SENSES A TEMPERATURE HIGHER THEN ITS INTERNAL SET POINT OR IF THE MANUAL ACTUATION DEVICE IS PUSHED THE FIRE SYSTEM IS ACTIVATED. IN KITCHEN HOODS AN ELECTRIC SOLENOID IS ENERGIZED ALLOWING THE FLOW OF WET CHEMICAL AGENT TO THE HOOD DUCT, PLENUM, AND APPLIANCES THROUGH THE FIRE SYSTEM DISTRIBUTION PIPING. IN A POLLUTION CONTROL UNIT, THIS ELECTRONIC SIGNAL ENERGIZES A SOLENOID ALLOWING THE FLOW OF WET CHEMICAL AGENT INTO THE INDIVIDUALLY PIPED MODULES.

ONCE THE FIRE SYSTEM IS ACTIVATED, A 'FIRE SYSTEM ACTIVATED' LIGHT IS ILLUMINATED ON THE CORE CONTROL PANEL AND AN AUDIBLE ALARM SOUNDS. FOR KITCHEN HOOD PROTECTION ALL GAS AND ELECTRIC APPLIANCES UNDER THE HOOD MUST BE ELECTRICALLY INTERLOCKED TO SHUT OFF. THIS IS ACHIEVED VIA A GAS VALVE RELAY AND/OR A SHUNT TRIP BREAKER.

THE FIRE SYSTEM IS ELECTRICALLY OPERATED AND THUS REQUIRES A BATTERY BACKUP SYSTEM. IN THE EVENT OF A LOSS OF ELECTRICAL POWER, ALL GAS AND ELECTRIC APPLIANCES UNDER THE HODD MUST BE ELECTRICALLY INTERLOCKED TO SHUT OFF. THIS IS ACHIEVED VIA A BATTERY BACKUP SYSTEM. IN THE EVENT OF A POWER FAILURE, THE BATTERY BACKUP WILL AUTOMATICALLY SHORTLY RECHARGE. UPON A LOSS OF POWER, THE BATTERY BACKUP WILL MONITOR THE FIRE SYSTEM CIRCUIT FOR ONE DAY AND BE ABLE TO OPERATE THE FIRE SYSTEM CIRCUIT FOR A MINIMUM OF 30 MINUTES. ONCE POWER IS RESTORED, THE BATTERY WILL AUTOMATICALLY RECHARGE.



FIRE ALARM CONTACT  
-2 WIRES WIRED TO NORMALLY  
OPEN CONTACTS CLOSSES IN  
FIRE CONDITION.  
-CORE CONTROL PANEL AL1  
AND AL2.

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

<div style="display: flex; justify-content: space-between;"> <div> <div style="display: flex; flex-direction: column; align-items: center;"> <div>△</div> <div>△</div> <div>△</div> <div>△</div> </div> <div style="text-align: center;"> <h1 style="margin: 0;">CAPTIVE</h1> <p style="margin: 0;">www.captiveare.com</p> </div> <div style="display: flex; flex-direction: column; align-items: center;"> <div> </div> <div style="text-align: center;"> <p><b>Northern Ohio Office</b></p> <p>806 Morrison Rd, Gahanna, OH, 43230 PHONE: FAX: (615) 227-5925 EMAIL: reg52@captiveare.com</p> </div> </div> </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> <p>Bibikop - Streets Of West Pryor</p> <p>2050 NW Lowenstein Dr,</p> <p>Lee's Summit, MO, 64081</p> </div> <div> <p><b>DATE:</b> 12/22/2020</p> <p><b>DWG.#:</b> 4664448</p> <p><b>DRAWN BY:</b> MAP-52</p> <p><b>SCALE:</b> 1/2" = 1'-0"</p> <p><b>MASTER DRAWING</b></p> </div> </div>	
<p style="text-align: center;"><b>SHEET NO.</b></p> <p style="text-align: center;">5</p>	

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PROJECT:



**BIBIBOP**  
asian grill  
STREETS OF  
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2050 NW LOWENSTEIN DR.  
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BIBIBOP STORE NO.: B0057

BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

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**ISSUES AND REVISIONS:**

PERMIT ISSUE	01.25.2021
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SHEET TITLE:

## HOOD PLANS

# H105



EXHAUST FAN INFORMATION - JOB#4664448

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	EF-1	1	DUI80HFA	CAPTIVEAIRE	2300	0.900	987	DDP,PREMIUM	1.500	0.7350	3	208	6.6	531 FPM	207	11.6
3	EF-2	1	DU50HFA	CAPTIVEAIRE	950	0.500	1348	DDP	0.500	0.2690	1	115	8.4	361 FPM	104	12.9

CONDENSER DETAILS

FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
2	MUA-1	A2-D.500-20D-MPU	1	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 AWG	14

MUA FAN INFORMATION - JOB#4664448

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	Ø	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SDNES
2	MUA-1	1	A2-D.500-20D-MPU	20MF-2-MOD	A2-D.500	2000	2660	0.500	1388	DDP,PREMIUM	3.000	1.3580	3	208	9.5	11.9A	20A	1412	12.8

COILS - JOB#4664448

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING										HEATING									
				ENTERING DB TEMP	ENTERING WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY	ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
2	MUA-1	DX	2660	93.0°F	76.0°F	70.7°F	70.0°F	---	---	---	---	60.0 MBH	60.0 MBH	0.0 MBH	---	---	---	---	---	---	---	---	---

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	MUA-1	205871	189401	70°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	GREASE BOX.
		1	FAN BASE CERAMIC SEAL - INSTALLED AT PLANT - FOR GREASE DUCTS.
		1	UPBLAST FAN WHEEL ACCESS PORT.
		1	24" TALL STRAIGHT WIND BAND EXTENSION 18/20 (SHIPS LOOSE).
2	MUA-1	1	AC INTERLOCK RELAY - 24VAC COIL.
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING. MEETS AMCA CLASS 1A RATING.
		1	LOW FIRE START.
		1	INLET PRESSURE GAUGE, 0-35".
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" W.C.
		1	EXTENDED POWER DROP.
		1	COOLING THERMOSTAT AND RELAY (NOT REQ FOR EVAP).
		1	5 TON SINGLE CIRCUIT MODULAR PACKAGED AC COOLING OPTION FOR SIZE 2 DF/EH MUA (1000 TO 2750 CFM), 208V/230V, 3 PHASE. COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION.
		1	DOWNTURN PLENUM FOR SIZE 2 DX COIL MODULE.
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY.
3	EF-2	1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE. USED ON HEATERS UNDER 2500 CFM.
		1	36" TALL STRAIGHT WIND BAND EXTENSION 13 (SHIPS LOOSE).
		1	I 15-BDD DAMPER.
		1	SCR-13 BIRD SCREEN.

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER
1	EF-1	YES					
2	MUA-1						YES
3	EF-2		YES				

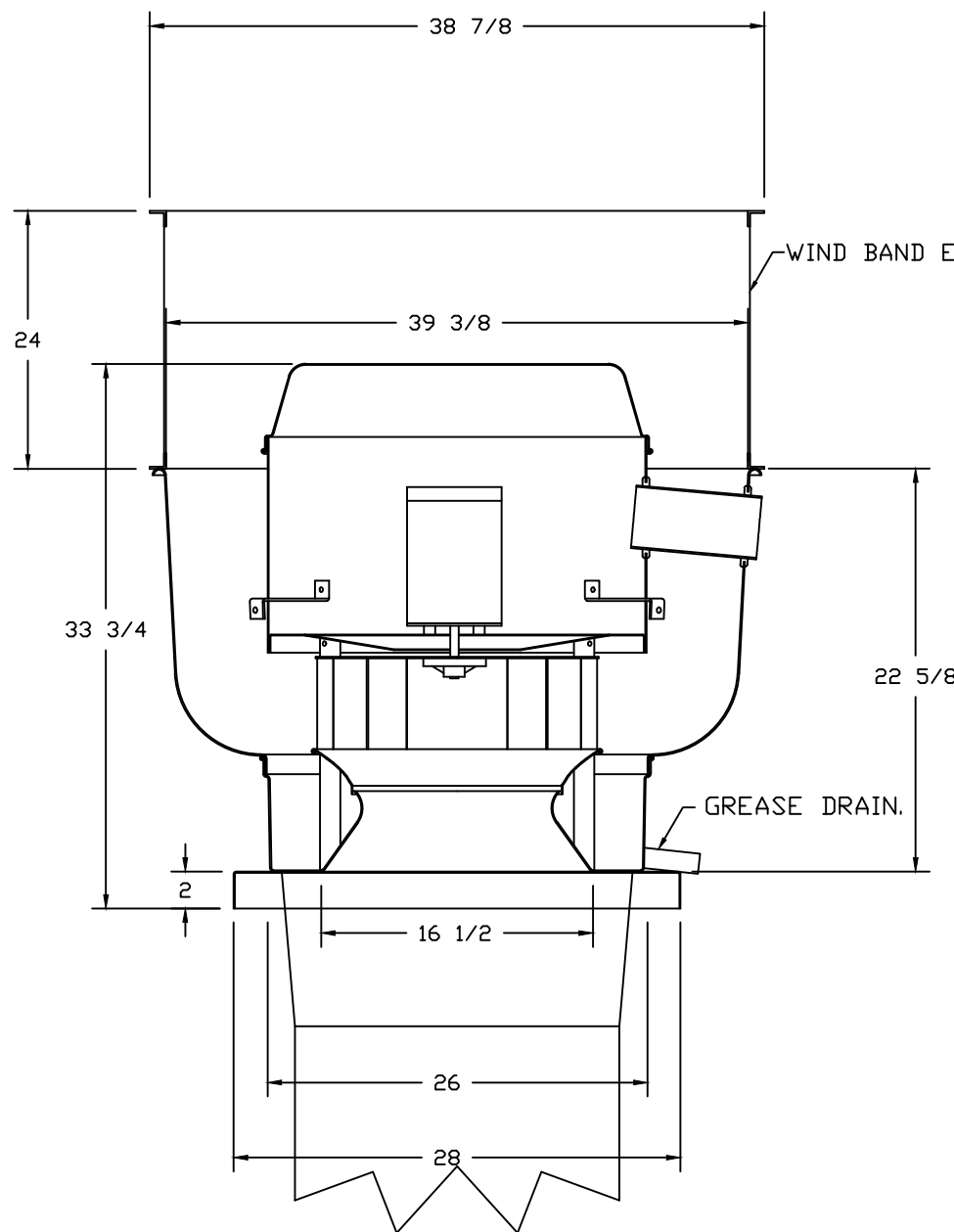
CURB ASSEMBLIES

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	38 LBS	CURB	26.500"W X 26.500"L X 24.000"H VENTED HINGED.
2	# 2	MUA-1	107 LBS	CURB	31.000"W X 79.000"L X 20.000"H RIGHT INSULATED.
	# 2			RAIL	6.000"W X 31.000"L X 20.000"H RIGHT.
3	# 3	EF-2	31 LBS	CURB	19.500"W X 19.500"L X 20.000"H HINGED.

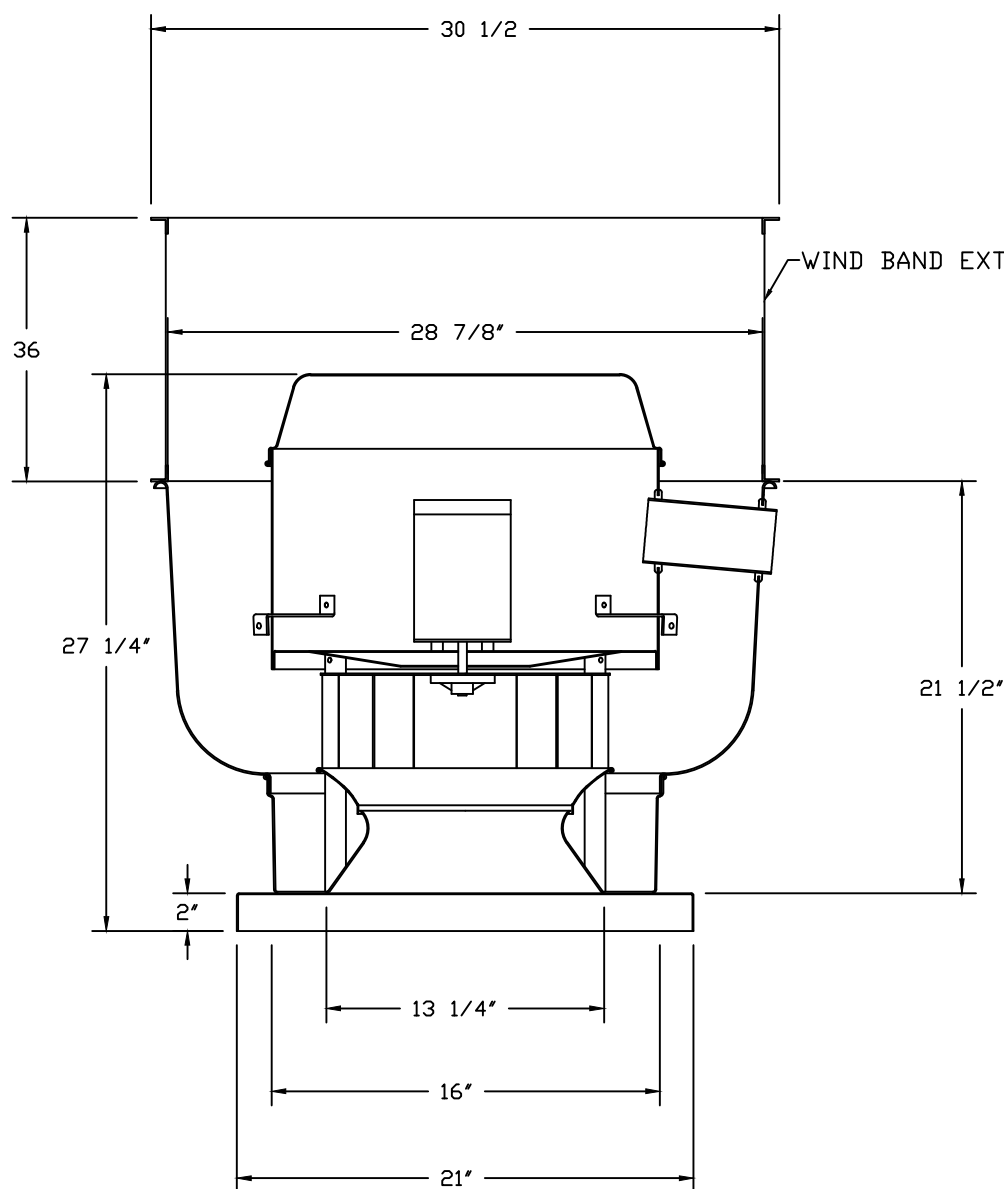
VERIFY ELECTRIC REQUIREMENTS  
\_\_\_\_PHASE \_\_\_\_VOLT  
Verify Electric Requirements to Ensure That Fan Motors and Electric Packages are Coordinated

VERIFY PITCH CURB  
\_\_\_\_\_  
Curb Pitch Required in order to manufacture the curb to specification.

FAN #1 DUI80HFA - EXHAUST FAN (EF-1)



FAN #3 DU50HFA - EXHAUST FAN (EF-2)



FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

**NORMAL TEMPERATURE TEST**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS 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.  
UPBLAST FAN WHEEL ACCESS PORT.  
24" TALL STRAIGHT WIND BAND EXTENSION 18/20 (SHIPS LOOSE).

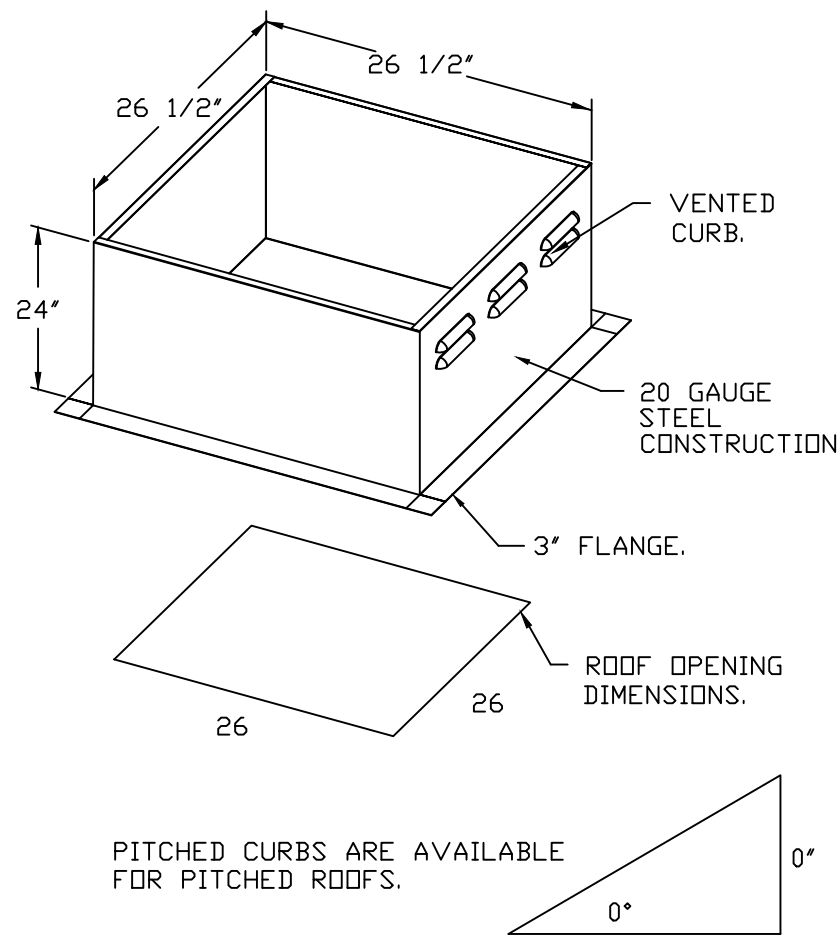
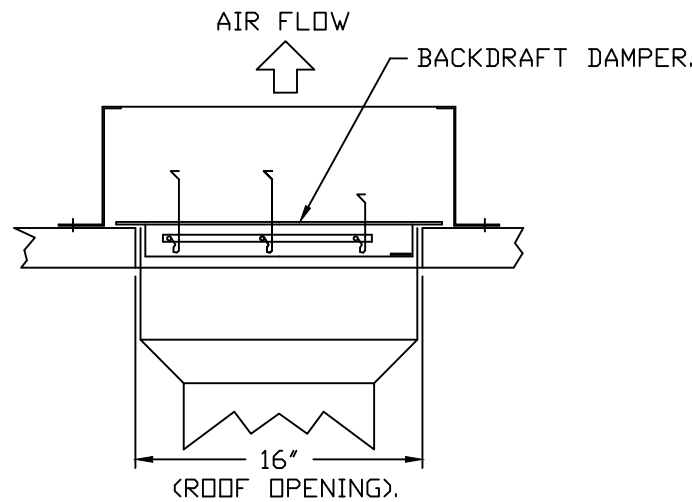
FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- UL705.
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- NEMA 3R SAFETY DISCONNECT SWITCH.

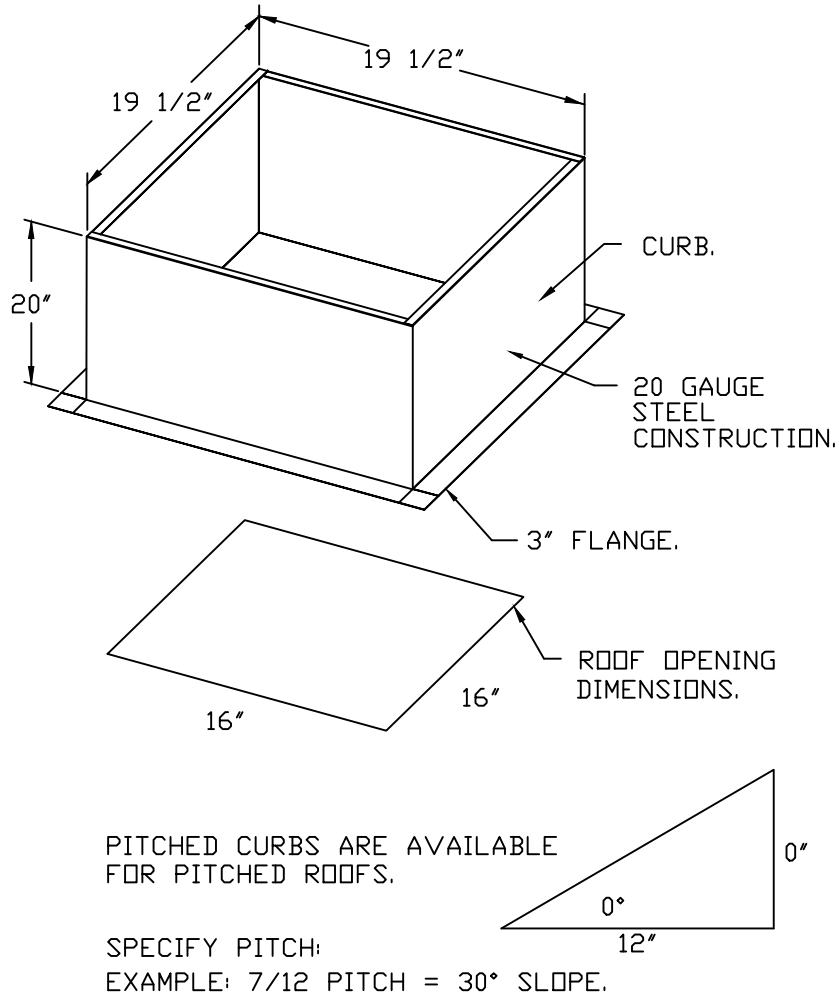
OPTIONS

36" TALL STRAIGHT WIND BAND EXTENSION 13 (SHIPS LOOSE).  
I 15-BDD DAMPER.  
SCR-13 BIRD SCREEN.

BACKDRAFT DAMPER INSTALLATION



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.  
SPECIFY PITCH:  
EXAMPLE: 7/12 PITCH = 30° SLOPE.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.  
SPECIFY PITCH:  
EXAMPLE: 7/12 PITCH = 30° SLOPE.

REVISIONS

DESCRIPTION	DATE:
Δ	
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Δ	
Δ	

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Bibibop - Streets Of West Pryor

2050 NW Lowenstein Dr.,  
Lee's Summit, MO, 64081

DATE: 12/22/2020

DWG.#: 4664448

DRAWN BY: MAP-52

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 6

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ARCHITECTS

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ONLY - INFORMATION HAS  
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DUCTWORK SERVING  
EQUIPMENT FURNISHED BY  
CAPTIVE AIRE

PROJECT:

asian grill  
STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057

BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

DRAWN BY:

CHECKED BY:

ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:

HOOD  
PLANS

H106

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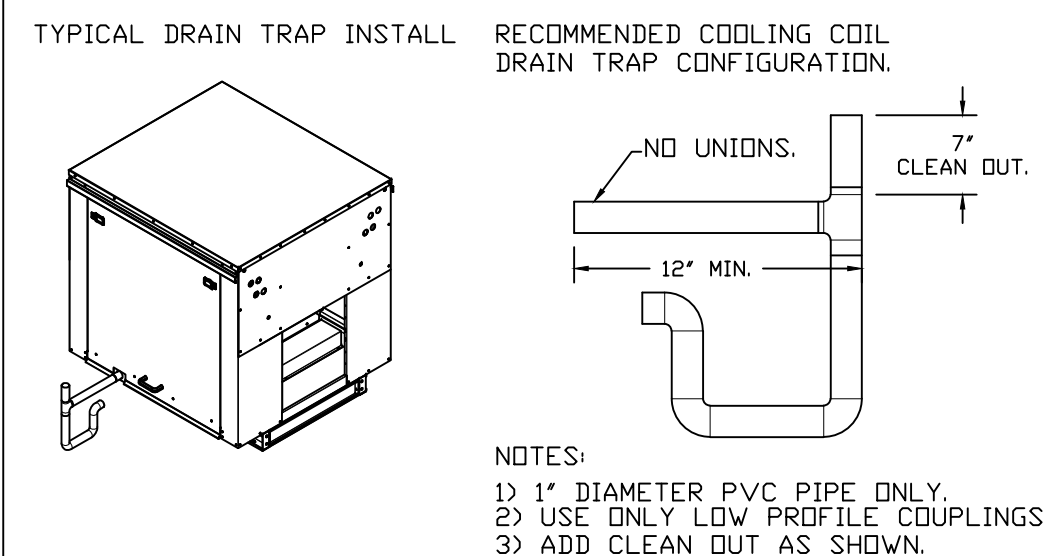


NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED. DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADII BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE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

```

WINTER TEMPERATURE = 10°F.    TEMP. RISE = 70°F.
BTUS CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 197082.
INPUT BTUS AT ALTITUDE OF 0.0 FT. = 214219.
OUTPUT BTUS AT ALTITUDE OF 1096 FT. = 189401.
INPUT BTUS AT ALTITUDE OF 1096 FT. = 205870.

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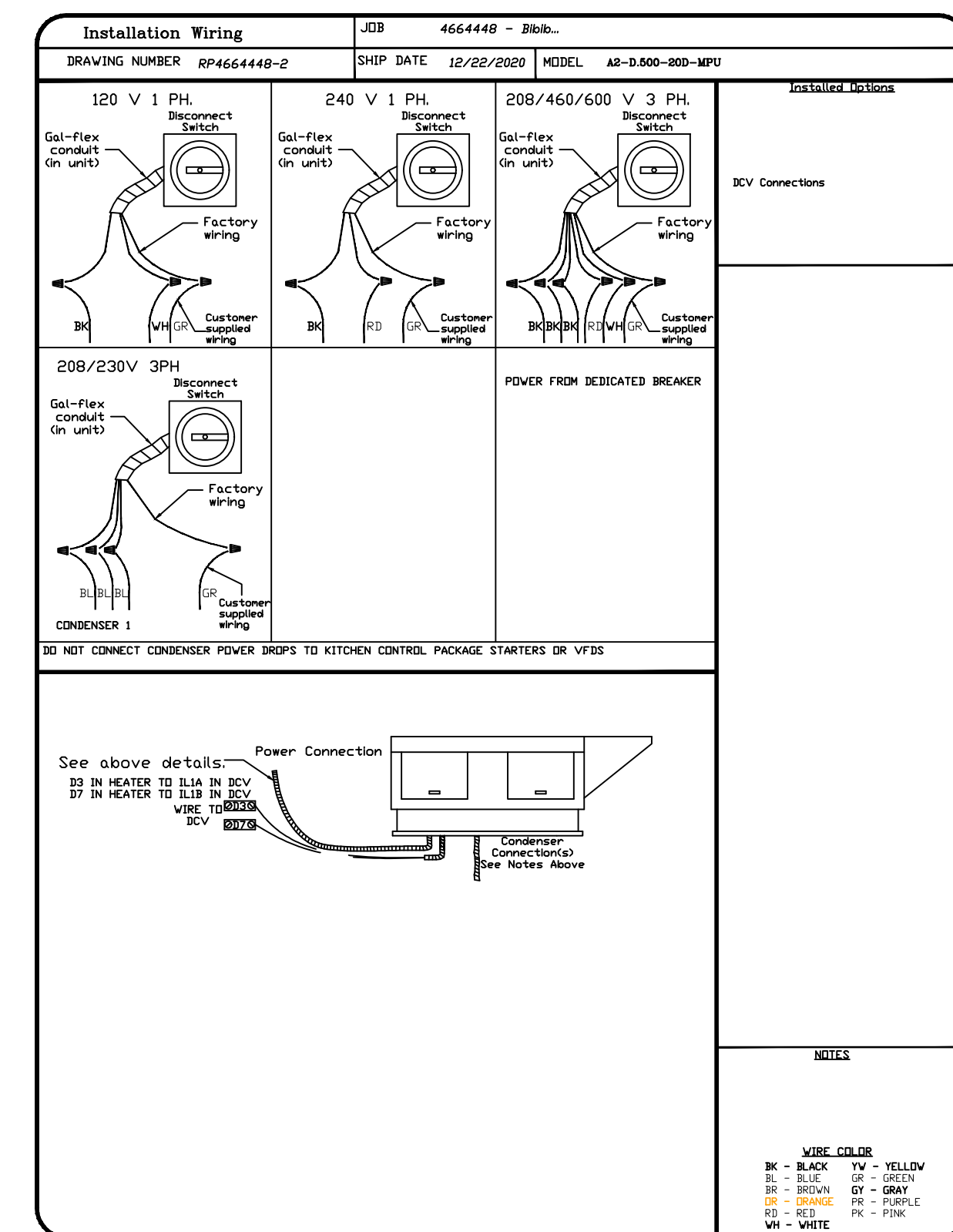


**DESIGN DESCRIPTION**  
**GENERAL CONSTRUCTION**  
-BURNER SHALL HAVE PATENTED US PATENT NO. 4056993B0, SELF-ADJUSTING PROFILE PLATE DESIGNED TO ENSURE PROPER AIR FLOW AND FLAME STABILITY. THE BURNER PROFILE PLATE SHALL BE CONSTRUCTED OF ALUMINUM AND HAVE A MINIMUM OF 12 PROFILE LEVELS TO ACCOMMODATE A VARIETY OF AIR FLOW REQUIREMENTS. THE BURNER SHALL BE DESIGNED TO BE CONFIGURED WITH THE BLOWER MOTOR PRESSURE DROP OF THE BURNER. THIS ARRANGEMENT WILL ALLOW THE BURNER TO BE USED WITH A VARIETY OF BLOWER MOTORS. THE BURNER SHALL BE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

**APPLICATION**  
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF THE AIRFLOW. THE SPRING NEED NOT BE ADJUSTED TO COMPENSATE FOR MECHANICALLY ADJUST THE AIR WITH THIS FEATURE. ALL OF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

**GENERAL CONSTRUCTION**  
-ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNITS ETL LISTING AND COMPLY WITH COMBINED NFPA 96-1 AND CSA 3.7 (NON-RECIRCULATING OF HEATERS) AND ANSI Z98.9 (RECIRCULATING OF HEATERS).

**GENERAL CONSTRUCTION**  
-PROFILE PLATES SHALL BE FORMED FROM 6061 ALUMINIZED STEEL.  
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.  
-THE PROFILE PLATE SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.  
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.  
-PROFILE PLATES SHALL BE MADE FROM 6061 ALUMINIZED STEEL.







# CAPTIVE

## Northern Ohio Office

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DESCRIPTION	DATE:
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Bikibop - Streets Of West Pryor  
2050 NW Lowenstein Dr,  
Lee's Summit, MD, 64081

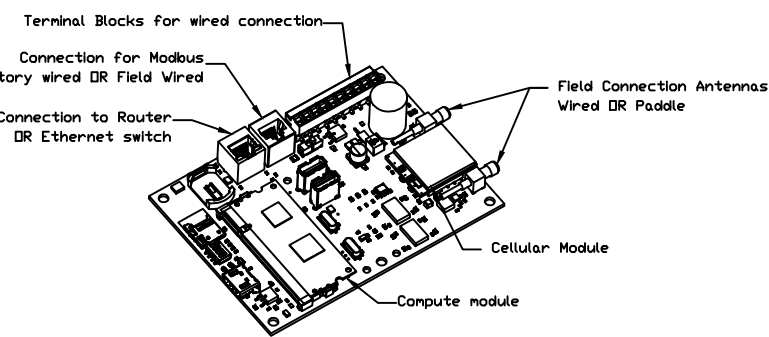
<b>DATE:</b> 12/22/2020
<b>DWG.#:</b> 4664448
<b>DRAWN BY:</b> MAP-52
<b>SCALE:</b> 3/4" = 1'-0"
<b>MASTER DRAWING</b>
<b>SHEET NO.</b> 7

# H107



# ELECTRICAL PACKAGE - JOB#4664448

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	#	HP	VOLT FLA
1		DCV-1111	UTILITY CABINET LEFT	03 - UTILITY CABINET LEFT HOOD # 1	1 LIGHT 1 FAN	SMART CONTROLS DCV	EF-1	EXHAUST	3	1,500	208 6.6
2		Switches		02 - FACE MOUNT RIGHT SIDE OF HOOD HOOD # 2	1 LIGHT 1 FAN		MUA-1	SUPPLY	3	3,000	208 9.5



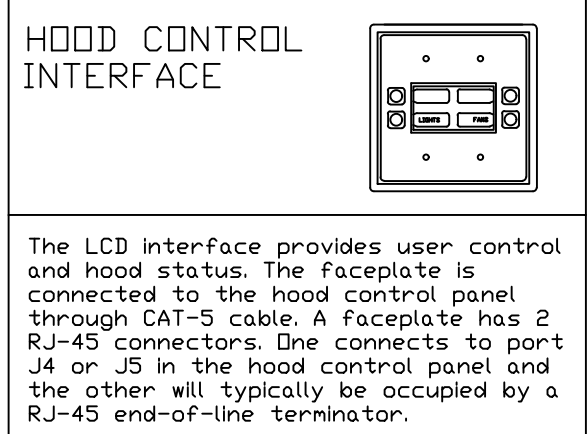
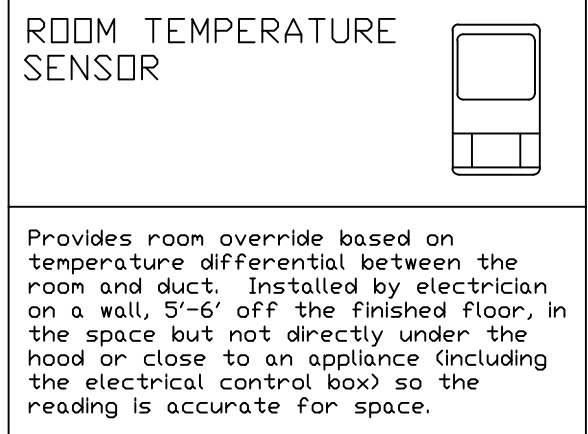
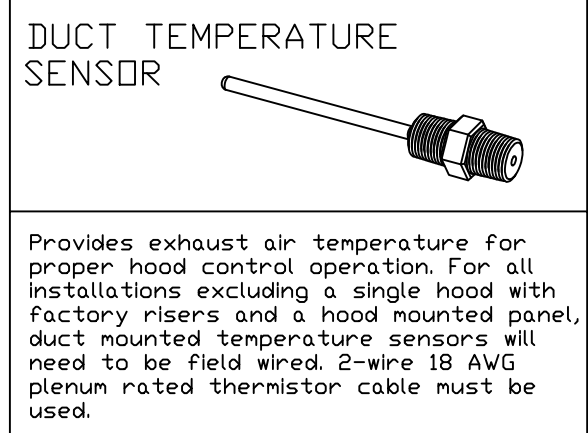
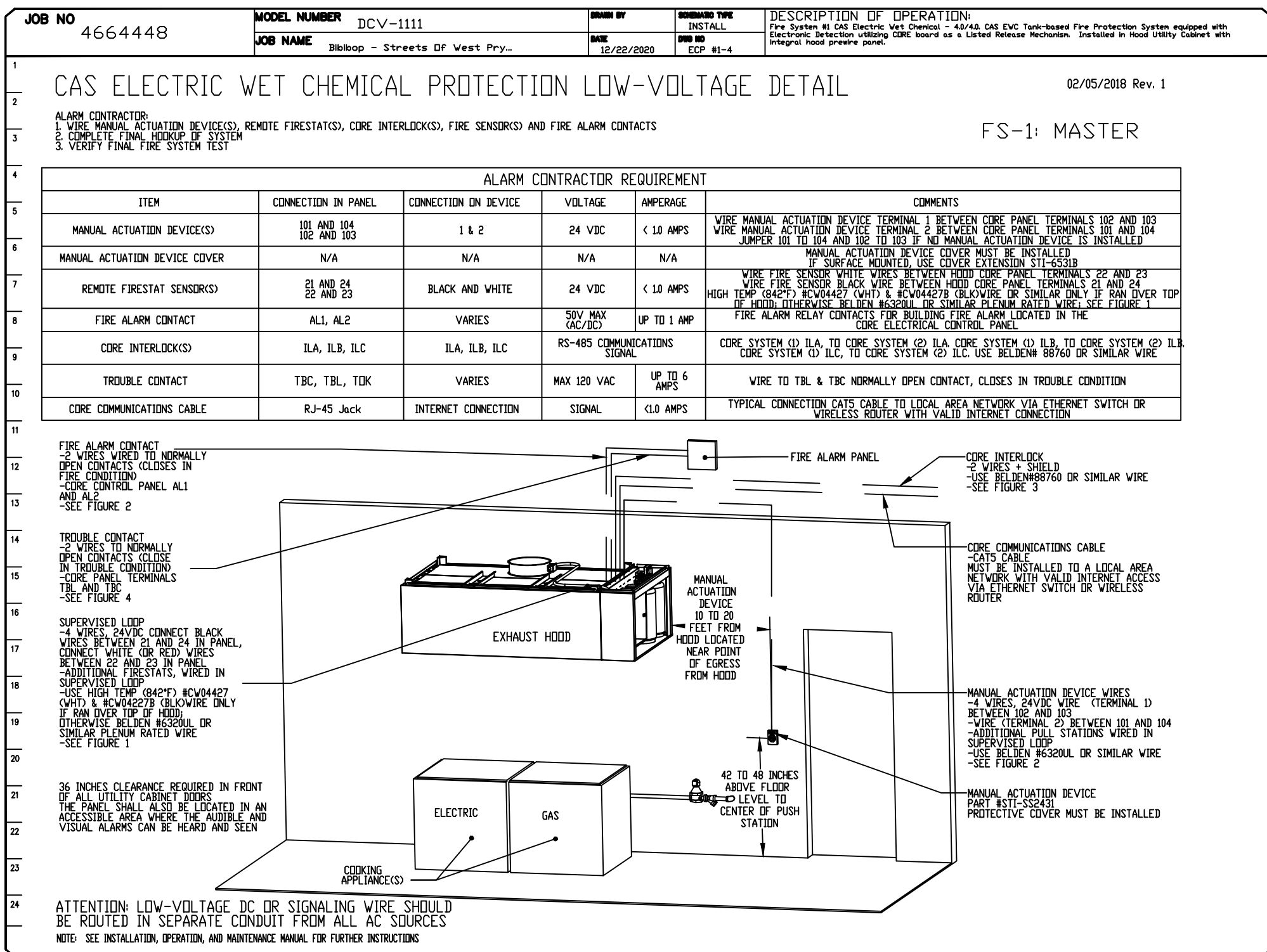
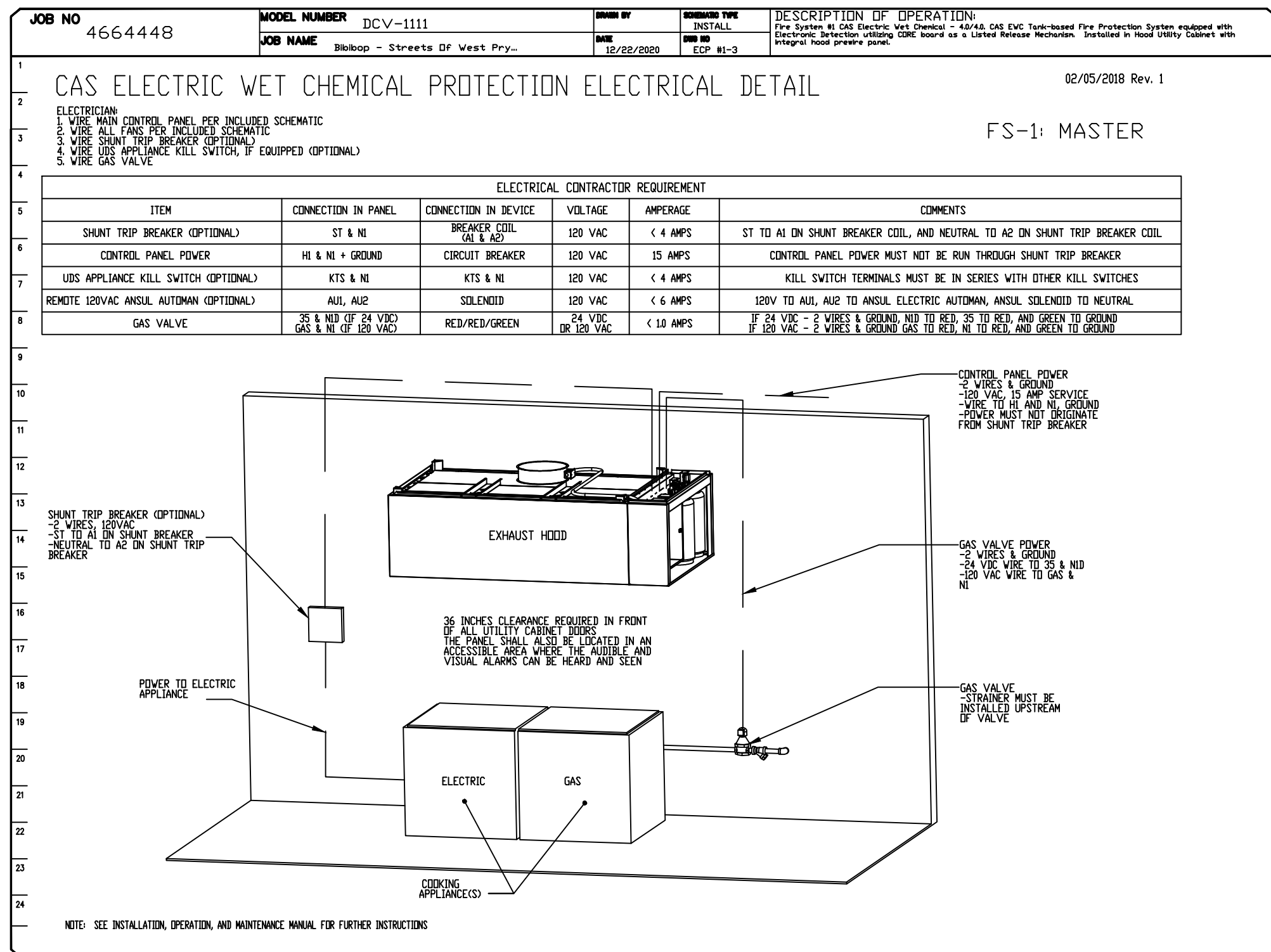
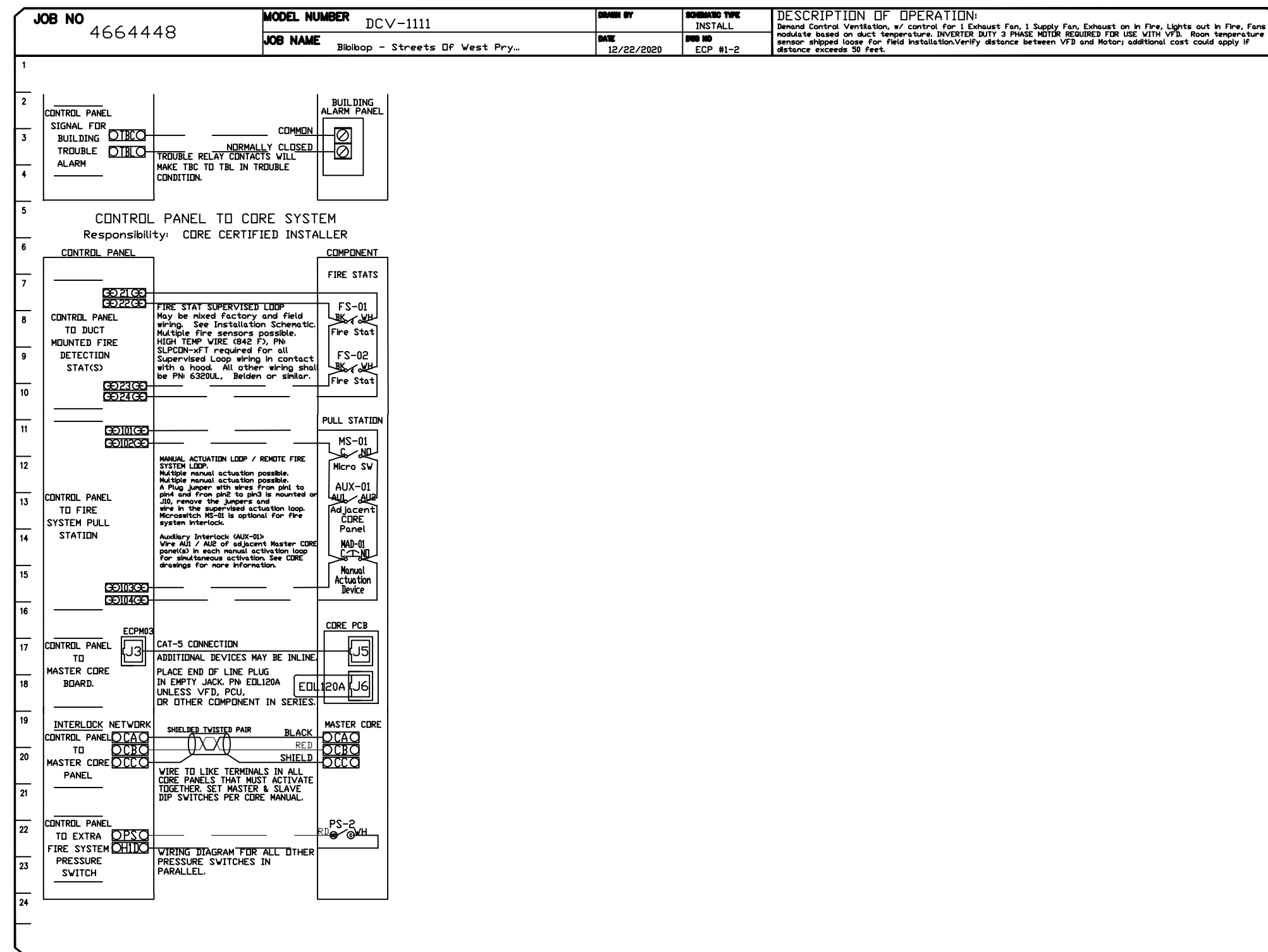
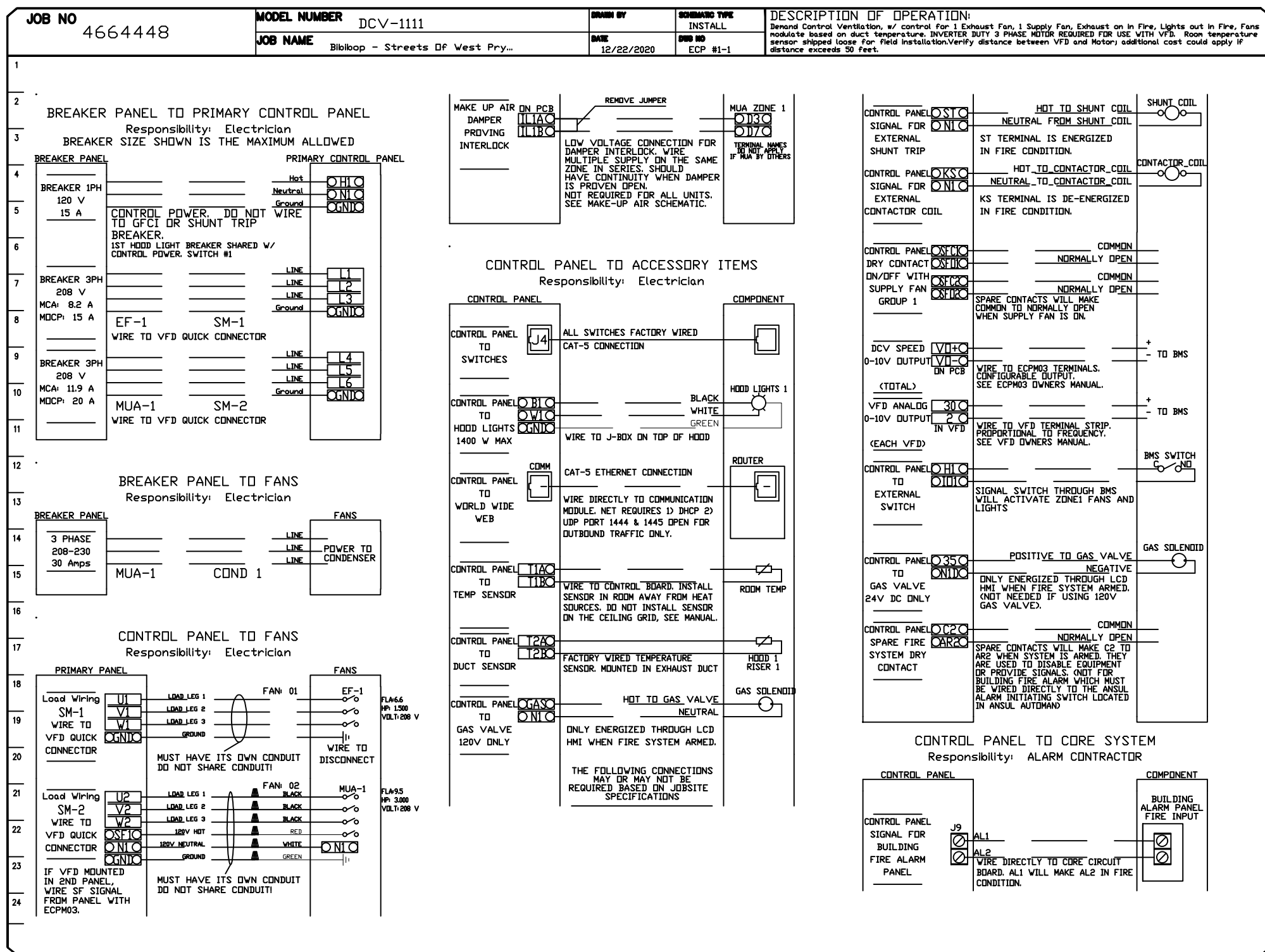
## CASLink Monitor and Control

- 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	SP Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct 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
Fan Speed	MONITOR	Controler Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
YFD Faults	MONITOR	PCV Faults	MONITOR
Controller Faults	MONITOR	PCV Filter Clap Percentages	MONITOR
Fan Status	MONITOR	Fan Condition	MONITOR
PCV Faults	MONITOR	COSE Fire System	MONITOR
PCV Filter Clap Percentages	MONITOR	Building Pressures	MONITOR
Fire Condition	MONITOR	Fans Status(s)	MONITOR & CONTROL
COSE Fire System	MONITOR	Lighting Status(s)	MONITOR & CONTROL
Building Pressures	MONITOR	Wash Status	MONITOR & CONTROL
Prep Time Status	MONITOR & CONTROL		
Fans Status	MONITOR & CONTROL		
Lighting Status	MONITOR & CONTROL		
Wash Status	MONITOR & CONTROL		

ALL POWER FEED FROM VARIABLE FREQUENCY DRIVES IN HOOD CONTROL PANEL TO FAN MOTORS MUST BE IN SEPARATE STEEL CONDUIT - OR MOTOR/VFD FAILURE MAY OCCUR



Bibibop - Streets Of West Pryor  
2050 NW Lowenstein Dr.,  
Lee's Summit, MO, 64081

DATE: 12/22/2020  
DWG.#: 4664448  
DRAWN BY: MAP-52  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 8

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PROJECT:

asian grill  
STREETS OF WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

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ISSUES AND REVISIONS:

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SHEET TITLE:  
HOOD PLANS  
H108

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DUCTWORK #1 PARTS – JOB#4664448

TAG	PART #	CFM	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1645ASY	2300	-0.0438	8.68	1647.25	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 16" DUCT, ASSEMBLY.
P2	DW1611LT	2300	-0.004	6.16	1647.25	1	SINGLE WALL DUCT 16" DIAMETER, 11" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P3	DW1645ASY	2300	-0.0625	8.68	1647.25	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 16" DUCT, ASSEMBLY.
P4	DW1608SLT	2300	-0.0029	4.54	1647.25	1	SINGLE WALL DUCT 16" DIAMETER, 8.500" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P5	DW1615AJDKIT	2300	-0.0021	16.29	1647.25	1	SINGLE WALL DUCT ADJUSTABLE, 16" DIAMETER, 14.50" LONG, FLANGE AT ONE END WITH A 16" ADJUSTABLE COLLAR – STAINLESS STEEL.
P6	DW16VESUI8			22.80		1	DUCT VERTICAL SUPPORT KIT, 16" DUCT, 18" CLEARANCE TO COMBUSTIBLES. PARTS ARE ZINC COATED. HARDWARE KIT #3 USED ON DWXXVESU & DWXXVESUI8.
P7 ASSEMBLED W/P8	DW1629LT	2300	-0.01	15.68	1647.25	1	SINGLE WALL DUCT 16" DIAMETER, 29" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P8 ASSEMBLED W/P7 SYSTEM AT P8	DW2616TP	2300		11.62	1647.25	1	DUCT TO CURB TRANSITION, 26-1/2" CURB TO 16" DUCT, 16 GA ALUMINIZED. USED ON BDUI8.
	3M-2000PLUS			0.80		2	DUCT – 3M FIRE BARRIER 2000 PLUS SILICONE – USED AS SEALANT TO SEAL DUCT JOINTS.
	834680600587XL			52.00		4	DUCT – DUCT INSULATION FOR ZERO CLEARANCE TO COMBUSTIBLES – 300" X 24" X 1-1/2" ROLL. PYROSCAT WRAP.
	BANDING5			5.00		1	DUCT – FIRE BARRIER WRAP STAINLESS STEEL BANDING .5" WIDTH – 200 FT PER ROLL.
	DW16CLASY			1.18		6	DUCT *V* CLAMP WITH NEW DESIGN 14 GA BRACKETS, 16" DUCT, ASSEMBLY.
	SEAL.50-50			0.50		1	DUCT – FIRE BARRIER WRAP STAINLESS STEEL BANDING SEAL .5" WIDTH. QUANTITY OF 50.
	TAPEALUM			0.25		1	DUCT – FIRE BARRIER WRAP ALUMINUM FOIL TAPE – 3" X 150' ROLL.
TOTAL WEIGHT				316.88			

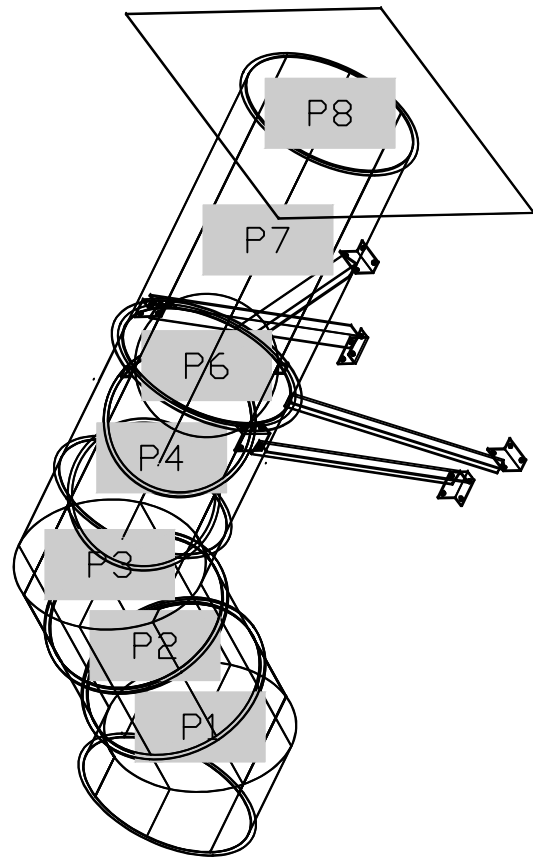
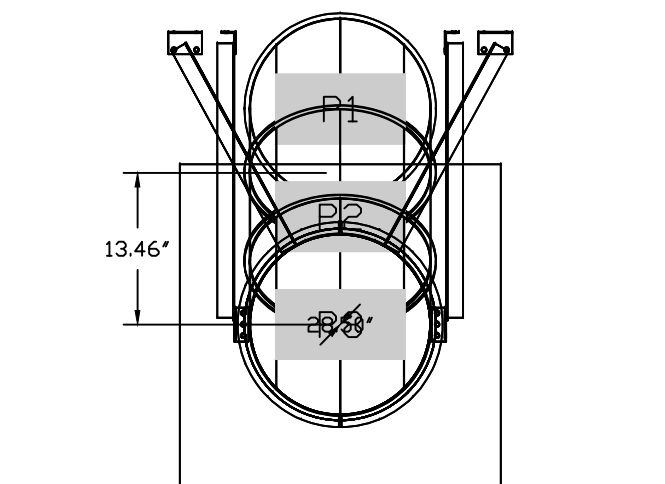
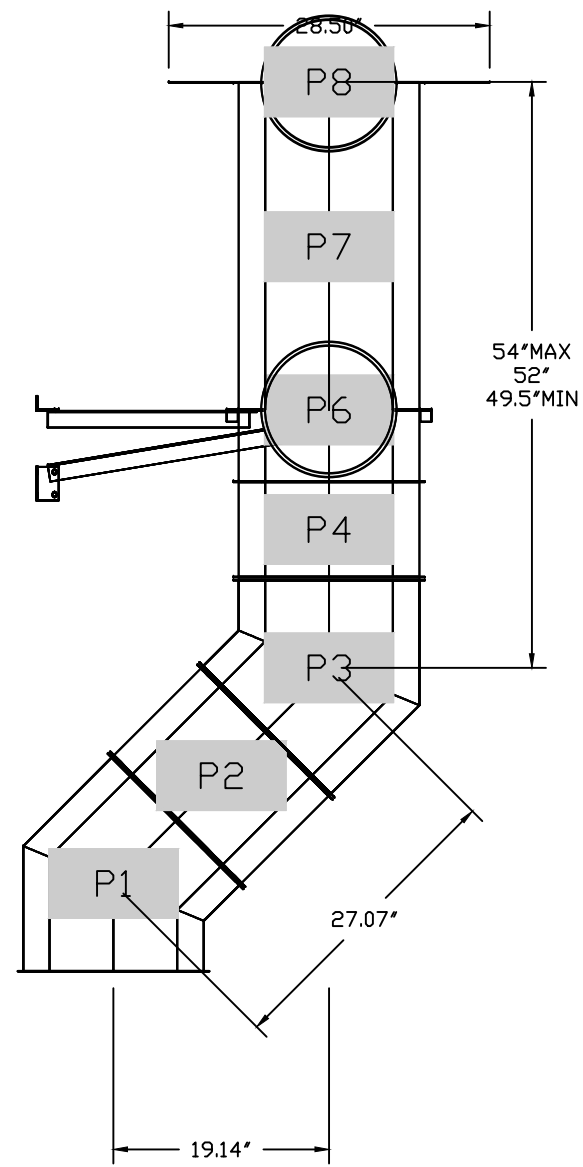
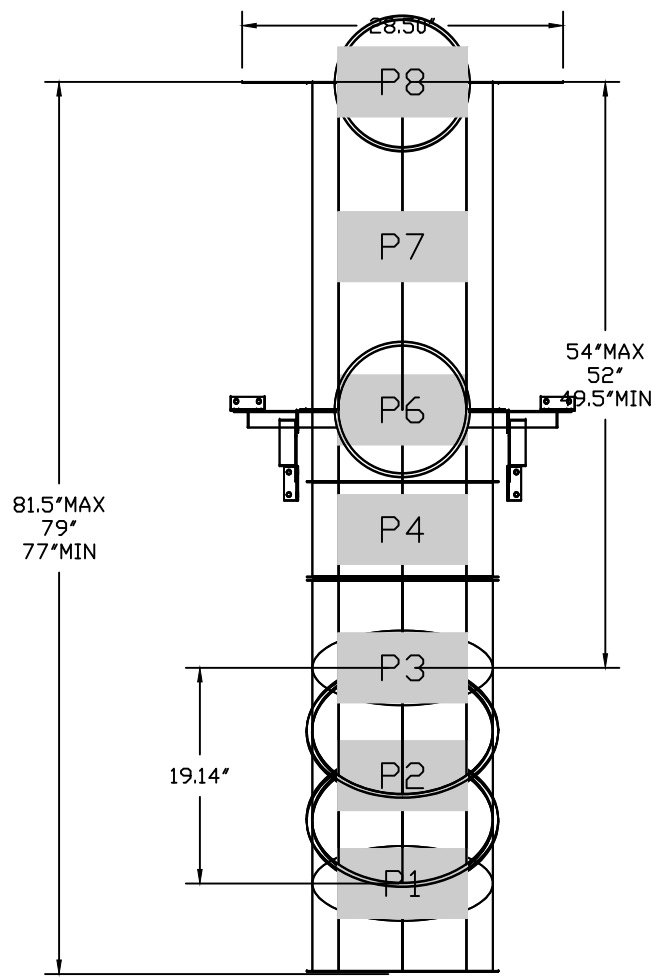
SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE 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.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5"	10'	10'	24'
6"	10'	10'	24'
7"	10'	10'	24'
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'
26"	10'	10'	24'
28"	10'	10'	24'
30"	10'	10'	24'
32"	10'	10'	24'
34"	10'	10'	24'
36"	10'	10'	24'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

DUCTWORK #1 FRONT VIEWDUCTWORK #1 SIDE VIEWDUCTWORK #1 TOP VIEW



REVISIONS

DESCRIPTION	DATE

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806 Morrison Rd, Gahanna, OH 43230  
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EMAIL: reg52@captiveaire.com

Bibibop – Streets Of West Pryor  
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PROJECT:

asian grill  
STREETS OF  
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PROJECT NO.: 0421995-101

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ISSUES AND REVISIONS:

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SHEET TITLE:  
HOOD  
PLANS

H110

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DUCTWORK #2 PARTS – JOB#4664448

TAG	PART #	CFM	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1229LT	950	-0.0074	11.69	1209.58	1	SINGLE WALL DUCT 12" DIAMETER, 29' LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P2	DW1248AJDKIT	950	-0.0056	22.74	1209.58	1	SINGLE WALL DUCT ADJUSTABLE, 12" DIAMETER, 47.5' LONG, FLANGE AT ONE END WITH A 12" ADJUSTABLE COLLAR – STAINLESS STEEL.
P3	DW12VESU18			19.78		1	DUCT VERTICAL SUPPORT KIT, 12" DUCT, 18" CLEARANCE TO COMBUSTIBLES. PARTS ARE ZINC COATED. HARDWARE KIT #3 USED ON DWXXVESU & DWXXVESU18.
P4 ASSEMBLED W/P5	DW1229LT	950	-0.007	11.69	1209.58	1	SINGLE WALL DUCT 12" DIAMETER, 29' LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P5 ASSEMBLED W/P4 SYSTEM AT P5	DW1912TP	950		6.27	1209.58	1	DUCT TO CURB TRANSITION, 19-1/2" CURB TO 12" DUCT, 16 GA ALUMINIZED STEEL. USED ON BDU11, DU25, 30 & 33.
	3M-2000PLUS		-0.126	0.00		1	DUCT – 3M FIRE BARRIER 2000 PLUS SILICONE – USED AS SEALANT TO SEAL DUCT JOINTS.
	DW12CLASY			0.94		3	DUCT "V" CLAMP WITH NEW DESIGN 14 GA BRACKETS, 12" DUCT, ASSEMBLY.
TOTAL WEIGHT				75.79			

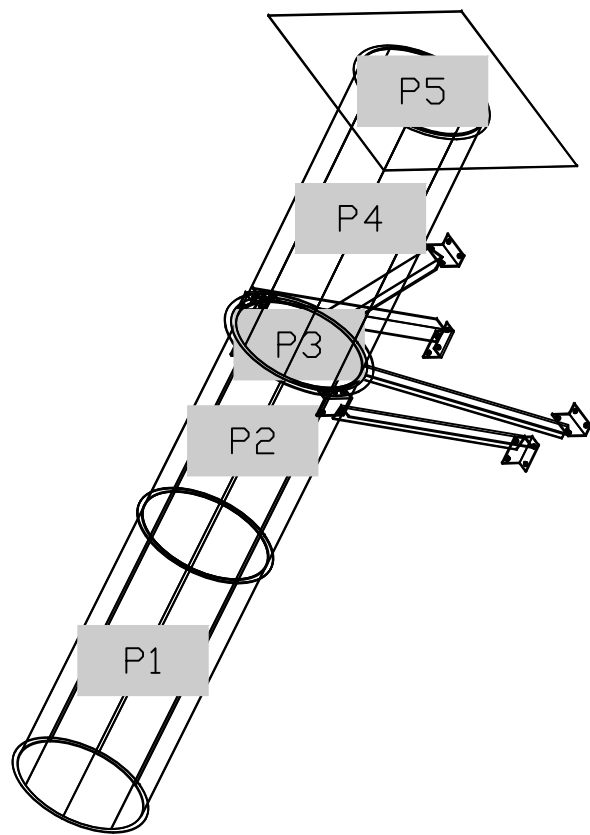
SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE 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.

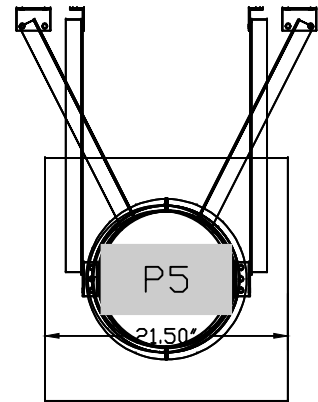
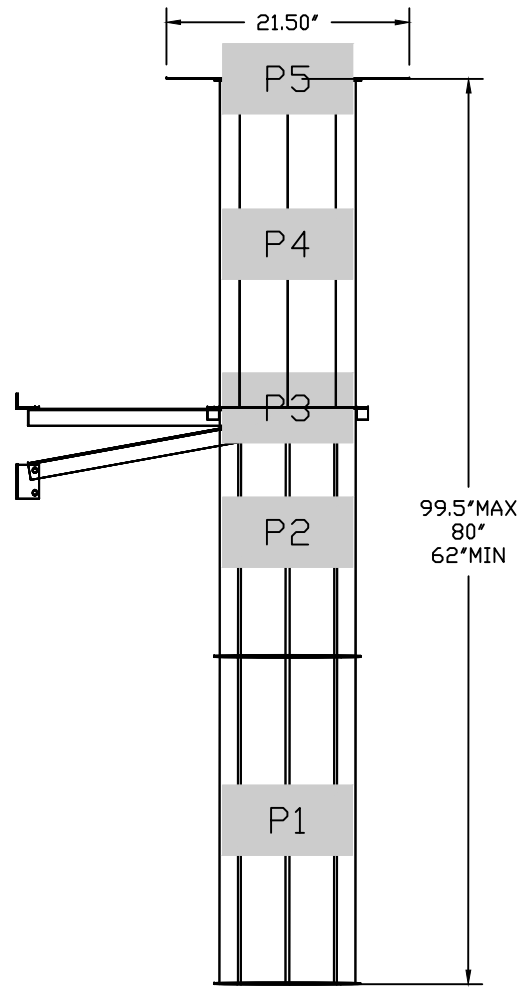
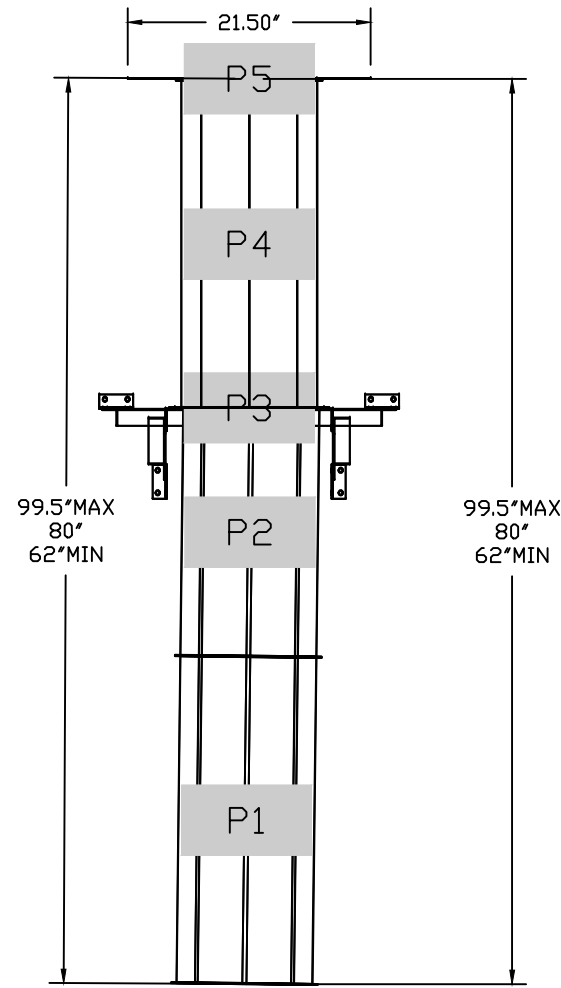
DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5'	10'	10'	24'
6'	10'	10'	24'
7'	10'	10'	24'
8'	10'	10'	24'
10'	10'	10'	24'
12'	10'	10'	24'
14'	10'	10'	24'
16'	10'	10'	24'
18'	10'	10'	24'
20'	10'	10'	24'
22'	10'	10'	24'
24'	10'	10'	24'
26'	10'	10'	24'
28'	10'	10'	24'
30'	10'	10'	24'
32'	10'	10'	24'
34'	10'	10'	24'
36'	10'	10'	24'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

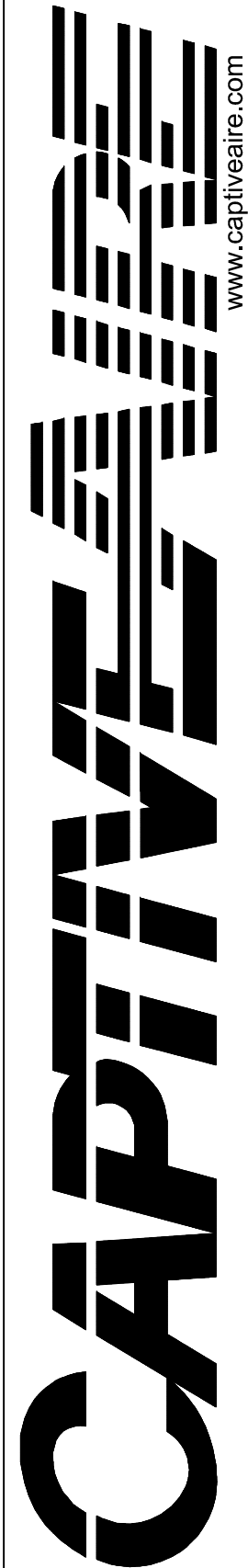
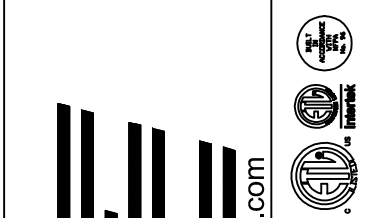
DUCTWORK #2 SE VIEW



DUCTWORK #2 FRONT VIEW DUCTWORK #2 SIDE VIEW DUCTWORK #2 TOP VIEW



REVISIONS	
DESCRIPTION	DATE



Bibibop - Streets Of West Pryor  
2050 NW Lowenstein Dr,  
Lee's Summit, MO, 64081

DATE: 12/22/2020  
DWG.#: 4664448  
DRAWN BY: MAP-52  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO. 11

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CONSULTANT:

SEAL/SIGNATURE:

INCLUDED FOR REFERENCE ONLY - INFORMATION HAS BEEN USED TO DESIGN DUCTWORK SERVING EQUIPMENT FURNISHED BY CAPTIVEAIRE

PROJECT:

**BIBIBOP**  
asian grill  
STREETS OF WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP P.O.: TBD

PROJECT NO.: 0421995-101

DRAWN BY:

CHECKED BY:

ISSUES AND REVISIONS:



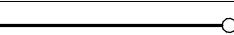
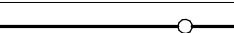
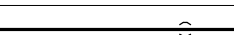











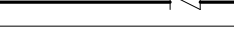
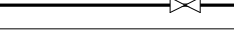
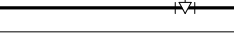


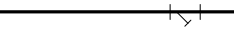



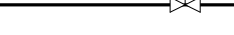


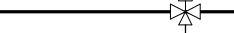



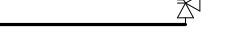

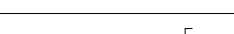

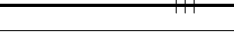
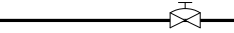


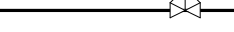




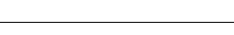




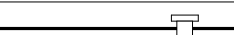






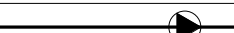
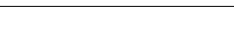

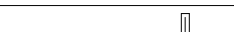


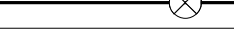




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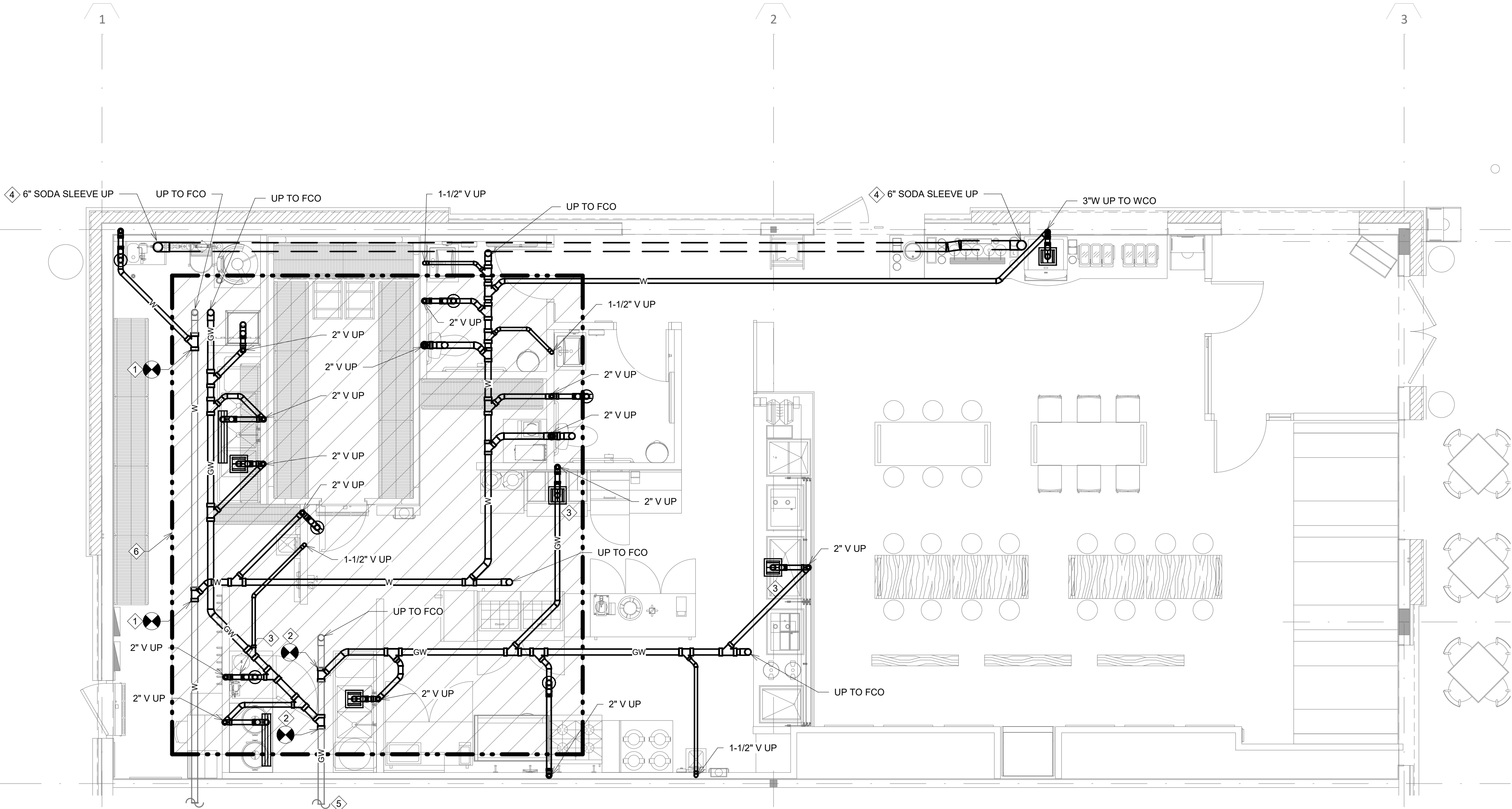
SHEET TITLE:

HOOD  
PLANS

H111

FOR REFERENCE ONLY

PLUMBING SYMBOLS LEGEND			
PLUMBING		PLUMBING /PIPING	
— AV ———	ACID VENT BELOW GRADE		ELBOW DOWN
— AV ———	ACID VENT ABOVE GRADE		PIPE CAP
— AW ———	ACID WASTE BELOW GRADE		ELBOW UP
— AW ———	ACID WASTE ABOVE GRADE		TEE, OUTLET UP
— DI ———	DEIONIZED WATER		TEE, OUTLET DOWN
— CW ———	DOMESTIC COLD WATER		CONNECTION, BOTTOM
— FW ———	FILTERED WATER		CONNECTION, TOP
— FW-X ———	FILTERED WATER - SCALE REDUCED		ECCENTRIC REDUCER
— GW ———	GREASE WASTE		CONCENTRIC REDUCER
— HW ———	DOMESTIC HOT WATER		FLEXIBLE CONNECTION
— 140 ———	DOMESTIC HOT WATER (TEMP. INDICATED)		EXPANSION JOINT
— RHW ———	DOMESTIC RECIRC. HOT WATER		PIPE ANCHOR
— HARD ———	HARD COLD WATER		ALIGNMENT GUIDE
— NPCW ———	NON-POTABLE COLD WATER		CHECK VALVE
— NPHW ———	NON-POTABLE HOT WATER		SHUTOFF VALVE
— OSD ———	OVERFLOW STORM DRAIN BELOW GRADE		PLUG VALVE
— OSD ———	OVERFLOW STORM DRAIN ABOVE GRADE		COMBINATION BALANCE VALVE AND FLOW METER
— RO ———	REVERSE OSMOSIS WATER		STRAINER
— V ———	SANITARY VENT BELOW GRADE		STRAINER W/BLOWDOWN CAP AND VALVE
— V ———	SANITARY VENT ABOVE GRADE		PRESSURE REDUCING VALVE (SETTING AS NOTED, PSI)
— W ———	SANITARY WASTE		AUTOMATIC CONTROL VALVE, 2-WAY
— SS ———	SANITARY SEWER		AUTOMATIC CONTROL VALVE, 3-WAY
— SDT ———	SOIL DRAINAGE TILE		AUTOMATIC AIR VENT
— SOFT ———	SOFTENED COLD WATER		MANUAL AIR VENT
— SHW ———	SOFTENED HOT WATER		PRESSURE RELIEF/SAFETY VALVES(SETTING AS NOTED, PSI)
— TW ———	TEMPERED WATER		DRAIN VALVE
— SD ———	STORM DRAIN BELOW GRADE		BALL VALVE
— SD ———	STORM DRAIN ABOVE GRADE		BUTTERFLY VALVE
— WW ———	WELL WATER		DIAPHRAGM
— ———	EXISTING PLUMBING TO REMAIN		GLOBE ANGLE VALVE
-----	EXISTING PLUMBING TO BE REMOVED		O. S. & Y. VALVE
MECHANICAL PIPING			REDUCED PRESSURE ZONE BACK FLOW PREVENTER
— BF ———	BOILER FEED		SOLENOID VALVE
— CWS ———	CHILLED WATER SUPPLY		FLOW LIMITING VALVE
— CWR ———	CHILLED WATER RETURN		REFRIGERANT SIGHT GLASS
— 10#A ———	COMPRESSED AIR (PSI INDICATED)		GLOBE VALVE
— CD ———	CONDENSATE DRAIN		GAS PRESSURE REGULATOR VALVE
— CS ———	CONDENSER WATER SUPPLY		BACKWATER VALVE
— CR ———	CONDENSER WATER RETURN		REFRIGERANT DRYER
— FOS ———	FUEL OIL SUPPLY		FLOW DIRECTION
— FOR ———	FUEL OIL RETURN		FLOW DIRECTION W/PITCH
— FOV ———	FUEL OIL VENT		DUPLEX STRAINER
— FOF ———	FUEL OIL FILL		PIPE UNION
— GS ———	GLYCOL SUPPLY		PIPE FLANGE
— GR ———	GLYCOL RETURN		PUMP
— HRS ———	HEAT RECOVERY SUPPLY		PRESSURE GAUGE W/PIGTAIL & PETCOCK
— HRR ———	HEAT RECOVERY RETURN		THERMOMETER
— HWS ———	HEATING WATER SUPPLY		PRESSURE/TEMPERATURE TEST PORT
— HWR ———	HEATING WATER RETURN		STEAM TRAP (TYPE INDICATED)
— LV ———	LABORATORY VACUUM		FLOW MEASURING STATION (FLOW INDICATED)
— LA ———	LABORATORY AIR		FLOW SWITCH
— LPG ———	LIQUIFIED PETROLEUM GAS		PRESSURE SWITCH
— 2#G ———	NATURAL GAS (PSI INDICATED)		SHOCK ABSORBER
— PV ———	PLANT VACUUM		GAS COCK VALVE
— PC ———	PUMPED CONDENSATE		ELBOW
— RADS ———	RADIATION WATER SUPPLY		TEE
— RADR ———	RADIATION WATER RETURN		FLOOR DRAIN
— RL ———	REFRIGERANT LIQUID		FLOOR SINK
— RS ———	REFRIGERANT SUCTION		WALL HYDRANT
— RHG ———	REFRIGERANT HOT GAS BYPASS		HOSE BIBB
— RHS ———	REHEAT WATER SUPPLY		CLEANOUT
— RHR ———	REHEAT WATER RETURN		WALL CLEANOUT
— RRS ———	REMOTE RADIATOR SUPPLY		ROOF DRAIN
— RRR ———	REMOTE RADIATOR RETURN		DRAIN ABOVE
— SHWS ———	SECONDARY HEATING WATER SUPPLY		CATCH BASIN
— SHWR ———	SECONDARY HEATING WATER RETURN		MANHOLE
— SMS ———	SNOW MELT SUPPLY		POINT OF CONNECTION, NEW TO EXISTING
— SMR ———	SNOW MELT RETURN		POINT OF DISCONNECTION
— 10#STM ———	STEAM SUPPLY (PSI INDICATED)		
— 10#R ———	STEAM RETURN (PSI INDICATED)		
— ———	EXISTING PIPING TO REMAIN		
-----	EXISTING PIPING TO BE REMOVED		



1 UNDERFLOOR PLUMBING PLAN  
1/4" = 1'-0"

GENERAL NOTES:

- A. SEE SHEETS P101 AND P110 FOR PIPING CONTINUATION AND P110 FOR GENERAL NOTES.
- B. COORDINATE LOCATIONS OF FLOOR PENETRATIONS WITH SHEET A110.

KEY NOTES:

- 1 EXTEND SANITARY PIPING AND CONNECT TO EXISTING SANITARY PIPING BELOW FLOOR. EXISTING WASTE PIPING LOCATION(S), INVERT, AND FLOW DIRECTION TO BE VERIFIED IN FIELD PRIOR TO START OF WORK.
- 2 EXTEND GREASE WASTE PIPING AND CONNECT TO EXISTING GREASE WASTE PIPING BELOW FLOOR. EXISTING PIPING LOCATION(S), INVERT, AND FLOW DIRECTION TO BE VERIFIED IN FIELD PRIOR TO START OF WORK.
- 3 WASTE LINE 15' DOWNSTREAM OF FIXTURE INDICATED SHALL BE CAST IRON FOR HIGH TEMPERATURE WASTE DISCHARGE. REPLACE EXISTING WASTE PIPING AS REQUIRED TO ACHIEVE DISTANCE NECESSARY.
