MECHANICAL LEGEND

AC-1 TXF-1	EQUIPMENT SYMBOL
AIR DEVICES	
	CEILING DIFFUSER SUPPLY
	CEILING DIFFUSER RETURN
	PERFORATE CEILING DIFFUSER SUPPLY
DUCT ACCESSORIES	
VD VD	VOLUME DAMPER W/ ACCESS DOOR
	FIRE DAMPER W/ ACCESS DOOR
CONTROLS AND SENSORS	
T	THERMOSTAT
S D	DUCT SMOKE DETECTOR
H	HUMIDISTAT
T S	TEMPERATURE SENSOR
DUCTWORK	
	AIR DUCT W/ 1.5" ACOUSTICAL LINING
	FLEXIBLE DUCT
FC FC	FLEXIBLE CONNECTION
24X12	RECTANGULAR DUCT (WIDTH X DEPTH)
	SUPPLY AIR RECTANGULAR DUCT CROSS SECTION
	RETURN AIR RECTANGULAR DUCT CROSS SECTION
ø12	ROUND DUCT (DIAMETER)
	ROUND DUCT CROSS SECTION
	POINT OF NEW CONNECTION TO EXISTING
	POINT OF DISCONNECTION FROM EXISTING

MECHANICAL DRAWING LIST

M-1	MECHANICAL LEGENDS NOTES & SCHEDULE
M-2	MECHANICAL FLOOR PLAN
M-2.1	MECHANICAL ROOF PLAN
M-3	MECHANICAL DETAILS (1 OF 2)
M-3.1	MECHANICAL DETAILS (2 OF 2)
M-3.2	CAPTIVE AIRE PLAN
M-3.3	CAPTIVE AIRE PLAN
M-3.4	CAPTIVE AIRE PLAN
M-3.5	CAPTIVE AIRE PLAN
M-3.6	CAPTIVE AIRE PLAN
M-3.7	CAPTIVE AIRE PLAN
M-3.8	CAPTIVE AIRE PLAN
M-3.9	CAPTIVE AIRE PLAN
M-4.1	PROCESS COMPLIANCE
M-4.2	MECHANICAL SYSTEM COMPLIANCE

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ABBREVIATIONS

CFM	CUBIC FEET OF AIR PER MINUTE
FC	FLEXIBLE CONNECTION
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
EER	ENERGY EFFICIENCY RATIO
SEER	SEASONAL ENERGY EFFICIENCY RATIO
RTU	ROOF TOP UNIT
EF	EXHAUST FAN
VD	VOLUME DAMPER
MUA	MAKEUP UNIT AIR
S.A.E.	SAME AS EXISTING
E	EXISTING
KEF	KITCHEN EXHAUST FAN
AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSER UNIT
ACR	AIR CURTAIN

GENERAL NOTES

1. THE DRAWINGS, SPECIFICATIONS AND GENERAL NOTES DESCRIBE THE RECOMMENDED SCOPE OF WORK AND THE DOCUMENTS SHALL BE USED FOR THE PURPOSE OF BIDDING, BUILDINGS DEPARTMENT REVIEW, AND TO SECURE THE NECESSARY CONSTRUCTION PERMIT ONLY. CONTRACTOR SHALL PROVIDE CONSTRUCTION DRAWINGS AND OBTAIN WRITTEN APPROVAL OF ALL INSPECTION AUTHORIZED GOVERNMENTAL AGENCIES AND UTILITY COMPANIES PRIOR TO START OF AFFECTED WORK.
2. ALL MECHANICAL WORK SHALL COMPLY WITH LOCAL APPLICABLE CODE AND 2022 CALIFORNIA MECHANICAL CODE.
3. COORDINATE ALL MECHANICAL WORK W/ARCHITECTURAL, ELECTRICAL, STRUCTURAL, SUBCONTRACTOR & OTHER TRADES TO AVOID INTERFERENCES. COORDINATE LOCATIONS OF OPENING THROUGH FLOOR, WALL & ROOF W/ARCHITECTURAL, ELECTRICAL & STRUCTURAL DRAWINGS.
4. SEAL & TAPE ALL OPENINGS IN DUCTWORK AIRTIGHT AFTER TESTING.
5. ALL SIZES FOR DUCT, GRILLE, REGISTER, DIFFUSER & LOUVER SHALL BE IN INCHES.
6. CHECK & VERIFY ALL FIELD CONDITIONS & ACTUAL DIMENSIONS BEFORE PREPARING SHOP DRAWINGS & BEGINNING INSTALLATION NOTIFY ARCHITECT IMMEDIATELY OF AND ALL DISCREPANCIES.
7. TEST & BALANCE ALL HVAC SYSTEM ACCORDING TO CFM INDICATED ON PLANS.
8. ALL APPLIANCE AND PLUMBING VENTS SHALL BE AT LEAST TEN (10) FEET IN A HORIZONTAL DIRECTION, OR THREE (3) FEET ABOVE THE OUTSIDE-AIR INTAKES FOR HVAC UNITS.
9. FACTORY-MADE FLEXIBLE DUCT & DUCT CONNECTOR TO BE U. L. 181 LISTED, & MAXIMUM 5'-0".

GENERAL SEISMIC NOTES

ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES AS APPROVED BY CITY.

WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND THE FIELD INSPECTOR.

A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY CITY SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.

THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, SECTION 1630A AND TABLE 16A-K.3. ANCHORAGE DETAILS FOR ROOF/FLOOR MOUNTED EQUIPMENT WEIGHING LESS THAN 400 LBS. AND HUNG EQUIPMENT WEIGHING LESS THAN 20 LBS MAY BE OMITTED FROM THE PLANS.

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:

EQUIPMENT ON GRADE — 23% OF OPERATING WEIGHT
EQUIPMENT ON STRUCTURE — 35% OF OPERATING WEIGHT

FOR FLEXIBLY MOUNTED EQUIPMENT USE 2 X THE ABOVE VALUES, AND FOR SIMULTANEOUS VERTICAL FORCE USE 1/3 X THE HORIZONTAL FORCE.

THE ABOVE VALUES ARE FOR AN IMPORTANCE FACTOR, I=1.15 AND SEISMIC ZONE, Z=0.5.

WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL ENGINEER.

ALL APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE PER BUILDING CODE REQUIREMENTS.

CALIFORNIA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE CALIFORNIA BUILDING CODE 2022, AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
2. VENTILATION FOR ALL AREA SHALL COMPLY WITH CALIFORNIA ENERGY CODE 2022, SECTION 120.1-REQUIREMENTS FOR VENTILATION AND INDOOR AIR QUALITY.
3. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
4. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
6. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
7. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE CALIFORNIA MECHANICAL CODE 2022:
   A. VENTILATION SYSTEM BALANCING CALIFORNIA MECHANICAL CODE 2022 - 402
   B. SMOKE CONTROL SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 606
8. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   A. STANDARDS OF HEATING - CALIFORNIA BUILDING CODE 2022 - 1203
   B. DUCT CONSTRUCTION AND INSTALLATION- CALIFORNIA MECHANICAL CODE 2022 - 602 & 603
   C. AIR INTAKES, EXHAUSTS AND RELIEF - CALIFORNIA MECHANICAL CODE 2022 -407.
   D. AIR FILTERS - CALIFORNIA MECHANICAL CODE 2022 - 401 (FILTERS SHALL BE A MINIMUM OF MERV 13 AS REQUIRED BY CENC 120.1(C))
   E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 606
   F. GAS FIRED EQUIPMENT - CALIFORNIA FUEL GAS CODE 2022.
9. OPERATION AND CONTROL REQUIREMENTS FOR MINIMUM QUANTITIES OF OUTDOOR AIR. TIMES OF OCCUPANCY - THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SECTION 120.1(C) SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS USUALLY OCCUPIED.
10. ALL MECHANICAL EQUIPMENT SHALL BE TESTED BY A CALIFORNIA CERTIFIED ACCEPTANCE TEST TECHNICIAN.
11. SMOKE DETECTOR SHALL MEET UL268A.
12. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR - BALANCE REPORT TO INSPECTOR.
13. ALL DUCTWORK WORK SYSTEMS SHALL BE TESTED FOR AIR LEAKAGE PER CMC SECTION 603.9.2.

INSULATION SCHEDULE

DUCT INSULATION

SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8:

1. OUTDOORS; OR
2. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR
3. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR
4. IN AN UNCONDITIONED CRAWLSPACE; OR
5. IN OTHER UNCONDITIONED SPACES.

SUPPLY-AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES, INCLUDING DUCTS BURIED IN CONCRETE SLAB, SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE.

PIPING INSULATION

A. INSULATE ALL PIPING IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.

INSULATION SCHEDULE - PIPING

SERVICE	SIZE	THICKNESS	MATERIAL	FINISH
REFRIGERANT PIPING		1.5"	P-6	
CONDENSER DRAIN PIPING (IF RUNNING THROUGH EXTERIOR WALL)		1.0"	P-6	

B. MATERIAL:

1) TYPE P-6: MINIMUM 6 LB MOLDED FOAMED PLASTIC. MAXIMUM 0.27 K-FACTOR AT 75 DEG F MEAN TEMPERATURE. MAXIMUM 0.17 PERMEANCE. SIMILAR TO ARMSTRONG ARMAFLEX II.

CALIFORNIA ENERGY CONSERVATION CODE-2022 COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE CALIFORNIA ENERGY CONSERVATION CODE-2022.

THERMOSTATIC CONTROL NOTES

(A) THERMOSTATIC CONTROLS FOR EACH ZONE. THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH SPACE-CONDITIONING ZONE OR DWELLING UNIT SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE AND THAT MEETS THE APPLICABLE REQUIREMENTS OF SECTION 120.2(B). AN ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) MAY BE INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ONE OR MORE THERMOSTATIC CONTROLS IF IT COMPLIES WITH ALL APPLICABLE REQUIREMENTS FOR EACH THERMOSTATIC CONTROL.

EXCEPTION TO SECTION 120.2(A): AN INDEPENDENT PERIMETER HEATING OR COOLING SYSTEM MAY SERVE MORE THAN ONE ZONE WITHOUT INDIVIDUAL THERMOSTATIC CONTROLS IF: 1. ALL ZONES ARE ALSO SERVED BY AN INTERIOR COOLING SYSTEM; AND 2. THE PERIMETER SYSTEM IS DESIGNED SOLELY TO OFFSET ENVELOPE HEAT LOSSES OR GAINS; AND 3. THE PERIMETER SYSTEM HAS AT LEAST ONE THERMOSTATIC CONTROL FOR EACH BUILDING ORIENTATION OF 50 FEET OR MORE; AND 4. THE PERIMETER SYSTEM IS CONTROLLED BY AT LEAST ONE THERMOSTAT LOCATED IN ONE OF THE ZONES SERVED BY THE SYSTEM.

HEAT PUMP CONTROLS. ALL HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH SECTION 110.2(B).

SHUT-OFF AND RESET CONTROLS FOR SPACE-CONDITIONING SYSTEMS.
EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

1. THE CONTROL SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NONUSE AND SHALL HAVE:

A. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SECTION 110.9, WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO 4 HOURS; OR

B. AN OCCUPANCY SENSOR; OR

C. A 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED.

EXCEPTION TO SECTION 120.2(E)1: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED MALLS, RESTAURANTS, GROCERY STORES, CHURCHES, AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE TIMERS.

2. THE CONTROL SHALL AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:

A. A SETBACK HEATING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL HEATING; AND EXCEPTION TO SECTION 120.2(E)2A: THERMOSTAT SETBACK CONTROLS ARE NOT REQUIRED IN NONRESIDENTIAL BUILDINGS IN AREAS WHERE THE WINTER MEDIAN OF EXTREMES OUTDOOR AIR TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(B)3 IS GREATER THAN 32°F.

B. A SETUP COOLING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL COOLING.

EXCEPTION TO SECTION 120.2(E)2B: THERMOSTAT SETUP CONTROLS ARE NOT REQUIRED IN NONRESIDENTIAL BUILDINGS IN AREAS WHERE THE SUMMER DESIGN DRY BULB 0.5 PERCENT TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(B)3 IS LESS THAN 100°F.

3. OCCUPANCY SENSING ZONE CONTROLS. SPACE CONDITIONING SYSTEMS SERVING ROOM(S) THAT ARE REQUIRED TO HAVE OCCUPANT SENSING CONTROLS IN ACCORDANCE WITH SECTION 130.1(C), AND WHERE THE TABLE 120.1-A OCCUPANCY CATEGORY PERMITS VENTILATION AIR TO BE REDUCED TO ZERO WHEN THE SPACE IS IN OCCUPIED-STANDBY MODE, SHALL MEET THE FOLLOWING:

A. THE ZONE SHALL BE PLACED IN OCCUPIED STANDBY MODE WHEN ALL ROOM(S) SERVED BY THE ZONE ARE UNOCCUPIED FOR MORE THAN 5 MINUTES; AND

B. DURING OCCUPIED STANDBY MODE.

I. AUTOMATICALLY SET UP THE OPERATING COOLING TEMPERATURE SET POINT BY 2°F OR MORE AND SET BACK THE OPERATING HEATING TEMPERATURE SET POINT BY 2°F OR MORE; OR

II. FOR MULTIPLE ZONE SYSTEMS WITH DIRECT DIGITAL CONTROLS (DDC) TO THE ZONE LEVEL, SET UP THE OPERATING COOLING TEMPERATURE SETPOINT BY 0.5°F OR MORE AND SET BACK THE OPERATING HEATING TEMPERATURE SETPOINT BY 0.5°F OR MORE.

C. DURING OCCUPIED-STANDBY MODE, ALL AIRFLOW TO THE ZONE SHALL BE SHUT OFF WHENEVER THE SPACE TEMPERATURE IS BETWEEN THE ACTIVE HEATING AND COOLING SETPOINTS.

EXCEPTION 1 TO SECTIONS 120.2(E)1, 2, AND 3: WHERE IT CAN BE DEMONSTRATED TO THE SATISFACTION OF THE ENFORCING AGENCY THAT THE SYSTEM SERVES AN AREA THAT MUST OPERATE CONTINUOUSLY.

EXCEPTION 2 TO SECTIONS 120.2(E)1, 2, AND 3: SYSTEMS WITH FULL LOAD DEMANDS OF 2 KW OR LESS, IF THEY HAVE A READILY ACCESSIBLE MANUAL SHUT-OFF SWITCH.

EXCEPTION 3 TO SECTIONS 120.2(E)1 AND 2: SYSTEMS SERVING HOTEL/MOTEL GUEST ROOMS, IF THEY HAVE A READILY ACCESSIBLE MANUAL SHUT-OFF SWITCH. SECTION 120.2 - REQUIRED CONTROLS FOR SPACE-CONDITIONING SYSTEMS PAGE 148 2019 BUILDING ENERGY EFFICIENCY STANDARDS

3. HOTEL AND MOTEL GUEST ROOMS SHALL HAVE CAPTIVE CARD KEY CONTROLS, OCCUPANCY SENSING CONTROLS, OR AUTOMATIC CONTROLS SUCH THAT, NO LONGER THAN 30 MINUTES AFTER THE GUEST ROOM HAS BEEN VACATED, SETPOINTS ARE SET UP AT LEAST +5°F (+3°C) IN COOLING MODE AND SET DOWN AT LEAST -5°F (-3°C) IN HEATING MODE. EXCEPTION TO SECTION 120.2(E): SYSTEMS SERVING HEALTHCARE FACILITIES.

ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD).
ALL NEWLY INSTALLED AIR HANDLERS WITH A MECHANICAL COOLING CAPACITY GREATER THAN 54,000 BTU/HR AND AN INSTALLED AIR ECONOMIZER SHALL INCLUDE A STAND-ALONE OR INTEGRATED FAULT DETECTION AND DIAGNOSTICS (FDD) SYSTEM IN ACCORDANCE WITH SUBSECTIONS 120.2(I)1 THROUGH 120.2(I)8.

1. THE FOLLOWING TEMPERATURE SENSORS SHALL BE PERMANENTLY INSTALLED TO MONITOR SYSTEM OPERATION: OUTSIDE AIR, SUPPLY AIR, AND WHEN REQUIRED FOR DIFFERENTIAL ECONOMIZER OPERATION, A RETURN AIR SENSOR; AND

2. TEMPERATURE SENSORS SHALL HAVE AN ACCURACY OF ±2°F OVER THE RANGE OF 40°F TO 80°F; AND

3. THE CONTROLLER SHALL HAVE THE CAPABILITY OF DISPLAYING THE VALUE OF EACH SENSOR; AND

4. THE CONTROLLER SHALL PROVIDE SYSTEM STATUS BY INDICATING THE FOLLOWING CONDITIONS:

A. FREE COOLING AVAILABLE;

B. ECONOMIZER ENABLED;

C. COMPRESSOR ENABLED;

D. HEATING ENABLED, IF THE SYSTEM IS CAPABLE OF HEATING; AND

E. MIXED AIR LOW LIMIT CYCLE ACTIVE.

5. THE UNIT CONTROLLER SHALL ALLOW MANUAL INITIATION OF EACH OPERATING MODE SO THAT THE OPERATION OF COOLING SYSTEMS, ECONOMIZERS, FANS, AND HEATING SYSTEMS CAN BE INDEPENDENTLY TESTED AND VERIFIED; AND

6. FAULTS SHALL BE REPORTED IN ONE OF THE FOLLOWING WAYS:

A. REPORTED TO AN ENERGY MANAGEMENT CONTROL SYSTEM REGULARLY MONITORED BY FACILITY PERSONNEL.

B. ANNUNCIATED LOCALLY ON ONE OR MORE ZONE THERMOSTATS, OR A DEVICE WITHIN FIVE (5) FEET OF ZONE THERMOSTAT(S), CLEARLY VISIBLE, AT EYE LEVEL, AND MEETING THE FOLLOWING REQUIREMENTS:

I. ON THE THERMOSTAT, DEVICE, OR AN ADJACENT WRITTEN SIGN, DISPLAY INSTRUCTIONS TO CONTACT APPROPRIATE BUILDING PERSONNEL OR AN HVAC TECHNICIAN; AND SECTION 120.2 - REQUIRED CONTROLS FOR SPACE-CONDITIONING SYSTEMS 2019 BUILDING ENERGY EFFICIENCY STANDARDS PAGE 149

II. IN BUILDINGS WITH MULTIPLE TENANTS, THE ANNUNCIATION SHALL EITHER BE WITHIN PROPERTY MANAGEMENT OFFICES OR IN A COMMON SPACE ACCESSIBLE BY THE PROPERTY OR BUILDING MANAGER.

C. REPORTED TO A FAULT MANAGEMENT APPLICATION WHICH AUTOMATICALLY PROVIDES NOTIFICATION OF THE FAULT TO REMOTE HVAC SERVICE PROVIDER.

7. THE FDD SYSTEM SHALL DETECT THE FOLLOWING FAULTS:

A. AIR TEMPERATURE SENSOR FAILURE/FAULT;

B. NOT ECONOMIZING WHEN IT SHOULD;

C. ECONOMIZING WHEN IT SHOULD NOT;

D. DAMPER NOT MODULATING; AND

E. EXCESS OUTDOOR AIR.

8. THE FDD SYSTEM SHALL BE CERTIFIED BY THE ENERGY COMMISSION AS MEETING REQUIREMENTS OF SECTIONS 120.2(I)1 THROUGH 120.2(I)7 IN ACCORDANCE WITH SECTION 110.0 AND JA6.3. EXCEPTION TO 120.2(I)8: FDD ALGORITHMS BASED IN DIRECT DIGITAL CONTROL SYSTEMS ARE NOT REQUIRED TO BE CERTIFIED TO THE ENERGY COMMISSION.

AIR BALANCE

UNIT	AREA SERVED	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-1	DINING	4000	1150	2850	0 CFM
AC-1	KITCHEN	883	0	883	0 CFM
MAU-1	KITCHEN	3200	3200		0 CFM
EF-1	HOOD-1	-	-	-	1579 CFM
EF-2	HOOD-2	-	-	-	2292 CFM
EF-3	RESTROOMS	-	-	-	300 CFM
	TOTAL:	8083 CFM	4350 CFM	3733 CFM	4171 CFM

BUILDING PRESSURE: .... 179 CFM **POSITIVE**

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

TAG	MANUFACTURER / MODEL	TYPE	MATERIAL	FINISH	FACE STYLE	FACE SIZE	DUCT INLET	MOUNTING	PATTERNS	DAMPERS ACCESSORIES PATTERN	NOTES
A	TITUS 355FL	RETURN GRILLE	ST	NOTE 5		NOTE 1		NOTE 4	PB	NOTE 8	
E	TITUS PAS	PERFORATED SUPPLY DIFFUSER	ST	NOTE 5		NOTE 1		NOTE 4	ADJ	NOTE 8	
S	TITUS S300FS	SUPPLY GRILLE	ST	NOTE 7		-		NOTE 4	FA	NOTE 8	
B	TITUS CT-700L	DOOR GRILLE	ST	-		NOTE 1		-	PB	NONE	

NOTES:
1) SEE DRAWINGS FOR FACE SIZE (24x24 OR 12x12). PROVIDE 24x24 FOR LAY IN CEILINGS
2) FACE SIZE DETERMINED FROM DUCT INLET SIZE.
3) SEE AIR DEVICE TAG FOR DUCT INLET SIZE.
4) COORDINATE BORDER TYPE (SURFACE MOUNT, SNAP IN, LAY-IN, SPLINE, DROPPED FACE, AND BEVELED DROP FACE) WITH CEILING TYPE AS SHOWN IN ARCHITECTURAL CEILING PLANS
5) PROVIDE COLOR TO MATCH CEILING FINISH
6) SLOTTED DIFFUSER SHALL BE 5 LONG x 2 SLOTS.
7) WHEN INSTALLED WITH DUCTWORK PAINT GRILLE GRAY TO MATCH DUCTWORK. OTHERWISE PROVIDE WHITE.
8) PROVIDE WITH OPPOSED BLADE DAMPERS.

ABBREVIATIONS: ST = STEEL, AL = ALUMINUM, BE = BAKED ENAMEL, AA = ANODIZED ALUMINUM, FA = FULLY ADJUSTABLE TP = TWO POSITION, OPD = OPPOSED BLADE DAMPERS, ADJ = ADJUSTABLE
BA=BAKED ACRYLIC, BO = BLANK OFF, PB = PARALLEL BLADES, AND P = PLENUM.

AIR CURTAIN SCHEDULE

MANUFACTURER	UNIT ID	MODEL	LENGTH (IN.)	CFM	QUANTITY	V/PH/HZ	AMPS
MARS	ACT-1	LPV272-1UA-OB	72	1800	2	115/1/60	2.6

NOTES / ACCESSORIES:
1. PROVIDE MANUFACTURER RECOMMENDED ACCESSORIES.
2. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENT.
3. INTERLOCK WITH DOOR.

EXISTING ROOF TOP UNIT SCHEDULE

UNIT ID	MODEL	NOMINAL TONS	SUPPLY FAN: SUPPLY CFM	OUTSIDE AIR CFM	ESP (IN. OF W.G.)	ELECTRICAL: VOLTS	PHASE	MCA (A)	MOCP (A)	IEER	EER	WEIGHT (LBS.)	MAKE
RTU-1(E)	XP120C00N4	10	4000	1150	SAE	460	3	29	-	SAE SAE	SAE	1140	YORK

NOTES :
1. EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE RESUED.
2. CONTRACTOR TO FIELD VERIFY IF RTU IS WORKING AT THEIR 100% RATED CAPACITY. INFORM ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE
3. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND CONFIGURATION OF THE UNIT ON THE SITE
4. CONTRACTOR TO BALANCE OUTSIDE AIR DAMPER ON EXISTING RTU TO MATCH VALUE MENTIONED ON EQUIPMENT SCHEDULE.
5. REPLACE FILTERS, IF REQUIRED.

EXISTING AIR CONDITIONER SCHEDULES (INDOOR UNITS)

BASIS OF DESIGN: HITACHI

UNIT TAG	LOCATION	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH	TOTAL CFM (MAX.)	MAX. ESP. (IN. WG)	MAX. SOUND PRESS.(DBA)	ELECTRICAL DATA: PH/VOLT/HZ	POWER SUPPLY	DIMENTIONS (HXWXD) (IN.) UNIT	PIPE SIZE: LIQ.	SUCTION	DRAIN (ID)	WEIGHT (LBS.)	MODEL NO.
AC-1(E)	SEE PLAN	SEE PLAN	DUCTED	2	24	26	706	0.18	42	1/208-230/60	POWERED FROM OUTDOOR UNIT	12X36X28	3/8"	5/8"	1 1/4"	66.1	RPIM-3.0PNN1DH
AC-2(E)	SEE PLAN	SEE PLAN	NON-DUCTED	2	24	25	620	-	51	1/208-230/60	POWERED FROM OUTDOOR UNIT	12X44X11	1/4"	5/8"	5/8"	37.5	RAS-EH24RHLAE

NOTES:
1) SUPPLY AIR CFM BASED ON HIGH SPEED.
2) REFRIGERANT R410A SHALL BE PROVIDED.
3) PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
4) ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
5) PROVIDE MERV8 FILTER ON ALL RETURNS TO UNIT.
6) INDOOR UNIT ACCESS PANEL FIELD-PROVIDED.
7) PROVIDE SPRING MOUNTED VIBRATION ISOLATORS FOR UNITS.

EXISTING OUTDOOR HEAT PUMP CONDENSING UNITS

BASIS OF DESIGN: HITACHI

UNIT TAG	LOCATION	INDOOR UNITS SERVED	CAP.TR	COOLING MBH	HEATING MBH	UNIT DIMENSIONS IN.(HXWXD)	WEIGHT (LBS)	PIPING DIMENSION: LIQUID-HI PRESSURE	GAS LOW-PRESSURE	ELECTRICAL: (V/Hz/Ph)	MCA	MOP	SOUND LEVEL (Dba)	EER2	SEER2	HSPF2	COP	MODULE NO.
ACCU-1(E)	ROOF	AC-1	2	24	26	34X38X14	156	3/8"	5/8"	208-230/60/1	23	35	55	10.45	18	9.5	3.1	RAS-3.0PNNBDH1
ACCU-2(E)	ROOF	AC-2	2	24	25	38X38X15	103.6	1/4"	5/8"	208-230/60/1	18	20	53	9	18	8.2	-	RAC-EH24WHLAE

NOTES:
1. UNIT SHALL HAVE TEN YEAR EXTENDED WARRANTY FOR COMPRESSORS/PARTS.
2. PROVIDE LOW AMBIENT CONTROL FOR CONDENSING UNIT OPERATION DOWN TO -4°F.
3. PROVIDE COMPRESSOR CYCLE PROTECTOR.
4. PROVIDE STEEL RAILS FOR CONDENSER MOUNTING.
5. PROVIDE VIBRATION ISOLATORS FOR THE UNITS.
6. CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEED THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.
7. AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 dB FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBELS FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CIRCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.

FAN SCHEDULE

UNIT ID	MANUFACTURER	MODEL	CFM	TYPE	DRIVE	FAN RPM	WEIGHT (LBs)	E.S.P. (IN. W.G.)	MOTOR: HP	VOLTS	PHASE	SERVICE	INTERLOCKED WITH	NOTES / ACCESSORIES
KEF-1	ECON-AIR	EA-USBI15DD-RM	1579	ROOF	DIRECT	1273	269	1	1	208	3	HOOD-1	HOOD CONTROL	1,2,3,4,5,7,8
KEF-2	ECON-AIR	EA-USBI15DD-RM	2292	ROOF	DIRECT	1522	280	1	1.5	208	3	HOOD-2	HOOD CONTROL	1,2,3,4,5,7,8
EF-1	GREENHECK	SP-A200	200	CEILING	DIRECT	900	24	0.32	0.03	115	1	RESTROOM	LIGHTING	-
EF-2	GREENHECK	SP-LP0810W	100	CEILING	DIRECT	894	8	0.3	-	115	1	RESTROOM	LIGHTING	-

NOTES / ACCESSORIES:
1. BIRDSCREEN
2. WEATHER PROOF DISCONNECT SWITCH
3. VARIABLE SPEED CONTROL
4. SPEED CONTROL SWITCH
5. THERMAL OVERLOAD PROTECTION
6. GRAVITY BACKDRAFT DAMPER
7. ROOF CURB
8. AMCA SEAL & UL CERTIFIED

VENTILATION CALCULATION AS PER CALIFORNIA ENERGY CODE 2022 - TABLE 120.1-A & 120.1-B

ROOM NAME	AREA (SQ.FT.)	AREA OUTDOOR AIR RATE CFM/SQ.FT	REQUIRED OA (CFM)	PROVIDED OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR CFM/UNIT)	TOTAL EXHAUST (CFM)	OCCUPANCY
DINING	1110	0.5	555	900	0	0	41
KITCHEN	565	0.15	85	150	0.7	400	4
SERVICE/SALES	245	0.25	61	100	0	0	2
REST ROOM MEN	80	0	0	0	0	140	0
REST ROOM WOMEN	65	0	0	0	0	70	0
TOTAL CFM				1150			

MAKE UP AIR UNIT SCHEDULE

UNIT TAG	LOCATION	ESP IN.WG.	CFM	EVAP FLOW RATE(GAL/HR)	EVAP ENTERING DB TEMP (DEG. F)	EVAP ENTERING WB TEMP (DEG. F)	EVAP LEAVING DB TEMP (DEG. F)	EVAP LEAVING WB TEMP (DEG. F)	WEIGHT (LBS)	ELECTRICAL (1): V/PH/HZ	HP	KW	MCA (AMPS)	MOCP (AMPS)	SONES	MODEL
MUA-1	SEE PLAN	0.5	3200	4.58	95	68	75.0	68	678	208/3/60	1.5	1.11	11.9	20	14	20MF-2-MOD

NOTES:
1. CONTRACTOR TO INSTALL VENDOR PROVIDED EQUIPMENT MUA. REFER TO CAPTIVEAIRE DRAWINGS.
2. ROUTE 1 1/2" CONDENSATE TO ROOF DRAIN.
3. INTERLOCK MUA-1 OPERATION WITH HOOD -1 & HOOD-2.