- 4 PROVIDE 6" PVC PIPE SLEEVE FOR SODA SYSTEM. SLEEVE SHALL BE SEALED WATER TIGHT. SEE DETAIL 5/P210. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT PLANS AND ARCHITECTURAL PLANS. ALL ELBOWS SHALL BE LONG SWEEP.
- 5 EXISTING GREASE WASTE PIPING TO LANDLORD PROVIDED GREASE INTERCEPTOR.
- 6 AREA INDICATED IS EXISTING SLAB LEAVE-OUT. SHOWN FOR REFERENCE ONLY.

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MISSOURI STATE CERTIFICATE OF AUTHORITY #001661  
mechanical + electrical consulting engineering

SEAL/SIGNATURE:



PROJECT:



BIBIBOP  
asian grill

STREETS OF  
WEST PRYOR  
2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: TAB

CHECKED BY: GMS

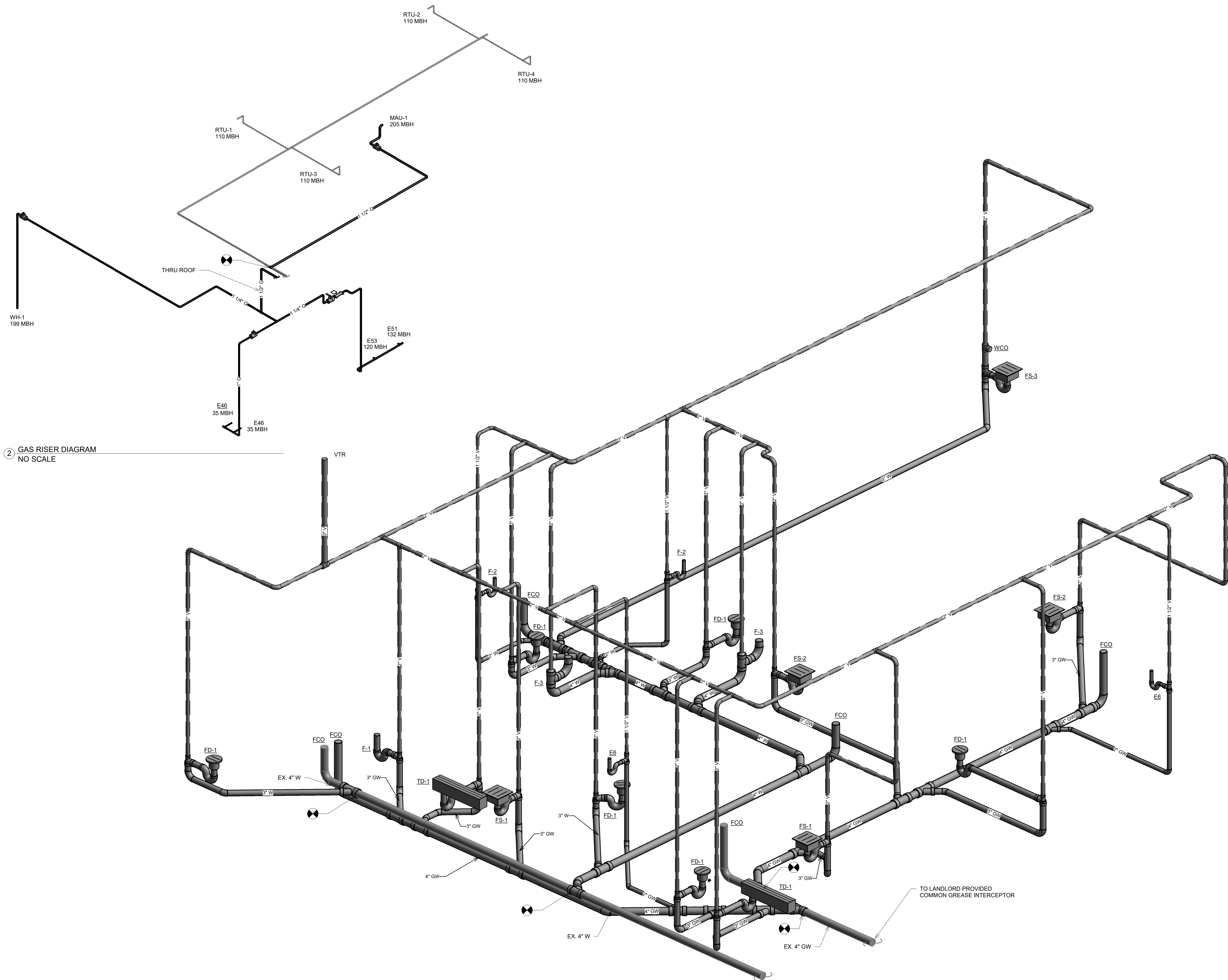
ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:  
UNDERFLOOR PLUMBING  
PLAN

P100





② GAS RISER DIAGRAM  
NO SCALE

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**BIBIBOP**  
asian grill  
STREETS OF  
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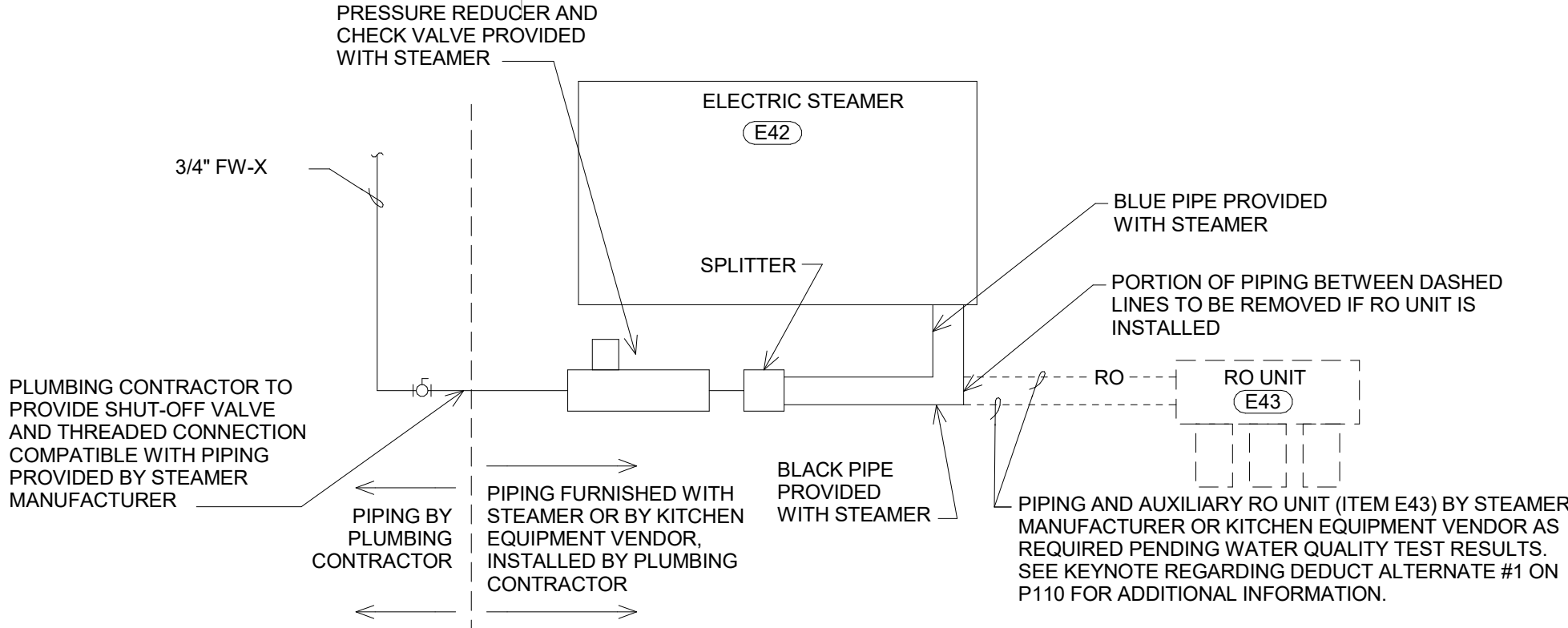
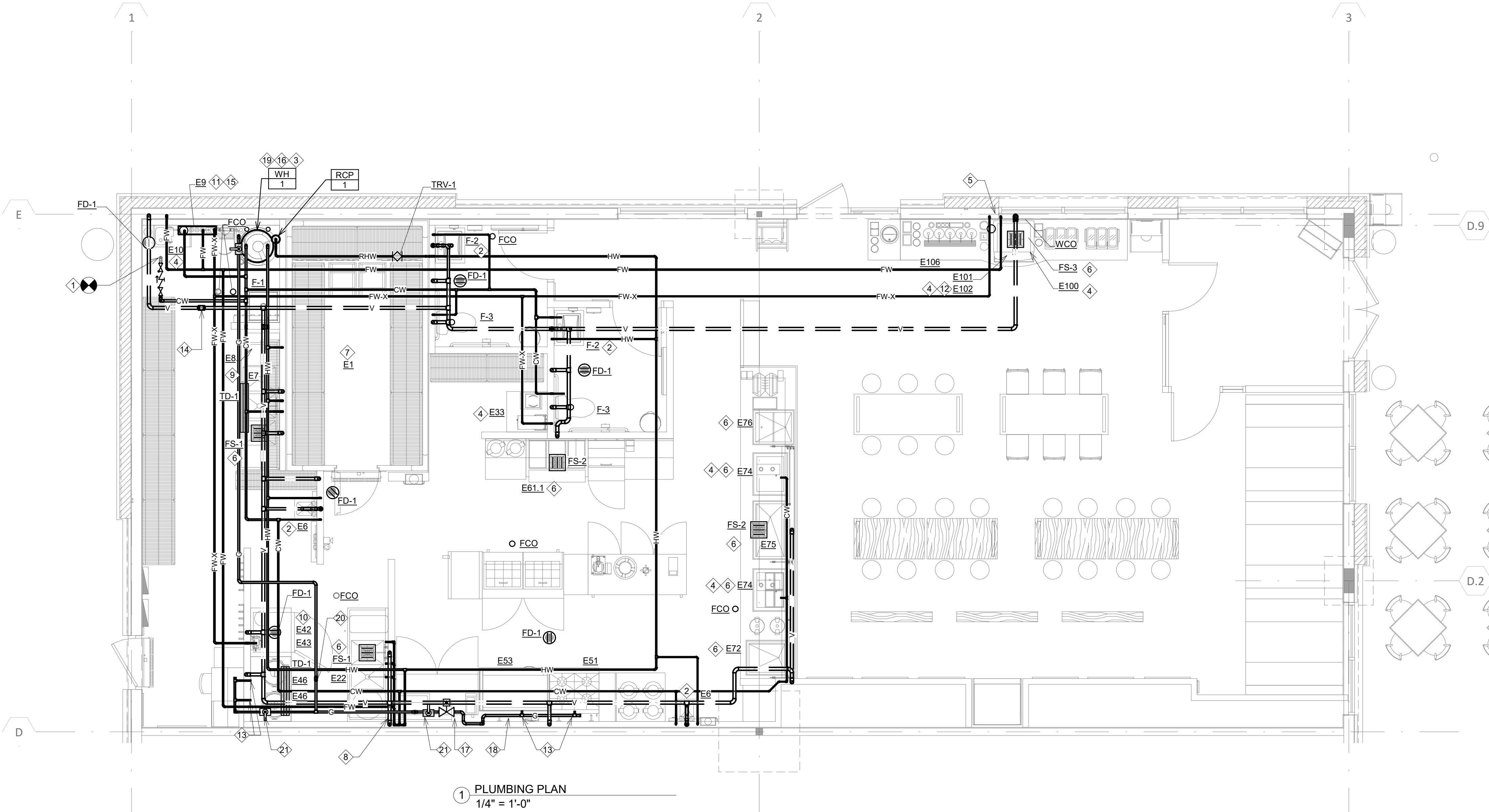
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DRAWN BY: TAB  
CHECKED BY: GMS  
ISSUES AND REVISIONS:  
PERMIT ISSUE 01.25.2021

SHEET TITLE:  
WASTE, VENT, & GAS  
RISER DIAGRAMS

**P101**

GENERAL NOTES:

- A. THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF THE PREVAILING STATE PLUMBING AND BUILDING CODES AND ALL LOCAL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
- B. CONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS, SPECIFICATIONS AND EXISTING CONDITIONS FOR BIDDING PURPOSES. FAILURE TO ACQUAINT THEMSELVES WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING THEIR WORK.
- C. NOT ALL EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC. IS SHOWN ON THE PLANS. ALL EXISTING EQUIPMENT AND PIPING SHOWN DOES NOT REFLECT ALL OFFSETS, LENGTHS AND LOCATIONS. CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT AND PIPING TO BE REMOVED AND/OR CONNECTED TO PRIOR TO BID.
- D. FIELD VERIFY LOCATIONS AND QUANTITY OF ALL EXISTING EQUIPMENT, FIXTURES, DUCTWORK AND PIPING NECESSARY TO COMPLETE SCOPE OF WORK.
- E. CONCRETE CUTS SHALL BE STRAIGHT AND CLEAN. REPLACE SLAB WITH CONCRETE FLUSH AND SMOOTH WITH ADJACENT.
- F. WASTE & VENT PIPING BELOW GRADE AND THRU FLOOR SHALL BE 2" MINIMUM.
- G. FIELD VERIFY SIZE, LOCATION & INVERT ELEVATION OF EXISTING SANITARY SEWER.
- H. PITCH ALL UNDERFLOOR SANITARY WASTE PIPING 4" AND GREATER AT 1/8" PER FOOT. ALL OTHER BELOW GRADE PIPING SLOPED AT 1/4" PER FOOT.
- I. CLEANOUTS MUST BE INSTALLED WHERE SHOWN ON PLANS AND ADDITIONAL CLEANOUTS WHERE REQUIRED BY CODE.
- J. WASTE AND VENT PIPING IN PLENUM CEILING SPACES TO BE CAST IRON NO HUB. SEE SPECIFICATIONS.
- K. COORDINATE ROUTING OF WATER, VENT, WASTE AND STORM PIPING WITH STRUCTURE, CEILING ELEVATION, ELECTRICAL SWITCHGEAR, DUCTWORK, LIGHTS, SPRINKLER PIPING AND ALL OTHER TRADES.
- L. COORDINATE KITCHEN ROUGH-IN REQUIREMENTS WITH KITCHEN EQUIPMENT DRAWINGS AND SCHEDULES.
- M. ALL HUB DRAINS AND INDIRECT DRAINS SHALL BE MOUNTED IN EXPOSED READILY ACCESSIBLE LOCATIONS. COORDINATE FINAL DRAIN LOCATIONS WITH KITCHEN EQUIPMENT.
- N. MATERIAL EXPOSED WITHIN RETURN AIR PLENUM CEILINGS SHALL COMPLY WITH IMC SECTION 602.2.
- O. PLUMBING SUBCONTRACTOR SHALL BE RESPONSIBLE FOR TESTED & RATED FIRE STOP SYSTEMS FOR ALL THRU-PENETRATION OF WALLS, FLOORS & ROOF ASSEMBLIES RESULTING FROM PIPING & OTHER WORK UNDER HIS CONTRACT. REFER TO FIRE-STOPPING SPEC SECTION FOR REQUIREMENTS.
- P. PLUMBING CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT AND PIPING NOT BEING USED IS FULLY REMOVED AND NOT ABANDONED. COORDINATE REQUIREMENTS WITH THE GENERAL CONTRACTOR AND LANDLORD. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. VERIFY SCOPE OF WORK WITH THE GENERAL CONTRACTOR PRIOR TO BID AND INCLUDE ALL COSTS IN BID AS DIRECTED BY THE GENERAL CONTRACTOR.
- Q. ALL INSTALLATIONS, EQUIPMENT AND MATERIAL SHALL COMPLY WITH ALL APPLICABLE LANDLORD REQUIREMENTS.
- R. PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.
- S. INSULATE ALL HOT, COLD, RECIRCULATION, AND INTERIOR CONDENSATE PIPING. SEE PLUMBING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- T. CONTRACTOR IS RESPONSIBLE FOR SCOPING AND RECORDING THE SANITARY MAIN FROM LEASE LINE TO LEASE LINE PRIOR TO AND AFTER ALL SANITARY TIE-INS ARE COMPLETED. CONTRACTOR SHALL PROVIDE LANDLORD WITH COPIES OF BOTH RECORDINGS ONCE TIE-INS ARE COMPLETED.
- U. PROVIDE STAINLESS STEEL ESCUTCHEON FOR ALL PIPE PENETRATIONS AT WALLS AND CEILINGS.



NOTE:  
THIS DETAIL IS SCHEMATIC IN NATURE AND FOR REFERENCE ONLY. MANUFACTURER INSTALLATION REQUIREMENTS ARE SUBJECT TO CHANGE. THEREFORE PRIOR TO INSTALLATION, CONTRACTOR SHALL REVIEW CURRENT MANUFACTURER INSTALLATION INSTRUCTIONS AND ADJUST AS REQUIRED FOR COMPLIANCE WITH INSTRUCTIONS AND ALL APPLICABLE CODE REQUIREMENTS. COORDINATE WITH BIBIBOP REPRESENTATIVE ANY DISCREPANCIES OR CHANGES.

STEAMER SCHEMATIC PIPING DETAIL  
NO SCALE

GAS PIPING GENERAL NOTES

- A. ALL EXPOSED PIPING SHALL BE PAINTED WITH A RUST INHIBITING PAINT.
- B. GAS TEST PRESSURE SHALL BE MEASURED WITH A CERTIFIED CALIBRATED (DIAPHRAGM) GAUGE OR MERCURY GAUGE (MANOMETER). SPRING GAUGES SHALL NOT BE USED.
- C. ALL GAS PIPING SHALL BE TESTED AT A PRESSURE OF 10 PSIG OR MINIMUM SIX INCHES (6") OF MERCURY.
- D. PROVIDE ADDITIONAL GAS PRESSURE REGULATORS AT EQUIPMENT CONNECTIONS AS REQUIRED. VERIFY WITH EQUIPMENT MANUFACTURER.
- E. SEE MECHANICAL SHEET FOR ADDITIONAL GAS PIPING INFORMATION, AND SHEET P300 FOR GAS PIPING SPECIFICATIONS.

GAS LOAD CALCULATIONS

FIXTURE	LOAD (CFH)	NOTES
WH-1	199	1
MAU-1	205	1
RICE COOKER (ITEM E46) 35 MBH X 2 =	70	1
GRIDDLE (ITEM E53)	120	1
RANGE (ITEM E51)	132	1
RTU-1	110	1
RTU-2	110	1
RTU-3	110	1
RTU-4	110	1
TOTAL	1166	

NOTES:  
1. PIPING SIZED PER TABLE 402.4(2) OF THE 2018 INTERNATIONAL FUEL AND GAS CODE BASED ON 125 FT OF EQUIVALENT PIPE LENGTH AT 0.5" WC. NOTIFY PROJECT MANAGER IMMEDIATELY WITH ANY DISCREPANCIES.

KEY NOTES:

1. CONNECT NEW 1-1/2" CW TO EXISTING CW SERVICE. ADJUST PIPING AND RELOCATED EXISTING BACKFLOW PREVENTER AS REQUIRED TO NEAREST WALL TO AVOID CONFLICTS WITH NEW SHELVING. COORDINATE ROUTING IN FIELD.
2. 1/2" CW AND 1/2" HW TO HAND SINK/LAVATORY. PROVIDE WATTS MODEL LFUSG-B (OR APPROVED EQUAL) THERMOSTATIC MIXING VALVE IN ACCESSIBLE LOCATION. VALVE SHALL HAVE ASSE 1070 LISTING AND BE SET TO MAX. 110°F. SEE DETAIL ON 2/P210.
3. NEW WATER HEATER TO BE INSTALLED ON CONTRACTOR PROVIDED 3" HOUSEKEEPING PAD ON FLOOR. VERIFY EXACT LOCATION IN FIELD.
4. PROVIDE BACKFLOW DEVICE WITH ASSE 1022 LISTING OR SIMILAR AS REQUIRED BY AHJ. EXTEND DRAIN FROM BACKFLOW DEVICE TO NEAREST DRAIN.
5. PROVIDE POWDER COATED OUTLET BOX WITH 1/2" 1/4-TURN BALL VALVE. COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER.
6. ROUTE THE KITCHEN EQUIPMENT INDIRECT WASTE PIPE TO THE NEAREST FLOOR SINK/FLOOR DRAIN. VERIFY EQUIPMENT INDIRECT WASTE SIZE WITH THE EQUIPMENT PROVIDER. TERMINATE INDIRECT WASTE PIPING WITH CODE APPROVED AIR GAP.
7. EXTEND CONDENSATE PIPING FROM EVAPORATOR AND TERMINATE AT FLOOR DRAIN WITH AIR GAP. ROUTE PIPING ALONG INTERIOR OF COOLER AND SEAL ALL PENETRATIONS. SEE DETAIL ON 9/P210.
8. CW, HW, FW, AND VENT PIPING ROUTED HORIZONTALLY IN IN PARTIAL HEIGHT WALL TO FULL HEIGHT WALL, THEN UP ABOVE CEILING AND CONTINUE AS INDICATED. SEE RISER DIAGRAMS.
9. EXTEND 3/4" HW AND CW PIPING TO 3-COMP SINK AS INDICATED, AND INDIRECT WASTE PIPING PER DETAIL 7/P210.
10. 3/4" FW-X DOWN WALL WITH VALVE FOR STEAMER CONNECTION. SEE DETAIL 2/P110 FOR REFERENCE DETAIL SHOWING PIPING SCHEMATIC FOR STEAMER. GENERAL CONTRACTOR TO COORDINATE WITH KITCHEN EQUIPMENT VENDOR TO SUBMIT FILTERED WATER SAMPLE TO STEAMER VENDOR TO DETERMINE IF AUXILIARY RO SYSTEM IS NECESSARY. IF RO SYSTEM IS REQUIRED, ALL RO PIPING AND FITTINGS TO BE APPROVED MATERIAL. PROVIDE DEDUCT ALTERNATE #1 IF AUXILIARY RO SYSTEM IS NOT REQUIRED.
11. WATER FILTER SYSTEM. SEE DETAIL 1/P210. COORDINATE INSTALLATION WITH MANUFACTURER AND KITCHEN EQUIPMENT CONTRACTOR.

KEY NOTES:

12. INLINE ICE MACHINE WATER FILTER UPSTREAM OF BACKFLOW PREVENTER. FILTER REQUIRES POWER CONNECTION. COORDINATE OUTLET LOCATION WITH ELECTRICAL CONTRACTOR.
13. SEE DETAIL 3/P210 FOR FLEXIBLE HOSE AND QUICK DISCONNECT AT KITCHEN EQUIPMENT INDICATED.
14. EXTEND 3" VENT THRU ROOF. ENSURE MIN. CODE REQUIRED DISTANCE OF 10'-0" FROM ALL FRESH AIR INTAKES.
15. BEFORE WATER FILTER (ITEM E9) HAS BEEN INSTALLED, CONTRACTOR SHALL VERIFY INLET PRESSURE OF CW. IF PRESSURE IS AT OR BELOW 40 PSI, CONTRACTOR SHALL PROVIDE LITTLE GIANT MODEL INLINE 400 BOOSTER PUMP, WITH EXPANSION TANK, CHECK VALVES, BALL VALVES, ETC. PER MANUFACTURER INSTALLATION INSTRUCTIONS UPSTREAM OF WATER FILTER. PROVIDE PRV AS REQUIRED, AND SET TO ACHIEVE 35 PSI AT FURTHEST FW OR FW-X OUTLET. NOTIFY PROJECT MANAGER AND ARCHITECT WITH ANY DISCREPANCIES. THIS WORK SHALL BE ADD ALTERNATE #2.
16. PROVIDE BALL VALVE, DIRT LEG, UNION AND PRESSURE REGULATOR (AS REQUIRED) FOR WATER HEATER GAS CONNECTION.
17. INSTALL GAS SOLENOID SHUT-OFF VALVE FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR WITH MANUAL RESET BELOW THE CEILING IN AN ACCESSIBLE LOCATION. COORDINATE WITH BIBIBOP CONSTRUCTION MANAGER AND LOCAL AHJ.
18. EXTEND GAS SUPPLY BEHIND COOK LINE WALL. GAS PIPING TO RUN ALONG BACK SIDE OF COOK LINE WALL @ 14" A.F.F. EXTEND TO EQUIPMENT AS INDICATED.
19. EXTEND 4" PVC COMBUSTION AIR INTAKE AND FLUE PIPING UP THRU ROOF AND TERMINATE WITH MANUFACTURER APPROVED CONCENTRIC FITTING. MAINTAIN MIN. DISTANCE OF 10'-0" FROM ALL FRESH AIR INTAKES AND INSTALL PER MANUFACTURER INSTRUCTIONS.
20. NEW GAS PIPING UP THRU ROOF. SEE M110 FOR CONTINUATION, AND DETAIL 8/P210.
21. FURNISH AND INSTALL SHUTOFF VALVE IN GAS LINE TO EQUIPMENT LOCATED BELOW HOOD. VALVE TO BE LOCATED IN ACCESSIBLE LOCATION.

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PROJECT:



BIBIBOP  
asian grill

STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E

LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: TAB

CHECKED BY: GMS

ISSUES AND REVISIONS:

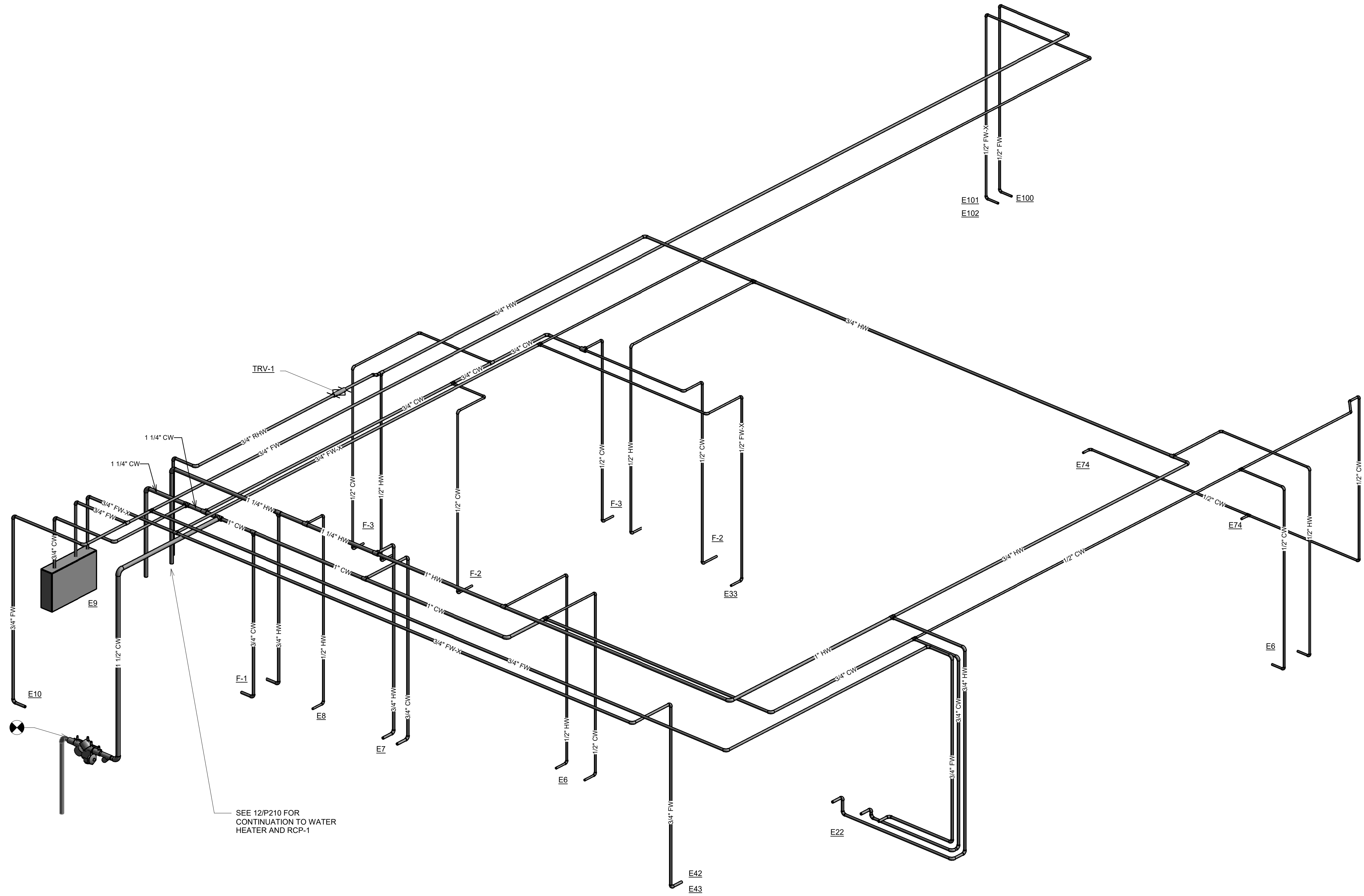
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SHEET TITLE:

PLUMBING PLAN

P110





1 DOMESTIC WATER RISER DIAGRAM  
NO SCALE



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SHEET TITLE:  
PLUMBING SCHEDULES

P200

KITCHEN EQUIPMENT SCHEDULE (FURNISHED BY OTHERS, INSTALLED BY CONTRACTOR)

EQUIPMENT TAG	DESCRIPTION	CONNECTION SIZE									GAS (IN)	GAS (MBH)	MECHANICAL NOTES
		CW (IN)	HW (IN)	FW (IN)	FW-X (IN)	RO (IN)	INDIRECT WASTE (IN)	DIRECT WASTE (IN)	VENT (IN)				
E1	WALK-IN COOLER						3/4						1, 5
E6	HAND SINK W/ EYEWASH	1/2	1/2					1-1/2	1-1/2				2
E7	3-COMP. SINK	3/4	3/4				2						1, 6
E8	FUTURE DISHWASHER		1/2				1						1
E9	WATER FILTER SYSTEM	3/4		3/4	3/4								1, 7
E10	BAG-IN-BOX BEVERAGE STORAGE			3/4									3
E22	2-COMP. PREP SINK	3/4	3/4	3/4			2						1, 4
E33	TEA MAKER				1/2								3
E42	ELECTRIC STEAMER					3/4	1-1/2						1
E43	RO SYSTEM AND STORAGE TANK				3/4	3/4	1/2						1, 3
E46	RICE COOKER									3/4	35		8
E51	GAS RANGE									3/4	132		8
E53	GAS GRIDDLE									3/4	120		8
E61.1	HOT FOOD TABLE						1						1
E72	DROP-IN COLD WELL						1						1
E74	DROP-IN HOT WELL	1/2					1						1
E75	DROP-IN COLD WELL						1						1
E76	DROP-IN COLD PAN						1						1
E100	ICE & BEVERAGE DISPENSER			1/2			3/4						1, 3
E101	ICE MAKER				1/2		3/4						1, 3
E102	ANTIMICROBIAL ICE PROTECTION				1/2								
E106	DRAIN TRAY						3/4						1

- MECHANICAL NOTES:
- INDIRECT WASTE TO FLOOR SINK/FLOOR DRAIN - TERMINATE WITH AIR GAP.
  - ADD EYEWASH ATTACHMENT, FURNISHED BY KITCHEN EQUIPMENT VENDOR, INSTALLED BY CONTRACTOR.
  - PROVIDE ASSE 1022 BACKFLOW PREVENTER, OR AS REQUIRED BY LOCAL AHJ.
  - HW & CW TO LEFT FAUCET, FCW TO RIGHT FAUCET
  - SEE COOLER SHOP DRAWINGS AND DETAIL 9/P210
  - SEE DETAIL 7/P210
  - SEE DETAIL 1/P210
  - SEE DETAIL 3/P210

WATER HEATER SCHEDULE - GAS

EQUIPMENT TAG	WATER		GAS INPUT (MBH)	EFFICIENCY (%)	ELECTRICAL DATA	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
	STORAGE CAPACITY (GAL)	RECOVERY RATE (GPH)						
WH 1	100	235	199	97	SEE ELEC.	AO SMITH	BTH-199A	1

- MECHANICAL NOTES:
- EQUAL BY BRADFORD WHITE, PVI, OR RHEEM ARE ACCEPTABLE.

DOMESTIC WATER PUMP SCHEDULE

EQUIPMENT TAG	APPLICATION	TYPE	GPM	DISCHARGE HEAD (FT)	RPM	BHP	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
RCP 1	HOT WATER RECIRCULATION	INLINE		7	2800	1/40	1/2	1/2	BELL & GOSSETT	NBF-8S/LW	1,2,3,4

- MECHANICAL NOTES:
- LEAD-FREE BRONZE BODY
  - PROVIDE WITH AQUASTAT CONTROL AND TIME CLOCK
  - EQUAL BY TACO OR GRUNDFOS ARE ACCEPTABLE
  - SEE DETAIL 12/P210.

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE DESCRIPTION	FIXTURE	FAUCET	WASTE (IN)	VENT (IN)	CW (IN)	HW (IN)	MECHANICAL NOTES
F-1	SERVICE SINK	FIAT MODEL: MSB-2424	CHICAGO FAUCET MODEL: 540-LD897SGCCP	3	1-1/2	3/4	3/4	MOLDED STONE RESIN MOP SERVICE BASIN WITH 10" HIGH WALLS COMPLETE WITH STAINLESS STEEL STRAINER AND DRAIN FOR CAULKED CONNECTION WALL. MOUNTED FAUCET WITH CHECK VALVES TO PREVENT CROSSOVER BETWEEN HOT AND COLD. VACUUM BREAKER, SPOUT WITH 3/4" HOSE THREADS, INTEGRAL STOP ARMS, CHROME FINISH, AND WALL BRACE. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. SEE DETAIL ON 6/P210.
F-2	LAVATORY	AMERICAN STANDARD MODEL 0643.001 "STUDIO"	AMERICAN STANDARD MODEL 2590.101 "STUDIO"	2	1-1/2	1/2	1/2	WHITE, RECTANGULAR, CERAMIC LAVATORY. BOWL OVERALL SIZE: 18"Wx12"Lx4.5"D, SINGLE CENTER HOLE, FRONT OVERFLOW. PROVIDE CHROME P-TRAP W/ CO PLUG & CLOSED CELL PVC INSULATED WASTE & SUPPLY PIPING COVERS W/ HINGED ACCESS
F-3	WATER CLOSET	AMERICAN STANDARD CHAMPION 4 MODEL: 2002.014/2002.804 5906.110	N/A	3	2	1/2		WHITE VITREOUS CHINA FLOOR SET FLUSH TANK ADA WATER CLOSET WITH ELONGATED BOWL, 16 GALLONS PER FLUSH, 3/8" ANGLE STOP & SOLID PLASTIC WHITE EXTRA HEAVY DUTY TOILET SEAT - AMERICAN STANDARD #5905.110 OR EQUAL. SIDE TRIP LEVER SHALL BE LOCATED ON THE OPEN SIDE OF THE TOILET AWAY FROM THE WALL OR OTHER OBSTRUCTION. SIDE TRIP LEVER SHALL BE LOCATED ON THE OPEN SIDE OF THE TOILET AWAY FROM THE WALL IN COMPLIANCE WITH ADA STANDARDS. (MODEL #2002.014 FOR LEFT SIDE TRIP LEVER; #2002.804 FOR RIGHT SIDE). CAULK FIXTURE TO FLOOR WITH CLEAR SILICONE.
FCO TRV-1	FLOOR CLEANOUT THERMOSTATIC RECIRCULATION VALVE	SIoux CHIEF MODEL:834-4DNR THERM-OMEGA-TECH, INC MODEL: CS-3/4-120	N/A N/A	4			3/4	FULLY ADJUSTABLE ROUND CLEANOUT WITH POLISHED CAST NICKEL RING & COVER INSTALL PER MANUFACTURER RECOMMENDATIONS
WCO	WALL CLEANOUT	SIoux CHIEF MODEL:873	N/A	AS SHOWN				ROUND STAINLESS STEEL WALL ACCESS COVER WITH SCREW AND BRASS PLUG.
WHA	WATER HAMMER ARRESTOR	WILKINS MODEL:1250	N/A			AS REQUIRED		WATER HAMMER ARRESTORS PROVIDED AS DETERMINED BY SITE CONDITIONS

FLOOR DRAIN SCHEDULE

EQUIPMENT TAG	SIZE (IN)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
FD-1	AS SHOWN	SIoux CHIEF	832-3DNR	FULLY ADJUSTABLE ROUND FLOOR DRAIN WITH POLISHED CAST NICKEL STRAINER. MEETS ANSI/ASME FLOOR DRAIN STANDARD A112.6.3-2001

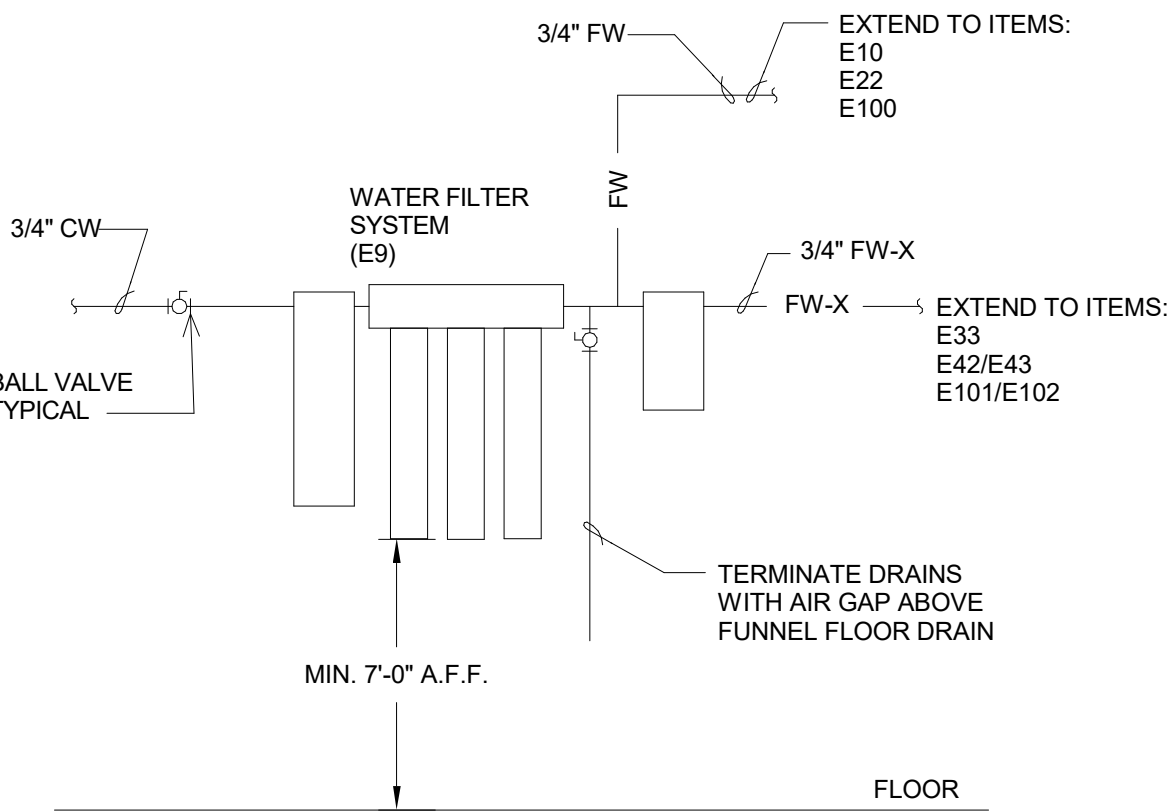
FLOOR SINK SCHEDULE

EQUIPMENT TAG	SIZE (IN)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
FS-1	AS SHOWN	SIoux CHIEF	861-XPDW2	FLOOR SINK WITH PVC BODY, PROVIDE WITH DOME STRAINER, STAINLESS STEEL DEBRIS SCREEN, AND 1/2 OPEN PVC GRATE. SEE DETAIL 10/P210
FS-2	AS SHOWN	SIoux CHIEF	861-2XX2WD	CAST IRON FLOOR SINK WITH ACID RESISTANT PORCELAIN ENAMEL COATING (ARE), PROVIDE WITH DOME STRAINER, STAINLESS STEEL DEBRIS SCREEN, AND 1/2 OPEN CAST IRON GRATE WITH ARE COATING. SEE DETAIL 10/P210
FS-3	AS SHOWN	SIoux CHIEF	861-XPNDW2	FLOOR SINK WITH PVC BODY, PROVIDE WITH DOME STRAINER, STAINLESS STEEL DEBRIS SCREEN, AND NICKEL BRONZE RING WITH FULL NICKEL BRONZE GATE. SEE DETAIL 10/P210