HOOD SCHEDULE

UNIT ID	MANUFACTURER	MODEL	LENGTH	COOKING MAX TEMPERATURE (DEG)	APPLIANCE DUTY	FILTER TYPE	DESIGN CFM/FT	EXHAUST CFM	SUPPLY CFM	HOOD CONSTRUCTION	WEIGHT (LBS)
HOOD-1	ECON-AIR	5424 EX-2	10' 2.25"	450	MEDIUM	CAPTRATE SOLO FILTER	155	1579	- -	430 SS WHERE EXPOSED	448
HOOD-2	ECON-AIR	5424 EX-2	10' 2.25"	600	HEAVY	CAPTRATE SOLO FILTER	225	2292	-	430 SS WHERE EXPOSED	457

NOTES:-
1) CONTRACTOR TO FIELD VERIFY WORKING CONDITION AND EXACT LOCATION.

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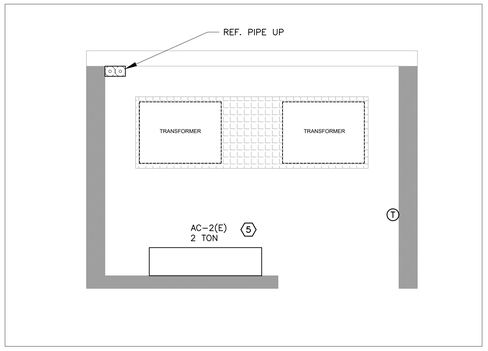
It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

MECHANICAL LEGEND, NOTES & SCHEDULE

M-1.0



ELECTRICAL ROOM MEZZANINE FLOOR

SCALE: 1/2"=1'-0" | 2

KITCHEN EXHAUST SYSTEM NOTES:

1. PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 15 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
2. CLEANOUT OPENINGS SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION AND WITHIN 3 FEET OF THE EXHAUST FAN.
3. CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOOR ASSEMBLIES SHALL HAVE A GASKET OR SEALANT THAT IS NON-COMBUSTIBLE AND LIQUID TIGHT AND SHALL NOT HAVE FASTENERS THAT PENETRATED THE DUCT.
4. THE CLEANOUTS FOR HORIZONTAL GREASE DUCT SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5" ABOVE THE BOTTOM OF THE DUCT AND NOT LESS THAN 1" BELOW THE TOP OF THE DUCT.
5. COMMERCIAL KITCHEN GREASE DUCTS SHALL BE DESIGNED FOR THE TYPE OF COOKING APPLIANCE AND HOOD SERVED.
6. JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE IN THE EXTERNAL SURFACE IF THE DUCT SYSTEMS.
7. DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR INLINE FANS. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
8. A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
9. PRIOR TO THE USE OR CONCEALMENT OF ANY PORTION OF A GREASE DUCT SYSTEM, A LEAKAGE TEST SHALL BE PERFORMED. DUCT SHALL BE CONSIDERED TO BE CONCEALED WHERE INSTALLED IN SHAFTS OR COVERED BY COATINGS OR WRAPS THAT PREVENT THE DUCTWORK FROM VISUALLY INSPECTED ON ALL SIDE. THE DUCT INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY EQUIPMENT AND PERFORMING THE GREASE DUCT LEAKAGE TEST. THE DUCT LEAKAGE TEST SHALL BE PERFORMED FOR ALL THE DUCT SYSTEMS, INCLUDING THE DUCT-TO-DUCT CONNECTION. THE DUCTWORK SHALL BE PERMITTED TO BE TESTED IN SECTIONS, PROVIDED THAT EVERY JOINT IS TESTED (IF TEST IS FAILED, CONTRACTOR TO PROVIDE NEW KITCHEN EXHAUST DUCT). DUCT LEAKAGE TEST SHALL BE IN ACCORDANCE WITH ASHRAE 154.
10. PROVIDE SMOKE TEST TO PROOF TIGHTNESS OF THE GREASE DUCT.
11. GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LADS WITHIN THE STREET LIMITATIONS OF THE CODE. BOLTS, SCREWS, RIVETS, AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
12. A RESIDUE TRAP SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL RISER WITH PROVISION FOR CLEANOUT IN ACCORDANCE WITH NFPA 96.
13. A GREASE DUCT SERVING THE TYPE-1 HOOD THAT PENETRATED A CEILING, WALL OR FLOOR SHALL BE ENCLOSED FROM THE FIRE POINT OF PENETRATION TO THE OUTLET TERMINAL. DUCT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT OF THE FIRE-RESISTANCE RATED ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS.
14. KITCHEN-EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT BUILDINGS AND ADJACENT PROPERTY LINE. THIS EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM AND NOT LESS THAN 3 FEET ABOVE AIR INTAKE OPENINGS INTO ANY BUILDING.
15. PROVIDE TYPE-I EXHAUST DUCT FOR HOOD-1 & HOOD-2 EXHAUST, IN COMPLIANCE WITH SECTION 510.7, CMC 2022.
16. PROVIDE UL LISTED 2 LAYERS OF 1.5" THICK FIRE WARP, TESTED IN ACCORDANCE WITH ASTM E2336 FOR TYPE-I EXHAUST DUCTS. FIRE WRAP TO PROVIDE 1 HR ENCLOSURE PER SECTION 510.7, CMC 2022. THROUGH PENETRATION FIRE STOP SYSTEMS ARE TO BE TESTED IN ACCORDANCE WITH ASTM E 814 (UL1479). FOIL COVERING TO BE PROVIDED ABOVE INSULATION.

GENERAL NOTES:

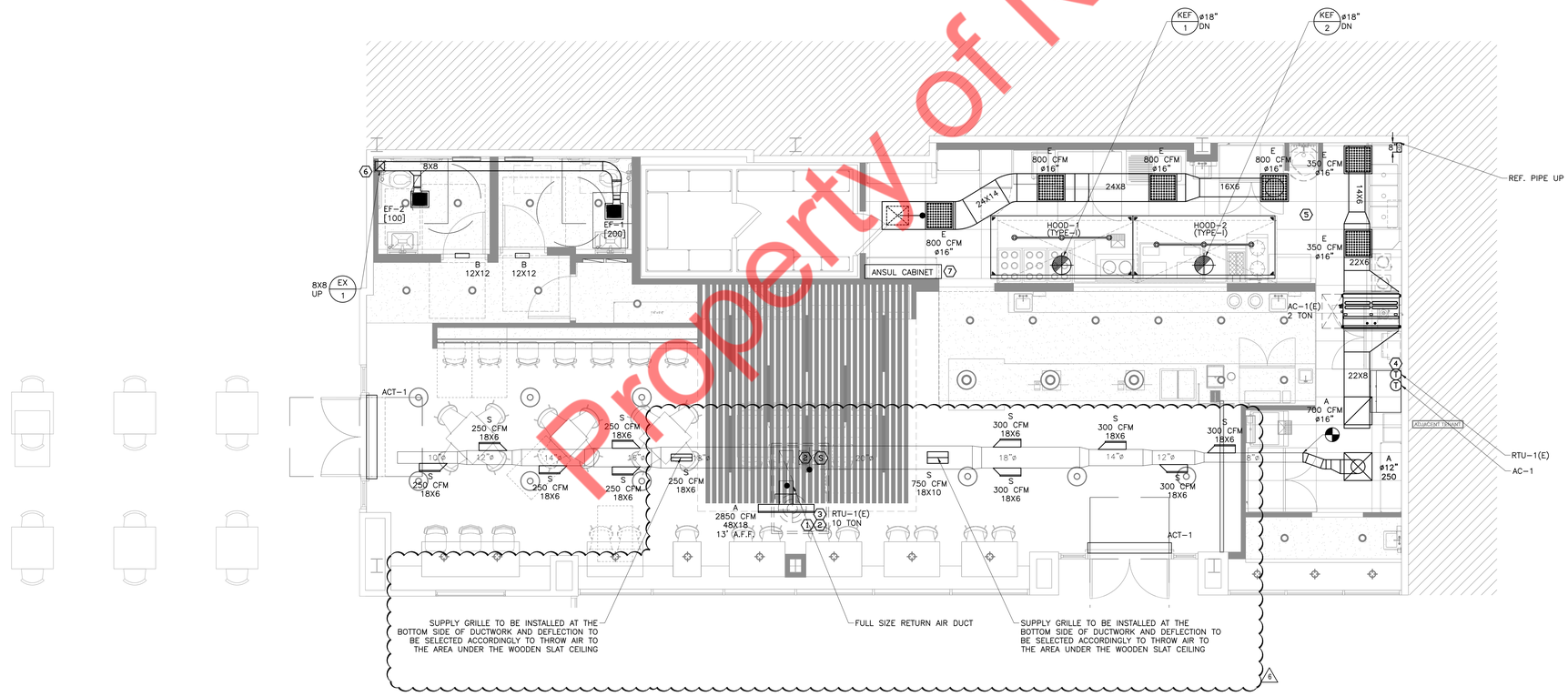
1. IF EXISTING ROOFTOP UNITS BEING REUSED, TENANT TO BRING UP TO "LIKE NEW" CONDITION.
2. ALL ROOFTOP EQUIPMENT TO BE BOTTOM FED. NO EXPOSED DUCT WORK ALLOWED ON ROOF. REWORK EXISTING AS NEEDED.
3. ALL CONDENSATE LINES TO DRAIN INTO SPACE AND NOT ONTO ROOF. REWORK EXISTING AS NEEDED.
4. ALL ROOF PENETRATIONS TO BE MADE WITHIN 24" OF CURB.
5. PROVIDE MALL WITH A COPY OF AIR BALANCE REPORT.
6. STENCIL TENANT'S NAME & SPACE NUMBER ON ALL ROOFTOP EQUIPMENT.
7. REMOVE ANY EXISTING ROOFTOP HVAC EQUIPMENT NOT BEING REUSED IN NEW BUILD OUT.
8. ANY ROOF PATCHING BY MALL'S REQUIRED ROOFER AT TENANT'S EXPENSE.

MECHANICAL GENERAL NOTES

A. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
B. NEW DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING. OFFEST AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
C. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
D. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
E. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
F. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
G. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
H. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
I. MOUNT DUCTWORK AS HIGH AS POSSIBLE.
J. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
K. PROVIDE R-8 INSULATION FOR OAI DUCT AND R-8 INSULATION FOR SUPPLY AND RETURN DUCT.
L. PROVIDE 1" CONDENSATE DRAIN FOR ALL AC'S.
M. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
N. DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
O. ALL EQUIPMENT SHALL MAINTAIN MINIMUM CLEARANCE FROM THE COMBUSTIBLE MATERIAL AS PER MANUFACTURE RECOMMENDATION.
P. PROVIDE ACCESS TO FIRE DAMPERS AND FSD AS PER MANUFACTURES RECOMMENDATION.
Q. PROVIDE CORD OPERATED DAMPER IN AN INACCESSIBLE CEILING.

KEY NOTES:

1. APPROXIMATE LOCATION OF EXISTING DUCTWORKS DROP FOR RTU-1(E). CONTRACTOR TO VERIFY THE EXACT SIZE AND LOCATION IN FIELD.
2. REUSE EXISTING SMOKE DETECTOR, IF SMOKE DETECTOR IS NOT IN GOOD CONDITION THEN INSTALL NEW SMOKE DETECTOR & IT SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING RTU UNDER ALARM CONDITIONS. ALL WIRING SHALL BE IN CONDUIT PER NEC SMOKE DETECTOR SHALL BE SYSTEM SENSOR MODEL DH100ACDCLP OR EQUAL.DUCT SMOKE DETECTORS SHALL COMPLY WITH UL 268A
3. REUSE EXISTING FIRE DAMPER, IF FIRE DAMPER IS NOT IN GOOD CONDITION THEN INSTALL NEW FIRE DAMPER & IT SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR.
4. RELOCATE AND REUSE EXISTING THERMOSTAT, IF EXISTING THERMOSTAT IS NOT IN CONDITION TO REUSE THEN INSTALL NEW THERMOSTAT WITH LOCKABLE VENTED BOX TO BE MOUNTED AT 45" CENTER LINE A.F.F. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
5. PROVIDE 1" CONDENSATE PIPING TO KITCHEN SINK W/ AIR GAP FITTING. COORDINATE W/PLUMBING CONTRACTOR.
6. TOILET ROOM EXHAUST AIR DUCT UP THROUGH ROOF. TERMINATE ON ROOF WITH GOOSENECK WITH BIRD SCREEN. BATHROOM EXHAUST SHALL TERMINATE 3 FEET FROM THE PROPERTY LINE, 3 FEET FROM THE EXTERIOR WALL AND ROOFS, 3 FEET FROM THE OPERABLE OPENING INTO THE BUILDING AND 10 FEET FROM THE OUTSIDE AIR INTAKE OPENINGS.
7. COORDINATE EXACT LOCATION OF ANSUL CABINET AS PER SITE CONDITIONS.



MECHANICAL FLOOR PLAN

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

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:
   1. AIR SYSTEMS: CONSTANT-VOLUME.

1.2 QUALITY ASSURANCE

A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.

1.3 EXECUTION

A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR SYSTEMS THAT ARE TO REMAIN OR TO BE INCORPORATED INTO THE STARTING OF WORK IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.
B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.
C. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.
D. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.
E. THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
F. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS SECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.
G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.
H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.
I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.
J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

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6	03-25-2025 SITE COORDINATION

MECHANICAL FLOOR PLAN

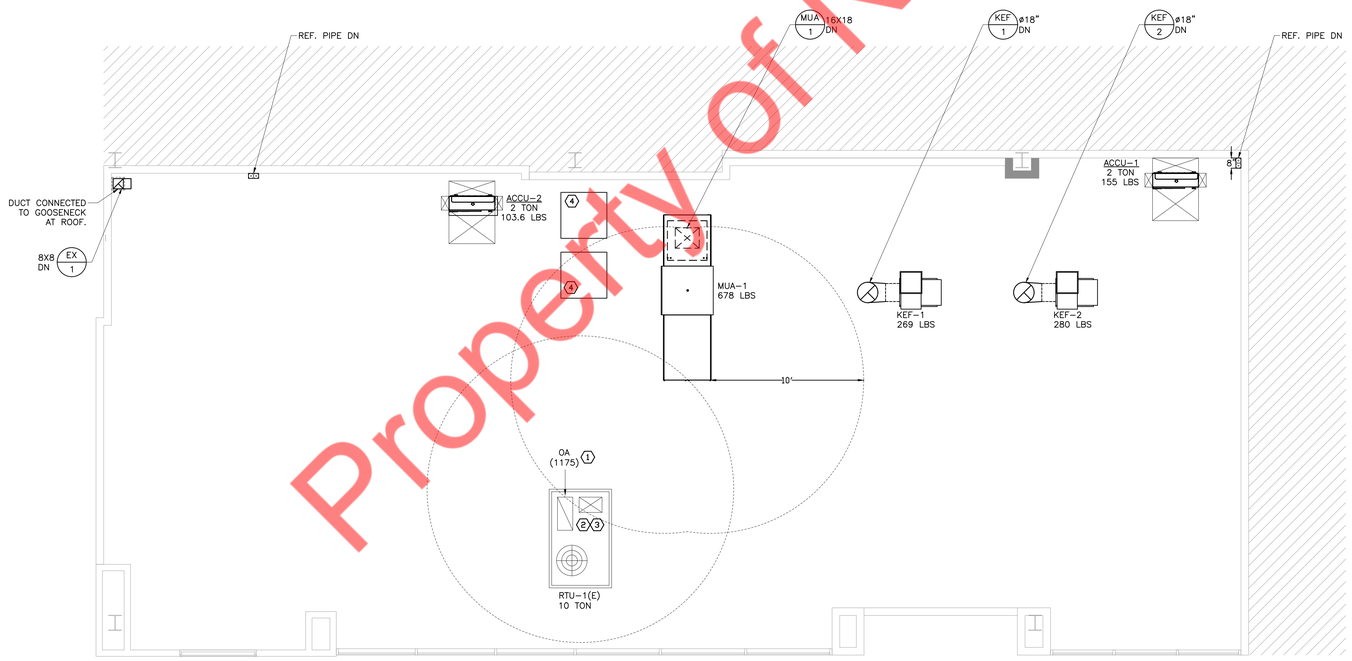
M-2.0

MECHANICAL GENERAL NOTES

A. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
B. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
C. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
D. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
E. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
F. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
G. COORDINATE ALL EQUIPMENT WITH STRUCTURAL.
H. MAINTAIN ALL CODE AND MANUFACTURERS RECOMMENDED CLEARANCE AROUND ALL ROOF EQUIPMENT.
I. PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR DUCTING AND PIPING.
J. PROVIDE R-12 INSULATION FOR OAI DUCT.
K. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
L. CONTRACTOR TO PROVIDE INSTALLATION AND START-UP FORMS FOR ALL THE GAS-FIRED EQUIPMENT AT THE TIME OF MECHANICAL FINAL INSPECTION.

KEY NOTES:

1. ALL OUTSIDE AIR INTAKES ON THE ROOF SHALL BE MINIMUM 10 FT. AWAY FROM ANY EXAHUST SOURCE.
2. EXISTING RTU WITH ALL ITS ACCESORIES TO REMAIN AND TO BE REUSED. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION ON SITE.
3. CONTRACTOR TO RUN CONDENSATE DRAIN FROM MAU-1'S TO NEAREST ROOF DRAIN OR DOWN SPOUT. COORDINATE IN FIELD.
4. WALK-IN COOLER AND FREEZER CONDENSER BY OTHERS.



MECHANICAL ROOF PLAN | SCALE: 1/4"=1'-0" | 1

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MECHANICAL ROOF PLAN

M-2.1

FOR QUESTIONS, CALL THE
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PATENT NUMBERS

EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION – JOB#6351993

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1	Hood - 1	5424 EX-2	ECON-AIR	10' 2.25"	450 DEG	I	MEDIUM	155	1579			4"	16"	1579	1131	-0.363"	430 SS WHERE EXPOSED	RIGHT	ALONE
2	Hood - 2	5424 EX-2	ECON-AIR	10' 2.25"	600 DEG	I	HEAVY	225	2292			4"	16"	2292	1642	-0.765"	430 SS WHERE EXPOSED	LEFT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	Hood - 1	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO							YES	448 LBS
2	Hood - 2	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO							YES	457 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	Hood - 1	FIELD WRAPPER 18.00" HIGH FRONT, RIGHT.
		BALANCE DAMPERS.
2	Hood - 2	FIELD WRAPPER 18.00" HIGH FRONT, LEFT.
		BACKSPLASH 80.00" HIGH X 244.50" LONG 430 SS VERTICAL.
		STRUCTURAL FRONT PANEL.

WALL-MOUNT UTILITY CABINET

HOOD NO	LOCATION	SIZE	UTILITY CABINET(S) FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	WEIGHT
2	WALL MNT	12"x66"x24"	TANK FS	4.0/4.0/4.0	DCV-2111	1 LIGHT 1 FAN	440.00 LBS

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.
PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

__' - __"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____

SPECIFICATION: CAPTRATE• GREASE-STOP• SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO 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.

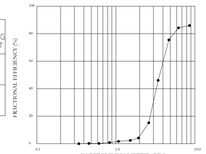
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

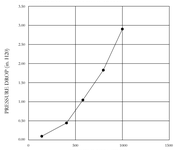
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

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

EFFICIENCY VS. PARTICLE DIAMETER

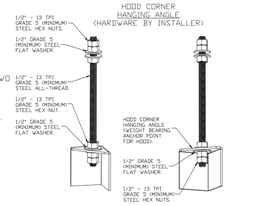


PRESSURE DROP VS. FLOW RATE



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

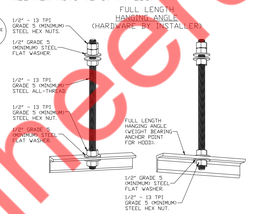
HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



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.

FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

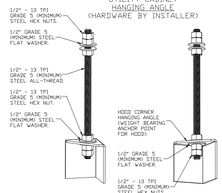
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE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

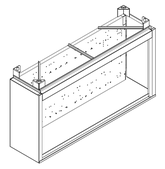
WALL-MOUNT UTILITY CABINET ASSEMBLY INSTRUCTIONS

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 UTILITY CABINET HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

CABINET TO BE HUNG BY HOOD INSTALLER. SEE UTILITY CABINET SCHEDULE FOR CABINET SIZE.

UTILITY CABINET HANGING ANGLE (HARDWARE BY INSTALLER)





REVISIONS

DESCRIPTION	DATE

CAPTIVE AIRE
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www.captiveaire.com

Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023
DWG.#: 6351993
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

Consultant
NY ENGINEERS
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BAFANG DUMPLINGS - ARCADIA

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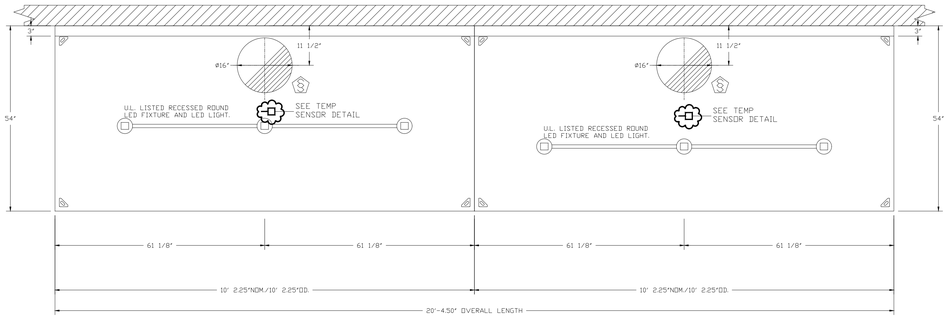
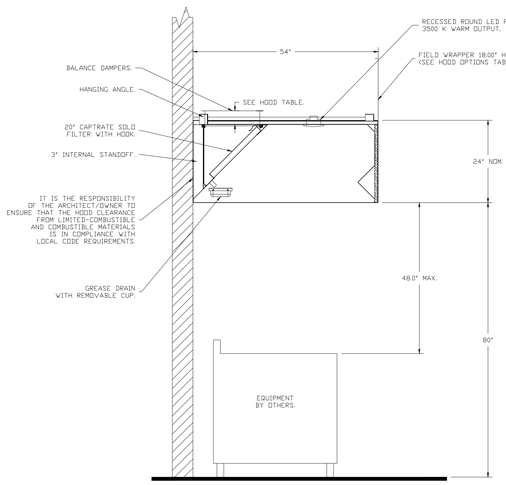
CAPTIVE AIRE PLAN

M-3.2

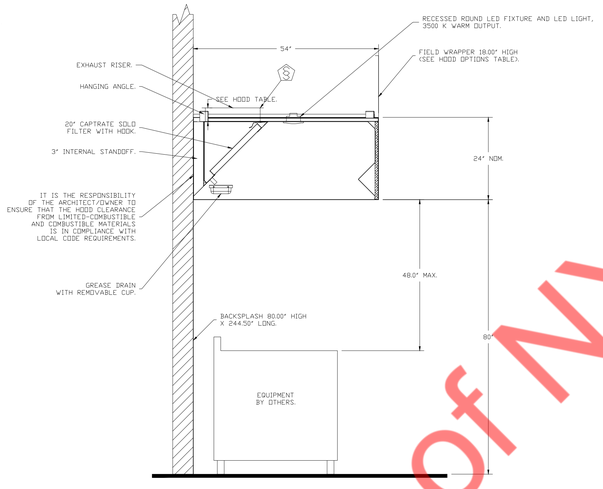


PLAN VIEW – HOOD #2 (Hood – 2)
10' 2.25" LONG 5424EX-2

PLAN VIEW – HOOD #1 (Hood – 1)
10' 2.25" LONG 5424EX-2

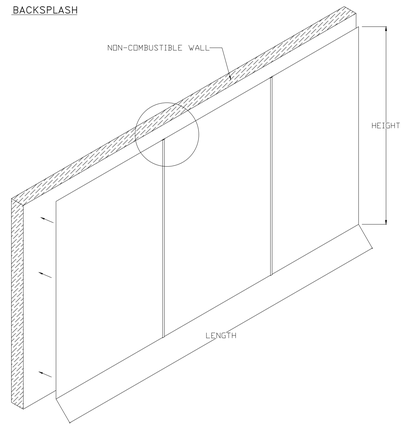


SECTION VIEW – MODEL 5424EX-2
HOOD – #1 (Hood – 1)



SECTION VIEW – MODEL 5424EX-2
HOOD – #2 (Hood – 2)

BACKSPLASH



- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS

REVISIONS

	DESCRIPTION	DATE
1		
2		
3		
4		

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Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023

DWG.#: 6351993

DRAWN BY:

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

MASTER DRAWING

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BAFANG DUMPLINGS - ARCADIA

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CAPTIVE AIRE PLAN

M-3.3

FIRE SYSTEM INFORMATION – JOB#6351993

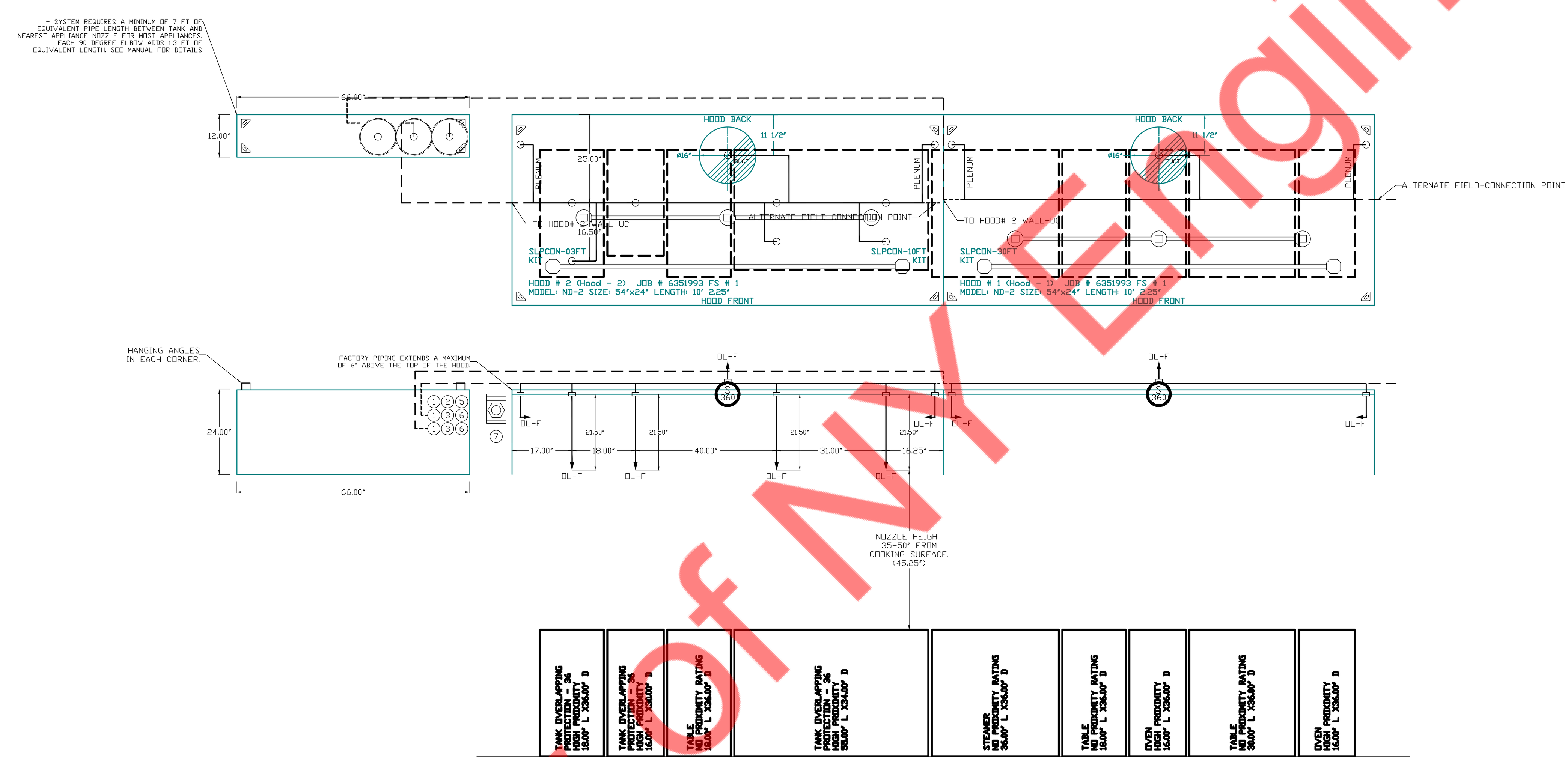
FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	60	52	WALL UTILITY CABINET LEFT	N/A

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	ECON-AIR

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F.	2	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	3	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	2	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2"NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2"NPT FEMALE CONNECTION, VIEGA.	3	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	12	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	6	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	2	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - SLPCON-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPCON-10FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 9' GAP OR BACK TO BACK HOODS. KIT CONTAINS 12 FEET OF BLACK MG WIRE, 12 FEET OF TAN MG WIRE, 10 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPCON-30FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN HOODS WITH UPTO 29' GAP. KIT CONTAINS 32 FEET OF BLACK MG WIRE, 32 FEET OF TAN MG WIRE, 30 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	9	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	3	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0



NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- 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.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

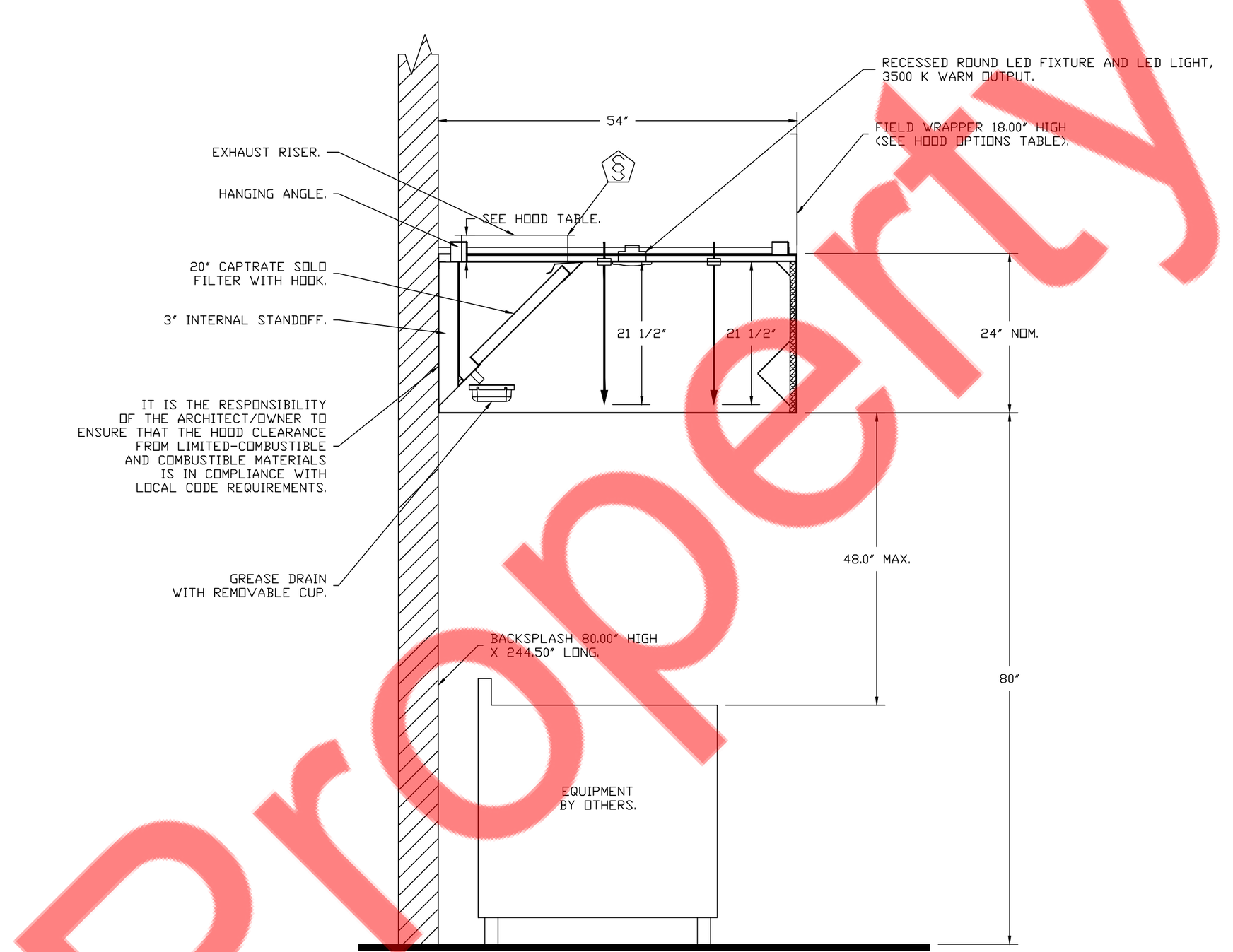
JOB #: 6351993.
JOB NAME: BAFANG DUMPLING - SANTA ANITA - R1.

SYSTEM SIZE: TANK-SP-3-WC DESIGN FP: 52. MAXIMUM FP: 60.
HOOD # 1 10' 2.25" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 2 10' 2.25" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.

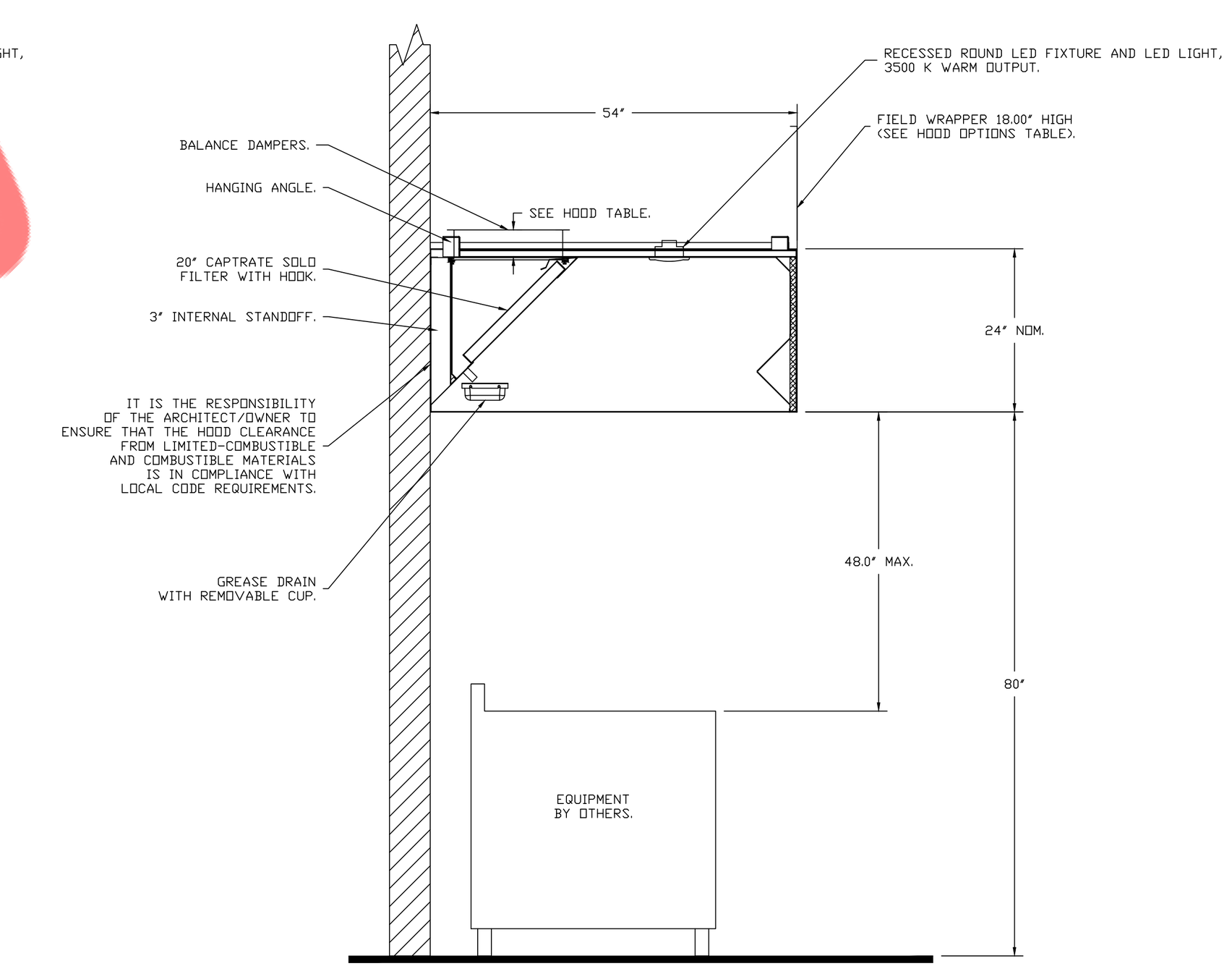
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND – FIRE CABINET TANK 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.



SECTION VIEW – MODEL 5424EX-2
HOOD – #2



SECTION VIEW – MODEL 5424EX-2
HOOD – #1

GAS VALVES AND STRAINERS

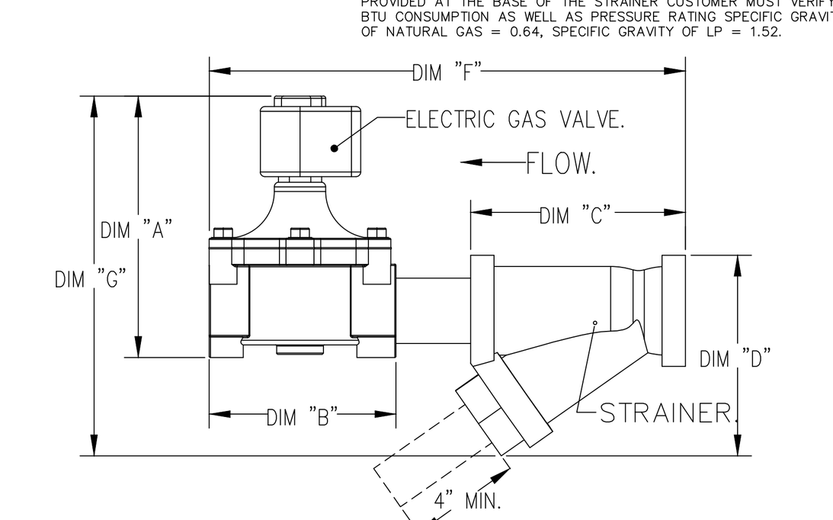
	GAS VALVE SIZING							GAS VALVE DIMENSIONS						INSTALLATION	PART NUMBERS		
	TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
GAS VALVE FOR FS#1 →	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

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$^{0.5}$
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)$^{0.5}$.



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Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023

DWG.#: 6351993

DRAWN BY:

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

MASTER DRAWING

SHEET NO. 3

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BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

CAPTIVE AIRE PLAN

M-3.4

EXHAUST FAN INFORMATION – JOB#6351993

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF - 1	1	EA-USBI15DD-RM	ECON-AIR	1579	1.000	1273	ODP,PREMIUM	1.000	0.4650	3	208	3.1	1097 FPM	269	11.2
2	KEF - 2	1	EA-USBI15DD-RM	ECON-AIR	2292	1.000	1522	ODP,PREMIUM	1.500	0.8200	3	208	4.4	1593 FPM	280	16.1

MUA FAN INFORMATION – JOB#6351993

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	EVAP FLOW RATE (Gal/Hr)	EVAP COOLER ENTERING DB TEMP	EVAP COOLER ENTERING WB TEMP	EVAP COOLER LEAVING DB TEMP	EVAP COOLER LEAVING WB TEMP	WEIGHT (LBS)	SONES
3	MUA - 1	1	EA-A2-20D	20MF-2-MDD	A2	1500	3200	0.500	1264	ODP,PREMIUM	3.000	1.1060	3	208	9.5	11.9A	20A	4.58	95.0°F	68.0°F	75.0°F	68.0°F	678	14

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF - 1	1	UTILITY SET GREASE CUP
		1	BI15 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI15 - INLET CONNECTION STANDARD 16" FLANGED GREASE DUCT
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - BI11 THRU BI15 / EQUIVALENT SIZED UTILITY SET - INDOOR/OUTDOOR USE
		1	2 YEAR PARTS WARRANTY
2	KEF - 2	1	UTILITY SET GREASE CUP
		1	BI15 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI15 - INLET CONNECTION STANDARD 16" FLANGED GREASE DUCT
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - BI11 THRU BI15 / EQUIVALENT SIZED UTILITY SET - INDOOR/OUTDOOR USE
		1	2 YEAR PARTS WARRANTY
3	MUA - 1	1	SIZE 2 UNTEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	EVAPORATIVE COOLER WIRING HARNESS
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

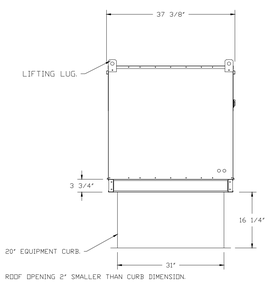
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF - 1	YES						
2	KEF - 2	YES						
3	MUA - 1							

CURB ASSEMBLIES

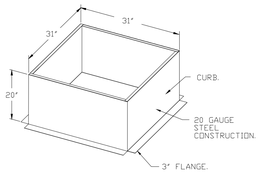
NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF - 1	38 LBS	RAIL	4.000"W X 36.000"L X 20.000"H COMES AS A SET OF 2.
2	# 2	KEF - 2	38 LBS	RAIL	4.000"W X 36.000"L X 20.000"H COMES AS A SET OF 2.
3	# 3		52 LBS	CURB	31.000"W X 31.000"L X 20.000"H
	# 3			RAIL	4.000"W X 4.000"L X 36.000"H.

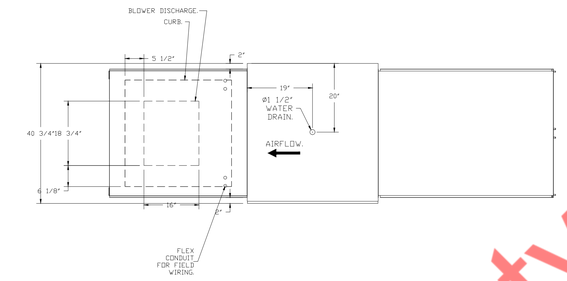
FAN #3 EA-A2-20D - SUPPLY FAN (MUA - 1)
1. UNTEMPERED SUPPLY UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN IN SIZE #2 HOUSING.
2. EVAP COOLER (LPD CELDEK) -W/INTAKE HOOD W/EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 UNTEMPERED DIRECT DRIVE AHUS.
5. 120V WIRING CONNECTION TO ENERGIZE EVAPORATIVE COOLERS FROM UNTEMPERED SUPPLY FANS.
6. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
7. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/EVAP SECTION).
8. 2 YEAR PARTS WARRANTY.

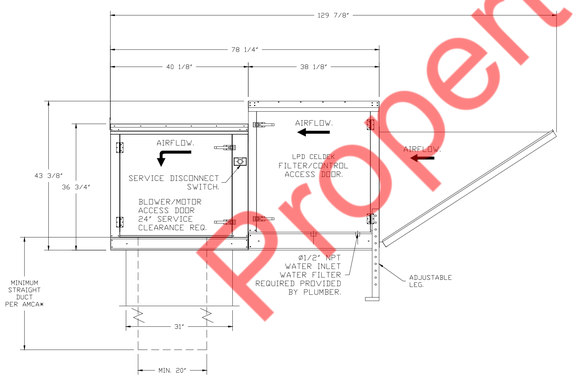
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE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



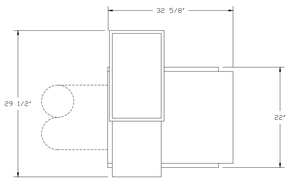
ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



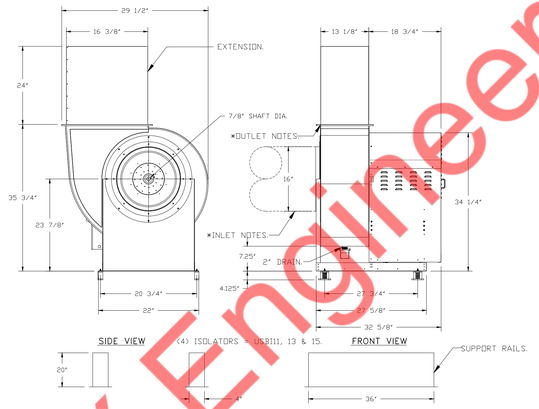




FANS #1 (KEF - 1), #2 (KEF - 2) - EA-USBI15DD-RM EXHAUST FAN



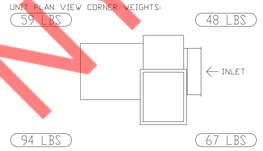
TOP VIEW



SIDE VIEW (4) ISOLATORS - USBI11, 13 & 15. FRONT VIEW

* INLET/OUTLET NOTES:
LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

UNIT PLAN VIEW CORNER WEIGHTS:



CORNER WEIGHTS ARE CALCULATED BASED ON VERTICAL DISCHARGE. SUPPORT DUCT PROPERLY BEFORE FAN TO ENSURE CORNER WEIGHTS ARE NOT AFFECTED.

NORMAL TEMPERATURE TEST DIRECT DRIVE EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 350°F (176°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

FEATURES:

- ROOF MOUNTED FANS.
- UL705.
- UL762 AND ULC-S645 (RESTAURANT MODEL).
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C).
- HEAT SLINGER.
- NEMA 3R SAFETY DISCONNECT SWITCH.
- GREASE CLASSIFICATION TESTING.
- 2" DRAIN.
- MOTOR WEATHER COVER.
- FULLY SEALED SCROLL HOUSING.
- SCROLL ACCESS DOOR.
- FLANGE 1 1/4".

OPTIONS
- UTILITY SET GREASE CUP.
- BI15 - 24" DISCHARGE EXTENSION.
- BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
- BI15 - INLET CONNECTION STANDARD 16" FLANGED GREASE DUCT.
- UTILITY SET - SPRING VIBRATION ISOLATORS - BI11 THRU BI15 / EQUIVALENT SIZED UTILITY SET - INDOOR/OUTDOOR USE.
- 2 YEAR PARTS WARRANTY.

REVISIONS

	DESCRIPTION	DATE
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Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023

DWG.#: 6351993

DRAWN BY:

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

MASTER DRAWING

SHEET NO. 4

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BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

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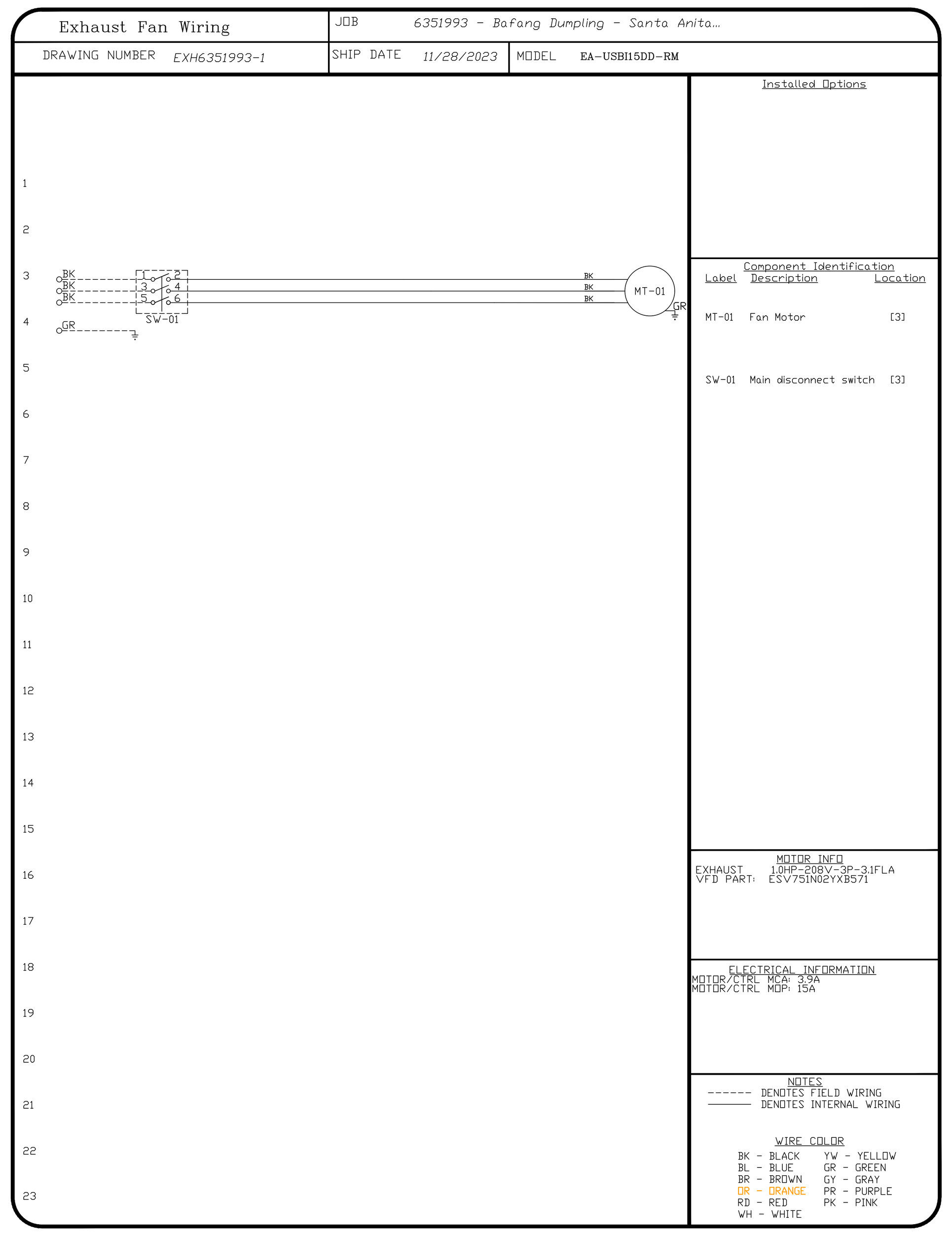
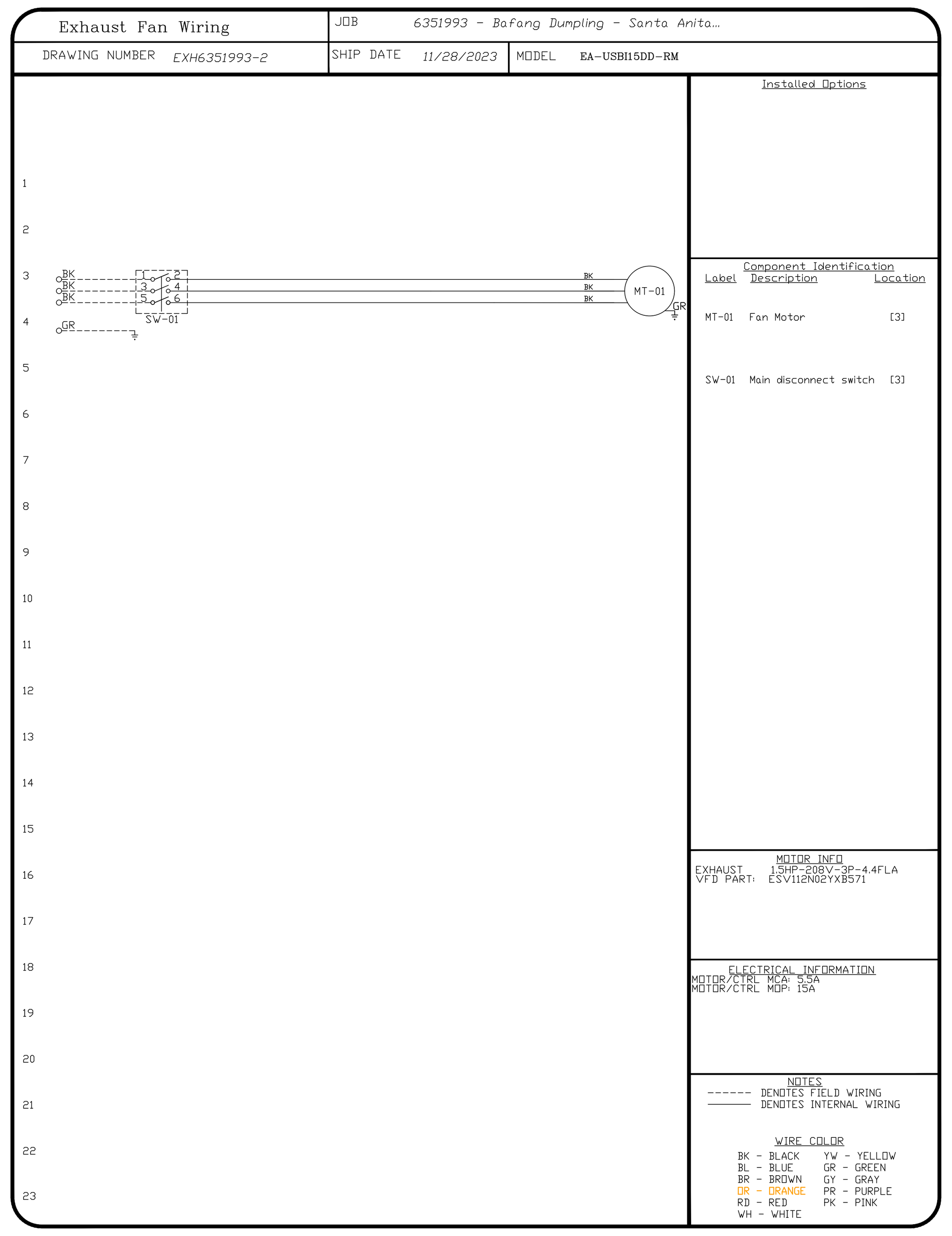
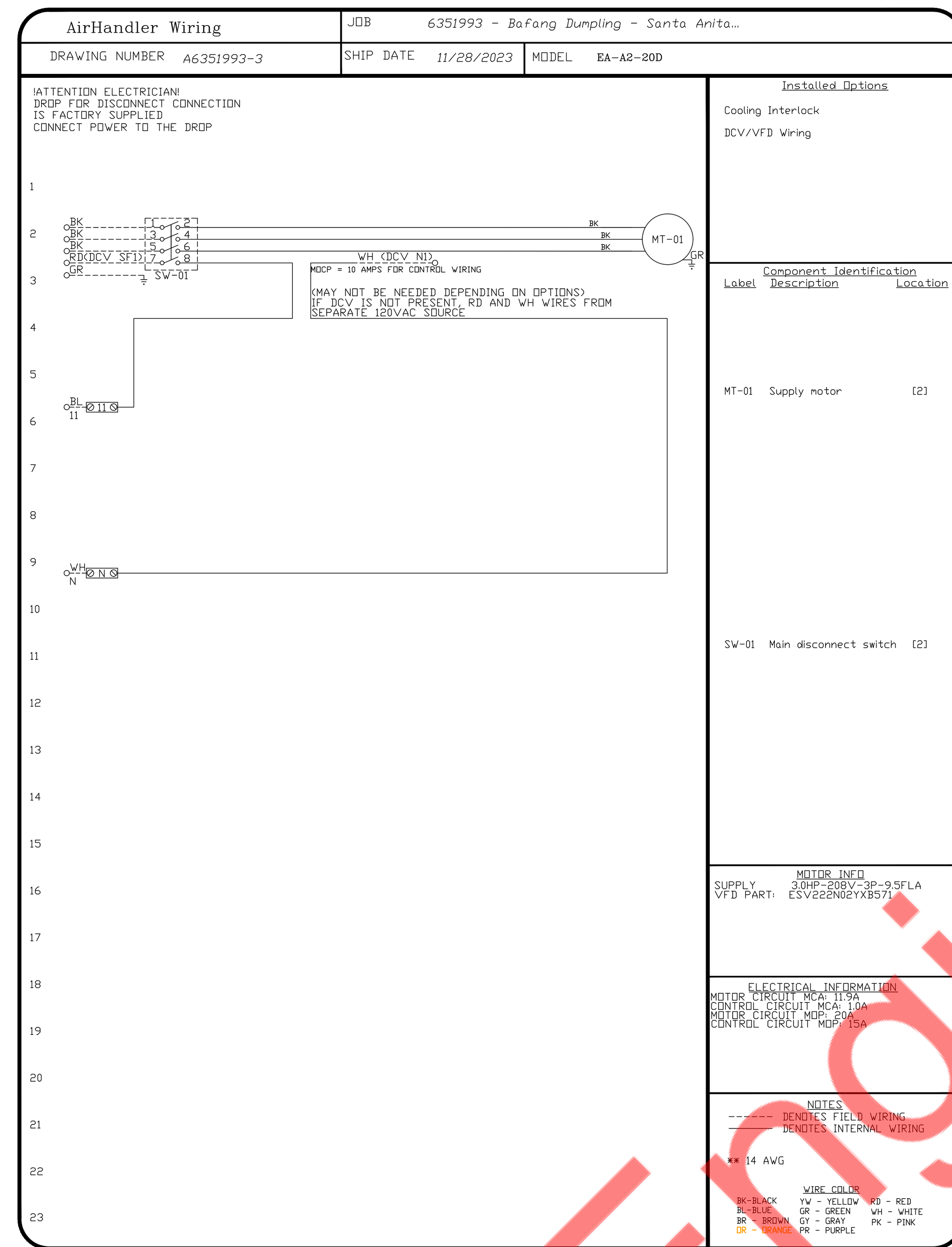
CAPTIVE AIRE PLAN