TRENCH DRAIN SCHEDULE

EQUIPMENT TAG	DRAIN BODY		GRATE		LENGTH (FT)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
	MATERIAL	WIDTH (IN)	OUTLET (IN)	MATERIAL	WIDTH (IN)			
TD-1	CAST IRON	6	AS SHOWN	DUCTILE IRON	6	3	MIFAB	6" WIDE TRENCH DRAIN SYSTEM. 4" BOTTOM OUTLET COMBINE EXTENSION AS REQUIRED TO ACHIEVE 36" LENGTH. SEE DETAIL 10/P210 FOR SIMILAR INSTALLATION. EQUAL BY ALTERNATE MANUFACTURER MAY BE ACCEPTABLE WITH PRIOR APPROVAL.

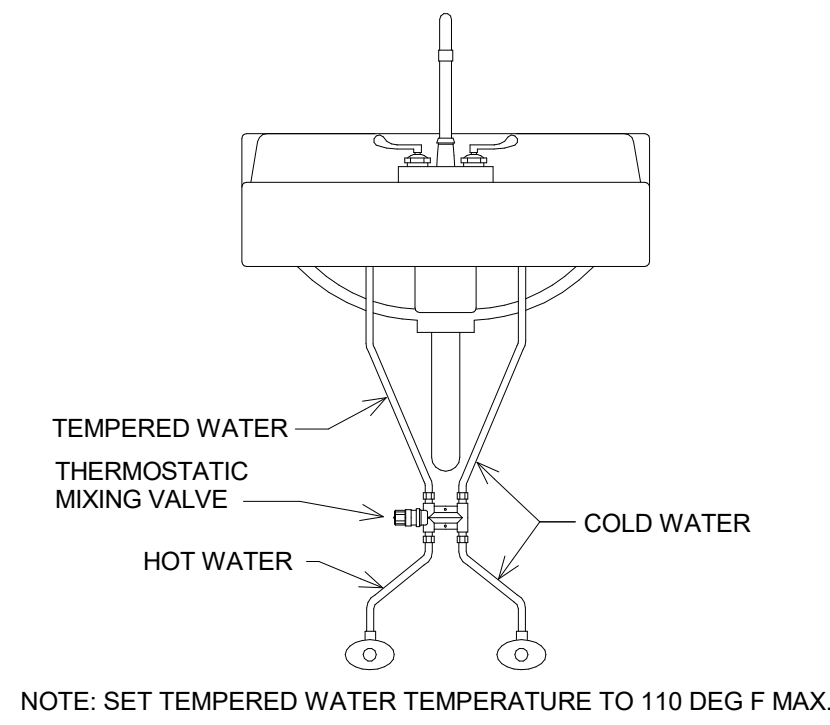




NOTE:  
SCHEMATIC BASED ON MANUFACTURER INSTALLATION DETAIL. COORDINATE  
INSTALLATION WITH MANUFACTURER AND KITCHEN EQUIPMENT VENDOR.

### 1 FILTERED WATER SCHEMATIC

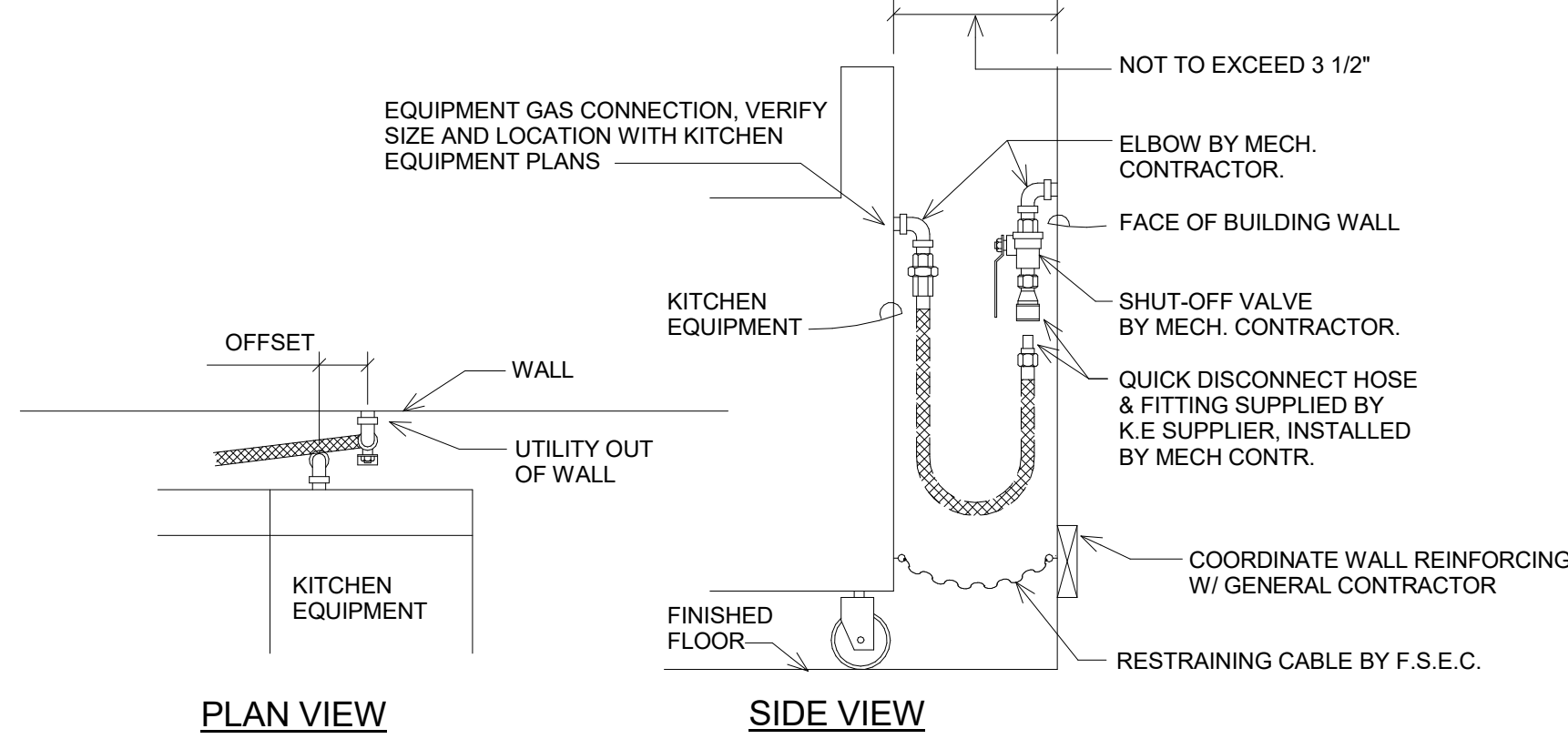
NO SCALE



NOTE: SET TEMPERED WATER TEMPERATURE TO 110 DEG F MAX.

### 2 THERMOSTATIC MIXING VALVE DETAIL

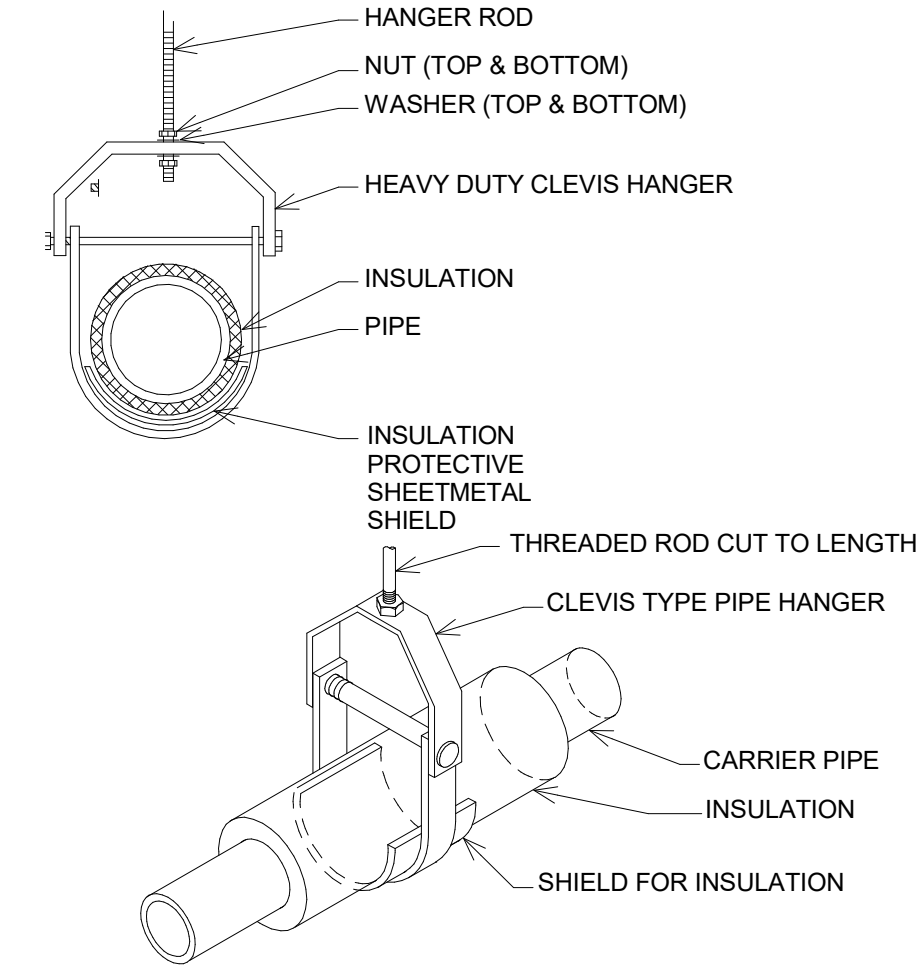
NOT TO SCALE



NOTE: IF UTILITY INLET IS NOT AT HEIGHT SHOWN,  
MECHANICAL CONTRACTOR TO PROVIDE PIPING WITH  
ELBOWS TO RAISE INLET.

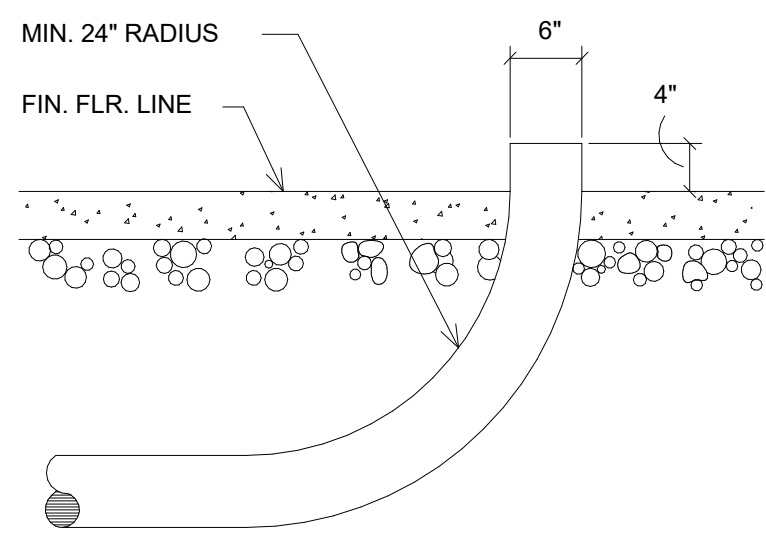
### 3 GAS PIPING DETAIL AT KITCHEN EQUIPMENT

NO SCALE



### 4 PIPE HANGER DETAIL

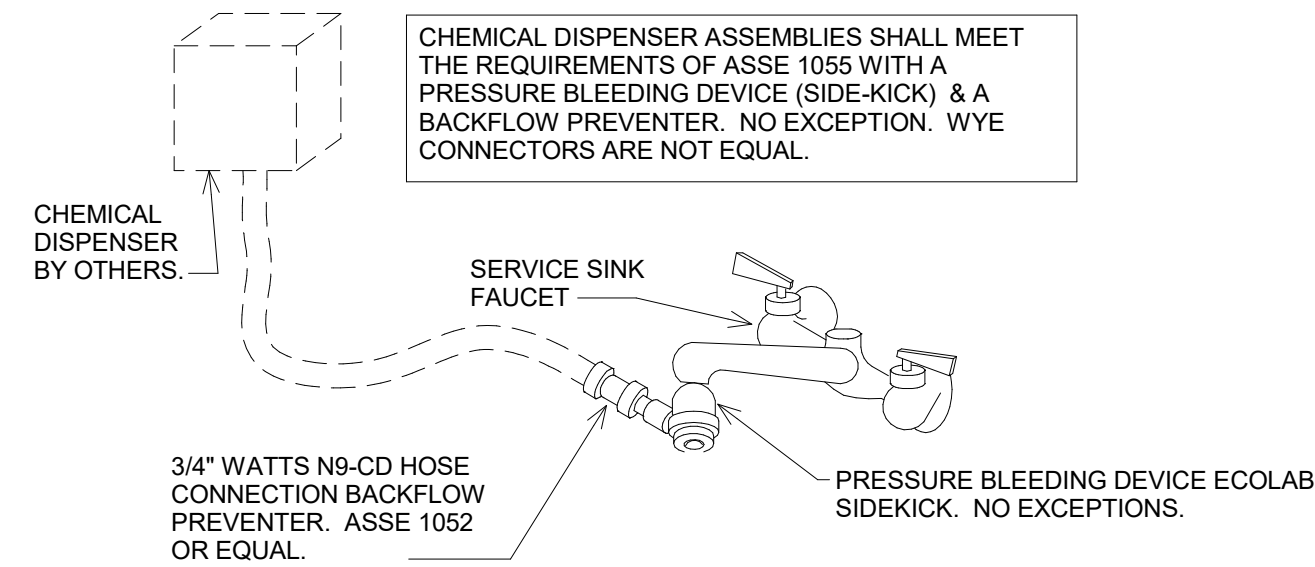
NO SCALE



- CONDUIT TO BE WATER TIGHT PVC AND MUST HAVE A SMOOTH INTERIOR WITH A MINIMUM INSIDE DIAMETER OF 6".
- SLEEVE TO HAVE LEAK-TIGHT JOINTS AND MUST HAVE ONLY ONE (1) 24" RADIUS SWEEP BEND AT EACH END.
- EXPOSED ENDS OF CONDUIT TO BE STUBBED-UP A MINIMUM OF 4" ABOVE FINISHED FLOOR, CAPPED AND SEALED AT BOTH ENDS DURING CONSTRUCTION.
- AFTER DRINK LINES ARE INSTALLED (BY OTHER), OPEN ENDS ARE TO BE FILLED AND SEALED WATERTIGHT APPROXIMATELY 2" TO 4" AT EACH END.
- AFTER GAS PIPING IS INSTALLED IN SLEEVE BOTH ENDS SHALL NOT BE SEALED.

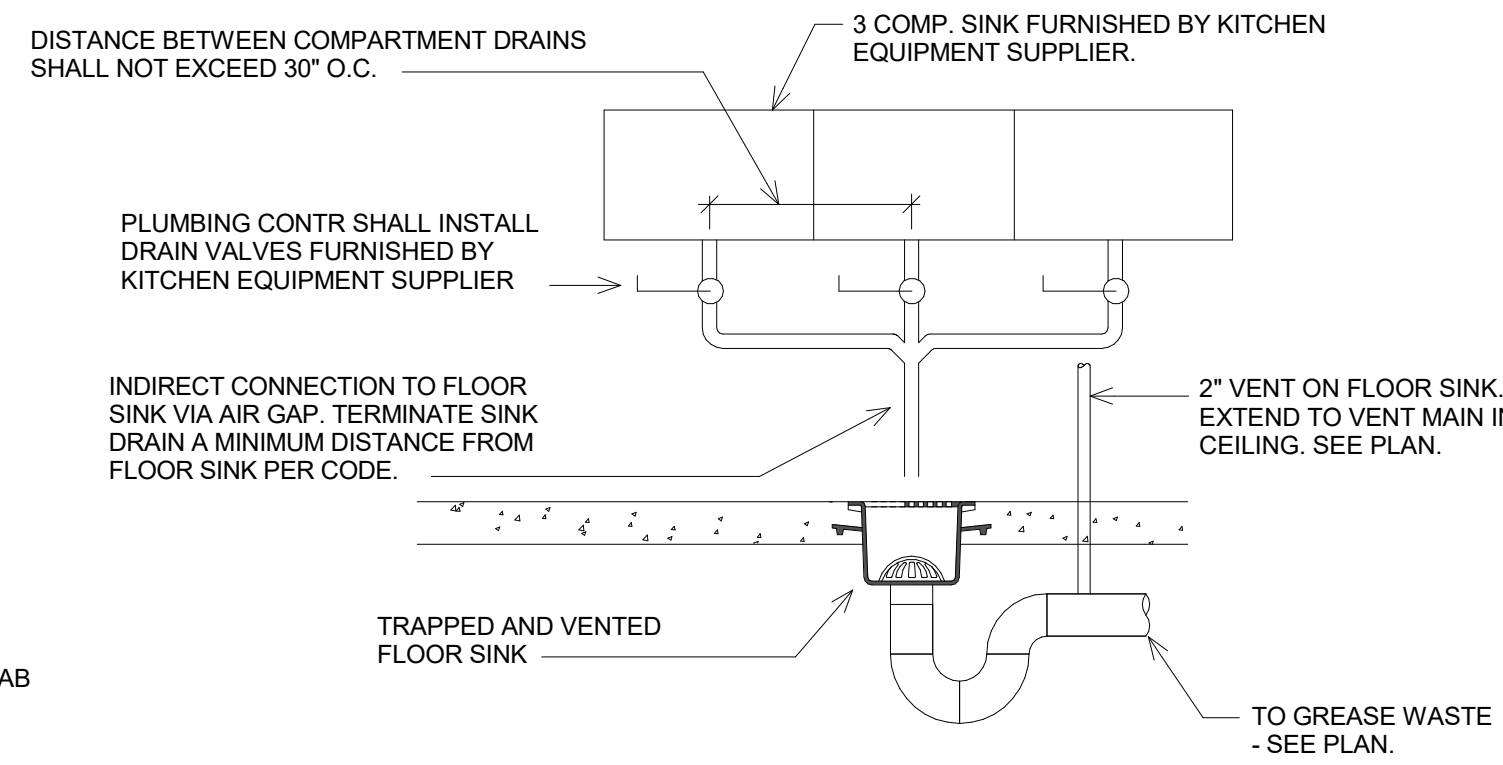
### 5 PVC SLEEVE DETAIL

NO SCALE



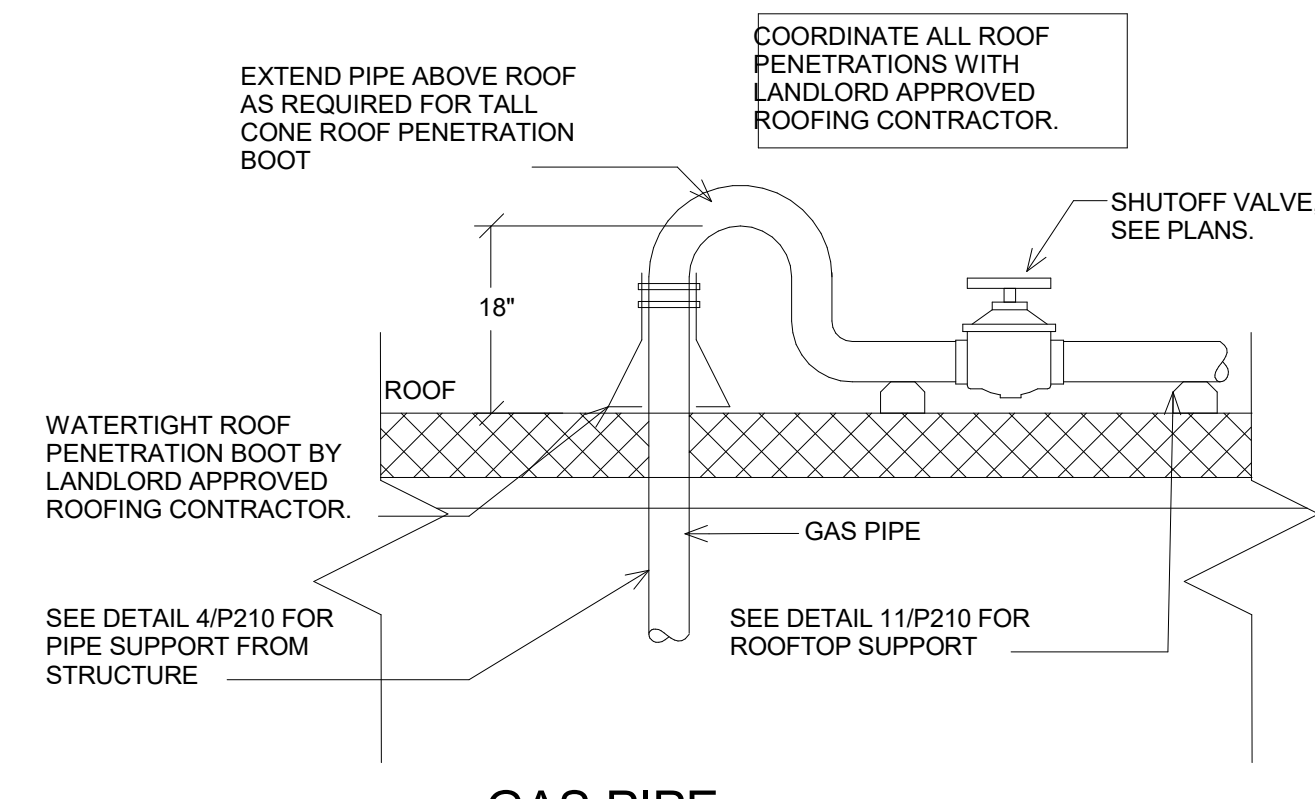
### 6 CHEMICAL DISPENSER VACUUM BREAKER DETAIL

NO SCALE



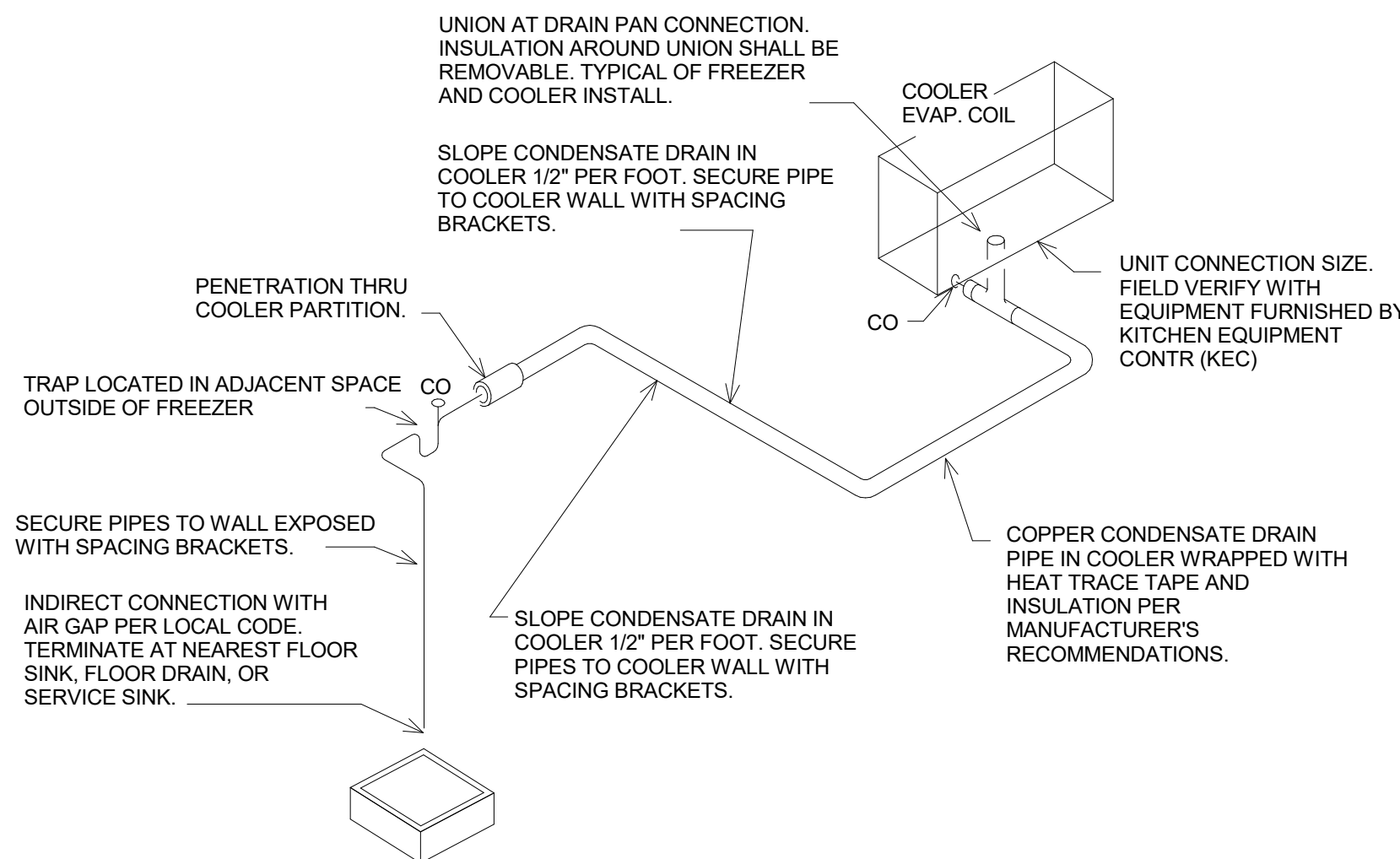
### 7 3-COMP SINK DETAIL

NO SCALE



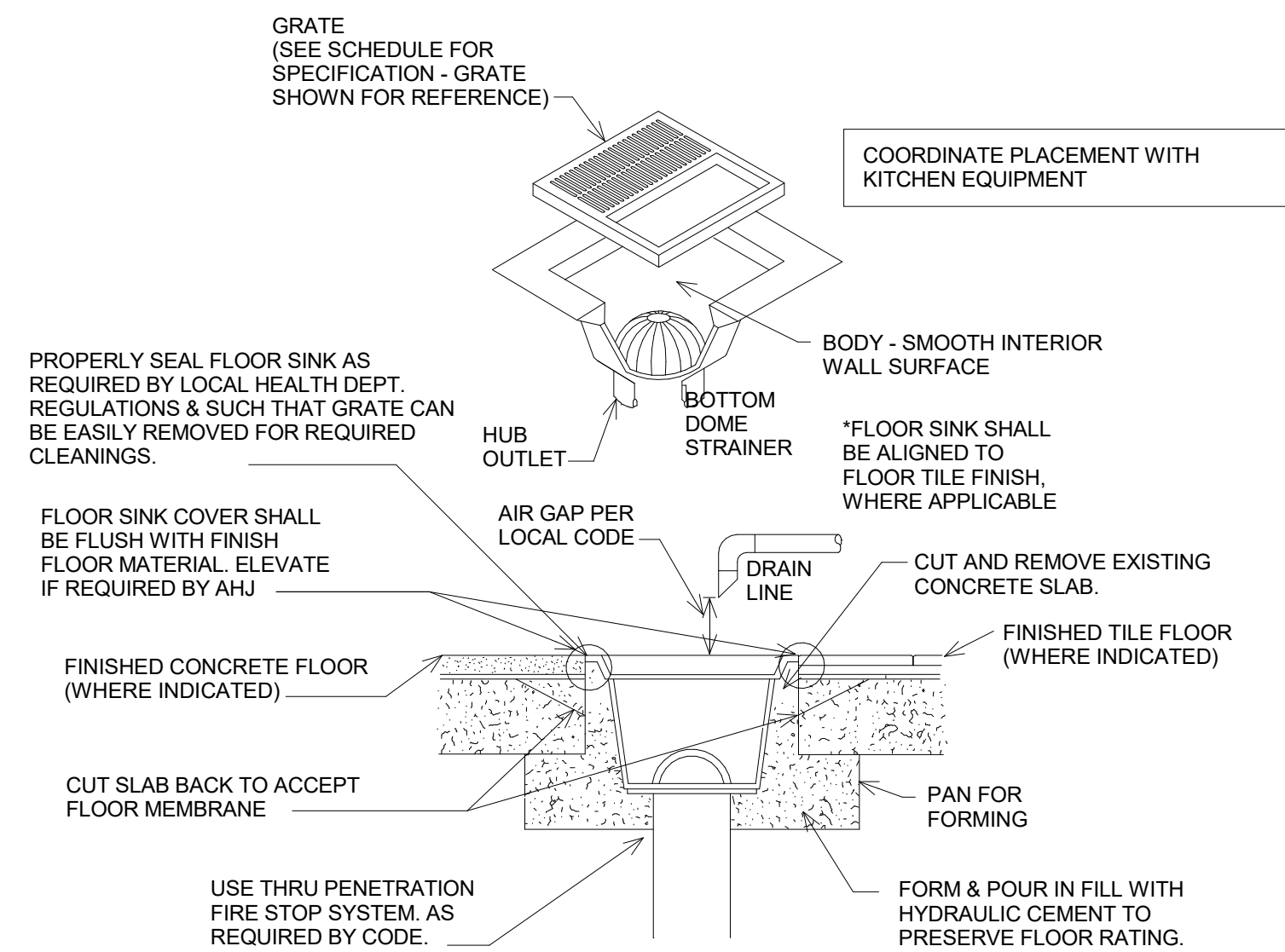
### 8 GAS PIPE PENETRATION THRU ROOF

NO SCALE



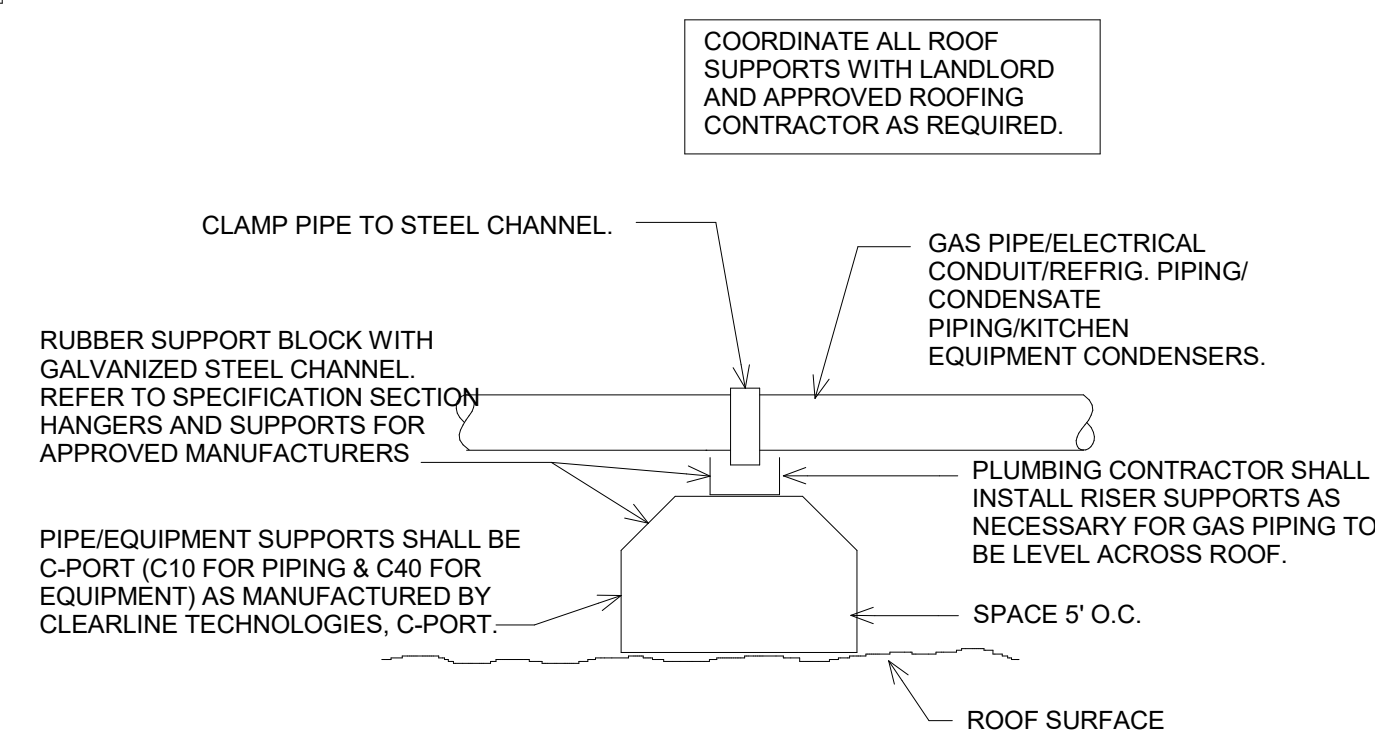
### 9 EVAPORATOR CONDENSATE DRAIN DETAIL

NO SCALE



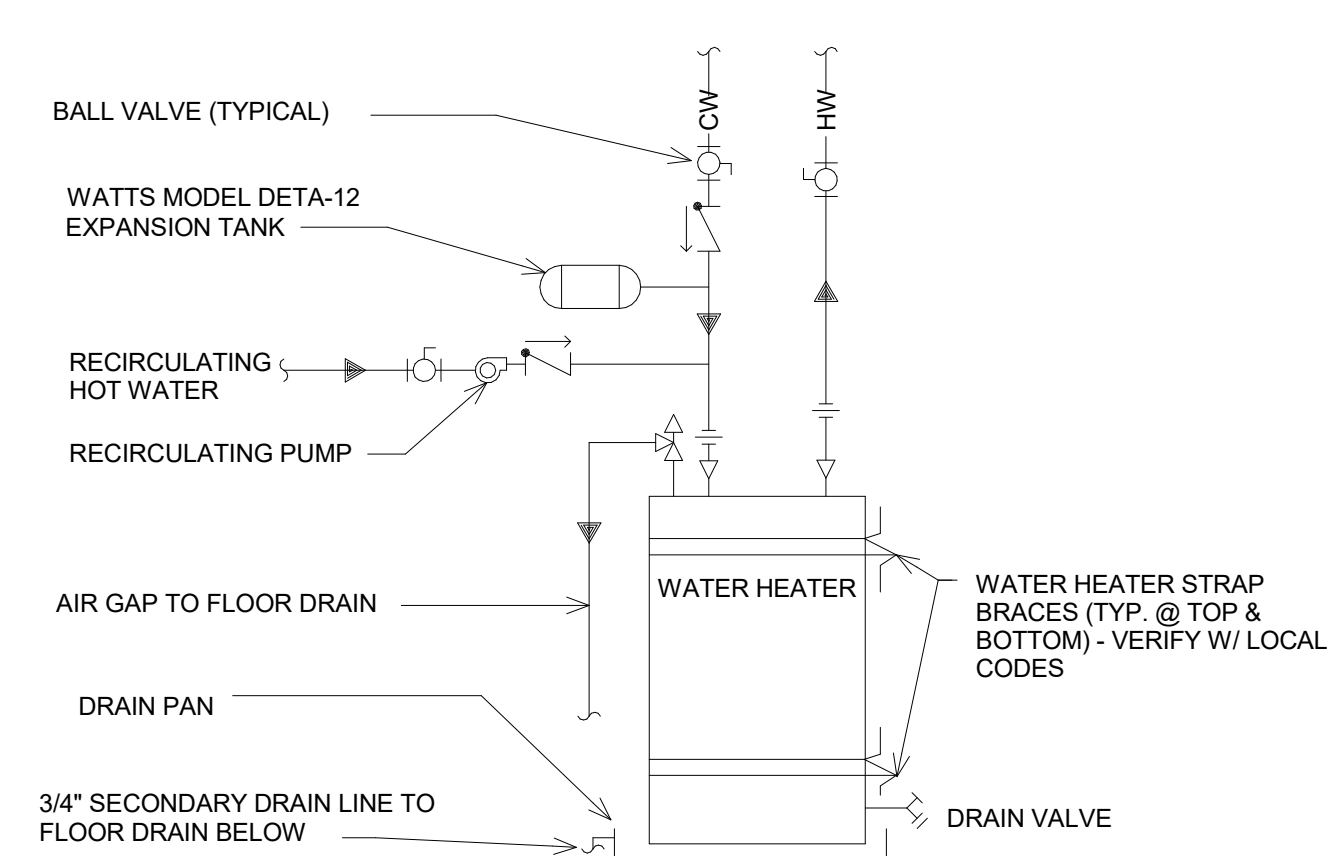
### 10 FLOOR SINK DETAIL

NO SCALE



### 11 ROOF PIPE/EQUIPMENT SUPPORT DETAIL

NO SCALE



### 12 WATER HEATER WITH RECIRCULATING PUMP PIPING DETAIL

N.T.S.

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**PLUMBING DETAILS**

**P210**



1. THE DRAWINGS AND GENERAL CONDITIONS, INCLUDING SUPPLEMENTARY GENERAL CONDITIONS SHALL APPLY TO ALL WORK IN DIVISION 15000.

2. THE CONTRACTOR FOR THIS DIVISION SHALL REVIEW THE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, CHECK THE SAME FOR CONFLICTS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS BEFORE SUBMITTING A PROPOSAL. ANY APPARENT VARIANCES OF THE PLAN OR SPECIFICATION FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO THAT CLARIFICATION CAN BE MADE BY ADDITIONAL ITEMS KNOWN TO BE INCONSISTENT WITH THE BID DOCUMENTS INTENT MUST BE LIFTED AND QUALIFIED OR THE BID PERIOD NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTORS MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK.

3. COORDINATION OF SCHEDULING FOR COMPLETION AND ALL INSPECTIONS OF THEIR WORK AND WORK OF SUBCONTRACTORS IS THE RESPONSIBILITY OF THIS CONTRACTOR.

4. BEFORE SUBMITTING THE BIDDING PROPOSAL THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, EACH BIDDER SHALL EXAMINE THE SITE, CHECK AS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS. MECHANICAL EQUIPMENT AND SYSTEMS SHOWN AS EXISTING ON THE PLANS HAVE BEEN BASED ON EXISTING DRAWINGS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK.

5. ANY APPARENT VARIANCE OF THE PLAN OR SPECIFICATION FROM EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO CLARIFICATION CAN BE MADE BY ADDENDUM.

1. WORK TO BE ACCOMPLISHED ON THESE DRAWINGS AND SPECIFICATIONS INCLUDES FURNISHING ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE COMPLETION OF ALL MECHANICAL WORK. ALL MATERIALS AND EQUIPMENT ARE NOTED TO BE SPECIFICALLY BY THE LANDLORD AS THE RESPONSIBILITY OF THIS CONTRACTOR.
2. THIS CONTRACTOR AND THEIR SUB CONTRACTORS SHALL WORK CLOSELY WITH THE TENANT PROJECT MANAGER FOR COORDINATION OF TRADES AND COMPLETION OF THE PROJECT.
3. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN EITHER ONE SHALL BE AS BINDING AS IF CALLED FOR IN BOTH. ANY ITEM OR LABOR THAT IS NECESSARY TO COMPLETE THE WORK NOT SPECIFICALLY NOTED UNDER A SIMILAR WORK SCOPE SHALL BE FURNISHED AND INSTALLED AS PART OF THE CONTRACT WHETHER OR NOT IT IS SHOWN ON THE PLANS OR IN THE SPECIFICATIONS.
4. WHEN THE INCLUDED DRAWINGS AND/OR SPECIFICATIONS CALL OF ITEMS WHICH EXCEED THE LANDLORDS TENANT CRITERIA OR EXCEED CODE, IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE LANDLORD OF THE VIOLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SPECIFICATIONS. IF THE PLANS AND SPECIFICATIONS HAVE DISCREPANCIES BETWEEN THEM, THE CONTRACTOR SHALL ASSUME IN THEIR FAVOR THE MORE STRINGENT ITEM IS REQUIRED AT NO ADDITIONAL COST.
5. ALL PIPING, DUCTWORK AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED TO PRESENT A NEAT AND CLEAN APPEARANCE USING GOOD CONSTRUCTION PRACTICES. EQUIPMENT SHALL BE INSTALLED FOR PROPER ACCESS, OPERATION, SERVICE AND MAINTAIN THE EQUIPMENT WITHOUT HAVING TO MOVE OTHER EQUIPMENT FOR ACCESS. ANY MECHANICAL EQUIPMENT (OR EXISTING EQUIPMENT TO REMAIN) THAT REQUIRES ACCESS PANELS SHALL HAVE THOSE PANELS FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
6. UNLESS SPECIFICALLY NOTED ON THE PLANS/SPECIFICATIONS ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS SPECIFICALLY NOTED TO CONFORM TO THE REQUIREMENTS OF THE LANDLORDS TENANT CRITERIA, LOCAL AND STATE CODES GOVERNING THE WORK INVOLVED AND BE MADE BY NATIONALLY RECOGNIZED MANUFACTURES WITH UL LISTINGS AND LABELS.

1. ALL WORK SHALL BE INSTALLED IN CONFORMITY OF THE LANDLORDS TENANT CRITERIA, AND APPLICABLE LOCAL CODES AND ORDINANCES AND STATE STATUTES. ALL REQUIREMENTS OF THE CURRENT PLUMBING CODES, HEATING AND VENTILATION CODES, HEALTH AND SAFETY CODES, AND ELECTRICAL CODES SHALL BE COMPLIED WITH BY THE CONTRACTOR. THE CONTRACTOR TO INQUIRE INTO AND COMPLY WITH ALL LOCAL ORDINANCES AND INCLUDE ANY ADDITIONAL ITEMS NOT NOTED IN THE PLANS/SPECIFICATIONS IN THEIR BID. ANY CHANGES TO THE MECHANICAL SYSTEM AS REQUIRED BY LOCAL, STATE OR TENANT CRITERIA THAT ARE NOT QUALIFIED IN THE CONTRACTORS BID FORM ARE ASSUMED TO BE INCLUDED IN THE ORIGINAL BID. ANY ADDITIONAL COSTS WILL NOT BE DUE TO COMPLETE THOSE ITEMS AFTER THE CONTRACT IS ISSUED.

1. THIS CONTRACTOR IS RESPONSIBLE FOR ALL FEES, CHARGES AND OBLIGATIONS FOR OBTAINING PERMITS AND INSPECTIONS FOR PLUMBING, HEATING AND VENTILATION AND FIRE EXTINGUISHING WORK.
2. ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTIONS SHALL BE TURNED OVER TO THE TENANT'S PROJECT MANAGER AT THE COMPLETION OF THE PROJECT.

IN ANY CASE WHERE A SPECIFIC NAME OF EQUIPMENT OR MATERIAL IS MENTIONED ON THE DRAWINGS OR SPECIFICATIONS THE EXACT EQUIPMENT SHALL BE USED FOR THE BASE BID. EQUIPMENT OF A LOWER QUALITY THAN THAT SPECIFIED SHALL BE USED AT THE TENANT'S PROJECT MANAGER AND THE ENGINEER IN WRITING THRU THE SHOP DRAWING SUBMITTAL PROCESS. ANY EQUIPMENT INSTALLED WITHOUT WRITTEN APPROVAL WILL BE CHARGED TO THE TENANT. EQUIPMENT OF A HIGHER QUALITY THAN SPECIFIED WILL BE CHARGED TO THE CONTRACTOR.

MECHANICAL CONTRACTOR SHALL SUBMIT 3 COPIES OF SHOP DRAWINGS TO THE TENANT'S PROJECT MANAGER FOR APPROVAL. IF APPROVED, COPIES WILL BE STAMPED "NO EXCEPTIONS" OR "APPROVED AS NOTED" AND WILL BE RETURNED TO THE CONTRACTOR. IF NOTATIONS AND COMMENTS INDICATE REVISED INFORMATION IS REQUIRED, THEN CORRECTED INFORMATION SHALL BE SUBMITTED.

1. THIS CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR AND DEFECTS WHICH MAY DEVELOP IN ANY PART OF THE SYSTEMS CAUSED BY FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT, AND AGREES TO REPLACE ANY SUCH FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT DURING A PERIOD OF 12 MONTHS OF WARRANTY. IN ADDITION, THE CONTRACTOR SHALL, AT THE OWNER'S OPTION, EXTEND THE WARRANTY (LONGER THAN 12 MONTHS) FOR EQUIPMENT WILL BE NOTED ON THE SCHEDULES, PLANS OR SPECIFICATIONS.
2. EACH PIECE OF EQUIPMENT FURNISHED BY THE CONTRACTOR SHALL HAVE A 12 MONTH WARRANTY FOR MATERIAL AND LABOR AT STARTS UPON THE DATE OF FINAL ACCEPTANCE AS DETERMINED BY THE OWNER. THE COST OF THE WARRANTY (MATERIAL AND LABOR) SHALL BE INCLUDED IN THE ORIGINAL BID.

1. THIS CONTRACTOR SHALL MAINTAIN AT THE JOB SITE A SET OF DRAWINGS TO BE USED SPECIFICALLY FOR RECORDING CHANGES FROM THE CONTRACT DOCUMENTS. THE INFORMATION SUCH AS VALVES, DUCT AND PIPE DEVIATIONS SHOULD BE DIMENSIONED FROM EASILY RECOGNIZABLE REFERENCE POINTS INDICATING BOTH HORIZONTAL AND VERTICAL DISTANCES.
2. THE CONTRACTOR SHALL PROVIDE TO THE OWNER AT THE END OF THE PROJECT A SET OF AS-BUILT DRAWINGS TO THE TENANTS' PROJECT MANAGER AT THE COMPLETION OF THE PROJECT.
3. THE CONTRACTOR SHALL SUBMIT TO THE TENANTS' PROJECT MANAGER AT THE END OF THE PROJECT (2) COMPLETE HARD BOUND SET OF CATALOG DATA, MANUFACTURES LITERATURE, DETAIL MANUALS COVERING THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT SPECIFIED.

1. THE DRAWINGS OF PIPING AND DUCTWORK SYSTEMS SHALL BE INSTALLED SUBSTANTIALLY AS SHOWN ON THE PLANS. THE EXACT POSITION OF EACH AND EVERY PIPE, DUCT, OFFSET AND TRANSITION CANNOT BE GIVEN BY SCALING THE DRAWINGS BUT SHALL IN EVERY CASE BE PLACED SO AS TO AVOID INTERFERENCE WITH OTHER WORK. ALL NECESSARY CHANGES IN THE LOCATION OF PIPE OR DUCTWORK FOR ITS PROPER INSTALLATION AND TO AVOID CONFLICT WITH OTHER TRADES SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL CHARGE.

1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE WITH THE GENERAL CONTRACTOR ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.
2. EACH CONTRACTOR SHALL BE AWARE OF WORK WITH THE GENERAL CONTRACTOR FOR THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT BEING REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE.
3. CONTRACTOR MUST VERIFY WITH THE LANDLORD ALL PRESUMED ABANDONED EQUIPMENT, PIPE DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. EXTRANEOUS ITEMS IN THE SPACE ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOFWALL/FLOOR PATCHED/REMOVED TO MATCH EXISTING STRUCTURE.
4. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT.
5. IF REQUIRED BY LANDLORD OR CURBS, ABANDONED EQUIPMENT OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION WITH THE GENERAL CONTRACTOR AND TENANT PRIOR TO BID AND INCLUDE IN BID PROPOSAL AS DIRECTED BY THE GENERAL CONTRACTOR AND TENANT.

1. THIS CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF HIS EQUIPMENT IN THE BUILDING WALLS, PARTITIONS, FLOORS, CEILINGS, ETC., UNLESS OTHERWISE NOTED. ALL CUTTING AND PATCHING SHALL BE SUBJECT TO THE DIRECTION OF THE LANDLORD, ARCHITECT OR ENGINEER.
2. THE CONTRACTOR SHALL NOT ENDANGER THE STABILITY OF THE STRUCTURE BY CUTTING, DIGGING OR OTHERWISE ALTERING THE STRUCTURE AND SHALL NOT AT ANY TIME CUT OR ALTER WORK OF ANY OTHER CONTRACTOR.
3. PATCHING OF WALLS, FLOORS AND ROOF SHALL BE OF SAME MATERIAL AND WORKMANSHIP OF THE SURROUNDING MATERIAL WITH FINISHED SURFACE APPEARING THE SAME AS THE SURROUNDING AREAS. ALL PATCHING SHALL BE PERFORMED BY WORKMEN SKILLED IN THAT PARTICULAR TRADE.
4. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR IN A SUITABLE MANNER ACCEPTABLE TO THE LANDLORD AND TENANT'S PROJECT MANAGERS.

1. THIS CONTRACTOR SHALL INSTALL SLEEVES IN CONNECTION WITH ALL PIPES PASSING THROUGH ALL WALLS, PARTITIONS AND FLOORS. SLEEVES SHALL EXTEND THROUGH FULL THICKNESS OF WALLS AND FLOORS AND SHALL BE FINISHED WITH THE FINISHED SURFACES. SLEEVES IN SLAB SHALL BE CUT 2" ABOVE THE FLOOR SURFACE.
2. ALL SLEEVES SHALL BE 22 GAUGE GALVANIZED STEEL MINIMUM FINISHED WITH A SMOOTH EDGE AND PROPERLY SUPPORTED.
3. CORE DRILLING FLOORS AND WALLS MUST BE COORDINATED WITH THE LANDLORD AND THE TENANTS PROJECT MANAGER.
4. THIS CONTRACTOR SHALL FURNISH AND INSTALL FIRE STOPPING AT ALL PENETRATIONS THRU RATED FLOORS TO MAINTAIN THE FIRE RATING. 3M FIRE BARRIER SYSTEMS, FLAME SAFE FIRE RETARDANT SYSTEMS, DOWN CORNING, SPECSOL OR EQUAL. THE CONTRACTOR MUST PRESENT THE LISTING DATA TO THE PROJECT MANAGER AND LANDLORD TO SHOW THAT THE PENETRATIONS MAINTAIN THE FIRE RATING.

1. FURNISH AND INSTALL BRACKETS, BRACES OR REINFORCING ANGLES AS REQUIRED FOR ALL PARTITIONS NOT SUFFICIENT IN THEMSELVES TO SUPPORT HUNG LUMINOUS FIXTURES OR OTHER EQUIPMENT.
2. PIPING SHALL BE SUSPENDED FROM CONSTRUCTION ABOVE WITH ANGLE IRON, CLAMPS, UNISTRUT, OR HANGER RODS. NO PIPING SHALL BE HUNG FROM OTHER PIPING EXISTING OR NEW. CONDUIT SHALL COORDINATE WITH LANDLORD CRITERIA AND ALL CODES.
3. ALL PIPES WHICH ARE SPECIFIED TO BE INSULATED SHALL HAVE PREFABRICATED INSULATED METAL SADDLES SIZED FOR THE INSULATION THICKNESS AND CONTINUOUS INSULATION THROUGH THE HANGER. ALL DISSIMILAR METALS MUST BE SEPARATED WITH DIELECTRIC MATERIAL.

A. THIS CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL NECESSARY MATERIAL FOR A COMPLETE OPERATING PLUMBING SYSTEM. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF THE EXISTING WATER, VENT AND DRAIN LINES TO MAKE CONNECTIONS IN ORDER TO COMPLETE THE WORK AS SHOWN ON THE PLANS. ALL MATERIAL SHALL BE NEW AND SHALL BE INSTALLED FOR PROPER ACCESS FOR SERVINGS. ANY ACCESS PANELS NECESSARY FOR SERVING EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR.

A. THE PLUMBING FIXTURE SCHEDULE IS SHOWN ON PLANS. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURES INSTALLATION INSTRUCTIONS.

B. SANITARY WASTE AND VENT PIPING

1. HUB-AND-SPIGOT, COMPRESSION TYPE WITH NEOPRENE GASKETS OR LEAD AND OAKUM. CAST IRON PIPING SHALL BE USED FOR THE FIRST 15' OF ANY RECEPTOR RECEIVING HIGH TEMPERATURE WASTE.
2. CAST IRON PIPE (ABOVE GRADE); CLAMP 301, HUBLESS FITTINGS. CAST IRON, JOINTS: NEOPRENE GASKETS AND STAINLESS STEEL. GLASS AND SHIELD ASSEMBLIES.
3. ABS PIPE: ASTM D2661, FITTINGS: ABS. JOINTS: SOLVENT WELD. ABS PIPING NOT ALLOWED IN RETURN AIR PLenum OR WITHIN 15' DOWNSTREAM OF RECEPTOR RECEIVING HIGH TEMPERATURE WASTE.
4. PVC PIPE: ASTM D2665, FITTINGS: PVC. JOINTS: SOLVENT WELD WITH SOLVENT CEMENT. PVC PIPING NOT ALLOWED IN RETURN AIR PLenum OR WITHIN 15' DOWNSTREAM OF RECEPTOR RECEIVING HIGH TEMPERATURE WASTE.
5. COPPER TUBE (ABOVE GRADE): ASTM B88 TYPE "L", HARD TEMPER ONLY. EXCEPT THESE MATERIALS SHALL NOT BE USED TO RECEIVE THE WASTES FROM URINALS NOR WASTES FROM WATER CLOSETS IN BATTERY, FITTINGS: CAST BRONZE, OR WROUGHT COPPER, JOINTS: SOLDER GRADE 50B.
6. VENT PIPING ABOVE FLOOR 2" OR SMALLER MAY BE GALVANIZED STEEL.
7. INSULATE ALL HORIZONTAL RUNS OF PIPING LOCATED IN CEILING SPACES OF TENANTS IN SPACE BELOW, WHEN APPLICABLE. INSULATION TO BE AS SPECIFIED FOR WATER PIPING.
8. INTERIOR CONDENSATE PIPING SHALL BE TYPE "L" HARD DRAWN COPPER TUBE WITH 95-5 TIN-ANTIMONY SOLDERED JOINTS AND WROUGHT COPPER FITTINGS WITH DIELECTRIC SEPARATE BETWEEN DISSIMILAR METALS. INSULATE INTERIOR CONDENSATE PIPING WITH 1" INSULATION WROUGHT COPPER AND SOLDERED JOINTS. INTERIOR CONDENSATE PIPING MAY BE SCHEDULE 40 PVC PIPING WITH SOLVENT WELDED FITTINGS IF APPROVED FOR USE BY THE LANDLORD.

C. POTABLE WATER PIPING

- JURISDICTION, PROVIDE TYPE 'K' COPPER PIPING WITH MINIMAL JOINTS.
- ALL ABOVE GRADE PIPING SHALL BE TYPE 'L' HARD DRAWN COPPER TUBE WITH SWEAT JOINTS. A PIPING CONNECTIONS WITH DISSIMILAR METALS SHALL ACHIEVE H1-DIELECTRIC CONNECTIONS.
- CPVC: ASTM D 2035; ASTM F 441; ASTM F 442; ASTM A 1317.6
- CPVC FITTINGS: ASTM F 437; ASTM F 438; ASTM F 439; ASTM B 137.6
- PEX: PEX-A TUBING WITH ASTM F 877 OR ASTM A 3137.5 LISTING.