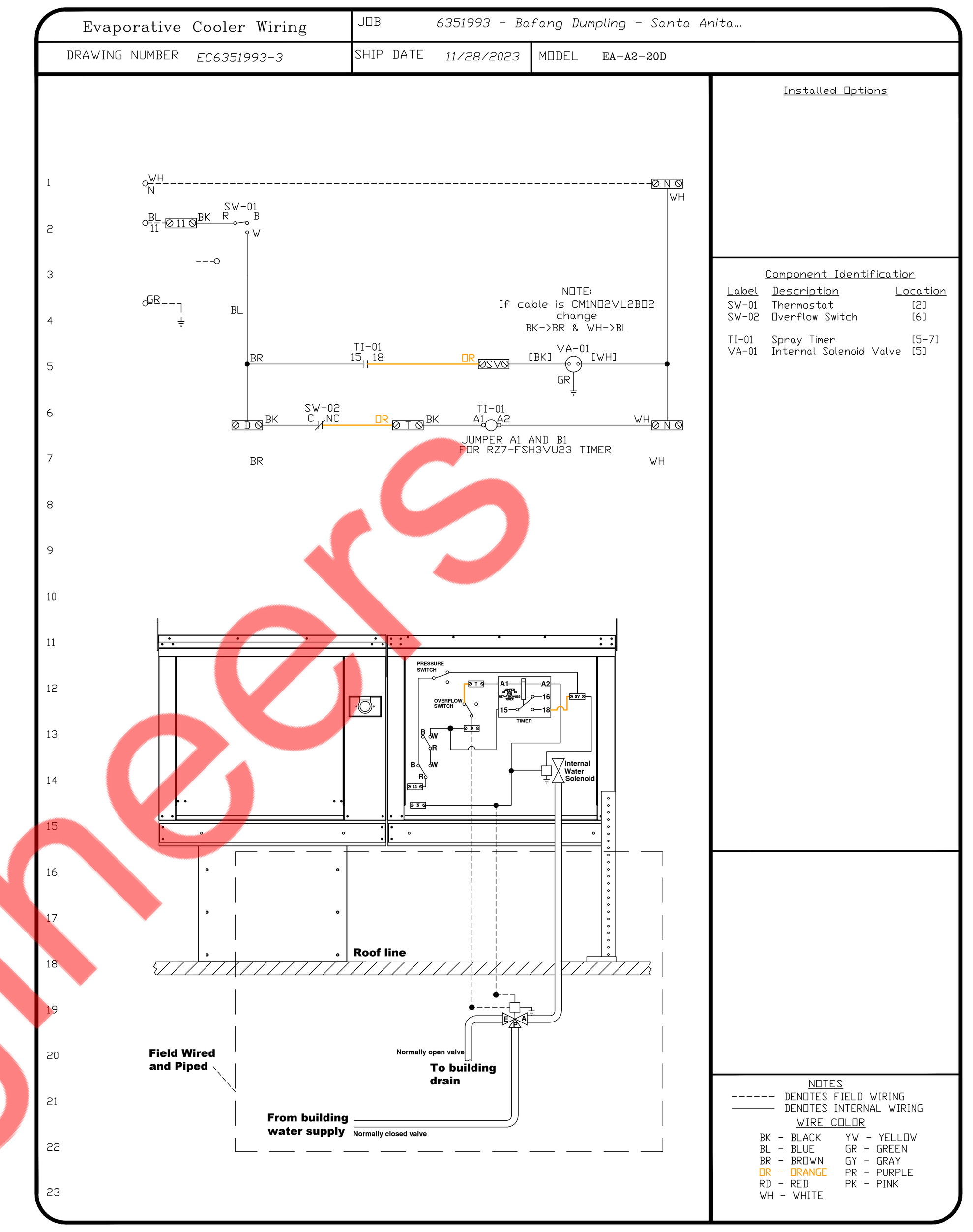
M-3.5







AirHandler Wiring
JOB 6351993 - Bafang Dumpling - Santa Anita...
DRAWING NUMBER A6351993-3
SHIP DATE 11/28/2023
MODEL EA-A2-20D
!ATTENTION ELECTRICIAN!
DROP FOR DISCONNECT CONNECTION
IS FACTORY SUPPLIED
CONNECT POWER TO THE DROP
Installed Options
Cooling Interlock
DCV/VFD Wiring



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Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023

DWG.#: 6351993

DRAWN BY:

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

MASTER DRAWING

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BAFANG DUMPLINGS - ARCADIA

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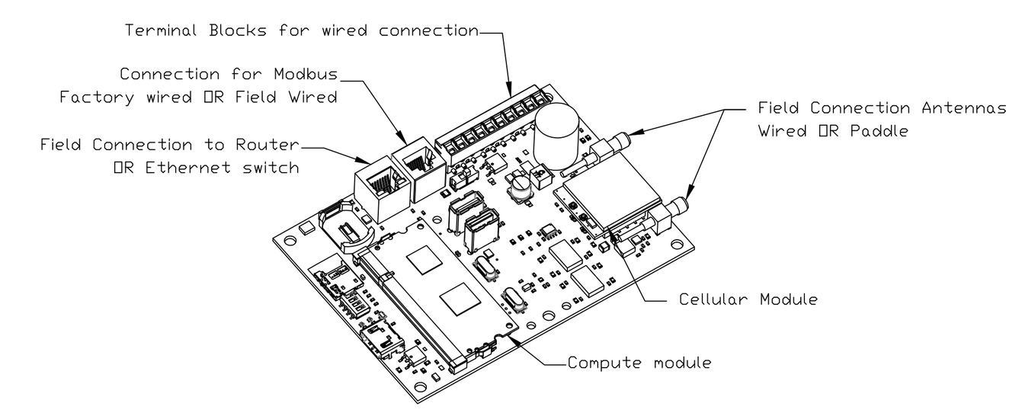
CAPTIVE AIRE PLAN

M-3.6

ELECTRICAL PACKAGE – JOB#6351993

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
1		DCV-2111	WALL UTILITY CABINET LEFT	WALL UTILITY CAB. ON LEFT END	1 LIGHT	SMART CONTROLS DCV	KEF – 1	EXHAUST	3	1.000	208	3.1
				HOOD # 2	1 FAN		KEF – 2	EXHAUST	3	1.500	208	4.4
							MUA – 1	SUPPLY	3	3.000	208	9.5



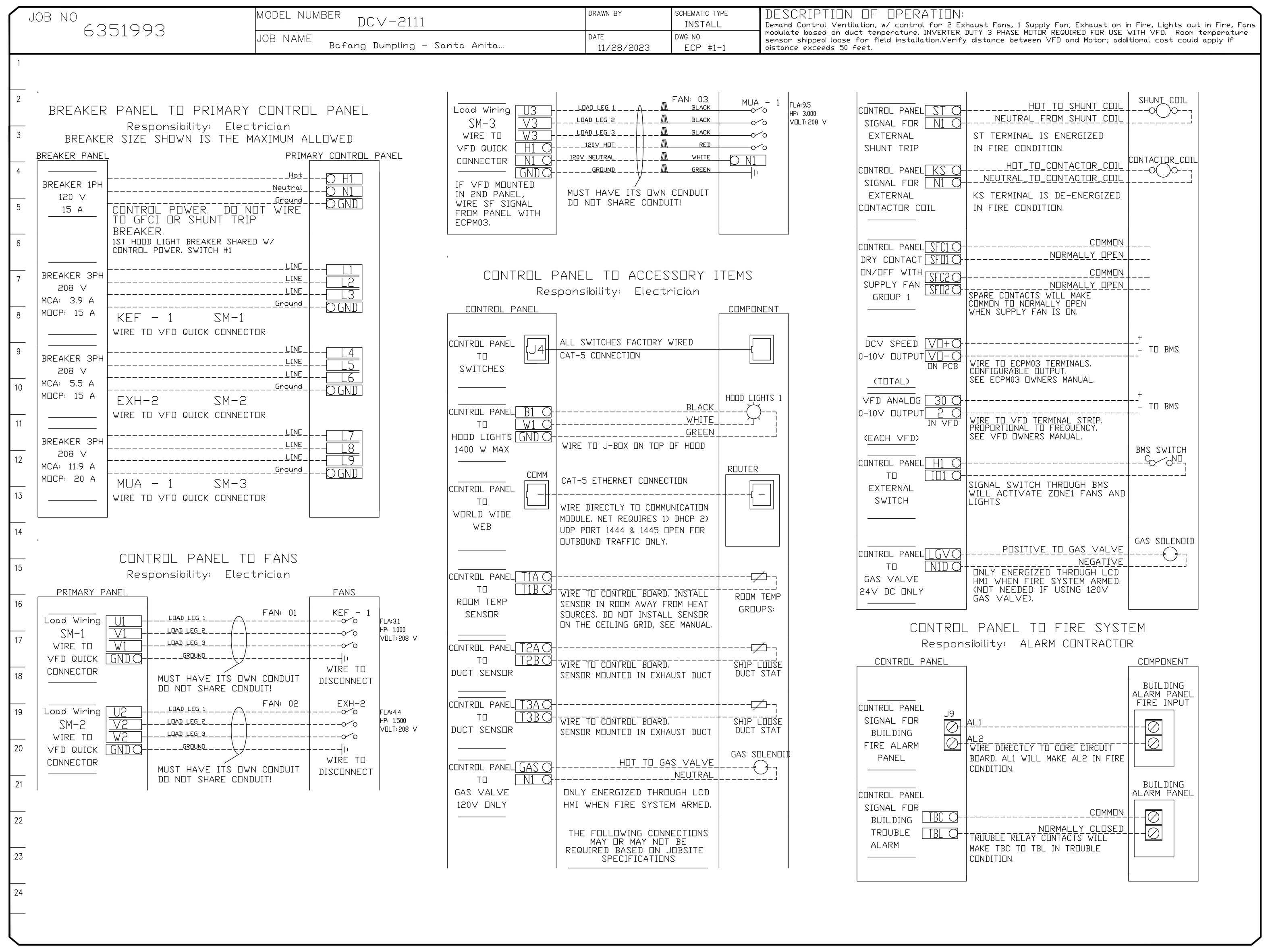
CASlink Monitor and Control

– 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.

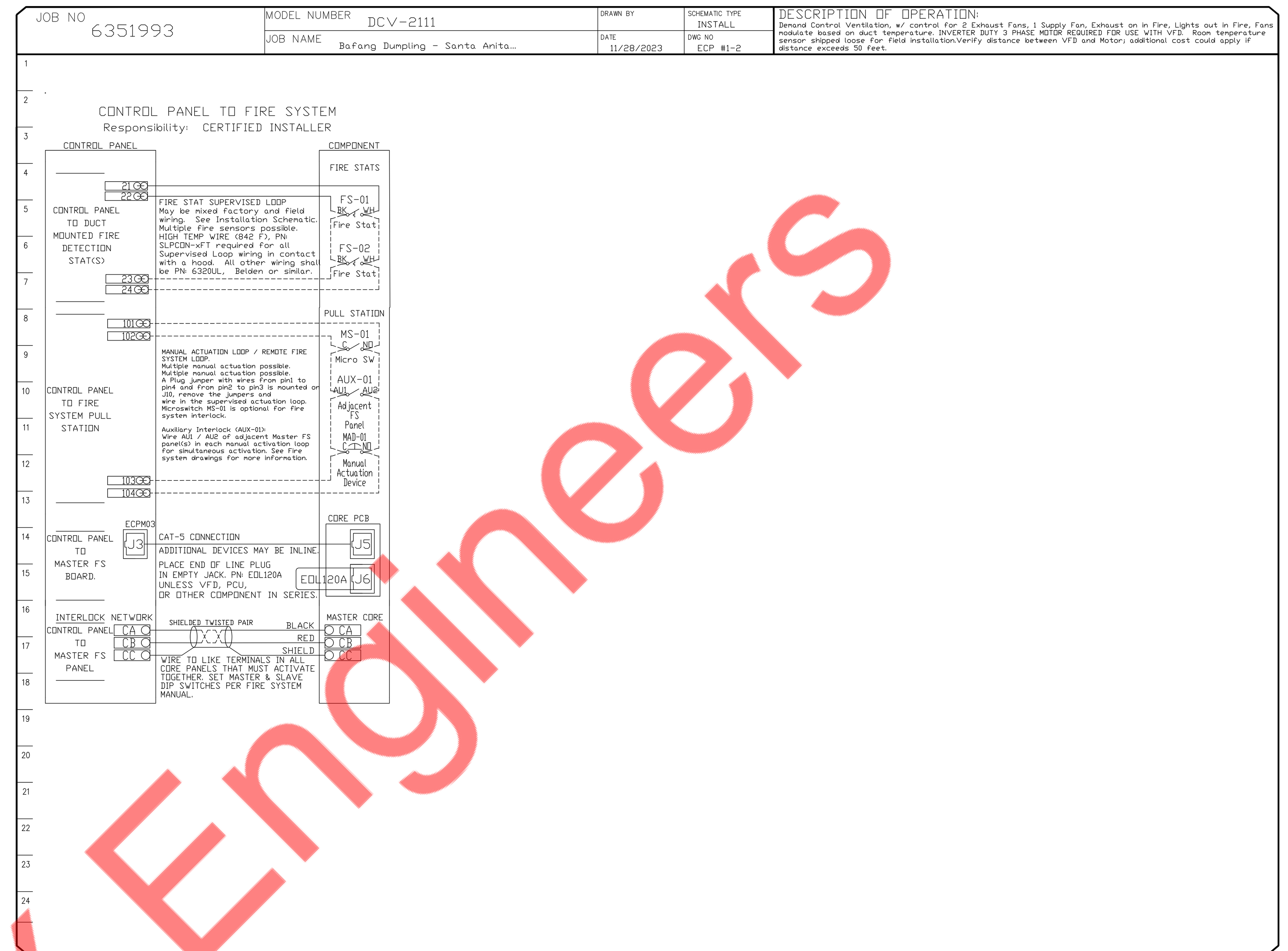
MONITORING AND CONTROL POINTS LIST

DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA DIscharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL



JOB NO 6351993
MODEL NUMBER DCV-2111
JOB NAME Bafang Dumpling - Santa Anita...
DATE 11/28/2023
SCHEMATIC TYPE INSTALL
DWG NO ECP #1-1
DESCRIPTION OF OPERATION
BREAKER PANEL TO PRIMARY CONTROL PANEL
CONTROL PANEL TO ACCESSORY ITEMS
CONTROL PANEL TO FANS
CONTROL PANEL TO FIRE SYSTEM



JOB NO 6351993 | MODEL NUMBER DCV-2111 | JOB NAME Bafang Dumpling – Santa Anita... | DATE 11/28/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-3 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS – 4.0/4.0/4.0.

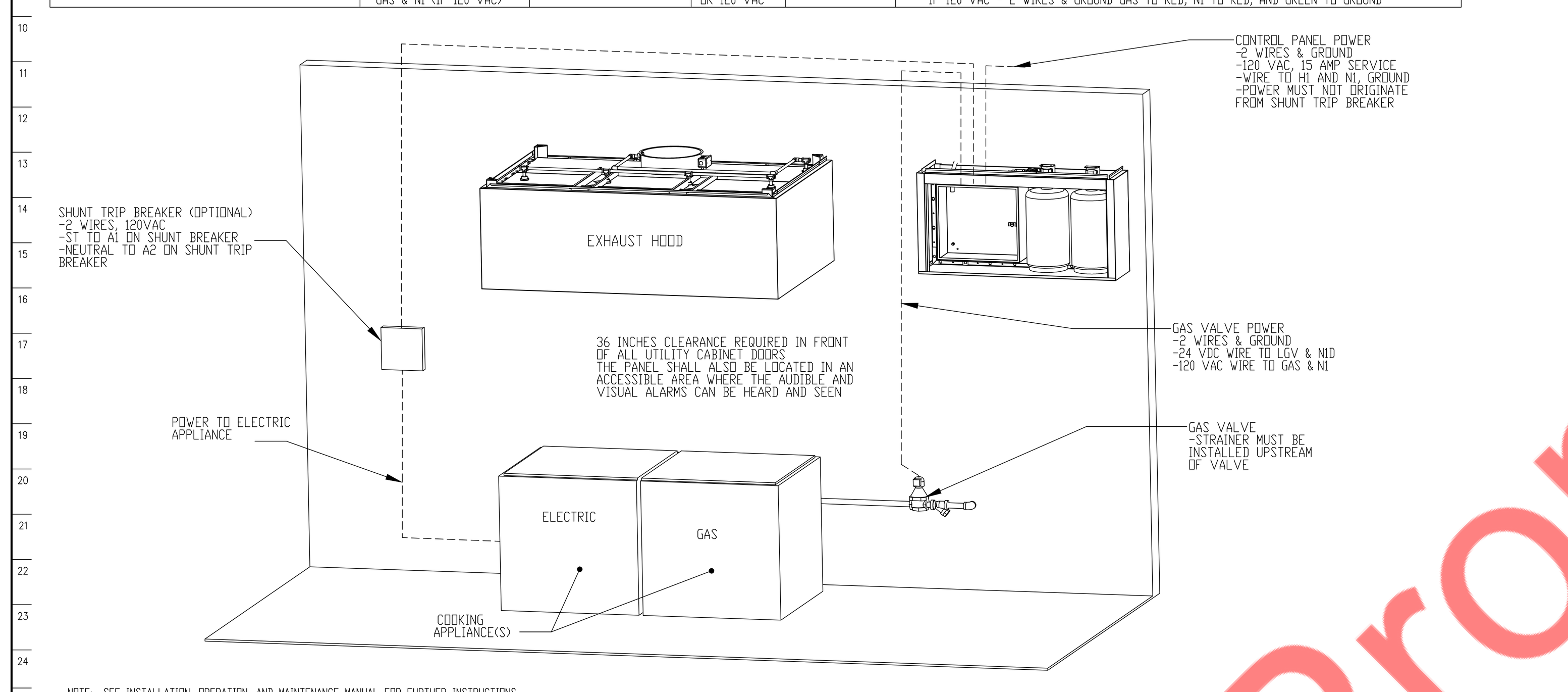
WALL MOUNT UTILITY CABINET CAS ELECTRIC WET CHEMICAL PROTECTION ELECTRICAL DETAIL

02/11/2021 Rev. 02

FS-1: MASTER

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

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC – 2 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC – 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



CONTROL PANEL POWER
-2 WIRES & GROUND
-120 VAC, 15 AMP SERVICE
-WIRE TO H1 AND N1, GROUND
-POWER MUST NOT ORIGINATE FROM SHUNT TRIP BREAKER
EXHAUST HOOD
SHUNT TRIP BREAKER (OPTIONAL)
ELECTRIC
GAS
COOKING APPLIANCE(S)
POWER TO ELECTRIC APPLIANCE
GAS VALVE POWER
GAS VALVE

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

JOB NO 6351993 | MODEL NUMBER DCV-2111 | JOB NAME Bafang Dumpling – Santa Anita... | DATE 11/28/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-4 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS – 4.0/4.0/4.0.

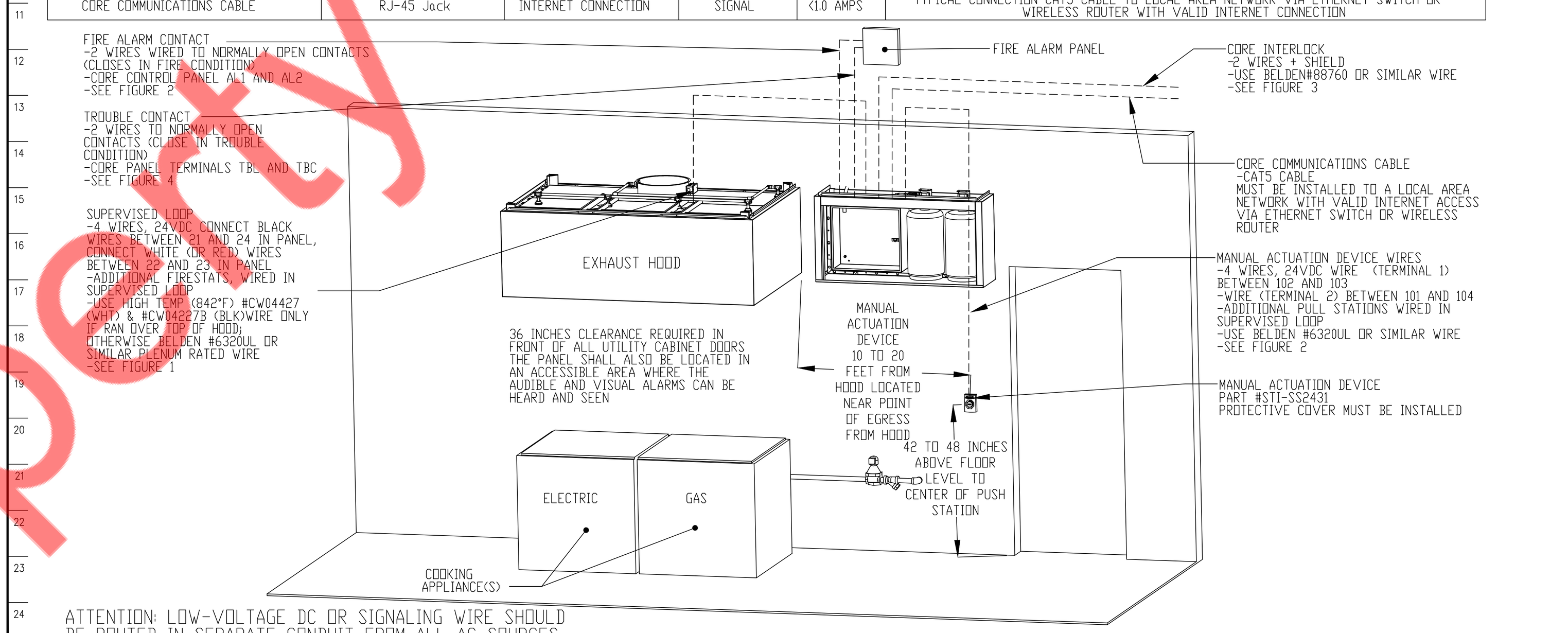
WALL MOUNT UTILITY CABINET CAS ELECTRIC WET CHEMICAL PROTECTION LOW-VOLTAGE DETAIL

02/05/2018 Rev. 1

FS-1: MASTER

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

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK)WIRE OR SIMILAR ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) ILA, TO CORE SYSTEM (2) ILA. CORE SYSTEM (1) ILB, TO CORE SYSTEM (2) ILB. CORE SYSTEM (1) ILC, TO CORE SYSTEM (2) ILC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



FIRE ALARM CONTACT
-2 WIRES WIRED TO NORMALLY OPEN CONTACTS (CLOSES IN FIRE CONDITION)
-CORE CONTROL PANEL AL1 AND AL2
-SEE FIGURE 2
TROUBLE CONTACT
-2 WIRES TO NORMALLY OPEN CONTACTS (CLOSE IN TROUBLE CONDITION)
-CORE PANEL TERMINALS TBL AND TBC
-SEE FIGURE 4
FIRE ALARM PANEL
CORE INTERLOCK
-2 WIRES + SHIELD
-USE BELDEN#88760 OR SIMILAR WIRE
-SEE FIGURE 3
CORE COMMUNICATIONS CABLE
-CAT5 CABLE
MUST BE INSTALLED TO A LOCAL AREA
EXHAUST HOOD
ELECTRIC
GAS
COOKING APPLIANCE(S)

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

REVISIONS

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Bafang Dumpling – Santa Anita – R1

DATE: 11/28/2023
DWG.#: 6351993
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 6

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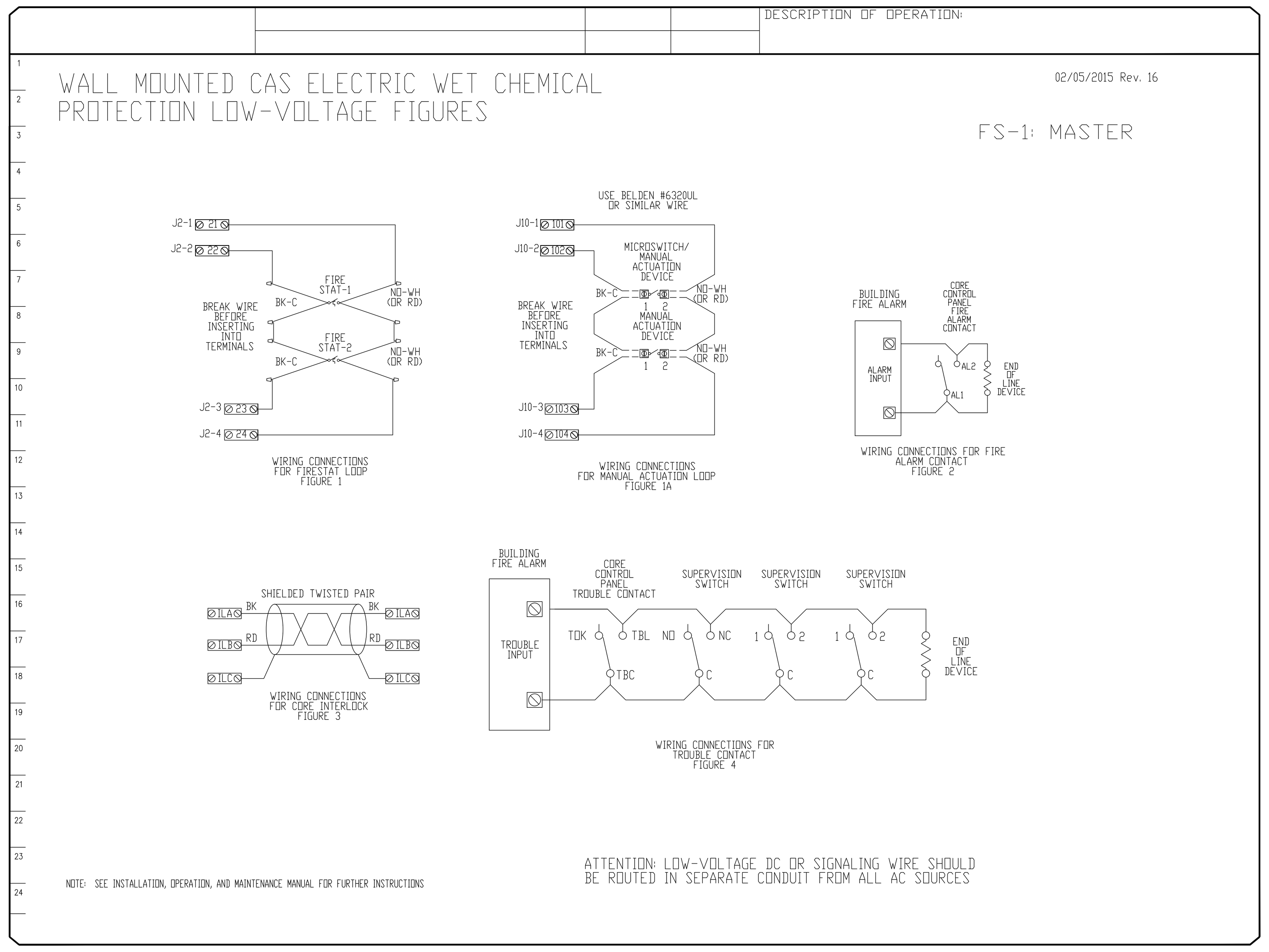
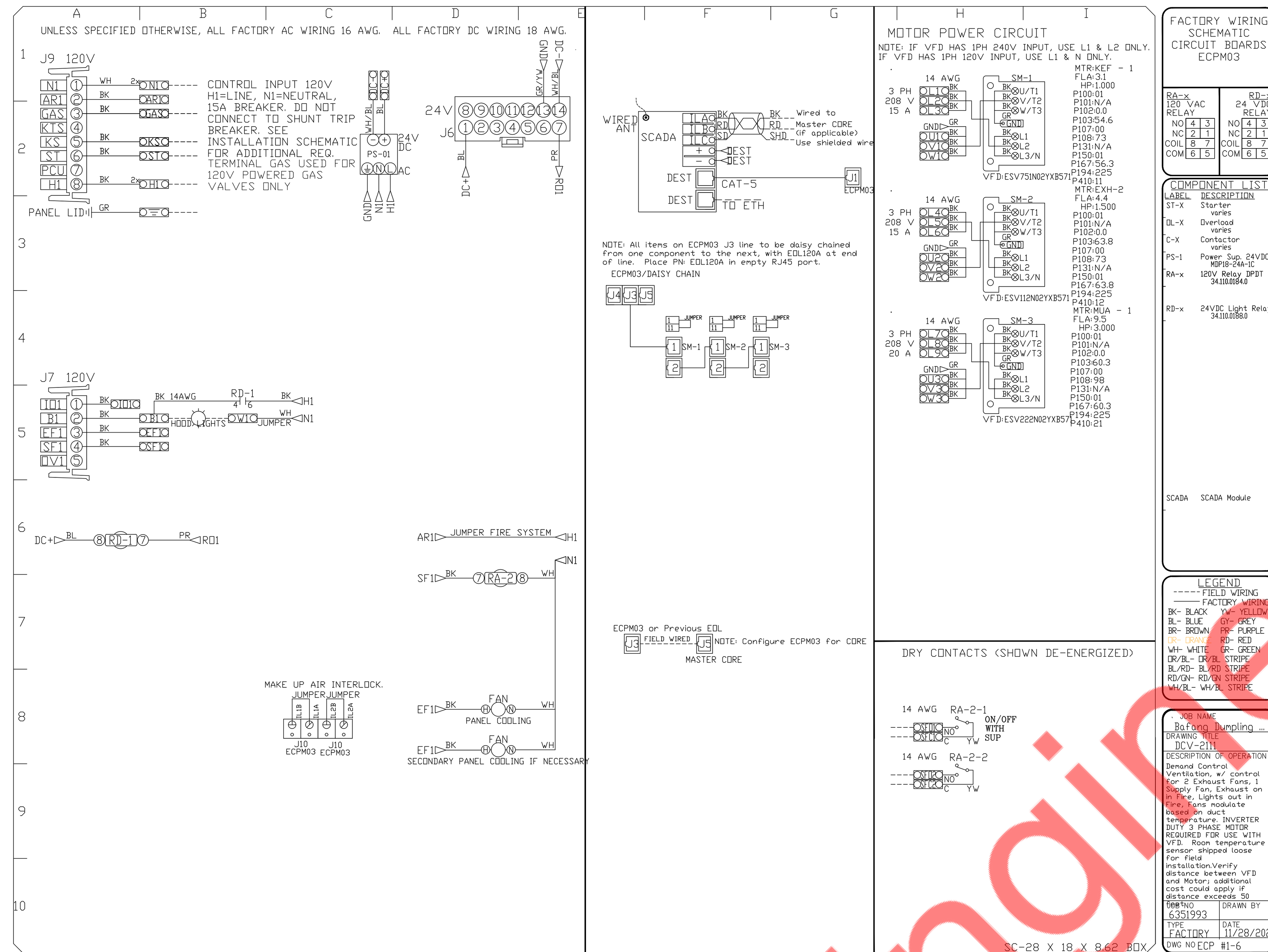
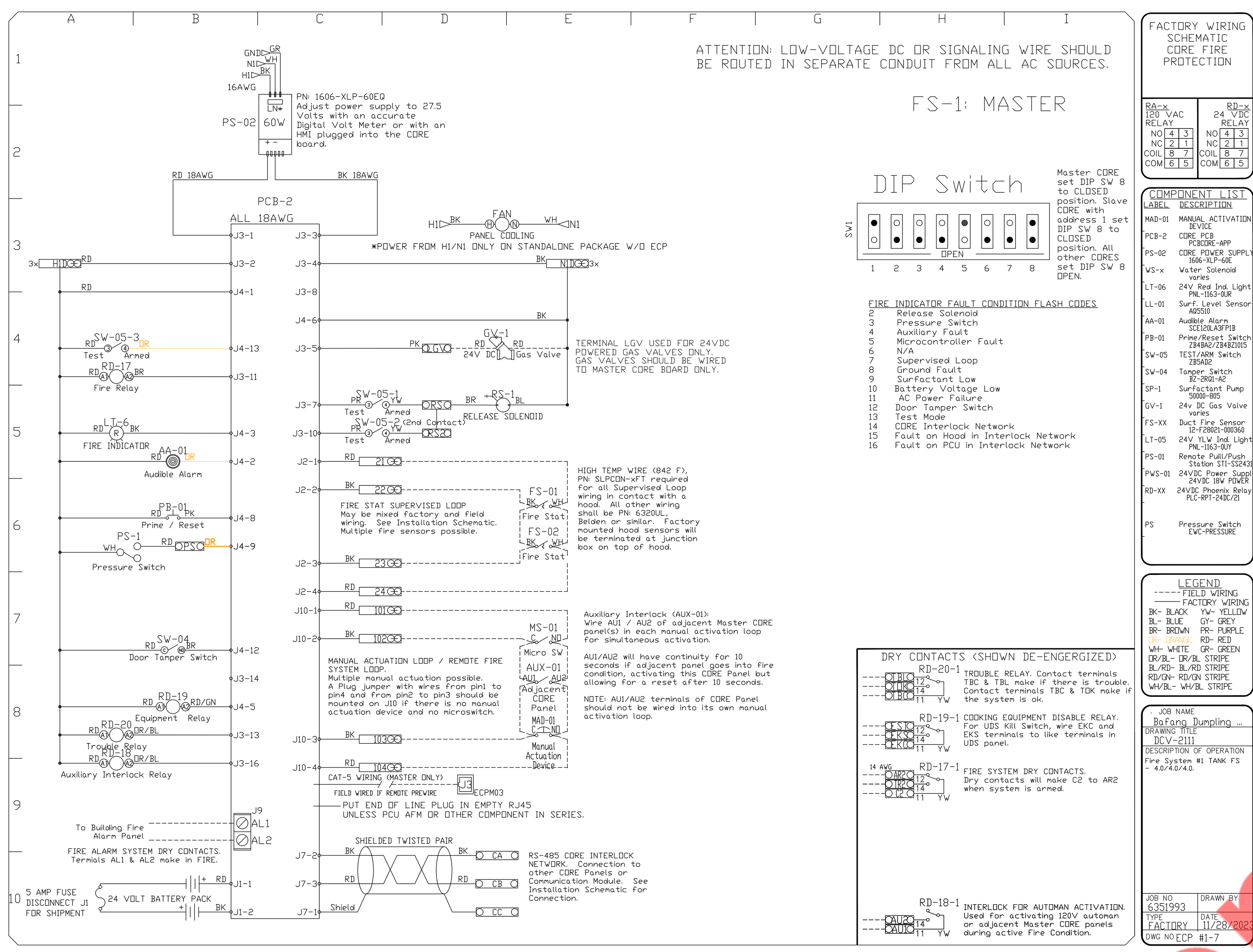
CAPTIVE AIRE PLAN

M-3.7







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Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023

DWG.#: 6351993

DRAWN BY:

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

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CAPTIVE AIRE PLAN

M-3.8

<u>DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:</u>

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.

<u>SYSTEM DESIGN VERIFICATION (SDV)</u>

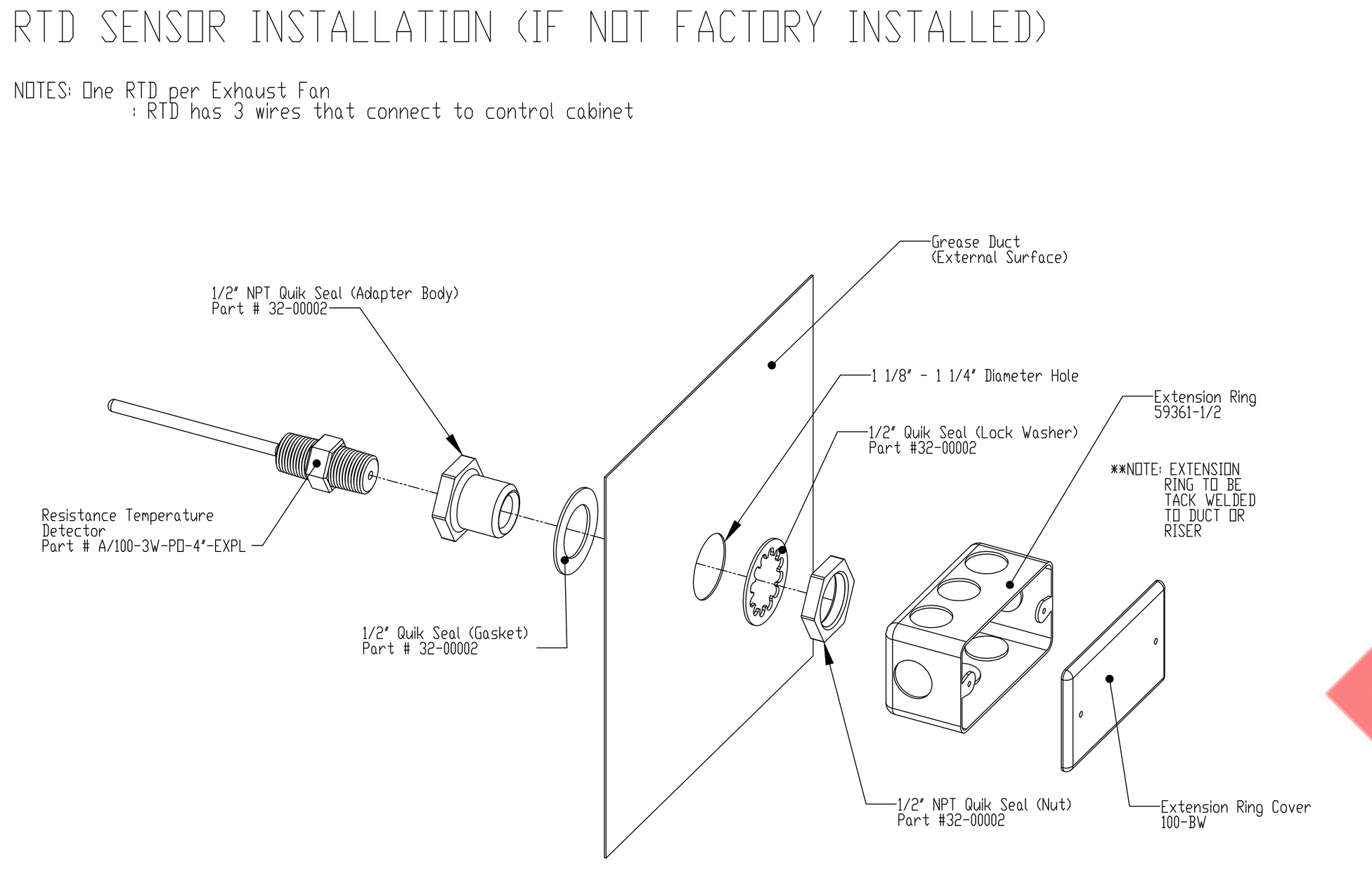
IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

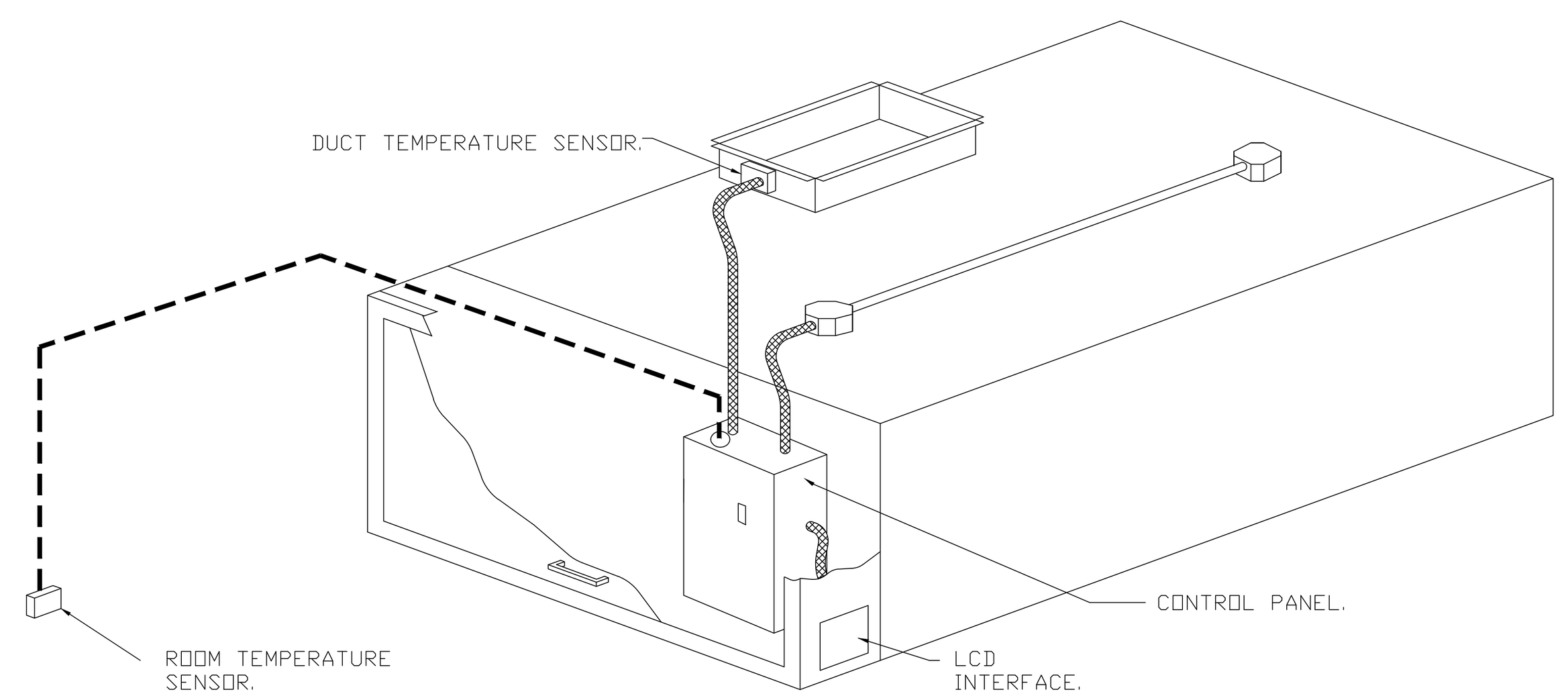
ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, 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.

RTD SENSOR INSTALLATION (IF NOT FACTORY INSTALLED)

NOTES: One RTD per Exhaust Fan
: RTD has 3 wires that connect to control cabinet





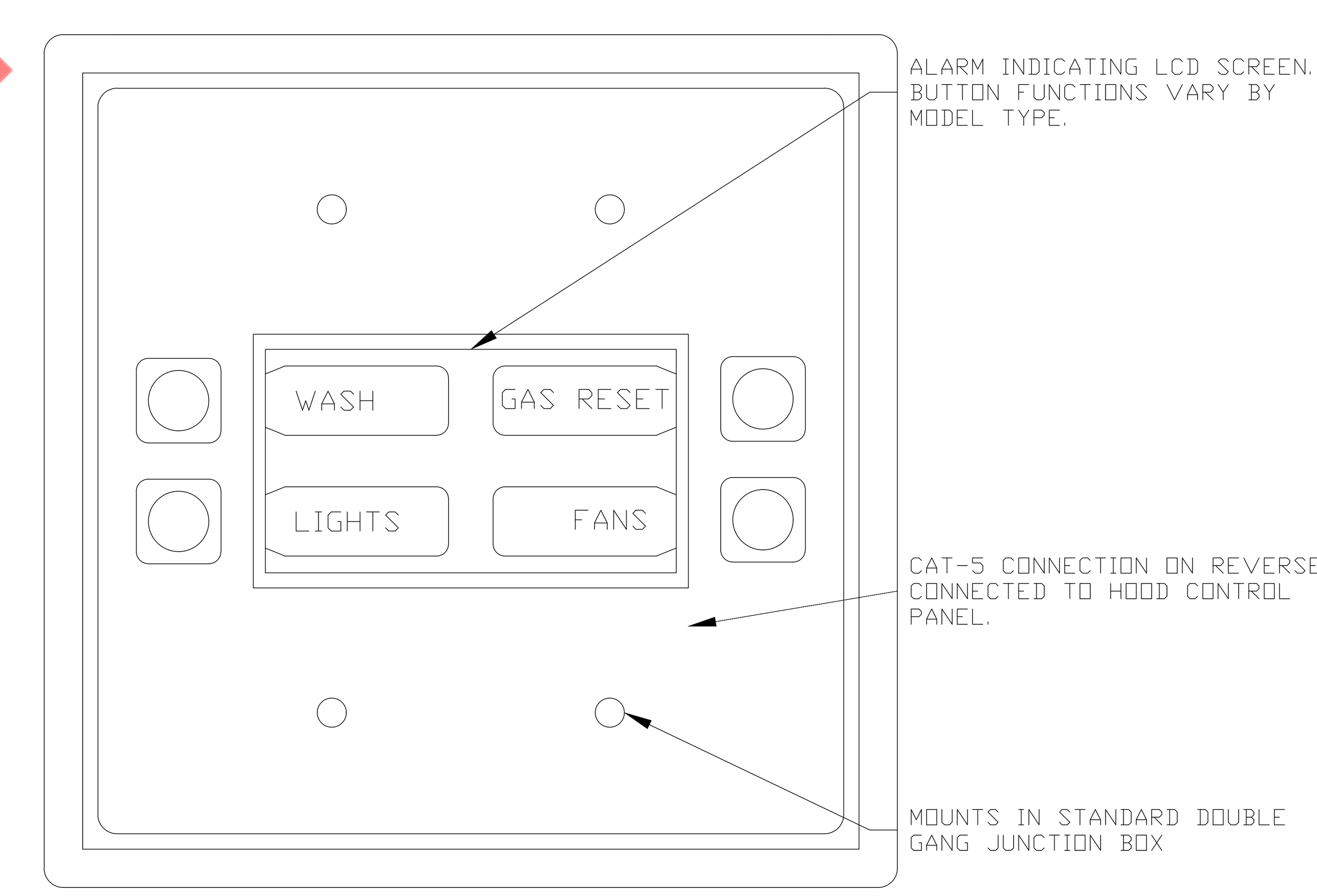
TYPICAL HOOD CONTROL PANEL INSTALLATION

<u>SEQUENCE OF OPERATIONS:</u>

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- <u>AUTOMATIC:</u> THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- <u>MANUAL:</u> THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- <u>SCHEDULE:</u> A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- <u>OTHER:</u> THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- <u>FIRE:</u> UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

ELECTRICAL PANEL CONTROL INTERFACE



*****ATTENTION ELECTRICIAN*****
LOAD SIDE WIRING FOR EACH FAN MUST BE RUN IN SEPERATE CONDUIT FROM EMS SYSTEM TO EACH FAN ON ROOF.

REVISIONS	
DESCRIPTION	DATE:
△	
△	
△	
△	

CAPTIVEAIRE
NYC Office
254 West 51st St, APT 17L, New York, NY, 10019 PHONE: (646) 723 - 3365 FAX: 6464034230 EMAIL: reg17@econair.com
www.captiveaire.com

Bafang Dumpling - Santa Anita - R1

DATE: 11/28/2023
DWG.#: 6351993
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 8

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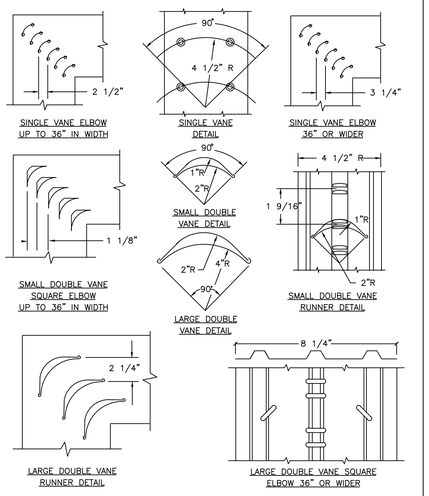
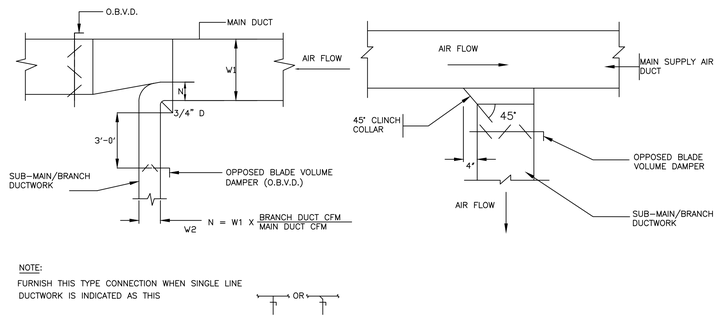
It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

CAPTIVE AIRE PLAN

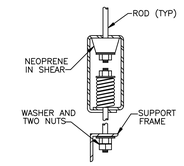
M-3.9



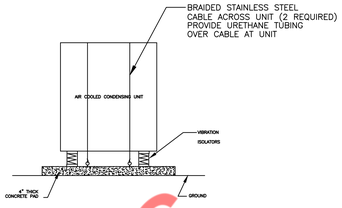
1 M-3.0 LOW VELOCITY DUCTWORK ELBOWS N.T.S



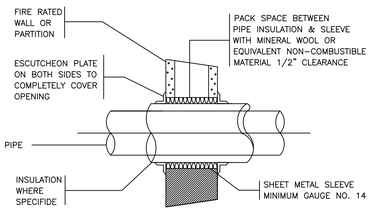
2 M-3.0 SUPPLY AIR DUCTWORK SUB-MAIN/BRANCH DUCT CONNECTION N.T.S



3 M-3.0 VIBRATION ISOLATOR DETAIL N.T.S



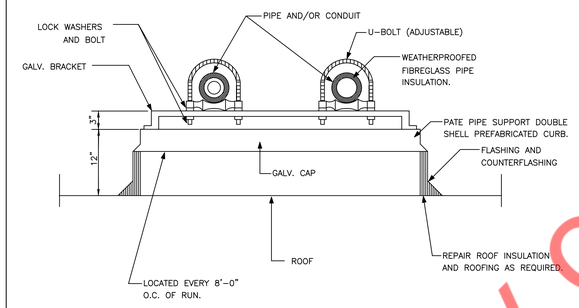
4 M-3.0 CONDENSING UNIT MOUNTING DETAIL N.T.S



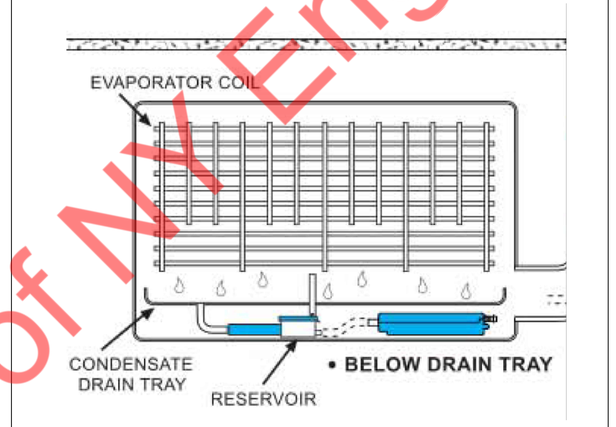
NOTE:

1.) THE INSTALLATION OF FIRE STOPPING MATERIALS SHALL BE SUBJECT TO CONTROLLED INSPECTION IN ACCORDANCE WITH C26-106.3.

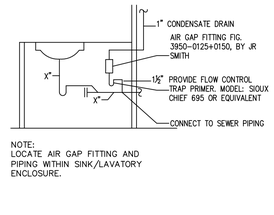
5 M-3.0 PIPE SLEEVE THRU RATED WALL N.T.S



6 M-3.0 DETAIL OF PIPE SUPPORT DETAIL ON ROOF N.T.S

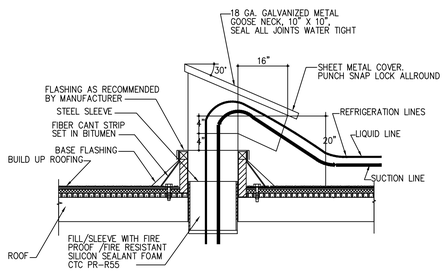


7 M-3.0 CONDENSATE PUMP INSIDE CASING DETAIL N.T.S

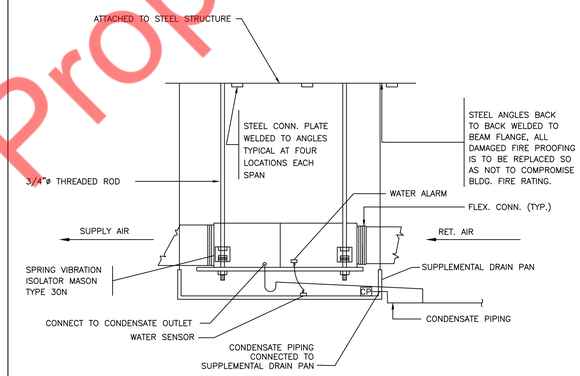


NOTE:
LOCATE AIR GAP FITTING AND PIPING WITHIN SINK/LAVATORY ENCLOSURE.

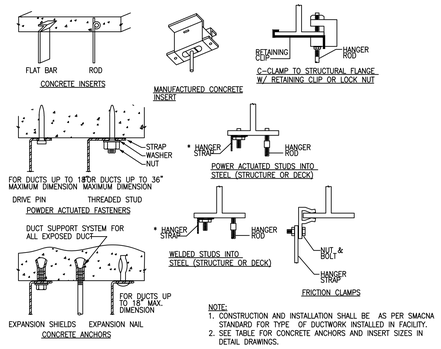
8 M-3.0 AIR GAP FITTING DETAIL N.T.S



9 M-3.0 ROOF PENETRATION DETAIL FOR REFRIGERENT PIPES N.T.S



10 M-3.0 A.C. UNIT INSTALLATION DETAIL N.T.S



NOTE:
1. CONSTRUCTION AND INSTALLATION SHALL BE AS PER SMACNA STANDARD FOR TYPE OF DUCTWORK INSTALLED IN FACILITY.
2. SEE TABLE FOR CONCRETE ANCHORS AND INSERT SIZES IN DETAIL DRAWINGS.

11 M-3.0 UPPER ATTACHMENT METHODS OF HANGING DUCT AND EQUIPMENT DETAIL N.T.S

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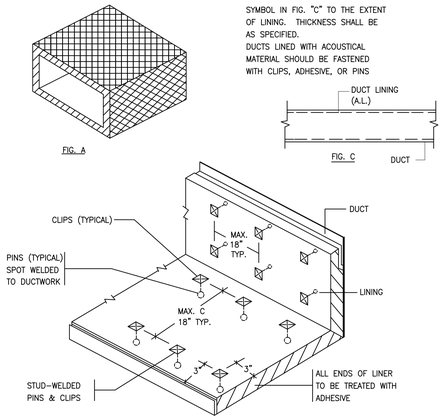
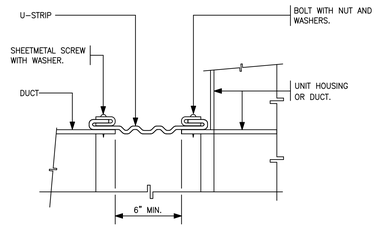
MECHANICAL DETAILS(1 OF 2)

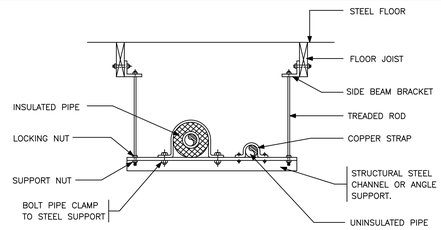
M-3.0



1 M-3.1 ACOUSTICAL TREATMENT DUCT LINING N.T.S



2 M-3.1 FLEXIBLE CONNECTION (DUCT-EQUIPMENT) N.T.S

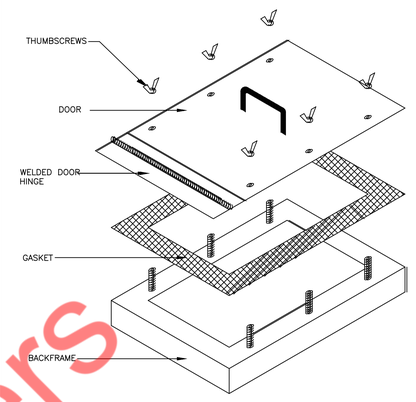


TYPICAL TRAPEZE HANGER SUPPORT

PIPE HANGER ROD AND SPACING SCHEDULE												
NOMINAL PIPE OR TUBE SIZE – INCHES	5/8	3/4	7/8	1	1 1/2	2	2 1/2	–	–	–	–	–
HANGER ROD SIZES INCHES	3/8	3/8	3/8	3/8	3/8	3/8	3/8	–	–	–	–	–
MAX. SPACING BETWEEN PIPE SUPPORTS – FEET	–	6	–	7	9	10	11	–	–	–	–	–
MAX. SPACING BETWEEN CU. TUBE SUPPORTS–FT.	6	6	6	6	8	9	10	–	–	–	–	–

NOTES : TRAPEZE HANGER SPACING SHALL BE BASED ON SPACING OF SMALLEST PIPE ON TRAPEZE. TRAPEZE SHALL BE DESIGNED WITH A FACTOR OF SAFETY OF 5 FOR CENTER OF SPAN CONCENTRATED LOAD.

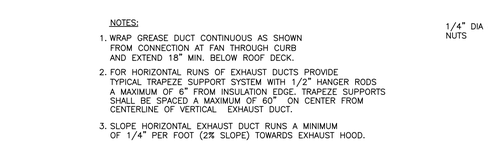
3 M-3.1 METHOD OF HANGING REFRIGERANT PIPING N.T.S



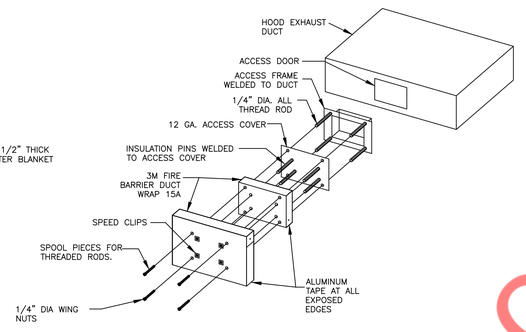
NOTES:

1. ACCESS DOOR IS TO BE DUCTMATE ULTIMATE DOOR II OR EQUAL.
2. ACCESS DOOR IS TO BE U.L. LISTED # 65X3.
3. ACCESS DOOR IS TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 96, 2008 EDITION AT ALL LOCATIONS REQUIRED BY LOCAL CODE.

4 M-3.1 GREASE DUCT ACCESS DOOR DETAIL N.T.S



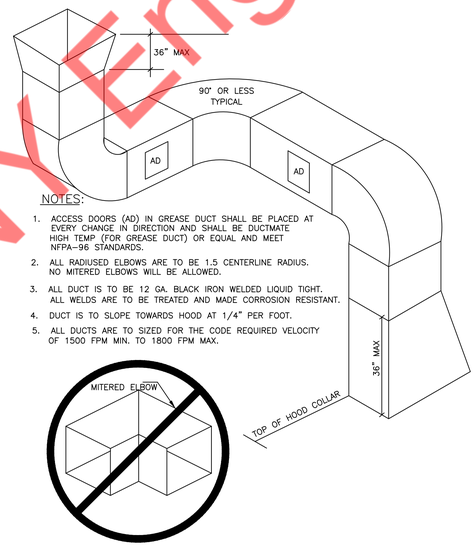
BANDING REQUIREMENTS: USE 304 STAINLESS STEEL BANDS A MAXIMUM 1-1/2" FROM BLANKET EDGE AND SPACED A MAXIMUM OF 10-1/2" ON CENTER.



NOTES:

1. WRAP GREASE DUCT CONTINUOUS AS SHOWN FROM CONNECTION AT FAN THROUGH CURB AND EXTEND 18" MIN. BELOW ROOF DECK.
2. FOR HORIZONTAL RUNS OF EXHAUST DUCTS PROVIDE TYPICAL TRAPEZE SUPPORT SYSTEM WITH 1/2" HANGER RODS A MAXIMUM OF 6" FROM INSULATION EDGE. TRAPEZE SUPPORTS SHALL BE SPACED A MAXIMUM OF 60" ON CENTER FROM CENTERLINE OF VERTICAL EXHAUST DUCT.
3. SLOPE HORIZONTAL EXHAUST DUCT RUNS A MINIMUM OF 1/4" PER FOOT (2% SLOPE) TOWARDS EXHAUST HOOD.
4. PROVIDE INSULATED ACCESS DOOR OR PANEL NEAR MID POINT OF EXHAUST DUCT RUN FOR CLEANING AND INSPECTION OF DUCT. PROVIDE AN APPROVED SIGN ON ACCESS DOOR OR PANEL WHICH READS " ACCESS PANEL DO NOT OBSTRUCT"
5. KITCHEN EXHAUST DUCT SHALL BE LISTED FOR LISTED FOR ZERO CLEARANCE TO COMBUSTIBLE IN ACCORDANCE WITH UL 710.