- PEX FITTINGS: FITTINGS SHALL BE OF SAME MANUFACTURER AS PIPING AND LISTED.
- INSULATE ALL HOT WATER, COLD WATER AND INTERIOR CONDENSATE PIPING WITH 1" THICK (K=0 TO 75 °F) PIPE INSULATION. INSULATION TO BE AN ALL SERVICE JACKET TO MEET LOCAL CODES AND UL FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS. OWENS-CORNING OR EQUAL TRUEBRO MODEL 102W WHITE INSULATION KIT SHALL BE INSTALLED ON ALL TRAPS AND SUPPLY LINES BELOW LAVATORIES TO MEET ADA.
- SIOUX CHIEF 6500 SERIES ALL STAINLESS STEEL, OR J.R. SMITH HYDROTROLS SHOCK ABSORBERS SHALL BE INSTALLED IN BOTH HOT AND COLD LINES OF PIPING SYSTEM TO PREVENT NOISE AND DAMAGE DUE TO WATER SHOCK ABSORBERS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR SHALL PROVIDE BALL VALVES IN THE SUPPLY PIPING TO EVERY FIXTURE FOR SERVICE. CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS WHERE NECESSARY FOR PROPER SERVING.
- MAXIMUM PIPE SUPPORT SPACING OF 5 FEET. CONTRACTOR SHALL PROVIDE NECESSARY SIZING BRACING WHERE REQUIRED BY LANDLORD. CRITERIA, CODE AND LOCAL AUTHORITIES.
- THE CONTRACTOR SHALL PROVIDE A WATER AND WASTE SEPARATION WATER SYSTEM AS REQUIRED BY LOCAL CODES. CONTRACTOR SHALL INSTALL ANY ADDITIONAL SERVICE VALVES NEEDED IN ORDER TO ISOLATE SYSTEM FOR STERILIZING THE WATER SYSTEM.
- CONTRACTOR SHALL PROVIDE CHROME PLATED ESCUTCHEONS AT ALL EXPOSED PIPE PENETRATIONS IN FINISHED SPACES.
- FLOOR DRAINS WITH DEEP SEAL TRAPS REQUIRED. INSTALL TRAP PRIMERS IN ALL FLOOR DRAINS. LOCAL CLEAN OUTS AND VENTS AND CLOSURES SHALL MEET LOCAL CODES.
- CONTRACTOR SHALL PERFORM ALL PIPING PRESSURE/LEAK TESTS BE AS REQUIRED BY LOCAL CODES. ALL ROOF FLASHING SHALL BE SEALED WATERTIGHT AND PERFORMED IN ACCORDANCE TO THE LANDLORD'S CRITERIA.
- ANY ROOF WORK MUST BE DONE BY THE LANDLORD'S APPROVED ROOFING CONTRACTOR IN ORDER TO MAINTAIN THE ROOF WARRANTY. ALL COSTS FOR ROOF WORK MUST BE INCLUDED IN THE BID.
- CONTRACTOR SHALL FURNISH AND INSTALL WATER METER AND REMOTE READER PER LANDLORD'S CRITERIA OR AS REQUIRED BY LOCAL UTILITIES REQUIREMENTS.

1. FURNISH AND INSTALL A FUNCTIONAL GAS PIPING SYSTEM WITH NECESSARY VALVES, FITTINGS, UNIONS, DIRT LEGS, REGULATORS, METERS, ETC. REFER TO PLANS FOR EXACT REQUIREMENTS. GAS PIPE SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE THREADED FITTINGS FOR 2" AND 3" SIZES, AND 40,000 PSI RATED STEEL FITTINGS AND ELBOWS FOR 1" AND 1.5" SIZES.
2. PROVIDE A SHUT-OFF VALVE, 6" DIRT LEG, AND UNION AT EACH EQUIPMENT CONNECTION.
3. PROVIDE LANDLORD APPROVED PIPING SUPPORTS EVERY 5 FEET OR AS REQUIRED BY LANDLORD OR LOCAL AUTHORITY HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.
4. PAINT AND PRIME ALL EXPOSED GAS PIPING ON ROOF & EXTERIOR OF BUILDING WITH RUST-INHIBITING PAINT. COORDINATE COLOR REQUIREMENTS WITH LANDLORD.
5. TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS AGENCY, LOCAL CODES, AND APPLICABLE NFPA STANDARDS.
6. CONTACT AND COORDINATE GAS SERVICE AND METER REQUIREMENTS WITH THE LOCAL GAS COMPANY AND THE MALL'S OPERATIONS MANAGER PRIOR TO BID. INCLUDE INSTALLATION OF VALVES, FITTINGS, UNIONS, DIRT LEGS, REGULATORS, METERS, ETC. COSTS IN BID.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.



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SEAL/SIGNATURE:



PROJECT:



**BIBIBOP**  
asian grill

STREETS OF  
WEST PRYOR

2050 NW LOWENSTEIN DR.  
SUITE E

LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: CM

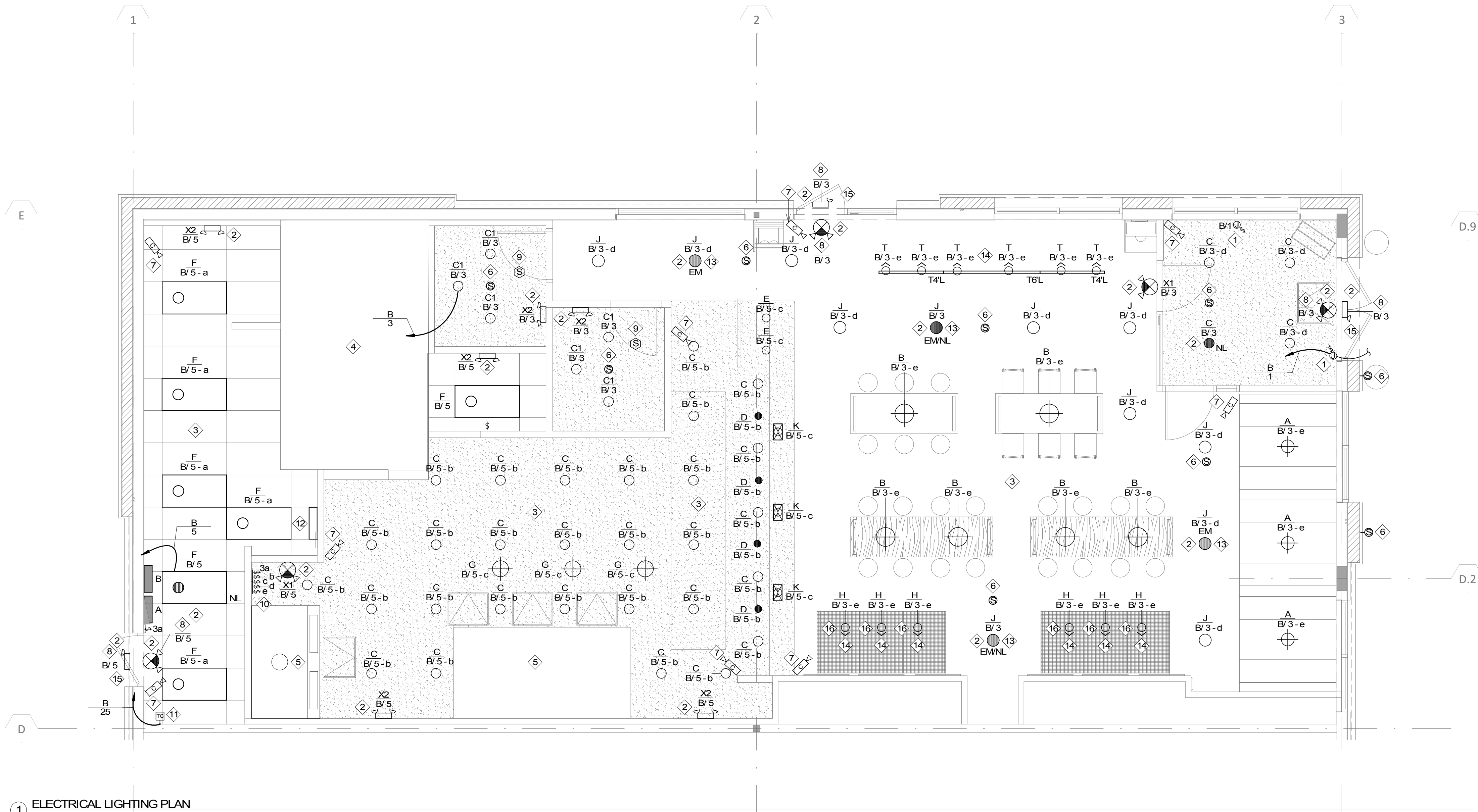
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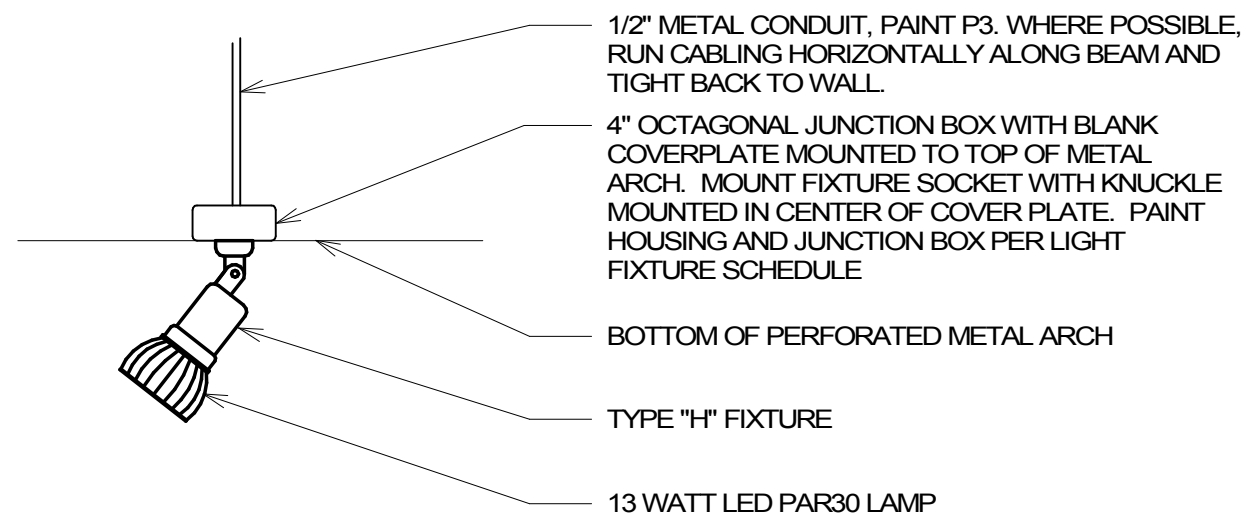
PERMIT ISSUE 01.25.2021

SHEET TITLE:  
LIGHTING PLAN

**E100**



1 ELECTRICAL LIGHTING PLAN  
1/4" = 1'-0"

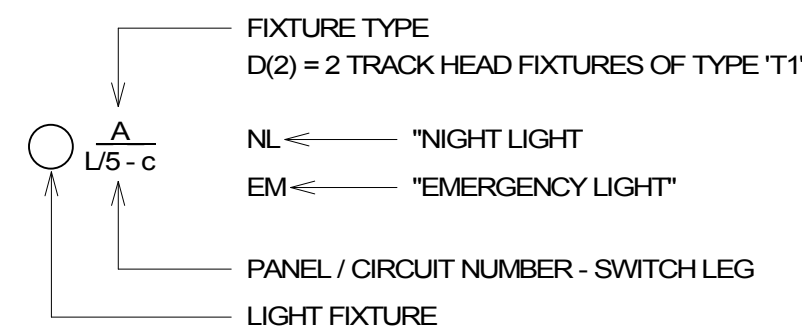


2 TYPE "H" FIXTURE MOUNTING DETAIL  
NO SCALE

#### GENERAL NOTES:

- 120 VOLT BRANCH CIRCUITS IN EXCESS OF 75' SHALL HAVE CONDUCTOR SIZE INCREASED A MINIMUM OF 1 CONDUCTOR SIZE. INSTALLING CONTRACTOR SHALL DETERMINE ACTUAL CONDUCTOR SIZE TO BE INSTALLED TO ADHERE TO VOLTAGE DROP REQUIREMENTS.
- LINEAR FLUORESCENT LUMINAIRES SHALL BE INSTALLED TO MEET THE REQUIREMENTS OF NEC REGARDING LOCAL DISCONNECTING MEANS.
- PROVIDE STAINLESS STEEL COVER RINGS AT ALL THRU WALL AND CEILING PENETRATIONS.
- G.C. SHALL BE RESPONSIBLE FOR FUNCTIONAL TESTING OF THE LIGHTING CONTROL SYSTEMS TO ENSURE PROPER CALIBRATION, ADJUSTMENT, AND OPERATION PER SECTION C408.3 OF THE 2012 INTERNATIONAL ENERGY CONSERVATION CODE.

#### KEY



#### KEY NOTES:

- ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH WITHIN 5 FEET OF SIGN IN ACCESSIBLE CONCEALED SPACE. SIGN FURNISHED AND INSTALLED BY SIGN CONTRACTOR. FINAL CONNECTION OF SIGN BY ELECTRICAL CONTRACTOR. SEE ARCHITECTURAL PLANS FOR SIGN LOCATION TO DETERMINE CONDUIT AND ROUTING. ALL OUTLETS, BOXES, CONDUIT, ETC. SHALL BE CONCEALED FROM VIEW. COORDINATE EXACT LOCATION WITH TENANT PRIOR TO ROUGH-IN. SIGN CONTROLLED VIA INTEGRAL PHOTOCELL.
- CONNECT EXIT/EMERGENCY AND NIGHT LIGHTS TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING.
- REFER TO REFLECTED CEILING PLAN ON SHEET A240 FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES WITHIN THE ENTIRE TENANT SPACE.
- SEE SHEET E110 FOR EQUIPMENT NUMBERS AND KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE ON SHEET E210 FOR INFORMATION ON CONNECTION OF WALK-IN COOLER LIGHTING SUPPLIED WITH COOLER.
- SEE SHEET E110 FOR EQUIPMENT NUMBERS AND KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE ON SHEET E210 FOR INFORMATION ON CONNECTION OF HOOD LIGHTING SUPPLIED WITH HOOD ALONG WITH HOOD DRAWINGS.
- PROVIDE JUNCTION BOX AND RACEWAY FOR SPEAKERS (BY OTHERS) BACK TO TERMINAL EQUIPMENT AT MANAGER'S DESK. COORDINATE EXACT REQUIREMENTS WITH G.C.
- PROVIDE JUNCTION BOX AND 2" CONDUIT FOR SECURITY CAMERAS (BY OTHERS) BACK TO TERMINAL EQUIPMENT AT MANAGER'S DESK. COORDINATE EXACT REQUIREMENTS WITH G.C. INSTALLER TO VERIFY LINE OF SIGHT IS SUFFICIENT AND REPORT ANY ISSUES TO BIBIBOP REPRESENTATIVE.

#### KEY NOTES:

- EXISTING EMERGENCY LIGHT FIXTURE TO REMAIN. COORDINATE LOCATION WITH BALANCE OF CONSTRUCTION DOCUMENTS AND CIRCUIT AS SCHEDULED.
- PROVIDE LUTRON LOS SERIES DUAL TECH CEILING MOUNTED OCCUPANCY SENSOR.
- SWITCH BANK LOCATION. PROVIDE SWITCHES AS REQUIRED PER ENERGY CODE REQUIREMENTS AND LABEL EACH SWITCH WITH LIGHTS THAT THEY CONTROL (DINING, KITCHEN OR B.O.H.) & PANEL CIRCUIT ASSOCIATED WITH. COORDINATE EXACT LOCATION WITH FINAL EQUIPMENT PLAN PRIOR TO ROUGH-IN.
- PROVIDE TORK OR EQUAL 4 CHANNEL ASTRONOMIC DIGITAL TIME CLOCK WITH 0-2 HOUR SPRING WOUND OVERRIDE FOR CONTROL OF INTERIOR LIGHTING AND SIGNAGE WITH A 4 POLE CONTACTOR.
- PROVIDE LIGHTING INVERTER ISOLITE IMI 125 MODEL NO. IMI-12-LC-V1-TB FOR EMERGENCY LIGHTING. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
- THIS LIGHT SHALL BE CONNECTED TO THE EMERGENCY LIGHTING INVERTER AHEAD OF ALL SWITCH CONTROLS.
- ALL FIXTURE HEADS TO BE REPOSITIONED BY CONTRACTOR AFTER CASEWORK IS INSTALLED. VERIFY FINAL LOCATION WITH TENANT'S REP.
- VERIFY IF THERE IS ADEQUATE EXISTING EXTERIOR GENERAL LIGHTING. PROVIDE NEW AS REQUIRED. COORDINATE FIXTURE TYPE WITH TENANT AND LANDLORD IF REQUIRED.
- MOUNT JUNCTION BOX FOR FIXTURE TYPE 'H' TO TOP OF METAL MESH ARCH SO FIXTURE CAN BE MOUNTED FLUSH TO UNDERSIDE OF METAL MESH ARCH. SEE DETAIL 2/E100 FOR ADDITIONAL INFORMATION.

IF YOU HAVE ANY QUESTIONS REGARDING THE ELECTRICAL PLANS, PLEASE CALL THE ELECTRICAL DESIGNER.

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SEAL/SIGNATURE:



PROJECT:



**BIBIBOP**  
asian grill

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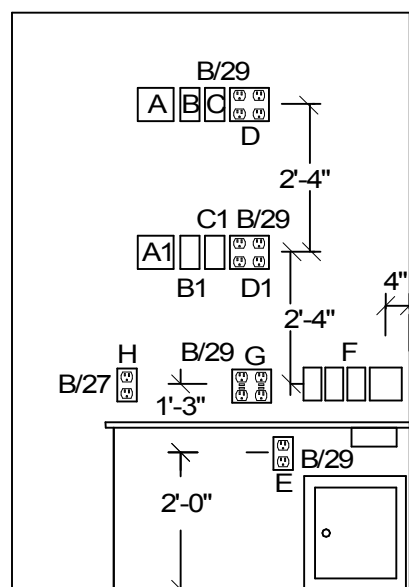
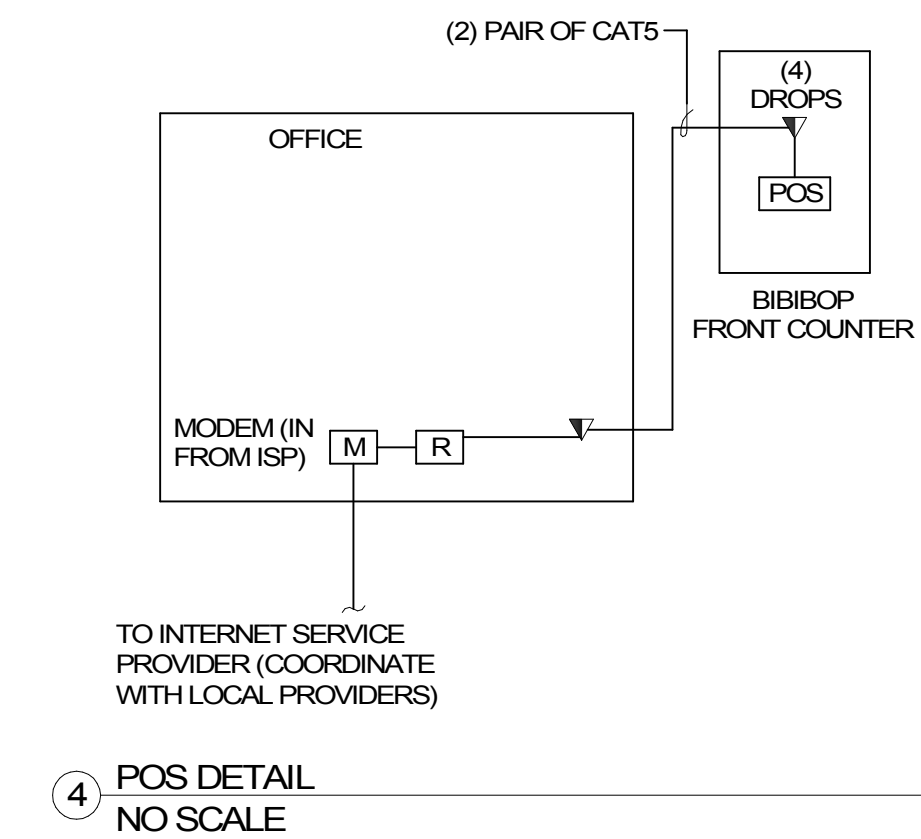
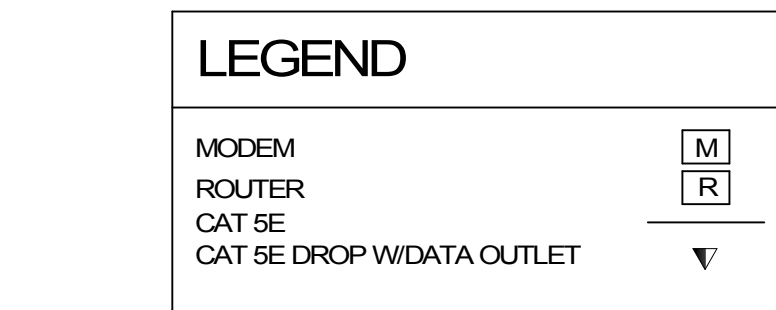
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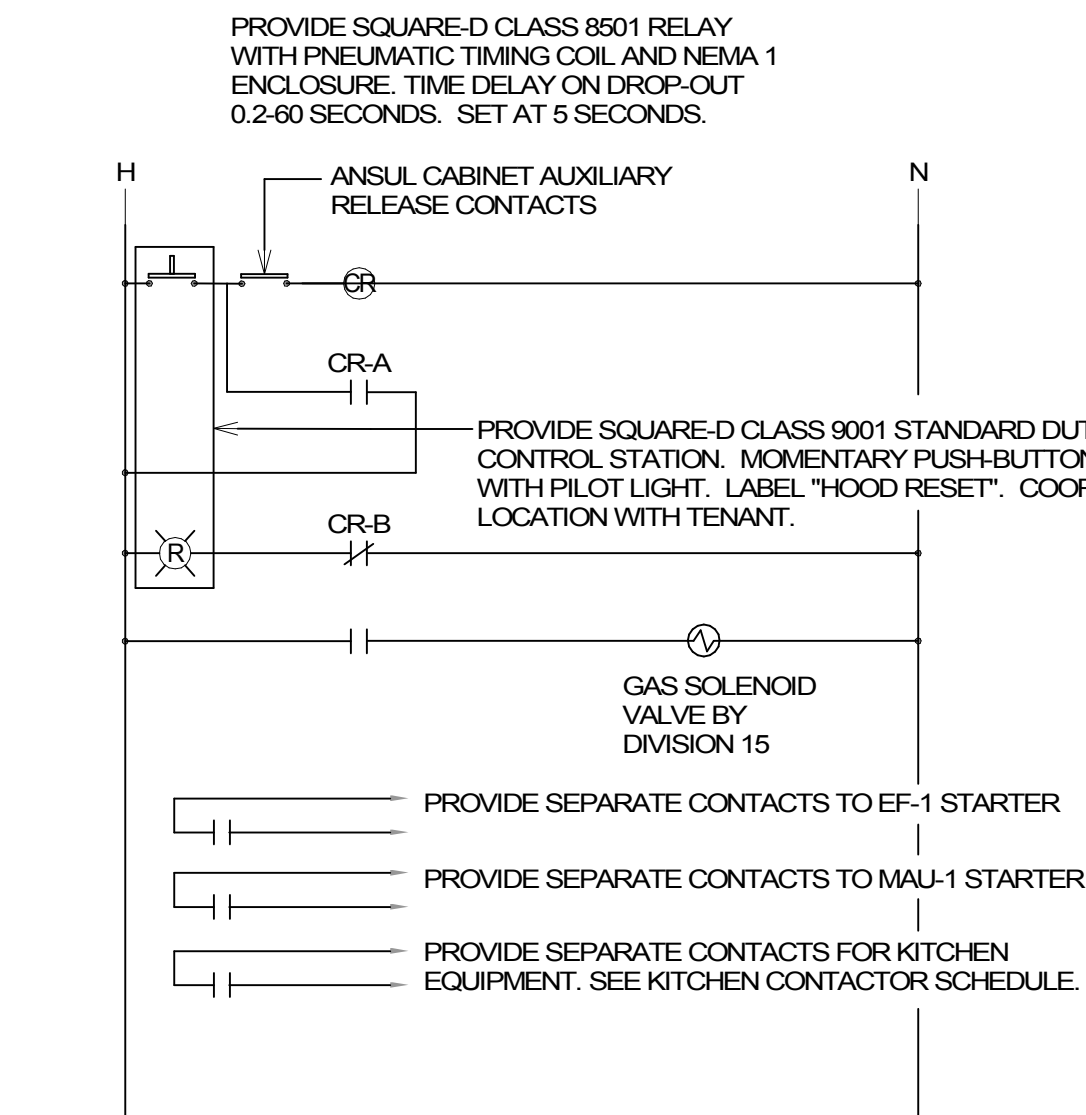
PERMIT ISSUE 01.25.2021

SHEET TITLE:  
**POWER PLAN**

**E110**



2 OFFICE ELEVATION  
NO SCALE



A/A1 = DOUBLE GANG BOX FOR RJ6 CABLES (SECURITY CAMERAS)

B/B1 = CAT 5 WITH FEMALE OUTLET (7) TO POS WITH FEMALE OUTLET

C/C1 = CAT 5 WITH FEMALE OUTLET (1) TO POS PRINTER

D/D1 = DOUBLE DUPLEX OUTLET

E = DUPLEX OUTLET

F = MUSIC SPEAKER 4 ZONE CONTROL - (3) SINGLE GANG JUNCTION BOXES FOR TOILET, VESTIBULE, AND EXTERIOR CONTROL AND (1) DOUBLE GANG JUNCTION BOX FOR DINING CONTROL

G = QUAD USB OUTLET

H = CONVENIENCE OUTLET

NOTE: ELECTRICAL CONTRACTOR TO BE RESPONSIBLE FOR PULLING AND TERMINATING DATA LINES FROM FRONT LINE CASEWORK BACK TO MANAGER'S DESK. SEE DETAIL 6/A600 FOR ADDITIONAL INFORMATION.

1 ELECTRICAL POWER PLAN  
1/4" = 1'-0"

KITCHEN CONTACTOR SCHEDULE										
CONTACTOR NUMBER	# OF POLES	LOCATION	CONTACTOR TYPE	DESCRIPTION	PANEL	CIRCUIT	VOLTS	CONTROL	NOTES	
C1	6 POLES 30 AMP	HOOD #1	208 VOLT ELECTRICALLY HELD	KITCHEN EQUIPMENT E51, E52, E53 & E56	B	18, 20, 22, 24	208	HOOD FIRE SUPPRESSION SYSTEM	1	

CONTACTOR SCHEDULE GENERAL NOTES:

- PROVIDE NEMA 1 ENCLOSURE AND MOUNT ABOVE PANELBOARDS IN ACCESSIBLE CEILING.
- REFER TO KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE NOTE 1 FOR SEQUENCE OF OPERATION.

CONTACTOR SCHEDULE KEY NOTES:

- PROVIDE CONDUIT, WIRE AND CONNECT INTERFACE WITH FIRE PROTECTION DEVICES AT HOOD #1 (TERMINALS KS & N1 SEE SHEET H108) AS DESCRIBED IN KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE.

### GENERAL NOTES:

- 120 VOLT BRANCH CIRCUITS IN EXCESS OF 75' SHALL HAVE CONDUCTOR SIZE INCREASED A MINIMUM OF 1 CONDUCTOR SIZE. INSTALLING CONTRACTOR SHALL DETERMINE ACTUAL CONDUCTOR SIZE TO BE INSTALLED TO ADHERE TO VOLTAGE DROP REQUIREMENTS.
- ELECTRICAL DEVICES AND COVER PLATES SHALL BE WHITE UNLESS AS OTHERWISE DIRECTED BELOW.
  - AT STAINLESS STEEL PANELS & WITHIN CONDIMENT STATION CASEWORK: GRAY DEVICES W/ STAINLESS STEEL COVER PLATES.
  - AT FRP & PAINTED SURFACES: WHITE DEVICES W/ WHITE COVER PLATES
  - AT WHITE KITCHEN TILE: WHITE DEVICES W/ PREFINISHED WHITE METAL COVER PLATE.
  - AT BLACK WALL PLANK TILE: BLACK DEVICES W/ BLACK COVER PLATES
- ALL RECEPTACLES SHALL BE INSTALLED WITH THE GROUND DOWN.
- PROVIDE STAINLESS STEEL COVER RINGS AT ALL THRU WALL AND CEILING PENETRATIONS.
- ALL RECEPTACLES SHALL BE LABELED WITH ASSOCIATED PANEL CIRCUIT.

### GENERAL NOTES

- THIS DETAIL APPLIES TO KITCHEN HOOD #1 AND CONTACTOR C1.
- FLOW SWITCH & SOLENOID VALVE PROVIDED BY PLUMBING CONTRACTOR AND WIRED & CONNECTED BY ELECTRICAL CONTRACTOR.
- PROVIDE CONTROL TRANSFORMER WITH 120V SECONDARY SIZED AS REQUIRED.
- MOUNT RELAY ON HOOD ABOVE CEILING.
- MOUNT CONTACTORS ABOVE THE CEILING ABOVE THE KITCHEN PANELBOARD.

### KEY NOTES:

- PROVIDE "TYPED" PANEL DIRECTORY PER SPECIFICATIONS, DRAWINGS, AND LOADS BEING SERVED. MAINTAIN CODE REQUIRED CLEARANCE AT PANELS.
- ELECTRICAL CONTRACTOR TO PROVIDE EMPTY CONDUIT BACK TO PHONE BOARD AND JUNCTION BOX FOR DATA AND PHONE LINES. VERIFY EXACT LOCATIONS WITH TENANT PRIOR TO INSTALLATION. COORDINATE DATA/POWER RECEPTACLES MOUNTING REQUIREMENTS WITH THE CASEWORK INSTALLER/SUPPLIER PRIOR TO ROUGH-IN. SEE ARCHITECTURAL ELEVATION & 4/E110.
- 2' X 4' X 3/4" TELEPHONE BOARD WITH DEDICATED DOUBLE DUPLEX RECEPTACLE AND CIRCUIT WITH ISOLATED GROUND. VERIFY SYSTEM GROUNDING AND ALL OTHER REQUIREMENTS WITH LOCAL TELEPHONE COMPANY. EXTEND 1" CONDUIT WITH PULL-WIRE FROM SERVICE ENTRANCE AT DEMISING WALL TO TELEPHONE BOARD. FIELD VERIFY EXACT LOCATION.
- HOOD HORN/STROBE PROVIDED BY EXHAUST HOOD VENDOR. ELECTRICAL CONTRACTOR TO LOCATE AND INSTALL HOOD HORN/STROBE PER AHJ.
- MECHANICAL EQUIPMENT. REFER TO MOTOR SCHEDULE, SHEET E210 FOR FURTHER INFORMATION. RTU-1, RTU-2, RTU-3, RTU-4, MAU-1, MAU/CU-1, EF-1, EF-2, & EF-3 ARE LOCATED ON THE ROOF. COORDINATE FINAL PLACEMENT PRIOR TO ROUGH-IN.
- PROVIDE 250V CONTACTORS FOR SHUTDOWN OF KITCHEN EQUIPMENT LOCATED UNDER THE HOODS. SEE KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE, NOTE 1. LOCATE CONTACTOR ABOVE ACCESSIBLE CEILING PANELS. SEE DETAIL 3/E110 FOR KITCHEN CONTACTOR SCHEDULE.
- PROVIDE MOMENTARY PUSH-BUTTON RESET WITH PILOT LIGHT FOR HOOD EQUIPMENT CONTACTOR RESET. PROVIDE STAINLESS STEEL ENGRAVED COVER PLATE. LABEL COVER PLATE "HOOD RESET". VERIFY EXACT PUSH-BUTTON MOUNTING LOCATION WITH LOCAL FIRE MARSHAL. SEE DETAIL 3/E110 FOR HOOD EQUIPMENT CONTACTOR WIRING DIAGRAM AND CONTACTOR SCHEDULE.
- INSTALL FIRE SUPPRESSION PULL STATION (FURNISHED BY KITCHEN EQUIPMENT VENDOR) AND CONNECT TO HOOD FIRE SUPPRESSION SYSTEM, KITCHEN CONTACTOR AND GAS SOLENOID VALVES. CONNECT SUCH THAT KITCHEN EQUIPMENT AND GAS SOLENOID VALVE SHUT DOWN UNDER ALARM CONDITIONS.

### KEY NOTES:

- PROVIDE CONNECTIONS TO HOOD FIRE SUPPRESSION SYSTEM. CONNECTIONS SHALL INCLUDE 120V POWER FOR CONTROLS AND OPERATION AND FIRE ALARM SIGNALING FOR INTERLOCK WITH BUILDING'S FIRE ALARM CONTROL PANEL IF REQUIRED. SEE HOOD DRAWINGS FOR ADDITIONAL INFORMATION.
- PROVIDE CONNECTION TO WATER HEATER AND RECIRCULATION PUMP. SEE EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- PROVIDE POWER TO LOW VOLTAGE WIRELESS SERVICE DOOR BUZZER SYSTEM. SYSTEM SHALL INCLUDE TRANSFORMER, PUSHBUTTON AND (1) BUZZER NEAR OFFICE DESK.
- VERIFY EXISTING FACTORY INSTALLED DUCT SMOKE DETECTOR IS PRESENT. PROVIDE FINAL CONNECTIONS TO CIRCUIT AS INDICATED WITH KEYED REMOTE TEST SWITCH (K) WITH AUDIBLE AND VISUAL INDICATORS AT MANAGER'S DESK. COORDINATE WITH LANDLORD & DETAIL 6/A600. COORDINATE WITH MECHANICAL CONTRACTOR. ALL FIRE ALARM WORK SHALL BE COMPLETED BY LANDLORD'S CONTRACTOR AT TENANT'S EXPENSE IF REQUIRED. PROVIDE NEW DUCT SMOKE DETECTOR AS REQUIRED.
- PROVIDE SHOW WINDOW RECEPTACLES ABOVE WINDOW AND LOCATE PER NEC IF NOT ALREADY EXISTING RECEPTACLES CANNOT BE LOCATED MORE THAN 18" ABOVE THE TOP OF THE WINDOW (NEC 210.62). SEE GENERAL NOTES, THIS SHEET, FOR COLOR.
- PROVIDE USB RECEPTACLE: COOPER #1TR756 20A TAMPER RESISTANT. VERIFY COLOR & MOUNTING HEIGHT WITH TENANT REPRESENTATIVE.
- VERIFY EXACT LOCATION OUTLETS CAN BE MOUNTED IN THIS WALL. OUTLETS SHALL BE MOUNTED BETWEEN REMOVABLE CASEWORK WALL PANELS, VERIFY.
- ALL RECEPTACLES AT COOK LINE WALL TO BE 24" A.F.F. U.N.O.
- KITCHEN HOOD CONTROL PANEL. MAKE CONNECTIONS TO EXHAUST FANS, MAKE-UP AIR UNIT, MAKE UP AIR CONDENSER(S), HOOD LIGHTS, FIRE SUPPRESSION SYSTEMS, LOW VOLTAGE CONNECTIONS, CONTROLS, ETC., INCLUDING DAMPER SWITCH AND HEAT SENSOR. SEE SHEET H108 FOR ALL REQUIRED FIELD WIRED CONNECTIONS. WITH CAPTIVE/ARE DRAWINGS.

### KEY NOTES:

- MAKE 120V CONNECTION TO GAS SOLENOID VALVE (FURNISHED BY PLUMBING CONTRACTOR). SEE KITCHEN EQUIPMENT ELECTRICAL CONNECTION SCHEDULE NOTE 1 AND DETAIL 3/E110 HOOD EQUIPMENT CONTACTOR WIRING DIAGRAM.
- ROUTE ELECTRICAL CONDUITS SERVING FRONT LINE WALL FROM ADJACENT FULL HEIGHT WALL. WITH CONDUITS ROUTED HORIZONTALLY AND INTO LOW PARTIAL HEIGHT WALL. COORDINATE ROUTING WITH OTHER TRADES TO AVOID ANY CONFLICTS.
- PROVIDE (1) JUNCTION BOX FOR MAIN POWER FEED IN KNEE WALL AND (1) SWITCH FOR SNEEZE GUARD. LED LIGHTS AT OPERATOR SIDE OF COUNTER. THE SWITCH IS FOR "ON/OFF" CONTROL OF THE LED LIGHTS. THE K.E.C. WILL PROVIDE THE LED LIGHTS AND DRIVER(S), AND THE E.C. SHALL INSTALL. SEE EQUIPMENT SCHEDULE AND KITCHEN EQUIPMENT VENDOR WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
- E.C. TO PROVIDE POWER OVERHEAD TO THIS AREA. RUN CONDUITS AS CLOSE TO STRUCTURE ABOVE WHILE TRYING TO CONCEAL FROM PUBLIC VIEW. RUN VERTICAL CONDUIT CONCEALED WITHIN ADJACENT WALL.
- PROVIDE WIREMOLD DOGHOUSE STYLE SURFACE MOUNTED FLOOR BOX WITH QUAD RECEPTACLE. MODEL NO. 5251 AND WIREMOLD 800CLOX FLOOR BOX WITH 825SPCK CONVERSION KIT. MOUNT TO SERVICE CURB. SEE ARCHITECTURAL PLANS FOR CURB DETAIL.
- JUNCTION BOXES FOR EQUIPMENT AT THE CONDIMENT STATION SHALL BE MOUNTED WITHIN THE CASEWORK CUPBOARD. COORDINATE WITH CASEWORK VENDOR PRIOR TO ROUGH-IN.
- PROVIDE 120V CONNECTION FROM HOOD CONTROL PANEL (CKT A-33) TO HEATER IN MAU-1. SEE HOOD DRAWING H108 FOR ADDITIONAL INFORMATION.