5 M-3.1 GREASE DUCT WRAP DETAIL N.T.S



NOTES:

1. ACCESS DOORS (AD) IN GREASE DUCT SHALL BE PLACED AT EVERY CHANGE IN DIRECTION AND SHALL BE DUCTMATE HIGH TEMP (FOR GREASE DUCT) OR EQUAL AND MEET NFPA-96 STANDARDS.
2. ALL RADIUSED ELBOWS ARE TO BE 1.5 CENTERLINE RADIUS. NO MITERED ELBOWS WILL BE ALLOWED.
3. ALL DUCT IS TO BE 12 GA. BLACK IRON WELDED LIQUID TIGHT. ALL WELDS ARE TO BE TREATED AND MADE CORROSION RESISTANT.
4. DUCT IS TO SLOPE TOWARDS HOOD AT 1/4" PER FOOT.
5. ALL DUCTS ARE TO SIZED FOR THE CODE REQUIRED VELOCITY OF 1500 FPM MIN. TO 1800 FPM MAX.

6 M-3.1 TYPICAL GREASE DUCT DETAIL N.T.S

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1	04-23-2024	CITY COMMENTS

MECHANICAL DETAILS(2 OF 2)

M-3.1

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
This form is used to document any process systems that are within the scope of the permit application and are demonstrating compliance with mandatory requirements in 120.6/ 160.7 or prescriptive requirements in 140.9. This compliance document is used for newly constructed, addition and alteration projects.	
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 1 of 6)
Project Address:	**Date Prepared:** 2023-12-13T07:24:33-05:00

A. GENERAL INFORMATION

01	Project Location (city)	ARCADIA	04	Total Conditioned Floor Area	1920
02	Climate Zone	9	05	Total Unconditioned Floor Area	145
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	0

● Restaurant

B. PROJECT SCOPE

This table includes process systems that are within the scope of the permit application and are demonstrating compliance with mandatory requirements in 120.6 / 160.7 or prescriptive requirements in 140.9.

My project consists of: (check all that apply):

01		02	
☐	Refrigerated Spaces <3,000 ft² Total (no Title 24, Pt6 requirements)	☐	Escalator & Moving Walkway Speed Controls (mandatory 120.6(g))
☐	Refrigerated Spaces >=3,000 ft² Total (mandatory 120.6(a))	☐	Computer Rooms (mandatory 120.6(j) and prescriptive 140.9(a))[1]
☐	Food /Beverage Stores >8,000 ft² cfa (mandatory 120.6(b))	☒	Commercial Kitchen Ventilation/Exhaust (prescriptive 140.9(b))[1]
☐	Enclosed Parking Garage Exhaust >=10,000 cfm (mandatory 120.6(c))	☐	Laboratory Exhaust/Factory Exhaust & Fume Hood (prescriptive 140.9(c))[1]
☐	Newly Installed Process Boilers (mandatory 120.6(d))	☐	Pool/Spa (mandatory 110. 4 / 160.7)
☐	Compressed Air Systems Combined HP >= 25 (mandatory 120.6(e))	☐	Controlled Environment Horticulture (mandatory 120.6(h))
☐	Elevator Lighting & Ventilation Controls (mandatory 120.6(f) / 160.7)	☐	New Steam Traps (mandatory 120.6(i))

[1] *FOOTNOTES: These building features can comply using the performance method. If using the performance method for these features, compliance should be demonstrated on the NRCC-PRF-E.*

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 2 of 6)
Project Address:	**Date Prepared:** 2023-12-13T07:24:33-05:00

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through R. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Refrigerated Warehouse / Space 120.6(a) (See Table F)	Commercial Refrigeration 120.6(b) (See Table G)	Parking Garage Exhaust 120.6(c) (See Table H)	Process Boilers 120.6(d) (See Table I)	Compressed Air Systems 120.6(e) (See Table J)	Elevators 120.6(f) / 160.7 (See Table K)	Escalators & Moving Walkways 120.6(g) (See Table L)	Computer Rooms 140.9(a) (See Table M)	Commercial Kitchens 140.9(b) (See Table N)	Laboratory/ Factory Exhaust 140.9(c) (See Table O)	Controlled Environment Horticulture 120.6(h) (See Table P)	Steam Traps 120.6(i) (See Table Q)	Multifamily Pool/Spa 160.7 (See Table R)	**Compliance Results**
								Yes					COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. REFRIGERATED WAREHOUSES/SPACES

This section does not apply to this project.

G. COMMERCIAL REFRIGERATION

This section does not apply to this project.

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 3 of 6)
Project Address:	**Date Prepared:** 2023-12-13T07:24:33-05:00

H. ENCLOSED PARKING GARAGE EXHAUST

This section does not apply to this project.

I. PROCESS BOILER

This section does not apply to this project.

J. COMPRESSED AIR SYSTEMS

This section does not apply to this project.

K. ELEVATOR LIGHTING AND VENTILATION

This section does not apply to this project.

L. ESCALATORS AND MOVING WALKWAYS SPEED CONTROLS

This section does not apply to this project.

M. COMPUTER ROOM SYSTEM SUMMARY

This section does not apply to this project.

N. COMMERCIAL KITCHEN EXHAUST AND VENTILATION

This table contains all new and replacement hoods being installed within the scope of the permit application. Table N is used to demonstrate compliance with prescriptive requirements found in 140.9(b).

Kitchen Ventilation 140.9(b)2

01		
	☐	Existing kitchen hoods not being replaced as part of an addition or alteration (do not need to meet requirements)
	Requirements	

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 4 of 6)
Project Address:	**Date Prepared:** 2023-12-13T07:24:33-05:00

N. COMMERCIAL KITCHEN EXHAUST AND VENTILATION

02	Replacement Air to Hood Compliance Method 140.9(b)1A
	Not providing replacement air directly to the hood(s)
03	Mechanically cooled or heated makeup air delivered to any space with a kitchen hood is designed per 140.9(b)2A to not exceed the greater of:
	The supply flow required to meet the space heating and cooling load
04	Location that is supplying transfer air:
05	The kitchen/ dining facility has a total Type I and Type II kitchen hood exhaust airflow > 5000 cfm and is designed to have one of the following per 140.9(b)2B:
	Demand ventilation system(s) on at least 75% of the exhaust air per 140.9(b)2Bii

Kitchen Exhaust: Airflow Rate 140.9(b)1B

01	Kitchen Name or Item Tag	KITCHEN SPACE	Compliance Method per 140.9(b)1B		NA: Kitchen/ dining facility has a total Type I and Type II kitchen hood exhaust airflow rate <= 5,000 cfm
02	03	04	05	06	07	08
Name or Item Tag	Hood Type[1]	Hood Style	Hood Length (ft)	Equipment Duty	Design Hood Exhaust Rate CFM	Max Hood Exhaust Rate Allowed CFM
HOOD-1	Type I				1579	
HOOD-2	Type I				2292	

[1] *FOOTNOTES: Type II hoods do not have a max hood exhaust air rate per 140.9(b)1B*

O. LABORATORY AND FACTORY EXHAUST AND FUME HOODS

This section does not apply to this project.

P. CONTROLLED ENVIRONMENT HORTICULTURE

This section does not apply to this project.

Q. STEAM TRAPS IN INDUSTRIAL FACILITIES

This section does not apply to this project.

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 5 of 6)
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R. Pool & SPAs

This section does not apply to this project.

S. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title
NRCI-PRC-01-E - Covered Process

T. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-PRC-02-F Kitchen Exhaust	KITCHEN SPACE

STATE OF CALIFORNIA
Process Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PRC-E
Project Name: BAFANG DUMPLINGS	**Report Page:** (Page 6 of 6)
Project Address:	**Date Prepared:** 2023-12-13T07:24:33-05:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
P D	
Company: NY ENGINEERS	Signature Date: 2023-11-27
Address: 382 NE 191st ST, Suite 49674	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Miami, Florida 33179	Phone: 212-575-5300

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: MICHAEL TOBIAS	Responsible Designer Signature:
Company: NY ENGINEERS	Date Signed: 2023-11-27
Address: 382 NE 191st ST, Suite 49674	License: M33750
City/State/Zip:Miami, Florida 33179	Phone: 212-575-5300

Consultant
NY ENGINEERS
382 NE 191ST STREET, SUITE 49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

LICENSED PROFESSIONAL ENGINEER
MICHAEL TOBIAS
M 33750
MECHANICAL
STATE OF CALIFORNIA

PROCESS COMPLIANCE

M-4.1

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.	
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 1 of 8)**
Project Address:	**Date Prepared:** 2024-04-10T06:34:03-04:00

A. GENERAL INFORMATION

01	Project Location (city)	SANTA ANITA	04	Total Conditioned Floor Area	1920
02	Climate Zone	9	05	Total Unconditioned Floor Area	145
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

● Restaurant

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☐ Heating Air System	☐ Water Economizer	☐ Air Economizer
☐ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☐ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☐ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 2 of 8)**
	Date Prepared: 2024-04-10T06:34:03-04:00

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
	AND		AND	Yes	AND		AND	Yes	AND		AND		AND		COMPLIES with Exceptional Conditions
Mandatory Measures Compliance (See Table Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Transfer air is being used in at least one zone to meet minimum ventilation requirements. See Table J for details. Transfer air must be designed per §120.1(g) for air classification and recirculation limitations and be documented within construction documents.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This section does not apply to this project.

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 3 of 8)**
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G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	MUA-1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	3,200	Site Elevation	305	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04			05		06	07	08	09			10	11
									Allowance		Design				
Fan Name or Item Tag	Fan Type	Qty	Component			Airflow through Component (%)		Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method			Motor Nameplate Horsepower	Design Electrical Input Power (kW)
MUA-1	Supply	1	MERV 13-16 Filter upstream of thermal conditioning equipment			100			0.13	0.139	Manufacturer provided				1.1
Supply Fan Base Allowance (kW)		0.232	Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)					0	Fan System Allowance (kW)[3]		1.18	Fan System Electrical Output (kW)			1.1

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35
[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
[3] Fan system allowance includes fan system base allowance.
[4] Filter pressure loss can only be counted once per fan system.
[5] Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
[6] Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document..

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 4 of 8)**
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H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass
MUA-1			3,200	3,200	1	NA: Serving space not cooled and heated to <60 F				

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
MUA-1	Embedded Fan <5HP or <4.1kW	

I. SYSTEM CONTROLS

This section does not apply to this project.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 5 of 8)**
	Date Prepared: 2024-04-10T06:34:03-04:00

J. VENTILATION AND INDOOR AIR QUALITY

04		05				06		07	
System Name	MUA-1	System Design OA CFM Airflow[1]		3200		System Design Transfer Air CFM	3200	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Kitchen	Kitchen (cooking)	340			51	238	3200	DCV	NA: Area < 150ft² or design occupancy < 10 people
								Occ Sensor	NA: Alteration
17	Total System Required Min OA CFM				51	18	Ventilation for this System Complies?		Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
[2] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
[4] See Standards Tables 120.1-A and 120.1-B.
[5] For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
[6] 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 6 of 8)**
	Date Prepared: 2024-04-10T06:34:03-04:00

L. DISTRIBUTION (DUCTWORK and PIPING)

This section does not apply to this project.

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	MUA-1

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
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Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location
		SHEET M-1.0 - MECANICAL LEGEND NOTES & SCHEDULES

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	**NRCC-MCH-E**
Project Name: BAFANG DUMPLINGS	**Report Page:** **(Page 8 of 8)**
Project Address:	**Date Prepared:** 2024-04-10T06:34:03-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: P D	Documentation Author Signature:
Company: NY ENGINEERS	Signature Date: 2024-04-10
Address: 382 NE 191st ST, Suite 49674	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Miami, Florida 33179	Phone: 212-575-5300

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: MICHAEL TOBIAS	Responsible Designer Signature: [illegible]
Company: NY ENGINEERS	Date Signed: 2024-04-10
Address: 382 NE 191st ST, Suite 49674	License: M33750
City/State/Zip: Miami, Florida 33179	Phone: 212-575-5300

Consultant

NY ENGINEERS
382 NE 191ST STREET, SUITE 49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

1 04-23-2024 CITY COMMENTS

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

1

MECHANICAL SYSTEM COMPLIANCE 1

M-4.2

ELECTRICAL SYMBOLS LIST

LIGHTING

	FLUORESCENT LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR "EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.
A	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE SCHEDULE.
2	CIRCUIT NUMBER : INDICATED BY NUMBER
a	SWITCHING INDICATED BY LOWER CASE LETTERS.
EM	DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.
NL	DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.
	CEILING/WALL MOUNTED SELF POWERED EXIT LIGHT FIXTURE WITH DIRECTIONALARROWS AS INDICATED. SHADED AREA DENOTES FACE(S). ISOLITE ELITE SERIES LED EXIT SIGN
	EMERGENCY BATTERY UNIT WITH ATTACHED EMERGENCY FIXTURES AND OUTLET BOX.

SWITCHES AND CONTROLS

S'	20A SP LV TOGGLE SWITCH U.O.N.

WIRING SYSTEMS

3 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 1#12 ø, 1#12 N. & 1#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 2#12 ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 7 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 3#12 ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	CONDUIT AND WIRE TO BUILDING GROUND.
	UNDERGROUND
	EXISTING
	NEW

ELECTRICAL DRAWING LIST

E-1	ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES
E-2	POWER PLAN
E-2.1	ROOF POWER PLAN
E-3	LIGHTING PLAN
E-4	ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULE
E-5	ENERGY COMPLAINCE

POWER AND TELECOMMUNICATION

J	JUNCTION BOX WITH BLANK COVER PLATE, CEILING MOUNTED..
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
CL	DUPLEX CONVENIENCE RECEPTACLE – 20A–1P, 125V, NEMA 5–20R MOUNTED FLUSH IN CEILING.
	DOUBLE DUPLEX RECEPTACLE – 20A–1P, 125V, NEMA 5–20R.
	TELEPHONE/DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. PROVIDE 3/4" E.C., U.O.N., UP TO HUNG CEILING AND TERMINATE WITH 90° ELBOW, BUSHING AND DRAG WIRE.

MOTORS AND CONTROLS

M	EXHAUST FAN WITH JUNCTION BOX AND MOTOR SWITCH.
	NON–FUSED DISCONNECT. AMPERAGE AS NOTED.
A	30A/240V NON FUSED DISCONNECT SWITCH
B	60A/240V NON FUSED DISCONNECT SWITCH
S M	MANUAL MOTOR SWITCH

ANNOTATION

+24"	INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.
X	KEYED NOTE REFERENCE
1 E/2–1	DETAIL REFERENCE: DETAIL NUMBER INDICATED ON TOP; DRAWING NUMBER INDICATED ON BOTTOM

POWER DISTRIBUTION

	MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.
	DISTRIBUTION PANELBOARD, 208Y/120V–SURFACE OR FLUSH MOUNTED.

ELECTRICAL ABBREVIATIONS

A	AMPERES	EA	EACH
A/C, AC	AIR CONDITIONING UNIT	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
AF	AMPERE FRAME/AMP FUSE	EF	EXHAUST FAN
AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
AS	AMP SWITCH	EMT	ELECTRICAL METALLIC TUBING
AIC	AMPS INTERRUPTING CAPACITY	EQUIP	EQUIPMENT
AT	AMP TRIP	ER	EXISTING TO BE RELOCATED
ATS	AUTOMATIC TRANSFER SWITCH	ETR	EXISTING TO REMAIN
AUTO	AUTOMATIC	EWF	ELECTRIFIED WORKSTATION FURNITURE
AWG	AMERICAN WIRE GAUGE	EWH	ELECTRIC WATER HEATER
C	CONDUIT	FA	FIRE ALARM
C/B,CB	CIRCUIT BREAKER	FBO	FURNISHED BY OTHERS, INSTALLED & WIRED BY EC
CKT	CIRCUIT	FDR	FEEDER
CLG	CEILING	FIBO	FURNISHED & INSTALLED BY OTHERS, WIRED BY EC
COMM	COMMUNICATION	FIXT	FIXTURE
CT	CURRENT TRANSFORMER	FL	FLOOR
CU	COPPER	FLUOR	FLUORESCENT
°C	DEGREE CELSIUS	G	GROUND
°F	DEGREE FAHRENHEIT	GFI	GROUND FAULT INTERRUPTER
DIA	DIAMETER	GP	GENERAL PURPOSE
DISC	DISCONNECT	HC	HUNG CEILING
DN	DOWN	HP	HORSEPOWER
DP	DISTRIBUTION PANEL	HWH	HOW WATER HEATER
DWH	DOMESTIC WATER HEATER	HZ	HERTZ
DWG	DRAWING	IC	INTERRUPTING CAPACITY
JB	JUNCTION BOX	PP	POWER PANEL
KCMIL	ONE THOUSAND CIRCULAR MILS	PVC	POLYVINYL CHLORIDE
KV	KILOVOLT	PWR	POWER
KVA	KILOVOLT–AMPERES	R	REMOVE
KW	KILOWATTS	RE	RELOCATED EXISTING
LP	LIGHTING PANEL	REC	RECEPTACLE
LTG	LIGHTING	RGS	RIGID GALVANIZED STEEL
MAX	MAXIMUM	RR	REMOVE & RELOCATE
MC	MOTOR CONTROLLER	SECT	SECTION
MCB	MAIN CIRCUIT BREAKER	SPDT	SINGLE POLE DOUBLE THROW
MER	MECHANICAL EQUIPMENT ROOM	SPST	SINGLE POLE SINGLE THROW
MIN	MINIMUM	SPEC	SPECIFICATION
MLO	MAIN LUGS ONLY	SW	SWITCH
MTD	MOUNTED	SWBD	SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH	SYM	SYMMETRICAL
N	NEUTRAL	SYS	SYSTEMS
NE	NEW DEVICE TO REPLACE EXISTING	TELE	TELEPHONE
NIC	NOT IN CONTRACT	TEMP	TEMPERATURE
NL	NIGHT LIGHT	TXF	TOILET EXHAUST FAN
NTS	NOT TO SCALE	TYP	TYPICAL
OC	ON CENTER	UON	UNLESS OTHERWISE NOTED
P	POLES	V	VOLT/VOLTAGE
PB	PULLBOX	VA	VOLT AMPERE
PC	PERSONAL COMPUTER	VAV	VARIABLE AIR VOLUME
ø	PHASE	VFD	VARIABLE FREQUENCY DRIVE
PNL	PANEL	VP	VAPORPROOF
W	WATT	WP	WEATHER PROOF
W	WIRE	XFMR	TRANSFORMER
WH	WALL HEATER	ZRT	ZONE REGISTER TERMINALS
E	EXISTING	IG	ISOLATED GROUND

CODE REFERENCE

THE GOVERNING CODES FOR THIS PROJECT ARE:
2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA ENERGY CODE

NOTICE

THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW INTENT OF PROJECT AND ARE SUBJECT TO THE APPROVAL OF THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AGENCY AUTHORITIES HAVING JURISDICTION (AHJ). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY, VERIFIED FIELD CONDITIONS, AND ACCEPTED FULL RESPONSIBILITY OF PLAN CORRECTIONS, CONTINGENCY, AND ASSOCIATED EXTRA CONSTRUCTION COSTS THAT HAVE BEEN INCLUDED IN THE CONTRACTOR'S BID.

GENERAL NOTES
(APPLY TO ALL "E" DRAWINGS)

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA ELECTRICAL CODE, 2020 NEC, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
2. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
4. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
6. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
8. CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OR AS PER CONTRACT WITH OWNER/ARCHITECT.
9. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
10. CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE–EXISTING CONDITIONS OR BETTER.
11. MINIMUM SIZE OF CONDUIT SHALL BE ¾", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
12. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
13. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CONCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
14. SUPPORT PANEL, JUNCTION AND PULL BOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
15. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
16. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINTIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
17. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
18. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
19. ALL CONDUITS AND EQUIPMENT TO BE CONCEAL ED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.
20. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
21. OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE–RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE–RATED BOXES OR PUTTY PADS ARE UTILIZED.
22. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE INSTALLATION.
23. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
25. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
26. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
27. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANEL BOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANEL BOARD.
28. ELECTRICAL DRAWINGS, SPECIFICATIONS, AND GENERAL NOTES DESCRIBE THE INTENDED SCOPE OF WORK DOCUMENTS SHALL BE USED FOR THE PURPOSE OF BIDDING, BUILDING DEPARTMENT REVIEW, AND THE SECURING OF NECESSARY CONSTRUCTION PERMITS ONLY. CONTRACTOR SHALL PROVIDE CONSTRUCTION DRAWINGS AND OBTAIN WRITTEN APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION (AHJ) AND UTILITY COMPANIES PRIOR TO THE START OF AFFECTED WORK. ELECTRICAL INSTALLATION SHALL COMPLY WITH CALIFORNIA ELECTRICAL CODE (LATEST VERSION) ADAPTED BY THE JURISDICTION AND ANY LOCAL SUPPLEMENTS.

GENERAL NOTES

29. CONTRACTOR SHALL PROVIDE CONSTRUCTION AND SHOP DRAWINGS BASED ON THESE DRAWINGS, SPECIFICATIONS, AND ADDITIONAL DESIGN CRITERIA FURNISHED BY OWNER AND SUBMIT TO ARCHITECT. CONTRACTOR SHALL SUBMIT ALL DEFERRED APPROVAL CONSTRUCTION DRAWINGS TO ALL GOVERNMENTAL AGENCIES AND UTILITY COMPANIES HAVING JURISDICTION INCLUDING POLICE AND FIRE DEPARTMENTS FOR THEIR REVIEW AND APPROVAL OF DRAWINGS FOR CONSTRUCTION.
30. CONTRACTOR'S BID SHALL NOT BE LIMITED TO THE WORK SHOWN ON PLANS AND SPECIFICATIONS. ALL PREMIUM OVERTIME COSTS, UTILITY CHARGES, COSTS FOR TEMPORARY UTILITY SERVICES, ALTERATION, DEMOLITION, AND EXTENSION WORKS, PLAN CHECK/INSPECTION FEES, MISCELLANEOUS CONTINGENCY COSTS, ETC., SHALL BE INCLUDED IN BID. (THE CONTINGENCY COST SHALL NOT BE LESS THAN 25% OF THE OVERALL ELECTRICAL BID. CONTRACTOR SHALL IDENTIFY THE CONTINGENCY AMOUNT IN THE BID DOCUMENT.)
31. ALL NEW EQUIPMENTS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR ,UNLESS OTHERWISE NOTED. IF CONTRACTOR PROPOSES TO SUBSTITUTE SPECIFIED EQUIPMENT, HE SHALL SUBMIT HIS REQUEST IN WRITING TO THE OWNER AND ENGINEER FOR CONSIDERATION PRIOR TO THE ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER. SUCH REVIEWS SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH DRAWING REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHANGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS WORK OR THE WORK OF OTHER CONTRACTORS. CONTRACTOR SHALL RELOCATE AND RECONNECT THE EXISTING EQUIPMENTS, DEVICES, BEING REUSED IN COORDINATION WITH ARCHITECT/OWNER.
32. ELECTRICAL DRAWINGS, CONDUIT RUNS, WIRING, AND ELECTRICAL INFORMATION ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS. ALL RECEPTACLE AND OUTLET MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWING ELEVATIONS PRIOR TO ROUGH–IN WORK.
33. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES, CEILING MOUNTED OUTLETS, AND EQUIPMENT. PORTIONS OF CEILING SYSTEMS MAY BE INACCESSIBLE. CONTRACTOR SHALL STRATEGICALLY LOCATE ACCESS BOXES, ETC., WHICH SHALL BE READILY ACCESSIBLE IN COMPLIANCE WITH CEC ARTICLE 100. ALL LIGHTING FIXTURE WIRING,BALLASTS, J–BOXES, ETC., SHALL BE ACCESSIBLE FROM FIXTURE OPENINGS. PROVIDE AN ADDITIONAL JUNCTION BOX (SIZE AS REQUIRED) WHERE THE NUMBER OF CONDUCTORS EXCEEDS THE MAXIMUM ALLOWED FOR A GIVEN JUNCTION POINT OR OUTLET.
34. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TYPES OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE REQUIRED TYPE FOR MOUNTING IN CEILINGS. FIXTURES SHALL BE COMPLETED WITH NECESSARY MOUNTING HARDWARE AND ACCESSORIES. FIXTURES LOCATED IN DAMP OR WET LOCATIONS SHALL BE LABELED FOR USE IN SUCH LOCATIONS.
35. SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC., TO MAINTAIN FIRE WORK FURNISH AND INSTALL FIRE RATED ENCLOSURES FOR ALL EQUIPMENT PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC. ALL RECESSED LIGHTING FIXTURES, PANEL BOARDS, SWITCHES, ETC.MOUNTED IN FIRE RATED STRUCTURES SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THAT OF THE STRUCTURE.
36. ALL WIRING AND ELECTRICAL EQUIPMENT INSTALLED FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH DIVISION 15 AND ASSOCIATED DRAWINGS. CONTRACTOR SHALL OBTAIN THE REQUIRED MECHANICAL AND PLUMBING DRAWINGS AND PROVIDE ALL EQUIPMENT, RACEWAYS, WIRING, ETC., AS INDICATED THEREON.
37. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR UNLESS OTHERWISE NOTED. VERIFY ELECTRICAL CHARACTERISTICS AND 'ULL' LISTINGS PRIOR TO CONNECTION. CONTRACTOR SHALL VERIFY THE LOAD INPUT VOLTAGE OF ALL EQUIPMENT PRIOR TO INSTALLATION. ACCEPTING ANY EQUIPMENT RESULTING IN LOAD INCREASE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
38. ELECTRICAL OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS AND PARTITIONS MUST BE SEPARATED BY A DISTANCE OF 24 IN. HORIZONTALLY, IN ACCORDANCE WITH C.B.C. SEC. 714.3.2. EXCEPTION 1.1. OPENINGS IN FIRE RATED WALLS GREATER THAN 16 SQ. IN. MUST BE FIRE STOPPED.
39. ALL CONDUCTORS AND CURRENT CARRYING DEVICES SHALL BE COPPER DUAL RATED THHN/THWN 600 VOLT 75°C MINIMUM INSULATION UNLESS OTHERWISE NOTED. USE PROPER TEMPERATURE RATING OF CONDUCTORS BASED ON THE AMBIENT AIR OR SOIL TEMPERATURE WHERE CONDUCTORS ARE BEING WORK HIGHER AMPACITY CONDUCTORS AND LARGER RACEWAYS SHALL BE PROVIDED TO OFFSET THE AMPACITY CORRECTION FACTORS AS INDICATED IN NEC TABLE 310 AND ELSEWHERE IN CODE. ALL BUSSING SHALL BE COPPER. NMC CABLE MAY BE USED WITHIN THE DWELLING TYPE OCCUPANCY PER NEC 334.10 IF APPROVED BY AHJ.
40. DO ALL DRILLING, CUTTING, CHANNELING AS REQUIRED TO ELECTRICAL WORK AND AS INDICATED OR SPECIFIED HEREIN. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS, AND WALLS SHALL BE PATCHED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES, AND FITTINGS TO MATCH COLOR OF ADJACENT SURFACES IN FINISHED AREAS.
41. EMERGENCY LIGHTING AND EXIT SIGNS SHALL BE PROVIDED PER C.B.C. AND SHALL BE DESIGNED TO PROVIDE REQUIRED FOOTCANDLES AND LUMENS. PROVIDE ADDITIONAL EMERGENCY ILLUMINATION AS REQUIRED BY INSPECTION AUTHORITIES HAVING JURISDICTION.
42. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE SMACNA CRITERIA.
43. BRANCH CONTROL CIRCUITING AND WIRE COUNTS MAY NOT BE INDICATED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR COMPLETING BRANCH CIRCUIT WIRING IN ACCORDANCE WITH PLAN NOTES AND AS PERMITTED BY AHJ. CONTRACTOR SHALL SUBMIT AS–BUILT DRAWINGS AS PART OF RECORD TO ARCHITECT AND AUTHORITY HAVING JURISDICTION (AHJ).
44. ALL EXISTING UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THESE DRAWINGS ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.
45. COORDINATE ALL PHASES OF CONSTRUCTION AND OBTAIN APPROVAL OF WORK SCHEDULE, SHUTDOWN, CUTOVER, OVERTIME WORK, ETC. WITH BUILDING ENGINEER OR OWNER. PROVIDE TEMPORARY SERVICE, STANDBY GENERATOR, 24 HOURS FIRE WATCH, ETC. AS REQUIRED TO MAINTAIN UNINTERRUPTED FACILITY OPERATION DURING CONSTRUCTION WORK.
46. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERAL CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT AT ALL TIMES. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.

PANEL BOARD AND SWITCH BOARD NOTES

1. PROVIDE NAMEPLATE IDENTIFICATION TO BE MOUNTED ABOVE DOOR AND CIRCUIT DIRECTORY HOLDER FRAMED WITH PLASTIC COVER MOUNTED BEHIND THE DOOR. ADHESIVE TYPE PLASTIC ENVELOPE ATTACHED BEHIND THE DOOR IS NOT AN ACCEPTABLE TYPE OF DIRECTORY CARD HOLDER.
2. BUILDING STEEL, UFER, COLD WATER PIPE, AND DRIVEN GROUNDING ROD BONDING TO BE UTILIZED FOR COMPLETE GROUNDING ELECTRODE SYSTEM & SUPPLEMENTS PER CEC 250, GROUNDING. THE BONDING TO BUILDING NATURAL GAS PIPING MAY BE REQUIRED BY THE AHJ.
3. CONTRACTOR TO VERIFY ALL EXISTING CIRCUITS FOR EXISTING AREAS THAT ARE TO REMAIN AND IDENTIFY IN PANEL & IN AS–BUILT. E.C. SHALL MAINTAIN CIRCUIT CONTINUITY OF THESE CIRCUITS SERVE AREAS THAT ARE TO REMAIN.
4. NEW BREAKERS TO BE INSTALLED IN EXISTING PANEL ARE TO MATCH THE EXISTING PANEL BOARD MFG. AND AIC RATING AS INDICATED OR AS REQUIRED PER AIC RATING FROM THE UTILITY COMPANY.
5. CONTRACTOR SHALL EXTEND THE CONDUIT AND INCOMING FEEDER OF THE EXISTING PANELS UPTO NEW LOCATION OF THE PANEL AS SHOWN ON THE PLAN IN COORDINATION WITH ARCHITECT/OWNER.
6. CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIAL, WIRING, CABLES, CONDUITS AND DEVICES IN ORDER TO WORK ELECTRICAL SYSTEM PROPERLY AS PER DESIGN INTEND.
7. E.C. SHALL VERIFY THE OPERABLE CONDITION OF ALL DEVICES, BREAKERS AND CONNECTIONS INSIDE THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
8. CONTRACTOR SHALL PROVIDE ALL THE BRANCH BREAKERS, SHUNT BREAKER & GFI BREAKERS AS PER EQUIPMENT REQUIREMENTS IN COORDINATION WITH THE EQUIPMENT SUPPLIER/OWNER IN FIELD. BASE BID ACCORDINGLY.

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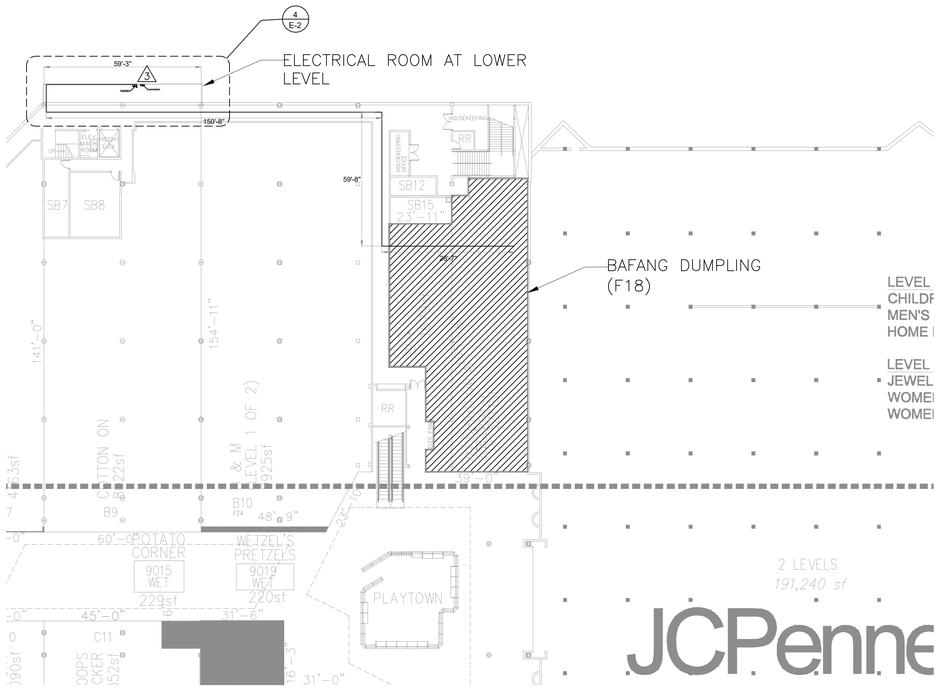
BAFANG DUMPLINGS - ARCADIA

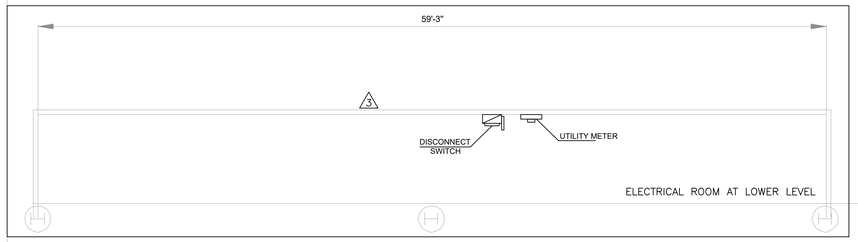
Sheet Issue & Revision Log

ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES

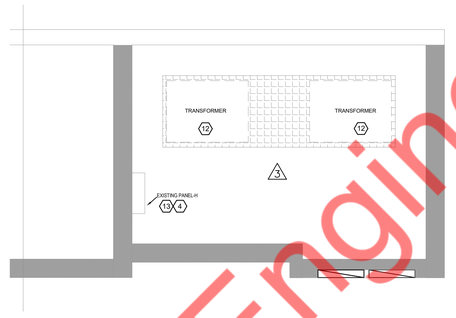
E-1



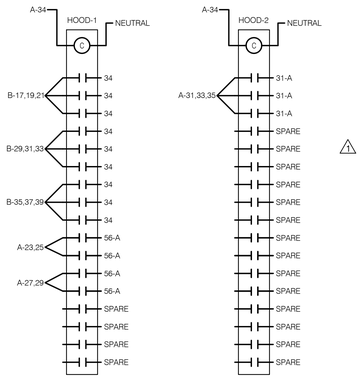
LOCATION OF PANEL-H | SCALE: N.T.S. | 3



ELECTRICAL ROOM ENLARGE PLAN | SCALE: N.T.S. | 4



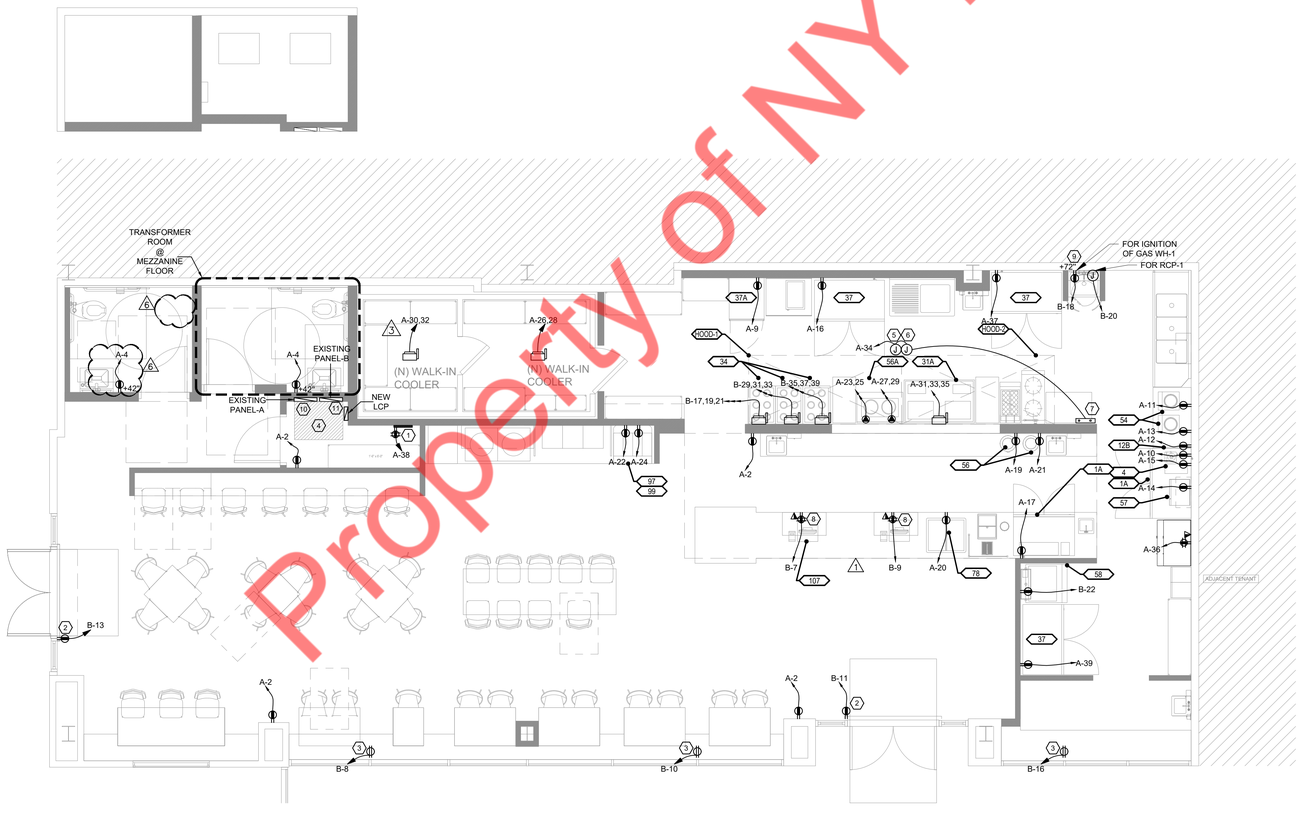
ELECTRICAL ROOM MEZZANINE FLOOR | SCALE: 1/2"=1'-0" | 2



FIRE SUPPRESSION SYSTEM SEQUENCE OF OPERATION:
UPON ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM, EXHAUST FAN WILL COME ON OR CONTINUE TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN AND A SIGNAL WILL BE SENT FOR ACTIVATING SHUNT TRIP SYSTEM PROVIDED IN THE FIRE SUPPRESSION SYSTEM CONTROL PANEL. REFER TO MECHANICAL SHEET M-3.7 AND M-3.9 FOR DETAILED SEQUENCE OF OPERATION. 2

RELAY-CONTACTOR PANEL SEQUENCE OF OPERATION:
UPON ACTIVATION OF ANY HOOD FIRE SUPPRESSION SYSTEM RELAY, A RELAY IN THAT FIRE SUPPRESSION SYSTEM SHALL CAUSE THIS RELAY TO DE-ENERGIZE, THUS REMOVING POWER FROM ALL DEVICES CONNECTED TO EQUIPMENT LOCATED UNDER THE HOOD. EXHAUST FANS SHALL NOT BE AFFECTED BY THIS ACTION AND SHALL CONTINUE TO BE CONTROLLED.

HOOD EQUIPMENT SHUT DOWN CONTACTOR DETAIL



POWER PLAN | SCALE: 1/4"=1'-0" | 1

POWER PLAN GENERAL NOTES:

1. ALL RECEPTICLES IN THE KITCHEN AREA SHALL BE "GFCI" PROTECTED IN ACCORDANCE WITH NEC ART. 210.8(B). GFCI RECEPTACLES, ONCE INSTALLED, SHALL BE READILY ACCESSIBLE.IF GFCI RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE GFCI RATED CIRCUIT BREAKER IN THE PANEL.
2. SEE ARCHITECTURAL ELEVATIONS FOR PLACEMENT AND MOUNTING OF DEVICES.
3. E.C. SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG/CIRCUIT BREAKER AND CABLES FOR ALL THE KITCHEN EQUIPMENTS IN FIELD AND ACCORDINGLY PROVIDE THE ELECTRICAL CONNECTION FOR ALL KITCHEN EQUIPMENTS AS REQUIRED. BASE BID ACCORDINGLY.
4. E.C. TO PROVIDE LABEL ON EACH OUTLET AND DISCONNECT MEANS INDICATING THE POWER SOURCE PANEL AND CIRCUIT NUMBER.
5. E.C. HAS OPTION TO PROVIDE CORD-AND-PLUG-CONNECTED INSTEAD OF DISCONNECT SWITCH FOR LOCAL DISCONNECT MEANS. THE SEPARABLE CONNECTOR SHALL BE ACCESSIBLE, THE RATING SHALL NOT BE LESS THAN THE OVER-CURRENT DEVICE.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
7. ALL CONDUIT RUNS SHOWN ON ROOF SHALL BE RUN BELOW THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 86F. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0" OF DIRECT SOLAR EXPOSURE.
8. ALL ROOF RECEPTACLES SHALL BE GFI & WP TYPE.
9. VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
10. REVIEW THE MECHANICAL PLANS FOR ALL THE HVAC EQUIPMENT CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
11. VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING.
12. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY DETAIL ON MECHANICAL DRAWING.
13. ELECTRICAL CONTRACTOR TO VERIFY WITH MANUFACTURER FOR ALL KITCHEN EQUIPMENT POWER/CONNECTION REQUIREMENTS AND VERIFY WITH OWNER FOR ALL OUTLET HEIGHTS BEFORE ROUGH-IN.
14. ANY NEW WIRING TO BE COPPER AND RUN IN CONDUIT, INCLUDING LOW VOLTAGE

POWER PLAN KEYED NOTES:

1. REROUTE 1" CONDUIT FROM BUILDING MAIN TELE BACKBOARD TO TENANT 2'X2' TELE BACKBOARD AT NEW LOCATION AS SHOWN. VERIFY LOCATION IN FIELD WITH ARCHITECT/ OWNER.
2. OUTLET HEIGHT TO MATCH DOOR HEIGHT. DOOR AIR CURTAIN ACTIVATED CONTROL BY MICRO SWITCH FOR SWING DOOR.
3. PROVIDE FLUSH MOUNTED RECEPTACLE ABOVE WINDOW HEADER OR IN LAY-IN CEILING TILE. RECEPTACLE TO BE MOUNTED WITHIN 18" OF TOP OF WINDOW. IF CEILING MOUNTED, J-BOX SHALL BE SUPPORTED TO STRUCTURE ABOVE WITH THREADED ROD.
4. E.C. SHALL MAINTAIN CLEARANCE FOR ELECTRICAL PANELS PER NEC 110.26 (A) (1).
5. CONNECT TO HOOD LIGHTS, ANSUL SYSTEM VENTILATION CONTROL, ELECTRICALLY OPERATED GAS VALVES, ETC. AS REQUIRED.
6. ELECTRICAL CONTRACTOR TO PROVIDE SHUNT TRIP BREAKERS FOR ALL EQUIPMENT UNDER HOOD AND INTERWIRE TO FIRE PROTECTION SYSTEM PER LOCAL CODE. PROVIDE DEDICATE NEUTRAL FOR ALL CIRCUITS WITH SHUNT TRIP BREAKERS.
7. HOOD LIGHT, FAN CONTROL STATION, AND ANSUL CONTROL PANEL. VERIFY FINAL LOCATION ON FIELD WITH ARCHITECT/OWNER.
8. TYPICAL CONDUITS AND WIRING RUN WITHIN CASE WORK OR LOW WALL. COORDINATE WITH MANUFACTURER OR ARCHITECT. PROVIDE 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE FOR TEL/DATA.
9. PROVIDE GFI RECEPTACLE IN WALL ADJACENT TO GAS WATER HEATER FOR CONTROLS. PROVIDE LIQUID-TIGHT FLEX CONNECTION. COORDINATE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER. 3
10. EXISTING 200A (MCB), 120/208V, 3-PHASE, 4W ELECTRICAL PANEL "A" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE THE EXACT LOCATION OF PANEL "A" IN FIELD.
11. EXISTING 200A (MCB), 120/208V, 3-PHASE, 4W ELECTRICAL PANEL "B" FOR THE PROJECT SPACE. E.C. SHALL COORDINATE THE EXACT LOCATION OF PANEL "B" IN FIELD.
12. EXISTING 75 KVA, 480 VAC DELTA PRIMARY TO 208/120V SECONDARY STEP DOWN TRANSFORMER FOR THE PROJECT SPACE LOCATED IN MEZZANINE FLOOR ROOM. E.C. SHALL COORDINATE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER. 3
13. EXISTING 200A (MCB), 480/277V, 3PH, 4W ELECTRICAL PANEL "H". E.C. SHALL VERIFY EXACT LOCATION AND OPERABLE CONDITION OF EXISTING ELECTRICAL PANEL "H" IN THE FIELD.

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Sheet Issue & Revision Log

1	04-23-2024	CITY COMMENTS
2	06-28-2024	CITY COMMENTS
3	08-16-2024	CLIENT CHANGES
6	03-25-2025	SITE COORDINATION

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

POWER PLAN

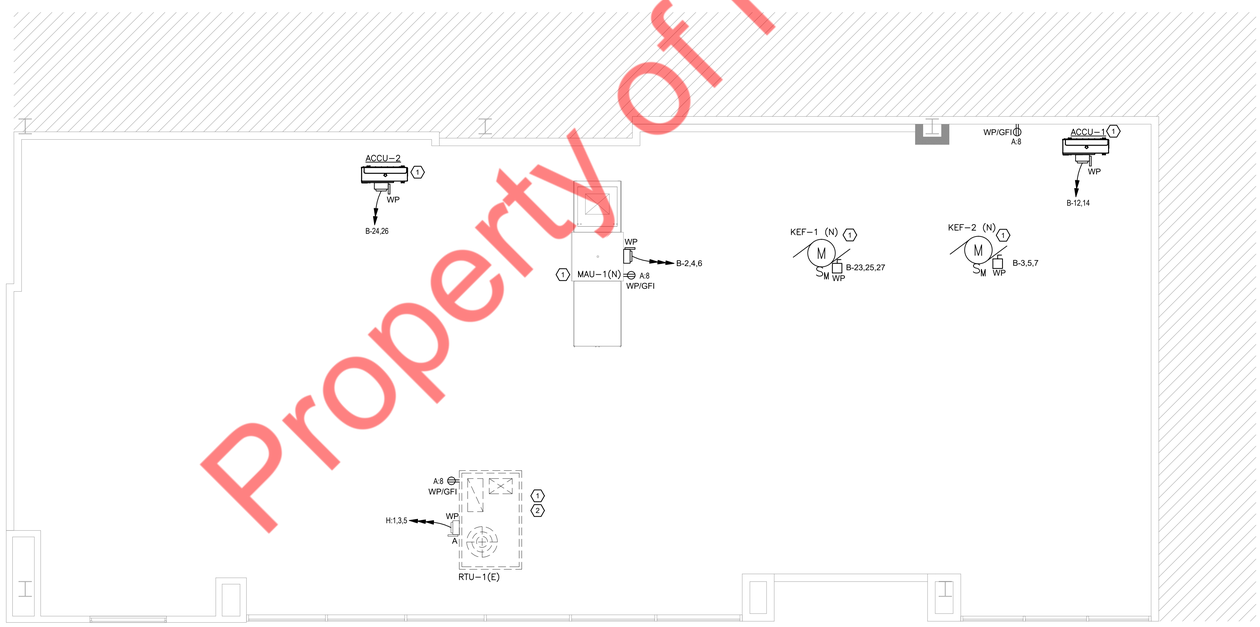
E-2

POWER PLAN GENERAL NOTES:

1. SEE ARCHITECTURAL ELEVATIONS FOR PLACEMENT AND MOUNTING OF DEVICES.
2. E.C. TO PROVIDE LABEL ON EACH OUTLET AND DISCONNECT MEANS INDICATING THE POWER SOURCE PANEL AND CIRCUIT NUMBER.
3. ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
4. ALL CONDUIT RUNS ON ROOF SHALL BE RUN BELOW THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 86F. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0" OF DIRECT SOLAR EXPOSURE.
5. ALL ROOF RECEPTACLES SHALL BE GFI & WP TYPE.
6. VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
7. REVIEW THE MECHANICAL PLANS FOR ALL THE HVAC EQUIPMENT CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
8. VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING.
9. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY DETAIL ON MECHANICAL DRAWING.
10. ANY NEW WIRING TO BE COPPER AND RUN IN CONDUIT, INCLUDING LOW VOLTAGE

POWER PLAN KEYED NOTES:

1. E.C. TO COORDINATE THE EXACT LOCATION AND ELECTRICAL REQUIREMENT OF MECHANICAL/PLUMBING EQUIPMENTS WITH MECHANICAL/PLUMBING CONTRACTOR AND MANUFACTURER. PROVIDE THE ELECTRICAL CONNECTION AS PER MECHANICAL/PLUMBING EQUIPMENTS REQUIREMENT IN FIELD.
2. E.C. SHALL VERIFY EXACT LOCATION AND OPERABLE CONDITION OF EXISTING DISCONNECT/ WIRING/ CONDUITS FOR EXISTING RTU-1. REPLACE WITH NEW ONE IF FOUND INOPERABLE. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR. ENSURE ELECTRICAL CONNECTIONS ARE AS PER THE REQUIREMENTS. NOTIFY ENGINEER OF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.



N

ROOF POWER PLAN | SCALE: 1/4"=1'-0" | 1

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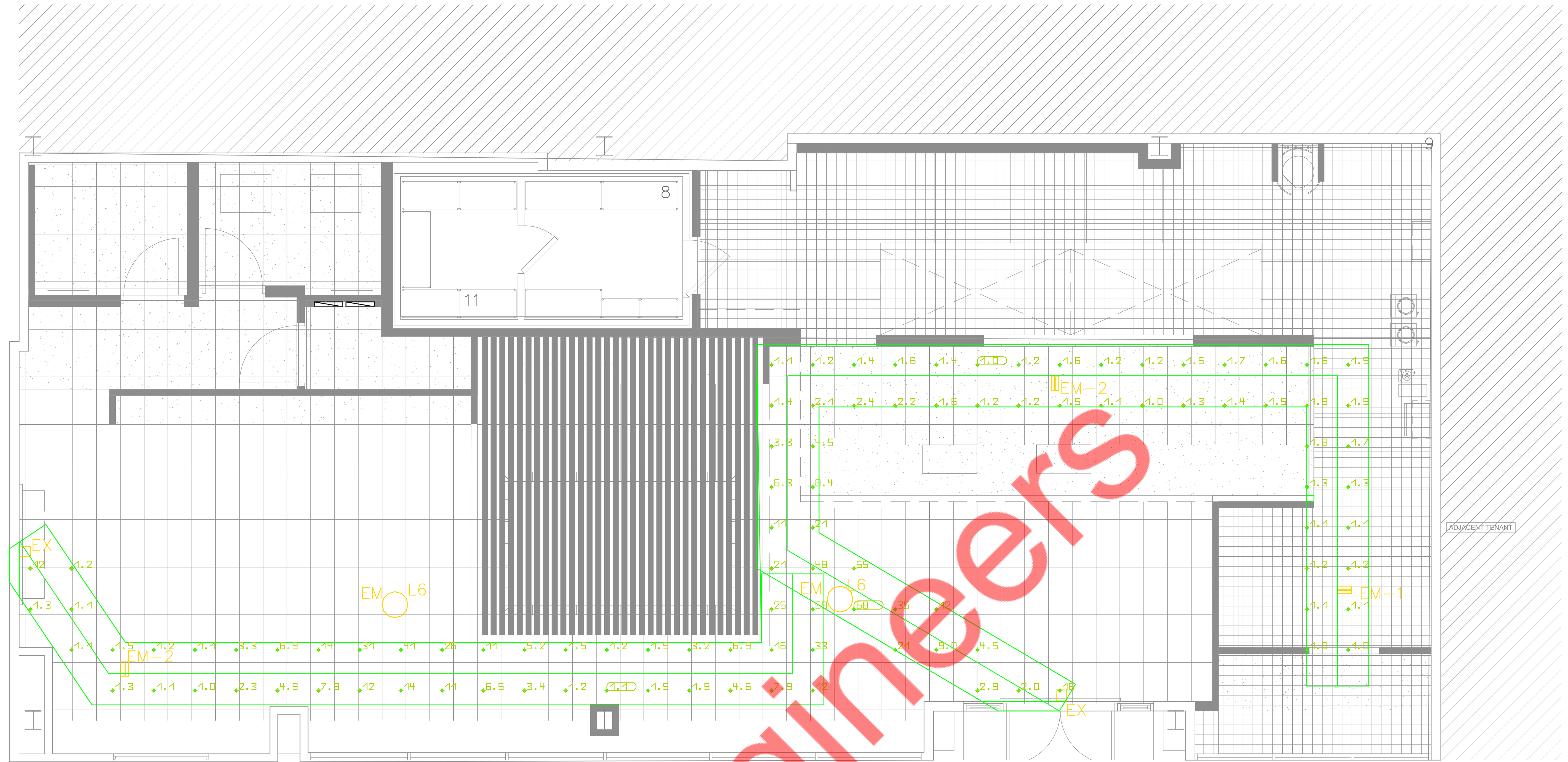
ROOF POWER PLAN

E-2.1

#	Name	Parameter	Min	Max	Average	Average/min	Max/min
1	Emergency route 1	Perpendicular illuminance (Adaptive)	1.0 fc	68.0 fc	7.45 fc	12.195	68.0
2	Emergency route 2	Perpendicular illuminance (Adaptive)	1.1 fc	66.9 fc	9.24 fc	8.4	60.81

FIXTURE SCHEDULE

Index	Manufacturer	Article name	Item number	Fitting	Luminous flux	Maintenance factor	Connected load	Quantity
1	VANTAGE	AGC–BLED16–5035K	BLK–SDM–REM	1x	4000 lm	0.80	18 W	2
2	EM–1	ABB–EMERGI–LITE		1x	160 lm	0.80	2w	1
3	EM–2	ABB–EMERGI–LITE		1x	160 lm	0.80	2w	2
4	EX	REXADFGEMC–P		1x	100 lm	0.80	2w	2



EGRESS PATH PHOTOMETRIC SCALE: 1/4"=1'-0" 3

LIGHT FIXTURE SCHEDULE

TAG	QTY	FIXTURE	LOCATION	IMAGE	MANUFACTURER	PRODUCT	WATTS	MODEL/PART #	WEBSITE
1 L-1	3	POS DECORATIVE PENDANT	FRONT POS AREA		RBW	16" PENDANT	8.7	AK-M16-PC42-30-1_10V_UNV	Akoya
L-2	11	SMALL DECORATIVE PENDANT	DINING AREA		CONTECH LIGHTING	BEAT LIGHTS SERIES	15	RLM31T-B	Beat Lights Series
L-3	8	4' FIXTURE	WOOD SLAT CEILING		VODE LIGHTING	ZIPTWO	26.4	707-Z2-4-48-DM-0-RP25-AE-2-0-Z-SO-30-F6-0-WH-0	ZipTwo | Square 3520 | Diffuse Lens
1 L-4a	10	RECESSED DOWNLIGHT - BLACK TRIM	POS AREA		VANTAGE	4" C-CLASS	22.2	A4VOCLED-1-20-30K-C400-WHT-FL-BLK-NCFAQ	4" C-Class
L-4b	4	RECESSED DOWNLIGHT - WHITE TRIM	BAR SEATING/TRASH AREA		VANTAGE	4" C-CLASS	22.2	A4VOCLED-1-20-30K-C400-WHT-FL-WHT-NCFAQ	4" C-Class
L-4c	3	RECESSED DOWNLIGHT	RESTROOMS	EXISTING	EXISITNG	LED15PAR20	22.2	LED15PAR20	https://www.iqlighting.com/sylvania-78747-led15par30-dim-p-930-fl40.asp
L-5a	1	LINEAR WALLWASH RECESSED	BACK DINING AREA @MURAL - 1'-0" TO B.O. FIXTURE		INTER-LUX	PROTOOLS 60	73	WG-60PTLWW-RBT-S-XX-935-LML-WW-P4-E1-W-W	ProTools 60 Linear Wall Wash Recessed
L-5b	1	LINEAR WALLWASH	FRONT DINING AREA. 14'-0" TO B.O. FIXTURE		VODE LIGHTING	ZIPTWO	270	707-Z2-S-8-96-CC-48-2R10-AE-2-0-Z-SO-35-A3-0-WH-0	ZipTwo | Square 3535/30 | Ceiling Cable | 707
L-6	9	GENERAL LIGHTING PENDANT	GENERAL LIGHTING. MIN 14'6" TO B.O. FIXTURE		VANTAGE	16" LUXIFY HIGH BAY	42.3	AGV-BLED16-5035K-BLK-SDM / AGV-BLED16-5035K-BLK-SDM-REM	16" Luxify High Bay
L-7	10	2X4 RECESSED FOOD SERVICE TROFFER	BOH		COLUMBIA LIGHTING	CFP SERIES	31	CFP24-55/41/3435	CFP Series
L-8	2	VANITY SCONCE	RESTROOMS		BROWNLEE LIGHTING	FLOW-RD	13	5160-24-BL-H13-EC1-30K	FLOW-RD
EM-1	3	2-HEAD EMERGENCY BATTERY PACK (WHITE) CEILING MOUNT	LED		ABB-EMERGI-LITE	MPR10	4	MPR10M-2-LA-CM	https://emergi-lite.com/usa/modules/Files/el_246c_EL_US_Premier-Compact_9-1-2020.pdf
EM-2	2	2-HEAD EMERGENCY BATTERY PACK (BLACK) CEILING MOUNT	LED		ABB-EMERGI-LITE	MPR10	4	B-MPR10M-2-LA-CM	https://emergi-lite.com/usa/modules/Files/el_246c_EL_US_Premier-Compact_9-1-2020.pdf
EM-3	2	2-HEAD EMERGENCY BATTERY PACK (WHITE) WALL MOUNT	LED		ABB-EMERGI-LITE	PRO-2N	4	PRO-2N -LA-C	https://www.emergi-lite.com/usa/modules/Files/el_32cel_us_provider_23-1-2023.pdf
EX	2	EXIT SIGNS	THROUGHOUT	EXIT	CONTECH LIGHTING	REXA SERIES	5	REXADFGEMC-P	REXA Series

LIGHTING PLAN GENERAL NOTES:

1. PROVIDE 6' OF FLEX METAL WIRES FROM J-BOX ABOVE EACH FIXTURE TO EACH LIGHTING FIXTURE.
2. PROVIDE 90 MINUTES BATTERY BACKUP FOR EXIT SIGN. PROVIDE LOW LEVEL EXIT SIGN AS REQUIRED BY FIRE DEPARTMENT OR C.B.C. 1011.6 & 1011.7.
3. FIXTURE SHALL HAVE MINIMUM 60 LUMENS/WATT EFFICIENCY, AND BALLAST AND LAMP SHALL BE ENERGY SAVING TYPE U.O.N.
4. VERIFY WITH OWNER OR ARCHITECT FOR NIGHT LIGHT REQUIREMENT.
5. LIGHTING SWITCH TO BE 36"–48" A.F.F. U.O.N.
6. LIGHTING FIXTURES ABOVE FOOD PREPARE AREA TO BE SHATTERPROOF AND WASHABLE.
7. ALL THE LIGHTING CONTROL SHOWN ON THE PLAN ARE ONLY FOR REFERENCE PURPOSE AS PER PER EXISTINNG AS BUILT DRAWINGS. E.C. SHALL REUSE THE EXISTING LIGHTING CONTROL FOR ALL FOR NEW LIGHT FIXTURE ENSURING THAT EXISTING LIGHTING CONTROL COMPLY WITH CALIFORNIA ENERGY CODE 2022. PROVIDE NEW LIGHTING CONTROL IF REQUIRED TO COMPLY WITH ENERGY CODE. BASE BID ACCORDINGLY.
8. EMERGENCY LIGHT TO BE WITH 90 MINUTE BATTERY BACKUP OR UNIT MOUNTED EMERGENCY INVERTER. PROVIDE UNSWITCHED HOT WIRE AS NOTED.