- INTERWIRE INSECT FAN MICROSWITCH WITH WALK-IN DOOR SO THAT WHEN WALK-IN DOOR IS OPENED THE INSECT FAN TURNS ON. COORDINATE WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.

NAME: A				SUPPLY FROM:				VOLTAGE: 120/208				MIN. BUS RATING: 600 A					
ENCLOSURE: NEMA 1								PHASE: 3				MAIN SIZE: 600 A					
MOUNTING: SURFACE								WIRE: 4				MAIN OPTIONS: MCB					
LOCATION:																	
CKT	CIRCUIT DESCRIPTION		NOTES	TRIP	POLES	A		B		C		POLES	TRIP	NOTES	CIRCUIT DESCRIPTION		CKT
1						2734	1824					1	20	1,2	E101 - ICE MAKER		2
3	RTU-1		2	30	3			2734	150			1	20	1	E102 - ANTIMICROBIAL PROTECTION		4
5										2734	1020	1	20	1	E103 - BEVERAGE DISPENSER		6
7						4846	1020					1	20	1	E103 - BEVERAGE DISPENSER		8
9	RTU-2		2	40	3			4846	1200			1	20	1	E10/E100 - ICE & BEVERAGE DISPENSER		10
11										4846	804	1	20	1	E111 - SOUP MERCHANDISER		12
13						2734	100					1	20		KITCHEN HOOD CONTACTOR		14
15	RTU-3		2	30	3			2734	200			1	20		DOORBELL SYSTEM		16
17										2734	1080	1	20	1,4	KITCHEN CONVENIENCE RECEPTACLES		18
19						2734	360					1	20	1	TELEPHONE BOARD		20
21	RTU-4		2	30	3			2734	1830			2	35	2	E1.1 - WALK-IN COMP.		22
23										2734	1830						24
25	ROOF TOP RECS./DUCT SMOKE DET.			20	1	1120	1830					2	35	2	E1.1 - WALK-IN COMP. (REDUNDANT)		26
27	SPARE			20	1			0	1830								28
29	EXTERIOR RECEPTACLES			20	1					180	192	1	20	2	E1.1 - WALK-IN COOLER EVAP.		30
31	E15 - INSECT FAN (REAR DOOR)			20	1	408	192					1	20	2	E1.1 - WALK-IN CLR. EVAP. (REDUNDANT)		32
33	SPARE			20	1			0	1500								34
35	E50 - HOOD CONTROLS & LTG			15	1					1080	1500	2	20	1	E74 - DROP-IN HOT WELL		36
37						792	1500										38
39	EF-1		2	15	3			792	1500			2	20	1	E74 - DROP-IN HOT WELL		40
41										792	216	1	20		E1 - WALK-IN COOLER LTG.		42
43						1140	408					1	20		E15 - INSECT FAN (WALK-IN DOOR)		44
45	MAU-1		2	20	3			1140	1664								46
47										1140	1664	2	20	1	E77 - VERTICAL MERCHANDISER		48
49						2088	12336										50
51	MAU/CU-1		2	30	3			2088	12372			3	200		PANEL B		52
53										2088	12118						54
TOTAL LOAD:						38164 VA		39313 VA		38751 VA							
TOTAL AMPS:						318 A		328 A		324 A							
LOAD CLASSIFICATION		CONNECTED LOAD (VA)		DEMAND FACTOR				LOAD DEMAND (VA)				TOTALS					
LIGHTING LOAD (DA_L)		2911 VA		125%				3639 VA									
RECEPTACLE LOAD (DA_R)		9244 VA		10 KVA @ 100%, Remaining @ 50%				6009 VA				TOTAL CONN. LOAD: 116228 VA					
MOTOR LOAD - HEATING (DA_HM)				100%								TOTAL EST. DEMAND: 97110 VA					
MOTOR LOAD - COOLING (DA_CM)		33380 VA		100%				33380 VA				TOTAL CONN. CURRENT: 323 A					
MOTOR LOAD - GENERAL (DA_M)		13359 VA		100%				13359 VA				TOTAL EST. DEMAND... 270 A					
LARGEST MOTOR - BRANCH (DA_LBM)		5760 VA		125%				7200 VA									
MOTOR LOAD TOTALS		52499 VA						53939 VA									
KITCHEN LOAD (DA_K)		38728 VA		DEMAND PER NEC				25173 VA									
ELECTRONIC LOAD (DA_EL)				100%													
ELECTRIC HEATING (DA_E)				100%													
DWELLING UNIT - GENERAL LOAD...				10 KVA @ 100%, Remaining @ 40%													
MISCELLANEOUS LOAD (DA_MI)		12846 VA		100%				8350 VA									
SPARE CAPACITY (DA_SP)				100%													
GENERAL NOTES:																	
A. PROVIDE 65/10K SERIES RATING FROM MAIN CIRCUIT BREAKER.																	
NOTES:																	
1. PROVIDE GFI BREAKER																	
2. PROVIDE HACR BREAKER																	
3. PROVIDE LOCK OFF DEVICE																	
4. CONNECT TO KIT. CONTACTOR SEE DETAIL 3/E110																	

## LIGHT FIXTURE SCHEDULE

ELECTRICAL									
FIXTURE LETTER	FIXTURE STYLE	VOLTAGE	MOUNTING	LAMPS TYPE	FIXTURE MAX VA	MANUFACTURER'S SERIES NUMBER	FIXTURE DESCRIPTION	NOTES	
A	9.5" PENDANT	120	PENDANT MOUNT	LED	10 VA	A19 INCORPORATED BONAIRE P1601	9.5" SPHERICAL WHITE PENDANT W/6" WHITE CORD. PROVIDE COVER PLATE IF REQUIRED. SUPPLIED W/10W 4000K LED LAMP.		
B	14" PENDANT	120	PENDANT MOUNT	LED	10 VA	A19 INCORPORATED - GRAN THERA P302	DECORATIVE PENDANT. SUPPLIED W/10W 4000K LED LAMP. TO BE INDIVIDUALLY MOUNTED W/JUNCTION BOX AT DECK.		
C	6" ROUND DIAMETER DOWNLIGHT	120	RECESSED	LED	10.4 VA	HALO - LT560WH6950 / E1700AT HOUSING	6" DOWN LIGHT, 80 CRI, 5000K, 600 LUMENS, MATTE WHITE BAFFLE, AND ALL-PRO 6" HOUSING		
C1	6" ROUND DIAMETER DOWNLIGHT	120	RECESSED	LED	11.9 VA	HALO - LT560WH12950 / E1700AT HOUSING	6" DOWN LIGHT, 80 CRI, 5000K, 1200 LUMENS, MATTE WHITE BAFFLE, AND ALL-PRO 6" HOUSING		
D	4" ROUND DIAMETER DOWNLIGHT	120	RECESSED	LED	8 VA	HALO - LT460WH950 / ET400ATSB HOUSING	4" DOWN LIGHT, 80 CRI, 5000K, MATTE WHITE BAFFLE, AND ALL-PRO 4" HOUSING		
E	4" ROUND DIAMETER DOWNLIGHT	120	RECESSED	LED	9 VA	SATCO - S9468	4" LED DIRECTIONAL DOWN LIGHT, GIMBALED, 5000K, AND 90 DEGREE BEAM SPREAD		
F	2X4 LENSED TROFFER	120	RECESSED	LED	38.8 VA	METALUX - 24CGT4550C	2'X4' 5000K LED LENSED TROFFER		
G	BRUSHED NICKEL PENDANT	120	SUSPENDED	INTEGRAL LED	12 VA	KUZCO LIGHTING - PD1712BN	12" DIAMETER BRUSHED NICKEL PENDANT		
H	SURFACE MOUNTED DIRECTIONAL FIXTURE	120	SURFACE	LED	150 VA	NUVO LIGHTING - NUVO-76-520	SURFACE MOUNTED DIRECTIONAL LIGHT FIXTURE WITH 4000K LED LAMP. SEE DETAIL 2/E100 & 3/A600 FOR ADDITIONAL INFORMATION.	2	
J	6" ROUND DIAMETER PENDANT	120	PENDANT	13W LED PAR30	13 VA	NORA LIGHTING - NYL-6C-L13-1-WW-AC	LED CYLINDER DOWN LIGHT, 4000K, WHITE FINISH, SUPPLIED WITH LAMP. MOUNT BOTTOM AT 9'-0" A.F.F.		
K	WALL WASH MENU LIGHT	120	MONOPOINT	LED	16 VA	SOLAIS - WW12y-A-35K-CM	CANOPY MOUNT WALL WASH MENU LIGHT WITH MONOPOINT HARDWARE		
T	TRACK W/ TRACK HEAD	120	SURFACE	LED	10 VA	NORA LIGHTING 8" TRACK NT304W 4" TRACK NT302W / TRACK HEAD NTE-870L40X10W	WHITE SINGLE CIRCUIT TRACK AND TRACK HEAD WITH ALL HARDWARE	3	
X1	EXIT/EMERGENCY	120	SURFACE	LED	4 VA	COOPER APCH7R	LED EXIT/EMERGENCY W/BATTERY PACK & POWER TO REMOTE HEAD. COORDINATE MOUNTING HEIGHT W/ LOCAL FIRE MARSHAL	1	
X2	LED EMERGENCY	120	SURFACE	LED	4 VA	COOPER APEL	LED EMERGENCY W/90 MINUTE BATTERY BACKUP. COORDINATE MOUNTING HEIGHT W/LOCAL FIRE MARSHAL.	1	

### GENERAL ELECTRICAL NOTES:

- DESIGNATED LIGHTING FIXTURE PACKAGE AND ALL REQUIRED ACCESSORIES FOR MOUNTING AS SPECIFIED SHALL BE PURCHASED AND FURNISHED BY GENERAL CONTRACTOR VIA BIBIBOP'S DESIGNATED LIGHTING VENDOR. CONTACT BOB BEATTIE - CAPITAL LIGHTING (614) 841-1200.
  - PROVIDE SHATTERPROOF LAMPS OR LENSES IN ALL FOOD AREAS.
  - E.C. SHALL CONFIRM MOUNTING HEIGHTS OF ALL FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.
  - E.C. SHALL COORDINATE DIMENSIONED LOCATIONS OF ALL FIXTURES WITH ARCHITECT'S DRAWINGS PRIOR TO ROUGH-IN.
  - PROVIDE BLOCKING IN WALLS, CEILING, AND CASEWORK AS NECESSARY TO HANG FIXTURES.
  - WHERE POSSIBLE, ALL KITCHEN & BACK OF HOUSE LIGHT FIXTURES SHALL HAVE 5000K LAMPS & ALL DINING LIGHT FIXTURES SHALL HAVE 4000K LAMPS.
- NOTES:
- PROVIDE WITH MINIMUM 90 MINUTE BATTERY BACK UP.
  - MOUNT PER DETAIL 2/E100 AND PAINT HOUSING/JUNCTION BOX 1P2.
  - PROVIDE WITH ALL STARTERS NT316W, "L"CONNECTORS NT309W (FOR L SHAPED SECTION), AND MOUNTING HARDWARE, ETC. FOR A COMPLETE TRACK LIGHTING SYSTEM.

NAME: B		ENCLOSURE: NEMA 1				SUPPLY FROM: A				VOLTAGE: 120/208				MIN. BUS RATING: 225 A			
		MOUNTING: SURFACE								PHASE: 3				MAIN SIZE: 200 A			
		LOCATION:								WIRE: 4				MAIN OPTIONS: MLO			
CKT	CIRCUIT DESCRIPTION	NOTES	TRIP	POLES	A		B		C		POLES	TRIP	NOTES	CIRCUIT DESCRIPTION	CKT		
1	EXTERIOR SIGN FRONT	3,5	20	1	1200	1680					1	20		E70 - SNEEZE GUARD EQUIPMENT	2		
3	DINING/RESTROOM LTG & EF-3	3,5	20	1			741	480			1	20	1	E72 - DROP-IN COLD WELL	4		
5	KITCHEN/STORAGE/OFFICE LIGHTING	3,5	20	1					1137	192	1	20	1	E73 - RICE WARMER	6		
7	WH-1 & RECIRCULATION PUMP	3	20	1	725	480					1	20	1	E75 - DROP-IN COLD WELL	8		
9	KITCHEN CONVENIENCE RECEPTACLES	1	20	1			1260	1080			1	20		DINING AREA RECEPTS.	10		
11	SHOW WINDOW RECEPTS.	5	20	1					1260	0	1	20		SPARE	12		
13	E24 - WORKTOP FREEZER	1	20	1	672	0					1	20		SPARE	14		
15	E57 - RICE WARMER	1	20	1			192	0			1	20		SPARE	16		
17	E60 - REFRIGERATED PREP TABLE	1	20	1					480	708	1	20	1,4	E51 - GAS RANGE	18		
19	E61.1 - HOT FOOD TABLE	1	15	2	697	540					1	20	1,4	E52 - COOK STAND REFRIGERATOR	20		
21							697	105			1	20	1,4	E53 - GAS GRIDDLE	22		
23	E8 - FUTURE U.C. DISHWASHER	1	15	1					1440	504	1	20	1,4	E56 - KNIFE SANITIZER	24		
25	TIME CLOCK		20	1	200	1200					1	20	1	E58 - COUNTER TOP WARMER	26		
27	MANAGER RECEPTACLE	1	20	1			180	1800			1	20	1	E32 - INDUCTION HOT TOP	28		
29	MANAGER'S OFFICE RECEPTACLES	1	20	1					1260	1728	1	20	1	E33 - TEA MAKER	30		
31	E71- POS	1	20	1	768	192					1	20	1	E57 - RICE WARMER	32		
33	POS PRINTER	1	20	1			736	192			1	20	1	E57 - RICE WARMER	34		
35	CONVENIENCE RECS. AT FRONT LINE	1	20	1					360	0	1	20		SPARE	36		
37	E40 - EXHAUST HOOD CONTROLS & LTG.		20	1	1080	500					1	20	1	E23.1 - WORKTOP REF/ E27 - SALAD...	38		
39	EF-2		20	1			1008	1500			1	20	1	E28 - VEGETABLE CUTTER	40		
41									2282	528	1	20	1	E35 - REFRIGERATED PREP TABLE - 60"	42		
43	E42 - ELECTRIC STEAMER	1,4	25	3	2282	0					1	20		SPARE	44		
45							2282	0			1	20		SPARE	46		
47	E9/E43 - FILTER & R.O. SYSTEM	1	20	1					240	0	1	20		SPARE	48		
49	E46 - RICE COOKER	1	20	1	120	0					--	--	--	SPACE	50		
51	E46 - RICE COOKER	1	20	1			120	0			--	--	--	SPACE	52		
53	SPARE		20	1					0	0	--	--	--	SPACE	54		
TOTAL LOAD:					12336 VA		12372 VA		12118 VA								
TOTAL AMPS:					103 A		103 A		101 A								
LOAD CLASSIFICATION		CONNECTED LOAD (VA)		DEMAND FACTOR				LOAD DEMAND (VA)		TOTALS							
LIGHTING LOAD (DA_L)		2911 VA		125%				3639 VA									
RECEPTACLE LOAD (DA_R)		6904 VA		10 KVA @ 100%, Remaining @ 50%				4488 VA									
MOTOR LOAD - HEATING (DA_HM)				100%						TOTAL CONN. LOAD: 36826 VA							
MOTOR LOAD - COOLING (DA_CM)				100%						TOTAL EST. DEMAND: 26465 VA							
MOTOR LOAD - GENERAL (DA_M)		1299 VA		100%				1299 VA		TOTAL CONN. CURRENT: 102 A							
LARGEST MOTOR - BRANCH (DA_LBM)				125%				0 VA		TOTAL EST. DEMAND... 73 A							
MOTOR LOAD TOTALS		1299 VA						1299 VA									
KITCHEN LOAD (DA_K)		23532 VA		DEMAND PER NEC				15296 VA									
ELECTRONIC LOAD (DA_EL)				100%													
ELECTRIC HEATING (DA_E)				100%													
DWELLING UNIT - GENERAL LOAD...				10 KVA @ 100%, Remaining @ 40%													
MISCELLANEOUS LOAD (DA_MI)		2180 VA		100%				1744 VA									
SPARE CAPACITY (DA_SP)				100%													
GENERAL NOTES:																	
A. PROVIDE 65/10K SERIES RATING FROM CIRCUIT BREAKER IN PANEL A THAT FEEDS THIS PANEL.																	
NOTES:																	
1. PROVIDE GFI BREAKER																	
2. PROVIDE HACR BREAKER																	
3. PROVIDE LOCK ON/OFF DEVICE																	
4. CONNECT TO KIT. CONTACTOR SEE DETAIL 3/E110																	



NOTES & TAGS			LIGHTING	
	ELEC EQUIP CONNECTION TAG - SEE EQUIP SCHEDULE CO="CONVENIENCE OUTLET"			PENDANT LIGHT FIXTURE
	KEYNOTE			ROUND DOWNLIGHT, RECESSED OR SURFACE MOUNT
	CIRCUIT HOME RUN - L INDICATES PANEL - NUMBERS INDICATE CIRCUITS			TROFFER TYPE LIGHT FIXTURE, SIZE AS INDICATED - CEILING MOUNT
	CONDUCTOR COUNT - UNLESS NOTED OTHERWISE / SHORT HASH INDICATES 1#12 LINE / LONG HASH INDICATES 1#12 NEUTRAL / HASH W/DOT INDICATES 1#12 GROUND			CEILING WALL WASH FIXTURE OR TRACK HEAD
	JUNCTION BOX - WALL/CEILING MOUNT			EXIT LIGHT, FILLED QUADRANT INDICATES FACES - WALL/CEILING MOUNT
POWER			FIRE ALARM/DATA	
	BRANCH CIRCUIT PANEL	VERIFY		MANUAL PULL STATION - WALL MOUNT @48"
	TRANSFORMER	VERIFY		SMOKE DETECTOR (P=PHOTOELEC, I=IONIZATION)
	MOTOR OR MOTOR CONNECTION	VERIFY		DUCT MOUNTED PHOTOELECTRIC DETECTOR
	DISCONNECT SWITCH	VERIFY		FLOW SWITCH
	SIMPLEX RECEPTACLE	18"		TAMPER SWITCH
	DUPLEX RECEPTACLE	18"		STROBE (# = CANDELA)
	ENTIRE DUPLEX RECEPTACLE TO BE SWITCHED	18"		HORN
	LOWER HALF OF DUPLEX RECEPTACLE TO BE SWITCHED	18"		HORN/STROBE
	QUADPLEX RECEPTACLE	18"		DATA OUTLET - WALL MOUNT
	DUPLEX RECEPTACLE - CEILING MOUNT			PHONE/DATA OUTLET - WALL MOUNT
	GFI RECEPTACLE, DUPLEX/QUADPLEX - WALL MOUNT			PHONE OUTLET - WALL MOUNT
	CLOCK RECEPTACLE			TV SYSTEM OUTLET
	SPECIAL PURPOSE RECEPTACLE	18"		BUZZER - WALL/CEILING MOUNT
	SPECIAL PURPOSE RECEPTACLE - CEILING		ABBREVIATIONS	
	FLOOR BOX - DEVICES AS INDICATED		AFF	ABOVE FINISHED FLOOR
	POWER POLE - DEVICES AS INDICATED		AFG	ABOVE FINISHED GRADE
	MULTIOUTLET ASSEMBLY - DEVICES AS INDICATED		AHU	AUTHORITY HAVING JURISDICTION
			CO	CONVENIENCE (GENERAL) OUTLET
			GFI/GFCI	GROUND FAULT INTERRUPTER
			GND	GROUND
			IG	ISOLATED GROUND
			TYP	TYPICAL
			UC	UNDER COUNTER
			UNO	UNLESS NOTED OTHERWISE
			WP	WEATHERPROOF
SWITCHES AND CONTROLS				
	SINGLE POLE TOGGLE SWITCH	46"		
	THREE WAY TOGGLE SWITCH	46"		
	TOGGLE SWITCH - "g" INDICATES SWITCHING	46"		
	PILOT LIGHT TOGGLE SWITCH	46"		
	ILLUMINATED TOGGLE - TOGGLE SWITCH	46"		
	KEYED SWITCH	46"		
	MOMENTARY CONTACT TOGGLE SWITCH	46"		
	TIMER SWITCH	46"		
	DIMMER SWITCH (# = WATTAGE)	46"		
	OCCUPANCY SENSOR - WALL/CLG MOUNT			
	OCCUPANCY SENSOR WALL SWITCH	46"		
	VACANCY SENSOR - WALL/CLG MOUNT			
	VACANCY SENSOR WALL SWITCH	46"		
	PHOTO ELECTRIC CELL			
	TIME CLOCK			
	CONTACTOR			
	LOW VOLTAGE TRANSFORMER			
	ELECTRIC THERMOSTAT			
	PUSHBUTTON STATION - BUTTONS AS INDICATED			

## ELECTRICAL EQUIPMENT SCHEDULE

EQUIPMENT TAG	DESCRIPTION	VOLTAGE	PHASE	PANEL	CIRCUIT NUMBER	CONDUIT AND FEEDER SIZE	CONNECTION TYPE	MOUTING HEIGHT	NOTES
E1	WALK-IN COOLER LIGHTING	120 V	1	A	42	3/4"C. 2#12 & 1#12 GND	DIRECT	DFA	
E1.1	WALK-IN COOLER EVAP.	120 V	1	A	30	3/4"C. 2#12 & 1#12 GND	DIRECT	DFA	
E1.1	WALK-IN COOLER COMP.	208 V	1	A	22,24	3/4"C. 2#8 & 1#10 GND	60A/2P NF DS. SW.	ON ROOF	
E1.1	WALK-IN COOLER COMP. (REDUNDANT SYS.)	208 V	1	A	26,28	3/4"C. 2#8 & 1#10 GND	60A/2P NF DS. SW.	ON ROOF	
E1.1	WALK-IN COOLER EVAP. (REDUNDANT SYS.)	120 V	1	A	32	3/4"C. 2#12 & 1#12 GND	DIRECT	DFA	
E8	FUTURE UNDERCOUNTER DISHWASHER	120 V	1	B	23	3/4"C. 2#12 & 1#12 GND	5-15R	18"	
E9	WATER FILTRATION SYSTEM	120 V	1	B	47	3/4"C. 2#12 & 1#12 GND	5-20R	72"	
E10	BAG-IN-BOX	120 V	1	A	10	3/4"C. 2#12 & 1#12 GND	5-20R	VERIFY	
E15	INSECT FAN	120 V	1	A	31	3/4"C. 2#12 & 1#12 GND	DIRECT	ABOVE DOOR	4
E15	INSECT FAN	120 V	1	A	44	3/4"C. 2#12 & 1#12 GND	DIRECT	ABOVE DOOR	4
E23.1	WORKTOP REFRIGERATOR - 72"	120 V	1	B	38	3/4"C. 2#12 & 1#12 GND	5-20R	FLOOR BOX	
E24	WORKTOP FREEZER - 60"	120 V	1	B	13	3/4"C. 2#12 & 1#12 GND	5-20R	24"	
E27	SALAD DRYER	120 V	1	B	38	3/4"C. 2#12 & 1#12 GND	5-20R	FLOOR BOX	
E28	VEGETABLE CUTTER	120 V	1	B	40	3/4"C. 2#12 & 1#12 GND	5-20R	FLOOR BOX	
E32	INDUCTION HOT TOP	120 V	1	B	28	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E33	TEA MAKER	120 V	1	B	30	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E35	REFRIGERATED PREP TABLE - 60"	120 V	1	B	42	3/4"C. 2#12 & 1#12 GND	5-20R	FLOOR BOX	
E40	EXHAUST HOOD CONTROLS & LTG	120 V	1	B	37	3/4"C. 2#12 & 1#12 GND	DIRECT	AT HOOD	
E42	ELECTRIC STEAMER	208 V	3	B	41,43,45	3/4"C. 3#10 & 1#10 GND	15-30R	VERIFY	2
E43	REVERSE OSMOSIS FILTER	120 V	1	B	47	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E46	GAS RICE COOKER	120 V	1	B	51	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E46	GAS RICE COOKER	120 V	1	B	49	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E50	EXHAUST HOOD CONTROLS & LTG	120 V	1	A	35	3/4"C. 2#12 & 1#12 GND	DIRECT	AT HOOD	
E51	GAS RANGE	120 V	1	B	18	3/4"C. 2#12 & 1#12 GND	5-20R	24"	1
E52	COOK STAND REFRIGERATOR	120 V	1	B	20	3/4"C. 2#12 & 1#12 GND	5-20R	24"	1
E53	GAS GRIDDLE	120 V	1	B	22	3/4"C. 2#12 & 1#12 GND	5-20R	24"	1
E56	KNIFE SANITIZER	120 V	1	B	24	3/4"C. 2#12 & 1#12 GND	5-20R	24"	1
E57	RICE WARMER (COOK LINE)	120 V	1	B	32	3/4"C. 2#12 & 1#12 GND	5-20R	24"	
E57	RICE WARMER (COOK LINE)	120 V	1	B	34	3/4"C. 2#12 & 1#12 GND	5-20R	24"	
E57	RICE WARMER	120 V	1	B	15	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E58	COUNTERTOP WARMER	120 V	1	B	26	3/4"C. 2#12 & 1#12 GND	5-20R	24"	