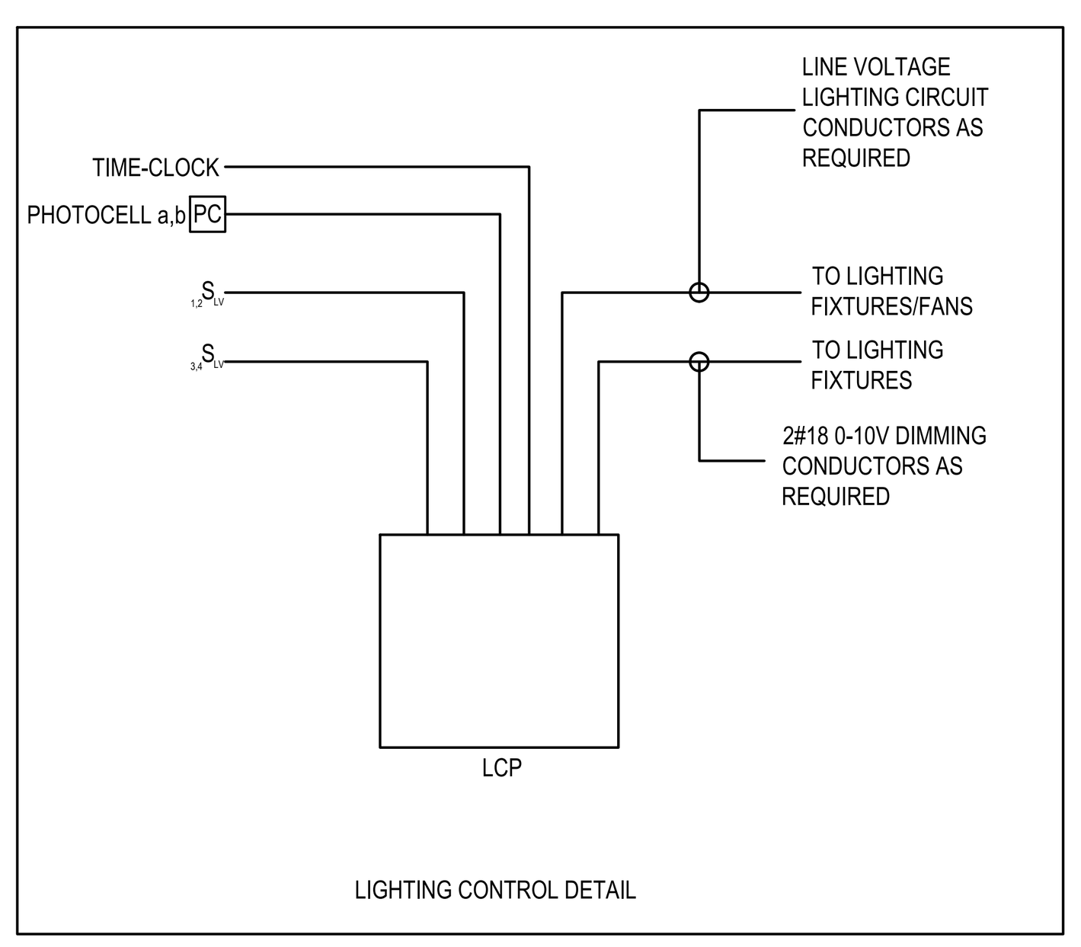
LIGHTING PLAN KEYED NOTES:

1. ALL LIGHTING IS PRE–INSTALLED AND INTEGRATED TO WALK–IN COOLER/FREEZER. E.C. TO COORDINATE ELECTRICAL REQUIREMENTS WITH MANUFACTURER / SUPPLIER AND PROVIDE ELECTRICAL CONNECTIONS ACCORDINGLY.
2. WIRE ALL EMERGENCY AND EXIT LIGHT TO THE NEAREST CIRCUIT AHEAD OF ALL CONTROLS & SWITCHING FOR CONTINUOUS OPERATION.
3. E.C. SHALL PROVIDE LIGHTING CONTROL DEVICE AND CONNECT ALL LIGHTING CIRCUITS THROUGH LIGHTING CONTROL DEVICE.
4. E.C. SHALL PROVIDE JUNCTION BOX AND DISCONNECT FOR BUILDING SIGNAGE. EXTERIOR SIGNAGE SHALL BE ROUTED VIA LIGHTING CONTROL DEVICE.
5. DAYLIGHT AREA, E.C. SHALL PROVIDE DAYLIGHT SENSOR AND ITS CONTROL FOR LIGHTING IN DAYLIGHT AREA AS PER CALIFORNIA ENERGY CODE 2022 TITLE 24.
6. HOOD LIGHTING PROVIDED BY HOOD MANUFACTURER. ELECTRICAL CONTRACTOR TO PROVIDE POWER PROVISION FOR HOOD CONTROL PANEL.
7. E.C. SHALL PROVIDE LIGHTING CONTROL SWITCHES FOR PROJECT SPACE. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
8. LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIED AS PER NEC 110.26(D).
9. WALL MOUNTED OCCUPANCY SENSOR EQUAL TO WATTSTOPPER WS–250. SET OFF TIME TO 15 MINUTES. SET DIP SWITCH TO AUTOMATIC ON.
10. SUSPEND DAYLIGHT SENSOR FROM STRUCTURAL TRUSS AT 10' AFF. PROVIDE CONDUIT STEM AND JUNCTION BOX FOR MOUNTING.
11. INTERLOCK EF–1(N) AND EF–2(N) WITH LIGHTS OF THE SAME ROOM. E.C. TO COORDINATE WITH MECHANICAL DRAWINGS.

LIGHTING CONTROL REQUIREMENT

SPACE / LIGHTING TYPE	CONTROL TYPE: INDOOR: MANUAL SWITCH ON/OFF OR DIMMING	REMOTE SWITCH WITH ANNUNCIATION	TIME CLOCK & OVERRIDE SWITCH	TIME CLOCK (HOLIDAY OFF) & OVERRIDE SWITCH	OCCUPANCY SENSOR FULL OFF	OCCUPANCY SENSOR PARTIAL OFF	VACANCY SENSOR	CARD KEY CONTROL/ AUTOMATIC VACANCY OFF	DAY LIGHT SENSOR ON/OFF	DAY LIGHT SENSOR DIMMING	RECEPTACLE CONTROL	DEMAND RESPONSE	OUTDOOR: MANUAL SWICH (ON/OFF)	PHOTO CONTROL	TIME CLOCK	ASTRONOMICAL TIME SWITCH	MOTION SENSOR
DINING AREA	X		X							X							
KITCHEN	X		X														
RESTROOM	X				X												
EXTERIOR SIGN														X	X		

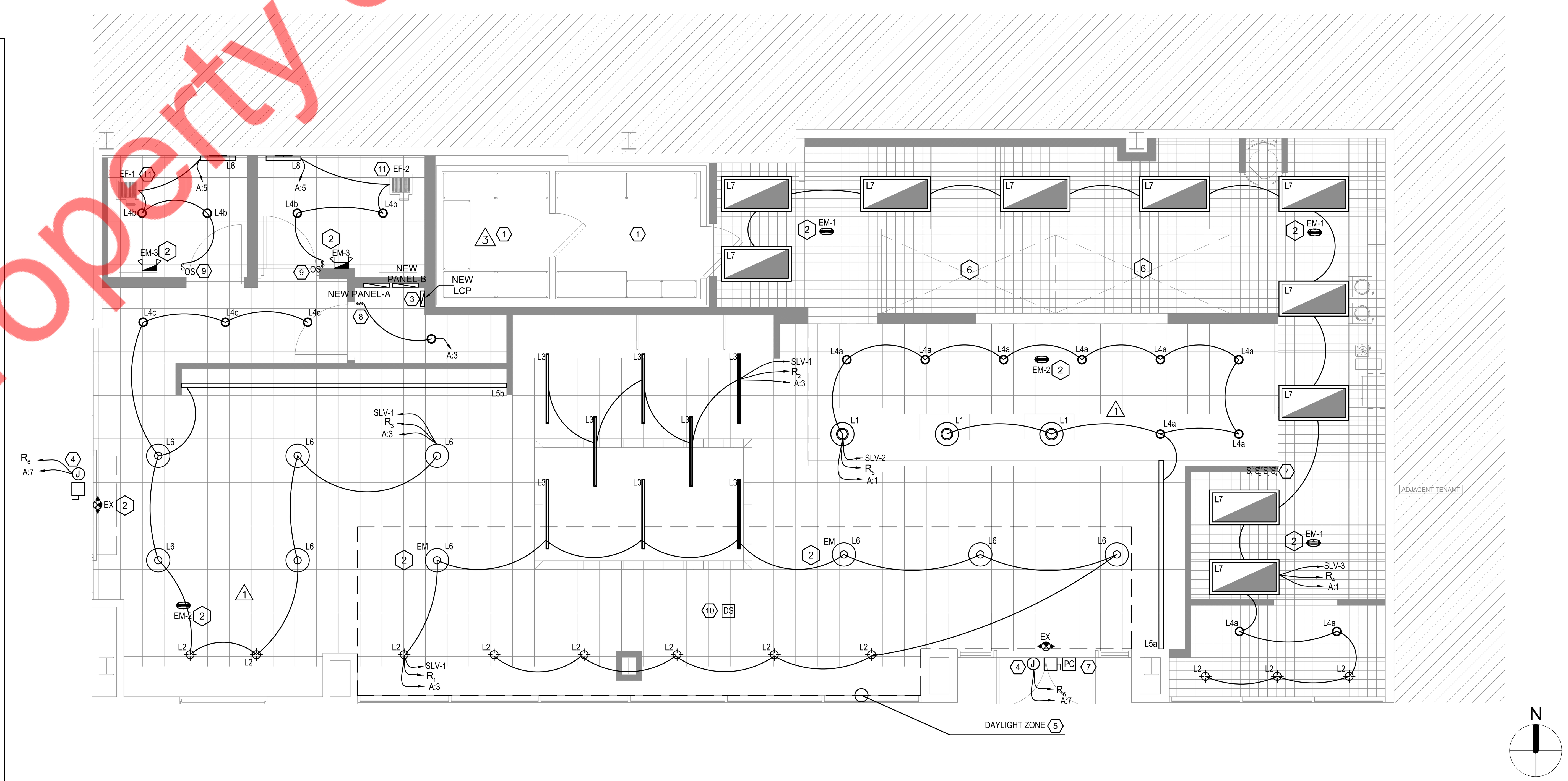
NOTE:
COORDINATE WITH ARCHITECT/OWNER FOR FINAL SELECTION OF EMERGENCY AND EXIT LIGHTS.



LCP RELAY SCHEDULE

RELAY	CIRCUIT	SWITCH	LOCATION	ON/OFF TIME	DAYS	NOTES
R1	A-3	SLV1	DINING AREA - PRIMARY DAYLIGHT ZONE	ON: 7:00 AM OFF: 1:00 AM	DAILY	PHOTOCELL/ DAYLIGHT SENSOR
R2	A-3	SLV1	DINING AREA - NON DAYLIGHT ZONE	ON: 7:00 AM OFF: 1:00 AM	DAILY	
R3	A-3	SLV1	DINING AREA - NON DAYLIGHT ZONE	ON: 7:00 AM OFF: 1:00 AM	DAILY	
R4	A-1	SLV3	BACK OF HOUSE	ON: 7:00 AM OFF: 1:00 AM	DAILY	
R5	A-1	SLV2	SERVICE COUNTER	ON: 7:00 AM OFF: 1:00 AM	DAILY	
R6	A-7	-	EXTERIOR SIGNAGE	ON: 7:00 AM OFF: 1:00 AM	DAILY	PHOTOCELL/ DAYLIGHT SENSOR
R7	A-24	SLV4	RESTROOMS FANS EF-1, EF-2	ON: 7:00 AM OFF: 1:00 AM	DAILY	EXHAUST FANS
R8			SPARE			
R9			SPARE			
R10			SPARE			
R11			SPARE			
R12			SPARE			
R13			SPARE			
R14			SPARE			
R15			SPARE			
R16			SPARE			

LIGHTING CONTROL DETAIL SCALE: N.T.S. 2



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

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Sheet Issue & Revision Log

1	04-23-2024 CITY COMMENTS
3	08-16-2024 CLIENT CHANGES

LIGHTING PLAN

E-3

PANEL: H (EXISTING) — MOUNTING: SURFACE

480Y/277 VOLTS, 3 PHASE, 4 WIRE — PANEL LOCATION: EXTERIOR OF PROJECT SPACE

MAIN CB: 200A — MLO: NA — BUS: 225A MIN, — FED FROM: EXISITNG ELECTRICAL SERVICE

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1			H	8.03		30.12				22.09	O			2
3	3P-40	RTU-1 (EX.)	H	8.03	3#8, #10G, 3/4"C		26.97		3#3, #8G, 1 1/4"C	18.94	O	75 KVA TRANSFORMER - A	3P-100	4
5			H	8.03				25.82		17.79	O			6
7	20	SPARE				0.00						SPARE	20	8
9	20	SPARE					0.00					SPARE	20	10
11	20	SPARE						0.00				SPARE	20	12
13	20	SPARE				20.36				20.36	O			14
15	20	SPARE					18.87		3#3, #8G, 1 1/4"C	18.87	O	75 KVA TRANSFORMER - B	3P-100	16
17	20	SPARE						18.84		18.84	O			18
19	20	SPARE				0.00						SPARE	20	20
21	20	SPARE					0.00					SPARE	20	22
23	20	SPARE						0.00				SPARE	20	24
25	20	SPARE				0.00						SPARE	20	26
27	20	SPARE					0.00					SPARE	20	28
29	20	SPARE						0.00				SPARE	20	30
31	20	SPARE				0.00						SPARE	20	32
33	20	SPARE					0.00					SPARE	20	34
35	20	SPARE						0.00				SPARE	20	36
37	20	SPARE				0.00						SPARE	20	38
39	20	SPARE					0.00					SPARE	20	40
41	20	SPARE						0.00				SPARE	20	42
					TOTAL CONNECTED LOAD (KVA)	50.48	45.83	44.66						

LOAD CLASSIFICATION		CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING	L	3.50	125%	4.38
TOTAL RECEPTACLE LOAD	R	7.56		
RECEPTACLE UPTO 10KVA	R	7.56	100%	7.56
RECEPTACLE OVER 10KVA	R	0.00	50%	0.00
HVAC	H	32.62	100%	32.62
MOTOR	M	7.11	125%	8.89
LARGEST MOTOR	LM	6.78	100%	6.78
KITCHEN/EQUIPMENTS	E	70.71	65%	45.96
REFRIGERATION	C	19.29	100%	19.29
OTHER/MISCILLANEOUS	O	0.18	100%	0.18

PANEL TOTAL LOAD	
TOTAL CONNECTED LOAD	140.97 KVA
TOTAL DEMAND LOAD	125.66 KVA
TOTAL CONNECTED CURRENT	169.77 AMP
TOTAL DEMAND CURRENT	151.32 AMP

PANEL: A (EXISTING) — MOUNTING: SURFACE

208Y/120 VOLTS, 3 PHASE, 4 WIRE — PANEL LOCATION: ELECTRICAL ROOM

MAIN CB: 200A — MLO: NA — BUS: 225A MIN, — FED FROM: TRANSFORMER-A

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	SERVICE COUNTER AND BOH LIGHTING	L	0.70	2#12, #12G, 3/4"C	1.42			2#12, #12G, 3/4"C	0.72	R	GENERAL RECEPTACLES	20	2
3	20	DINING AREA LIGHTS	L	0.60	2#12, #12G, 3/4"C		0.96		2#12, #12G, 3/4"C	0.36	R	RESTROOM RECEPTACLES	20	4
5	20	RESTROOM LIGHTS+EF1+EF2	L	1.00	2#12, #12G, 3/4"C			1.00				SPARE	20	6
7	20	EXTERIOR SIGNAGE	L	1.20	2#12, #12G, 3/4"C	1.74			2#12, #12G, 3/4"C	0.54	R	ROOF RECEPTACLE	20	8
9	20	37A_SINGLE DOOR REACH-IN REFRIGERATOR	C	0.38	2#12, #12G, 3/4"C		2.23		2#12, #12G, 3/4"C	1.85	E	4_HOT WATER DISPENSER	20	10
11	20	54_INDUCTION COOKER-1	E	1.30	2#12, #12G, 3/4"C			2.62	2#12, #12G, 3/4"C	1.32	E	12B_BLENDER	20	12
13	20	54_INDUCTION COOKER-2	E	1.30	2#12, #12G, 3/4"C	2.98			2#12, #12G, 3/4"C	1.68	E	57_MICROWAVE	20	14
15	20	1A_UNDERCOUNTER REFRIGERATOR-1	C	0.35	2#12, #12G, 3/4"C		2.07		2#12, #12G, 3/4"C	1.73	C	37_TWO SECTION DOOR FREEZER-3	20	16
17	20	1A_UNDERCOUNTER REFRIGERATOR-2	C	0.35	2#12, #12G, 3/4"C			0.35				SPARE	20	18
19	20	56_SOUP WARMER-1	E	0.76	2#12, #12G, 3/4"C	0.91			2#12, #12G, 3/4"C	0.15	C	78_FLAT LID DISPLAY FREEZER	20	20
21	20	56_SOUP WARMER-2	E	0.76	2#12, #12G, 3/4"C		2.06		2#12, #12G, 3/4"C	1.30	C	99_ICE MACHINE	20	22
23	2P-40	56A_SOUP WARMER-1	E	2.60	2#8, #10G, 3/4"C			3.10	2#12, #12G, 3/4"C	0.50	E	97_SODA MACHINE	20	24
25			E	2.60		5.20			2#8, #10G, 3/4"C	2.60	C	WALK-IN COOLER	2P-40	26
27	2P-40	56A_SOUP WARMER-2	E	2.60	2#8, #10G, 3/4"C		5.20			2.60	C			28
29			E	2.60				5.80		3.20	C	WALK-IN FREEZER	2P-40	30
31			E	4.20		7.40			2#8, #10G, 3/4"C	3.20	C			32
33	3P-50	31A-DUMPLING GRIDDLE	E	4.20	3#8, #10G, 3/4"C		4.70		2#12, #12G, 3/4"C	0.50	E	HOOD SYSTEM	20	34
35			E	4.20				4.92	2#12, #12G, 3/4"C	0.72	R	MANAGER'S DESK RECEPTACLE	20	36
37	20	37_TWO SECTION DOOR FREEZER-1	C	1.73	2#12, #12G, 3/4"C	2.45			2#12, #12G, 3/4"C	0.72	R	TELEPHONE RECEPTACLES	20	38
39	20	37_TWO SECTION DOOR FREEZER-2	C	1.73	2#12, #12G, 3/4"C		1.73					SPARE	20	40
41	20	SPARE						0.00				SPARE	20	42
					TOTAL CONNECTED LOAD (KVA)	22.09	18.94	17.79						

LOAD CLASSIFICATION		CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING	L	3.50	125%	4.38
TOTAL RECEPTACLE LOAD	R	3.06		
RECEPTACLE UPTO 10KVA	R	3.06	100%	3.06
RECEPTACLE OVER 10KVA	R	0.00	50%	0.00
HVAC	H	0.00	100%	0.00
MOTOR	M	0.00	125%	0.00
LARGEST MOTOR	LM	0.00	100%	0.00
KITCHEN/EQUIPMENTS	E	32.96	65%	21.43
REFRIGERATION	C	19.29	100%	19.29
OTHER/MISCILLANEOUS	O	0.00	100%	0.00

PANEL TOTAL LOAD	
TOTAL CONNECTED LOAD	58.82 KVA
TOTAL DEMAND LOAD	48.15 KVA
TOTAL CONNECTED CURRENT	163.45 AMP
TOTAL DEMAND CURRENT	133.82 AMP

PANEL: B (EXISTING) — MOUNTING: SURFACE

208Y/120 VOLTS, 3 PHASE, 4 WIRE — PANEL LOCATION: ELECTRICAL ROOM

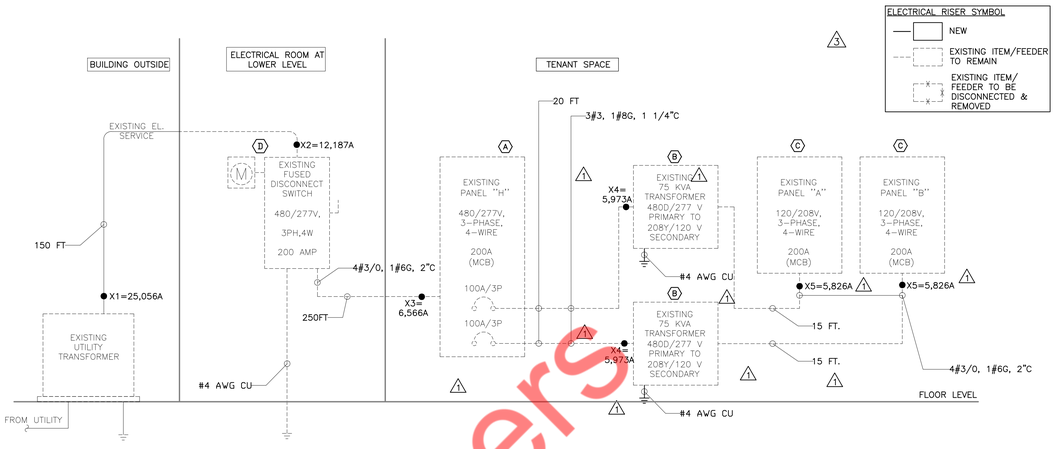
MAIN CB: 200A — MLO: NA — BUS: 225A MIN, — FED FROM: TRANSFORMER-B

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	SPARE				0.99				0.99	M			2
3			M	0.66			1.65		3#12, #12G, 3/4"C	0.99	M	MUA-1	3P-15	4
5	3P-20	KEF-2	M	0.66	3#12, #12G, 3/4"C			1.65		0.99	M			6
7			M	0.66		2.16			2#12, #12G, 3/4"C	1.50	R	SHOW WINDOW RECEPTACLE-1	20	8
9		SPACE					1.50		2#12, #12G, 3/4"C	1.50	R	SHOW WINDOW RECEPTACLE-2	20	10
11	20	AIR CURTAIN-1	M	0.28	2#12, #12G, 3/4"C			2.67	2#8, #10G, 3/4"C	2.39	H	ACCU-1	2P-40	12
13	20	AIR CURTAIN-2	M	0.28	2#12, #12G, 3/4"C	2.67				2.39	H			14
15	20	SPARE					1.50		2#12, #12G, 3/4"C	1.50	R	SHOW WINDOW RECEPTACLE-3	20	16
17			E	4.00				4.18	2#12, #12G, 3/4"C	0.18	O	WATER HEATER	20	18
19	3P-50	34_ELECTRIC NOODLE COOKER-1	E	4.00	3#8, #10G, 3/4"C	4.20			2#12, #12G, 3/4"C	0.20	M	RCP-1	20	20
21			E	4.00			5.75		2#12, #12G, 3/4"C	1.75	E	SOLICE MAKER	20	22
23			M	0.47				2.34	2#12, #12G, 3/4"C	1.87	H	ACCU-2	2P-20	24
25	3P-20	KEF-1	M	0.47	3#12, #12G, 3/4"C	2.34				1.87	H			26
27			M	0.47			0.47					SPARE	20	28
29			E	4.00				4.00				SPARE	20	30
31	3P-50	34_ELECTRIC NOODLE COOKER-2	E	4.00	3#8, #10G, 3/4"C	4.00						SPARE	20	32
33			E	4.00			4.00					SPARE	20	34
35			E	4.00				4.00				SPARE	20	36
37	3P-50	34_ELECTRIC NOODLE COOKER-3	E	4.00	3#8, #10G, 3/4"C	4.00						SPARE	20	38
39			E	4.00			4.00					SPARE	20	40
41	20	SPARE						0.00				SPARE	20	42
					TOTAL CONNECTED LOAD (KVA)	20.36	18.87	18.84						

LOAD CLASSIFICATION		CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING	L	0.00	125%	0.00
TOTAL RECEPTACLE LOAD	R	4.50		
RECEPTACLE UPTO 10KVA	R	4.50	100%	4.50
RECEPTACLE OVER 10KVA	R	0.00	50%	0.00
HVAC	H	8.53	100%	8.53
MOTOR	M	7.11	125%	8.89
LARGEST MOTOR	LM	0.00	100%	0.00
KITCHEN/EQUIPMENTS	E	37.75	65%	24.54
REFRIGERATION	C	0.00	100%	0.00
OTHER/MISCILLANEOUS	O	0.18	100%	0.18

PANEL TOTAL LOAD	
TOTAL CONNECTED LOAD	58.07 KVA
TOTAL DEMAND LOAD	46.63 KVA
TOTAL CONNECTED CURRENT	161.37 AMP
TOTAL DEMAND CURRENT	129.59 AMP

ELECTRICAL PANEL SCHEDULE — SCALE: N.T.S. — 4



RISER DIAGRAM KEYED WORK NOTES

(A) EXISTING 200A (MCB), 480/277V, 3PH, 4W ELECTRICAL PANEL "H" SHALL REMAIN. E.C. SHALL VERIFY EXACT LOCATION OF ELECTRICAL PANEL "H" IN THE FIELD.

(B) EXISTING 75KVA, 480/277V, 3PH DELTA PRIMARY AND 120/208V, 3PH STAR SECONDARY STEP-DOWN TRANSFORMER FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY EXACT LOCATION OF THE SAME WITH THE LANDLORD/OWNER IN THE FIELD.

(C) EXISTING 200A (MCB), 120/208V, 3PH, 4W ELECTRICAL PANEL "A" AND "B" SHALL REMAIN. E.C. SHALL VERIFY EXACT LOCATION OF ELECTRICAL PANEL "A" AND "B" IN THE FIELD.

(D) EXISTING 200A, 480/277V, 3PH, 4W FUSED DISCONNECT AND ELECTRIC METER FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION WITH UTILITY COMPANY/ LANDLORD.

ELECTRICAL GENERAL NOTES

1. ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSE ONLY. E.C TO VERIFY EXACT POWER DISTRIBUTION IN FIELD WITH UTILITY.
2. E.C. SHALL VERIFY THE INCOMING SERVICE AMPERAGE, VOLTAGE, NUMBER OF PHASES, WIRE SIZE AND DISTRIBUTION IN FIELD.
3. E.C. TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
4. E.C. SHALL VERIFY THE EXACT POWER DISTRIBUTION & INCOMING CONNECTION TO ALL PANELS IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND.
5. THE SUPPLY SIDE BONDING JUMPER FROM THE TRANSFORMER SECONDARY TO THE 1ST OVERCURRENT DEVICE IS REQUIRED TO BE #4 AWG MINIMUM AS PER NEC 250.30.A.2

ELECTRICAL RISER DIAGRAM — SCALE: N.T.S. — 1

FEEDER VOLTAGE DROP CALCULATIONS								
Feeder Designation	Source Panel	Distance (ft)	System Voltage (V)	Current (A)	Cable Size (AWG)	Number of Runs	Vd (V)	Vd (%)
DISCONNECT	UTILITY TRANSFORMER	150	480	174.86	3/0	1	3.6	0.8
PANEL-H	DISCONNECT	250	480	174.86	3/0	1	6.0	1.3
TRANSFORMER-A	PANEL H	20	480	71.54	3	1	0.6	0.1
TRANSFORMER-B	PANEL H	20	480	74.49	3	1	0.6	0.1
PANEL-A	TRANSFORMER-A	15	208	165.12	3/0	1	0.3	0.2
PANEL-B	TRANSFORMER-B	15	208	171.93	3/0	1	0.4	0.2

VOLTAGE DROP CALCULATIONS — SCALE: N.T.S. — 2

PANEL SCHEDULE GENERAL NOTES

1. ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. INFORM ENGINEER FOR ANY DISCREPANCIES BEFORE PURCHASE OF ANY EQUIPMENTS/WIRES OR DEVICES.
2. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
3. E.C. SHALL COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTOR/EQUIPMENT MANUFACTURER FORE EXACT ELECTRICAL REQUIREMENTS FOR CABLE AND BREAKERS AND ACCORDINGLY PROVIDE THE ELECTRICAL BREAKER AND CABLES IN FIELD. BASE BID ACCORDINGLY.
4. REFER TO ARCHITECTURAL SHEET FOR EQUIPMENT PLAN & SCHEDULE. E.C. SHALL VERIFY THE BREAKER, CABLE, ELECTRICAL LOAD, PLUG, RECEPTACLES AND CONDUIT REQUIREMENT /SIZES/RATINGS FOR ALL ELECTRICAL EQUIPMENTS WITH EQUIPMENT SUPPLIER/ MANUFACTURER AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS /REQUIREMENTS. BASE BID ACCORDINGLY.
5. CONTRACTOR SHALL PROVIDE THE GFI BREAKER AS CODE REQUIREMENTS AND AS MENTIONED ON POWER PLAN.

EQUIPMENT SCHEDULE

EQUIPMENT TAG#	QUANTITY	EQUIPMENT DESCRIPTION	MANUFACTURER	MODEL NO.
1A	2	WORKTOP SOLID TWO-DOOR REFRIGERATOR WITH