E60	REFRIGERATED PREP TABLE	120 V	1	B	17	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E61.1	HOT FOOD TABLE	208 V	1	B	19,21	3/4"C. 2#12 & 1#12 GND	5-15R	18"	
E70	SNEEZE GUARD EQUIPMENT	120 V	1	B	2	3/4"C. 2#12 & 1#12 GND	DIRECT	18"	
E71	POS	120 V	1	B	31	3/4"C. 2#12 & 1#12 GND	5-20R	18"	3
E72	DROP-IN COLD WELL	120 V	1	B	4	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E73	RICE WARMER	120 V	1	B	6	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E74	DROP-IN HOT WELL	208 V	1	A	38,40	3/4"C. 2#12 & 1#12 GND	6-20R	18"	
E74	DROP-IN HOT WELL	208 V	1	A	34,36	3/4"C. 2#12 & 1#12 GND	6-20R	18"	
E75	DROP-IN COLD WELL	120 V	1	B	8	3/4"C. 2#12 & 1#12 GND	5-20R	18"	
E77	VERTICAL MERCHANDISER	208 V	1	A	46,48	3/4"C. 2#12 & 1#12 GND	6-20R	18"	
E100	ICE & BEVERAGE DISPENSER	120 V	1	A	10	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	
E101	ICE MAKER	120 V	1	A	2	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	2
E102	ANTIMICROBIAL ICE PROTECTION	120 V	1	A	4	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	
E103	BEVERAGE DISPENSER	120 V	1	A	8	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	
E103	BEVERAGE DISPENSER	120 V	1	A	6	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	
E111	SOUP MERCHANDISER	120 V	1	A	12	3/4"C. 2#12 & 1#12 GND	5-20R	IN CASEWORK	
WH-1	WATER HEATER	120 V	1	B	7	3/4"C. 2#12 & 1#12 GND	DIRECT	VERIFY	

GENERAL NOTES:  
A. SEE EQUIPMENT PLAN ON ARCHITECTURAL SHEET A230 FOR EQUIPMENT LOCATIONS. ADDITIONAL EQUIPMENT INFORMATION PROVIDED IN 2020 MASTER SPEC BOOK.  
B. ALL 120V 15A OR 20A RECEPTACLES, 208V SINGLE PHASE RECEPTACLES UNDER 50A, AND 208V 3 PHASE RECEPTACLES UNDER 100A, IN KITCHEN AREAS SHALL BE GFCI PROTECTED AT THE CIRCUIT BREAKER.

NOTES:  
1. KITCHEN EQUIPMENT LOCATED UNDER THE HOOD SHALL SHUT DOWN UPON ACTIVATION OF FIRE PROTECTION SYSTEM AND GAS SOLENOID MANUAL PULL STATION. PROVIDE POWER CONTACTOR LOCATED ABOVE CEILING AND INTERCONNECT TO HOOD FIRE PROTECTION SYSTEMS. PROVIDE WIRING THROUGH CONTACTOR TO KITCHEN EQUIPMENT. REFER TO CAPTIVEAIRE HOOD DRAWINGS AND KITCHEN CONTACTOR SCHEDULE FOR ADDITIONAL INFORMATION.  
2. E.C. SHALL PROVIDE CORD AND PLUG.  
3. E.C. TO PROVIDE DATA TO OFFICE. VERIFY REQUIREMENTS WITH TENANT.  
4. ELECTRICAL CONTRACTOR TO INSTALL SWITCH FOR INSECT FAN PROVIDED BY THE KITCHEN EQUIPMENT VENDOR.

## MOTOR SCHEDULE

ELECTRICAL									
EQUIPMENT TAG	Description	HP/LOAD	VOLTAGE	PHASE	DISCONNECT AT MOTOR	PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES
					AMPS/TYPE				
EF 1	EXHAUST FAN	1.5 HP	208 V	3	30A/3P NON-FUSED	A	37,39,41	3/4"C. 3#12 & 1#12 GND	3
EF 2	EXHAUST FAN	.5 HP	120 V	1	MOTOR RATED SW.	B	39	3/4"C. 2#12 & 1#12 GND	3
EF 3	EXHAUST FAN	1/10 HP	120 V	1	MOTOR RATED SW.	B	3	3/4"C. 2#12 & 1#12 GND	2
MAU 1	MAKEUP AIR UNIT	3 HP	208 V	3	30A/3P NON-FUSED	A	43,45,47	3/4"C. 3#12 & 1#12 GND	3
MAU/CU 1	MAKEUP AIR CONDENSING UNIT	21.4 MCA	208 V	3	30A/3P NON-FUSED	A	49,51,53	3/4"C. 3#10 & 1#10 GND	3
RTU 1	EXISTING ROOF TOP UNIT	26 MCA	208 V	3	EXISTING	A	1,3,5	3/4"C. 3#10 & 1#10 GND	1,4,5,6
RTU 2	EXISTING ROOF TOP UNIT	28 MCA	208 V	3	EXISTING	A	7,9,11	3/4"C. 3#8 & 1#10 GND	1,4,5,6
RTU 3	EXISTING ROOF TOP UNIT	26 MCA	208 V	3	EXISTING	A	13,15,17	3/4"C. 3#10 & 1#10 GND	1,4,5,6
RTU 4	EXISTING ROOF TOP UNIT	26 MCA	208 V	3	EXISTING	A	19,21,23	3/4"C. 3#10 & 1#10 GND	1,4,5,6

GENERAL NOTES:  
A. DIVISION 16 CONTRACTOR TO PROVIDE RECEPTACLES AND DISCONNECT SWITCHES AS CALLED FOR IN THE SCHEDULE ABOVE UNLESS NOTED OTHERWISE.  
B. VERIFY ALL EQUIPMENT RATINGS AND REQUIREMENTS WITH APPROVED SHOP DRAWINGS/TENANT SUPPLIER PRIOR TO ROUGH IN.  
C. ALL EQUIPMENT AND MOTORS TO BE CONNECTED BY DIVISION 16 CONTRACTOR UNLESS STATED OTHERWISE.

ELECTRICAL NOTES:  
1. VERIFY NAMEPLATE DATA AS IT MAY BE DIFFERENT THAN ACTUAL EQUIPMENT PROVIDED.  
2. CONTROL VIA TIME CLOCK TO OPERATE DURING OCCUPIED HOURS. COORDINATE WITH MECHANICAL CONTRACTOR.  
3. SEE HOOD DRAWINGS FOR MORE INFORMATION AND ALL REQUIRED ELECTRICAL CONNECTIONS.  
4. PROVIDE CONNECTION TO THERMOSTAT FOR CONTROL. SEE MECHANICAL SHEETS FOR LOCATIONS AND COORDINATE WITH M.C. PRIOR TO ROUGH-IN.  
5. ROOF TOP UNIT IS EXISTING. PROVIDE CONNECTIONS AS INDICATED.  
6. VERIFY THAT EXISTING ROOF TOP UNITS HAVE BEEN PROVIDED WITH WEATHERPROOF DISCONNECT SWITCH AND WEATHERPROOF GFI RECEPTACLE. PROVIDE NEW AS REQUIRED.

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### SEAL/SIGNATURE:



### PROJECT:



## BIBIBOP asian grill

STREETS OF  
WEST PRYOR  
2050 NW LOWENSTEIN DR.  
SUITE E  
LEE'S SUMMIT, MO 64081

BIBIBOP STORE NO.: B0057  
BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: CM

CHECKED BY: RM

ISSUES AND REVISIONS:

PERMIT ISSUE 01.25.2021

SHEET TITLE:  
ELECTRICAL SCHEDULES  
& SYMBOLS

# E210



SECTION 16 0500 – COMMON WORK RESULTS FOR ELECTRICAL

- 1.1 SUMMARY
- A. Section Includes:
- Common electrical installation requirements.
- 1.2 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION
- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, orange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.
- F. Contractor shall provide rough-in for and connect to the following equipment furnished by others. Equipment will be provided by other contractors or owner. Secure rough-in information, connection requirements, and templates from equipment supplier. Verify all equipment voltage and power requirements:
- Plumbing and HVAC equipment.
  - Electric motors.
- 1.3 FIRE–STOPPING
- A. Apply fire-stopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Fire-stopping materials and installation requirements are specified in Division 07 Section "Penetration Fire-stopping."
- 1.4 SEISMIC REQUIREMENTS
- C. Provide bracing and supports to meet code required seismic ratings.

SECTION 16 0519 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

- 1.1 SUMMARY
- A. This Section includes the following:
- Building wires and cables rated 600 V and less.
  - Connectors, splices, and terminations rated 600 V and less.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.
- 1.3 CONDUCTORS AND CABLES
- A. Copper and Aluminum Conductors: Comply with NEMA WC 70.
- B. Conductor Insulation: Comply with NEMA WC 70 for Types THHN–THWN and XHHW.
- C. Multi-conductor Cable: Comply with NEMA WC 70 for metal-clad cable, Type MC with ground wire.
- 1.4 CONDUCTOR MATERIAL APPLICATIONS
- A. Feeders: Copper for feeders smaller than No. 3 AWG; copper or aluminum for feeders No. 3 AWG and larger. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- 1.5 CONDUCTOR INSULATION AND MULTI-CONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
- A. Service Entrances: Type THHN–THWN, single conductors in raceway or Type XHHW, single conductors in raceway.
- B. Exposed Feeders: Type THHN–THWN, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN–THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN–THWN, single conductors in raceway.
- E. Exposed Branch Circuits, including in Crawlspace: Type THHN–THWN, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN–THWN, single conductors in raceway or Metal-clad cable, Type MC.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN–THWN, single conductors in raceway.
- 1.6 INSTALLATION OF CONDUCTORS AND CABLES
- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

SECTION 16 0526 – GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

- 1.1 SUMMARY
- A. This Section includes methods and materials for grounding systems and equipment.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with UL 467 for grounding and bonding materials and equipment.
- 1.3 APPLICATIONS
- A. Conductors: Install solid conductor for No. 12 AWG and smaller, and stranded conductors for No. 10 AWG and larger, unless otherwise indicated.
- 1.4 EQUIPMENT GROUNDING
- A. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
- Feeders and branch circuits.
  - Lighting circuits.
  - Receptacle circuits.
  - Single-phase motor and appliance branch circuits.
  - Three-phase motor and appliance branch circuits.

SECTION 16 0532 – HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

- 1.1 SUMMARY
- A. Section includes:
- Hangers and supports for electrical equipment and systems.
  - Construction requirements for concrete bases.
- 1.2 PERFORMANCE REQUIREMENTS
- A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- 1.3 QUALITY ASSURANCE
- A. Comply with NFPA 70.

SECTION 16 0533 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- 1.1 SUMMARY
- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

- 1.3 METAL CONDUIT AND TUBING
- A. Rigid Steel Conduit: ANSI C80.1.
- B. IMC: ANSI C80.6.
- C. EMT: ANSI C80.3.
- D. FMC: Zinc-coated steel.
- E. LFMC: Flexible steel conduit with PVC jacket.
- F. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1, listed for type and size raceway with which used, and for application and environment in which installed.

1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
2. Fittings for EMT: Steel, set-screw, or compression type.
- 1.4 NONMETALLIC CONDUIT AND TUBING
- A. ENT: NEMA TC 13.
- B. RNC: NEMA TC 2, Type EPC–40–PVC, unless otherwise indicated.
- C. LFNC: UL 1660.
- D. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
- E. Fittings for LFNC: UL 514B.
- 1.5 BOXES, ENCLOSURES, AND CABINETS
- A. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- B. Cast-Metal Outlet and Device Boxes: NEMA FB 1, aluminum, Type FD, with gasketed cover.
- C. Nonmetallic Outlet and Device Boxes: NEMA OS 2.
- 1.6 RACEWAY APPLICATION
- A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
- Exposed Conduit: Rigid steel conduit or RNC, Type EPC–40–PVC.
  - Concealed Conduit, Aboveground: Rigid steel conduit or RNC, Type EPC–40–PVC.
  - Underground Conduit: RNC, Type EPC–40–PVC, direct buried.
  - Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
  - Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
  - Comply with the following indoor applications, unless otherwise indicated:
- Exposed, Not Subject to Physical Damage: EMT.
  - Exposed, Not Subject to Severe Physical Damage: Rigid steel conduit.
  - Exposed and Subject to Severe Physical Damage: Rigid steel conduit.
  - Concealed in Ceilings and Interior Walls and Partitions: EMT.
  - Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
  - Damp or Wet Locations: Rigid steel conduit.
  - Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.

SECTION 16 0553 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

- 1.1 SUMMARY
- A. Section Includes:
- Identification for raceways.
  - Identification for power and control cables.
  - Identification for conductors.
  - Identification identification labels.
  - Miscellaneous identification products.
- 1.2 EQUIPMENT IDENTIFICATION LABELS
- A. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- 1.3 IDENTIFICATION SCHEDULE
- A. Accessible Raceway and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A, and 120 V to ground: Install labels at 30-foot maximum intervals.
- B. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conduct tape to identify the phase.
- Color-Coding for Phase Identification, 600 V or Less: Use colors listed below for ungrounded conductors.
- Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
- B. Colors for 208/120-V Circuits: B. Colors for 480/277-V Circuits:
- |                    |                     |
|--------------------|---------------------|
| 1) Phase A: Black. | 1)Phase A: Brown.   |
| 2) Phase B: Red.   | 2)Phase B: Orange.  |
| 3) Phase C: Blue.  | 3) Phase C: Yellow. |
| 4) Neutral: White. | 4) Neutral: Gray.   |

- C. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, control, or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

SECTION 16 2416 – PANELBOARDS

- 1.1 SUMMARY
- A. Section includes lighting and appliance branch-circuit panelboards.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- 1.3 GENERAL REQUIREMENTS FOR PANELBOARDS
- A. Enclosures: Flush- and surface-mounted cabinets.
- Rated for environmental conditions at installed location.
  - Indoor Dry and Clean Locations: NEMA 250, Type 1.
  - Outdoor Locations: NEMA 250, Type 3R.
  - Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
  - Directory Card: Inside panelboard door, mounted in transparent card holder.
  - Phase, Neutral, and Ground Buses: Tin-plated aluminum.
  - Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals.
- 1.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS
- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- Eaton Electrical Inc.; Cutler-Hammer Business Unit.
  - General Electric Company; GE Consumer & Industrial – Electrical Distribution.
  - Siemens Energy & Automation, Inc.
  - Square D; a brand of Schneider Electric.
- B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: Circuit breaker.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units. Where multi-wire branch circuits are utilized provide multi-pole circuit breakers or manufacturer provided handle ties.
- E. Doors: Concealed hinges; secured with flush latch with tumblers lock; keyed alike.
- F. Service entrance rated.

1.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- Eaton Electrical Inc.; Cutler-Hammer Business Unit.
  - General Electric Company; GE Consumer & Industrial – Electrical Distribution.
  - Siemens Energy & Automation, Inc.
  - Square D; a brand of Schneider Electric.
- B. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
- Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
  - GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
  - Ground-Fault Equipment Protection (GFEF) Circuit Breakers: Class B ground-fault protection (30-mA trip).
- 1.6 INSTALLATION
- A. Install filler plates in unused spaces.
- B. Comply with NECA 1.
- 1.7 IDENTIFICATION
- A. Create a directory to indicate installed circuit loads and incorporating Owner's final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.
- B. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

SECTION 16 2726 – WIRING DEVICES

- 1.1 SUMMARY
- A. This Section includes the following:
- Receptacles, receptacles with integral GFCI, and associated device plates.
  - Snap switches and wall-box dimmers.
  - Wall-switch occupancy sensors.
- 1.2 MANUFACTURERS
- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
- Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
  - Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
  - Leviton Mfg. Company Inc. (Leviton).
  - Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).
  - Lutron Electronics.
- 1.3 STRAIGHT BLADE RECEPTACLES
- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5–20R, and UL 498.
- 1.4 GFCI RECEPTACLES
- A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
- 1.5 SNAP SWITCHES
- A. Comply with NEMA WD 1 and UL 20.
- B. Switches, 120/277 V, 20 A:
- 1.6 WALL-BOX DIMMERS
- A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EM/RFI suppression filters.
- B. Control: Continuously adjustable slider; with single-pole or three-way switches. Comply with UL 1472.
- C. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module.
- 600W unless noted otherwise on plans ; dimmers shall require no de-rating when ganged with other devices.
  - Dimmer used for electronic low voltage transformers shall be rated for electronic low voltage.
- D. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.

- 1.7 OCCUPANCY SENSORS
- A. Wall-Switch Sensors
- Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- Sensor Switch WSD–PDT–V.
  - Hubbell LHMTS1
  - Watt Stopper DW–100
  - Leviton OSSMT–MD
  - Equals
- D. Description: Dual-technology type (PIR and Ultrasonic/Phonic), 120/277 V, adjustable time delay up to 20 minutes, 180-degree field of view, with a minimum coverage area of 400 sq. ft..

1.8 WALL PLATES

- A. Single and combination types to match corresponding wiring devices.
- Plate-Securing Screws: Metal with head color to match plate finish.
  - Material for Finished Spaces: Smooth, high-impact thermoplastic.
  - Material for Unfinished Spaces: Galvanized steel.
  - Material for Lamp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations." Paintable.
- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant , die-cast aluminum with lockable cover. Paintable.
- 1.9 FINISHES
- A. Color: Wiring device catalog numbers in Section Text do not designate device color.
- Wiring Devices and coverplates: As directed by the Architect, unless otherwise indicated or required by NFPA 70 or device listing. Architect reserves the right to request multiple device finishes.
- 1.10 INSTALLATION
- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted. See drawings.
- B. Conductors:
- The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtail.
  - Existing Conductors:
- Cut back and pigtail, or replace all damaged conductors.
  - Pigtailng existing conductors is permitted provided the outlet box is large enough.
- D. Receptacle Orientation:
- Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.
- E. Receptacles Connections:
- Provide pigtails in each receptacle box. Do not use feed through lugs on receptacles.
- F. Dimmers:
- Install dimmers within terms of their listing.
  - Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

SECTION 16 2816 – ENCLOSED SWITCHES

- 1.1 SUMMARY
- A. Section Includes:
- Fusible switches.
  - Non-fusible switches.
  - Enclosures.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- 1.3 MANUFACTURERS
- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- Eaton Electrical Inc.; Cutler-Hammer Business Unit.
  - General Electric Company; GE Consumer & Industrial – Electrical Distribution.
  - Siemens Energy & Automation, Inc.
  - Square D; a brand of Schneider Electric.
- 1.4 FUSIBLE SWITCHES
- A. Type GD, General Duty, Single Throw, 240–V ac, 800 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, with cartridge fuse interiors to accommodate indicated fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- 1.5 NON-FUSIBLE SWITCHES
- A. Type GD, General Duty, Single Throw, 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- 1.6 ENCLOSURES
- A. Enclosed Switches: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
- Indoor, Dry and Clean Locations: NEMA 250, Type 1.
  - Outdoor Locations: NEMA 250, Type 3R.
- 1.7 IDENTIFICATION
- A. Label each enclosure with engraved metal or laminated-plastic nameplate.

SECTION 16 5100 – LIGHTING

- 1.1 SUMMARY
- A. Section Includes:
- Interior lighting fixtures, lamps, and ballasts.
  - Emergency lighting units.
  - Exit signs.
  - Lighting fixture supports.
- 1.2 QUALITY ASSURANCE
- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- 1.3 EXTRA MATERIAL
- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- Lamps: 1 for every 10 of each type and rating installed unless noted otherwise. Furnish at least one of each type. Provide 1 for every 1 of each 12V lamp.
  - Plastic Diffusers and Lenses: 1 for every 100 of each type and rating installed. Furnish at least one of each type.
  - Ballasts: 1 for every 30 of each type and rating installed. Furnish at least one of each type.
  - Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.
- 1.4 MANUFACTURERS
- A. Products: Subject to compliance with requirements, provide one of the products identified on Drawings.
- 1.5 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS
- A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
- B. Incandescent Fixtures: Comply with UL 1598.
- C. Fluorescent Fixtures: Comply with UL 1598.
- D. HID Fixtures: Comply with UL 1598. Metal Parts: Free of burrs and sharp corners and edges.
- E. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- G. Diffusers and Globes:
- Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
  - Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.
  - UV stabilized.
  - Glass: Annealed crystal glass unless otherwise indicated.
- 1.6 BALLASTS FOR LINEAR FLUORESCENT LAMPS
- A. General Requirements for Electronic Ballasts:
- Comply with UL 935 and with ANSI C82.11.
  - Designed for type and quantity of lamps served.
  - Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
  - Sound Rating: Class A.
  - Total Harmonic Distortion Rating: Less than 20 percent.
  - Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
  - Operating Frequency: 42 kHz or higher.
  - Lamp Current Crest Factor: 1.7 or less.
  - BF: 0.88 or higher unless otherwise indicated.
  - Power Factor: 0.95 or higher.
  - Ballasts for Low-Temperature Environments:
- Temperatures 0 Deg F and Higher: Electronic type rated for 0 deg F starting and operating temperature with indicated lamp types.
- 1.7 BALLASTS FOR HID LAMPS
- A. Electronic Ballast for Metal-Halide Lamps: Include the following features unless otherwise indicated:
- Minimum Starting Temperature: Minus 20 deg F for single-lamp ballasts.
  - Rated Ambient Operating Temperature: 130 deg F.
  - Lamp end-of-life detection and shutdown circuit.
  - Sound Rating: Class A.
  - Total Harmonic Distortion Rating: Less than 20 percent.
  - Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
  - Lamp Current Crest Factor: 1.5 or less.
  - Power Factor: 0.90 or higher.
  - Interference: Comply with 47 CFR 18, Ch. 1, Subpart C, for limitations on electromagnetic and radio-frequency interference for non-consumer equipment.
  - Protection: Class P thermal cutoff.

1.8 EXIT SIGNS

- A. General Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
- B. Internally Lighted Signs:
- Lamps for AC Operation: LEDs, 50,000 hours minimum rated lamp life.
2. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
- Battery: Sealed, maintenance-free, nickel-cadmium type.
  - Charger: Fully automatic, solid-state type with sealed transfer relay.
  - Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
  - Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
  - LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
- 1.9 EMERGENCY LIGHTING UNITS
- A. General Requirements for Emergency Lighting Units: Self-contained units complying with UL 924.
- Battery: Sealed, maintenance-free, lead-acid type.
  - Charger: Fully automatic, solid-state type with sealed transfer relay.
  - Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
  - Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
  - LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
  - Wire Guard: Heavy-chrome-plated wire guard protects lamp heads or fixtures.
- 1.10 FLUORESCENT LAMPS
- A. T8 rapid-start lamps, 2950 initial lumens (minimum), CRI 85 (minimum), color temperature 3500 K, and average rated life 30,000 hours unless otherwise indicated.
- 1.11 HID LAMPS
- A. Ceramic, Pulse-Start, Metal-Halide Lamps: Minimum CRI 80, and color temperature 4000 K.

## GENERAL NOTES

- PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED BY A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.
- REFER TO ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHTING FIXTURES AND DEVICES.
- LETTER THUS: "A"– INDICATES TYPE OF LIGHTING FIXTURES; REFER TO LIGHTING FIXTURE TYPES AS NOTED ON THE LIGHTING FIXTURE SCHEDULE.
- VERIFY LOCATION OF ALL FLOOR OUTLETS WITH ARCHITECT PRIOR TO ROUGH-IN. EXISTING CONCRETE FLOOR TO BE CUT AND TRENCHED AS REQUIRED.
- DATA TELEPHONE AND TELEVISION CONDUIT SHALL BE MINIMUM 3/4" INCH UNLESS OTHERWISE NOTED ON DRAWINGS.
- DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
- FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
- ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A PULLWIRE OR EQUAL AND SHALL BE IDENTIFIED AT ALL JUNCTION, FILL, AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAGS SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATOR AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND SHALL PROVIDE SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, EQUIPMENT CONNECTIONS, ETC., AND ASSOCIATED CIRCUITING IN NEW AND REMODELED AREAS, EVEN IF SUCH AREAS ARE NOT SHOWN ON ELECTRICAL DRAWINGS. LAYOUTS, FIXTURE TYPES, QUANTITIES, AND SPACING SHALL BE IN ACCORDANCE WITH SIMILAR AREAS ON THIS PROJECT. CONTRACTOR SHALL INCLUDE COSTS FOR THE ABOVE IN HIS BID.
- WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER.
- WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE OF MISSOURI, AND NATIONAL CODES AND ORDINANCES.
- PROVIDE PERMITS AND INSPECTIONS REQUIRED.
- GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER TENANT'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE TENANT.
- VERIFY THAT EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
- SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO TENANT.
- SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.
- ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. TRANSITIONS FROM BELOW TO ABOVE GRADE SHALL BE WITH RIGID STEEL ELBOWS WITH PVC JACKET OR PROVIDED EQUAL PROTECTION. ENT FITTINGS SHALL BE MALLEABLE IRON OR STEEL. CONNECTORS SHALL BE INSULATED THROU TYPE.
- FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE WITH LIQUID-TIGHT FLEX METAL CONDUIT AND FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO ELECTRIC OR MECHANICAL EQUIPMENT.
- ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY.
- ELECTRICAL CONTRACTOR SHALL PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN ALL PHASES OF THE SYSTEM, REGARDLESS OF CIRCUITING INDICATED.
- ELECTRICAL CONTRACTOR SHALL OBTAIN A COPY OF LANDLORD'S DESIGN CRITERIA, THAT GUIDE SUPERSEDES DRAWINGS AND SPECIFICATION (I.E. MANUFACTURER, ETC.).
- MULTI-PHASE LOADS SHALL BE PROTECTED BY MULTI-POLE CIRCUIT BREAKERS HAVING COMMON TRIP AND SINGLE HANDLE. HANDLE TIES AND TROUGH CLIPS OR PINS ARE UNACCEPTABLE.
- MULTI-WIRE BRANCH CIRCUITS SHALL REQUIRE A MULTI-POLE BREAKER AS A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES PER NEC 210.4(B).
- ALL CONDUCTORS SHALL BE COPPER, TYPE 75 DEGREES C, MINIMUM SIZE #12.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND ARCHITECTURAL DRAWINGS TO ELIMINATE CONFLICTS.
- CONTRACTOR SHALL MAKE ARRANGEMENTS WITH LOCAL POWER COMPANY FOR THE INSTALLATION OF NEW ELECTRICAL SERVICE AND METER. INSTALL NEW SERVICE DISTRIBUTION EQUIPMENT AS SPECIFIED ON ELECTRICAL DRAWINGS.
- CONTRACTOR IS RESPONSIBLE TO SECURE AND PAY FOR ALL PERMITS. CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL, AND NATIONAL CODES (NEC). CONTRACTOR SHALL SCHEDULE INSPECTIONS SO JOB PROGRESS IS NOT DELAYED.
- PRIOR TO CONSTRUCTION START CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND OPERATION MANUAL FOR ALL EQUIPMENT AND ACCESSORIES FOR OWNER APPROVAL.
- PROVIDE FLEXIBLE CONDUIT FOR ALL VIBRATING EQUIPMENT. PROVIDE FLEXIBLE CONDUIT FOR LIGHT FIXTURE CONNECTIONS.
- ELECTRICAL EQUIPMENT EXPOSED TO WEATHER CONDITIONS SHALL BE WEATHERPROOF TYPE. CONDUIT EXPOSED TO WEATHER CONDITIONS OR IN CONTACT WITH CONCRETE SHALL BE POLYVINYL CHLORIDE (PVC) OR GALVANIZED HEAVY WALL STEEL (GRC).
- CONTRACTOR SHALL SUBMIT AS BUILT DRAWINGS TO THE TENANT IF INSTALLATION VARIES FROM CONTRACT DRAWINGS.
- DEMOLITION
- PROVIDE ALL ELECTRICAL DEMOLITION WORK IN AREAS REQUIRED TO FACILITATE NEW WORK. PROVIDE DISCONNECT AND REMOVAL OF ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, DEVICES, PANELBOARDS, CONDUIT, UNUSED CONDUIT, WIRE, CABLE, J-BOXES, RECEPTACLES, SWITCHES, LIGHTS, FIRE ALARM DEVICES, ETC., COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED, AND BLANK COVER PLATES PROVIDED. ANY EXISTING CABLING/WIRING THAT REMAINS SHALL BE PULLED TIGHT TO WALLS OR STRUCTURE AND SECURED. NO ALLOWANCE WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF WITH EXISTING BUILDING CONDITIONS AND THE AMOUNT OF WORK REQUIRED TO COMPLETE THE NEW ELECTRICAL WORK AS SHOWN ON THE DRAWINGS. TURN OVER TO OWNER ALL EQUIPMENT THAT THEY DESIRE TO RETAIN. ALL OTHER EQUIPMENT SHALL BE DISPOSSED OF BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR RESPONSIBLE FOR DISPOSAL OF FLUORESCENT LAMPS IN COMPLIANCE WITH ALL CURRENT ENVIRONMENTAL PROTECTION REGULATIONS.
- REMODELING
- CIRCUIT NUMBERS SHOWN ON THESE DRAWINGS SHALL NOT NECESSARILY CORRESPOND TO ACTUAL CIRCUIT BREAKER NUMBERS. CONTRACTOR SHALL CORRECT TO EXISTING CIRCUIT BREAKERS ABANDONED BY DEMOLITION/REMODELING.
- WHERE AN ELECTRICAL SYSTEM IN THE SPACE IS CALLED OUT TO BE CONNECTED WITH AN EXISTING SYSTEM THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE POINT OF CONNECTION AS WELL AS THE MEANS OF CONNECTION WITH THE EXISTING SYSTEM. CONTRACTOR SHALL PROVIDE ALL NEW HARDWARE COMPONENTS REQUIRED TO INTEGRATE THE NEW DEVICES/COMPONENTS INTO THE EXISTING HEADEND OR SYSTEM CONTROL PANEL. CONTRACTOR SHALL PROVIDE ALL SYSTEM SOFTWARE UPGRADES REQUIRED TO INCORPORATE NEW COMPONENTS INTO EXISTING SYSTEM.
- WHEREVER THE INSTALLATION OF ELECTRICAL EQUIPMENT CONFLICTS WITH EXISTING CONDITIONS NOT MENTIONED IN THE PLANS OR THE SPECIFICATIONS, THE CONTRACTOR SHALL DETERMINE A SATISFACTORY ALTERNATIVE MEANS OF INSTALLATION AND OBTAIN APPROVAL FROM THE ENGINEER BEFORE ACTUAL EQUIPMENT INSTALLATION.
- CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY EXISTING EQUIPMENT OR CIRCUITS THAT ARE REMAINING TO BE RECONNECTED TO NEW OR EXISTING SWITCHBOARDS/PANELBOARDS. PROVIDE SWITCHES, RECEPTACLES, CONDUIT, WIRE, ETC. AS REQUIRED TO RESTORE CONTINUITY OF CIRCUIT(S).
- LIGHTING
- RECESSED LIGHT FIXTURES INSTALLED IN GYP BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.
- VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL RECESSED LIGHT FIXTURES. INSTALLATION OF LIGHT FIXTURES SHALL COMPLY WITH ALL INTERNATIONAL BUILDING CODE REQUIREMENTS.
- RECESSED LIGHTING FIXTURES INSTALLED INTO METAL SUSPENDED CEILING SYSTEMS FOR LAY-IN TILES AND PANELS SHALL BE INSTALLED AND SUPPORTED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE ASTM D635 AND D636.
- FIXTURES INSTALLED IN LIGHT-DUTY CEILING SYSTEMS SHALL HAVE SEPARATE SUPPORTING MEMBERS. FIXTURES INSTALLED IN INTERMEDIATE-DUTY AND HEAVY-DUTY CEILING SYSTEMS SHALL HAVE SEPARATE SUPPORTING MEMBERS WHEN THE WEIGHT OF THE FIXTURES EXCEEDS THE DEFLECTION AND ROTATION REQUIREMENTS OF ASTM D636 2.7.2.3 & 4.
- REFER TO REFLECTED CEILING PLAN FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES WITHIN THE ENTIRE TENANT SPACE.
- ELECTRICAL CONTRACTOR SHALL MAKE FINAL ADJUSTMENTS OF ADJUSTABLE DOWNLIGHTS ALONG WITH OWNER REPRESENTATIVE.
- EMERGENCY FIXTURES AND EXIT LIGHTS SHALL BE FED VIA UNWITHEDED HOT CIRCUIT.
- FIRE ALARM
- FIRE ALARM SYSTEM TO BE DESIGN BUILT BY CONTRACTOR AS REQUIRED AND SHALL USE THE LANDLORD'S LICENSED FIRE ALARM CONTRACTOR AT TENANT'S EXPENSE. DUNHAM ASSOCIATES IS NOT THE ENGINEER OF RECORD FOR ANY FIRE ALARM RELATED WORK.
- BOXES FOR TELEPHONE, TV, DATA, WIRING DEVICES, ETC. SHALL BE MINIMUM TWO GANG WITH SINGLE GANG MUD RING.
- SOUND SYSTEM. CONTRACTOR SHALL PROVIDE ALL CONDUIT, J-BOXES, AND WIRING FOR SOUND SYSTEM SPEAKERS TO AMPLIFIER LOCATION. CONDUIT SHALL BE A MINIMUM OF 3/4" UNLESS NOTED. OWNER TO FURNISH MUD-RINGS FOR SPEAKERS FOR CONTRACTOR TO INSTALL. COORDINATE WITH TENANT.
- SECURITY SYSTEM. CONTRACTOR SHALL PROVIDE ALL CONDUIT, AND J-BOXES (MINIMUM TWO-GANG) FOR A COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF 3/4" UNLESS NOTED. SECURITY SYSTEM CONTRACTOR SHALL INSTALL SECURITY PANELS, CAMERAS, WIRE, SECURITY DEVICES, ETC.

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SEAL/SIGNATURE:



PROJECT:



## BIBIBOP

asian grill

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LEE'S SUMMIT, MO 64081

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BIBIBOP PO NO.: TBD

PROJECT NO.: 0421995-101

DRAWN BY: CM

CHECKED BY: RM

ISSUES AND REVISIONS: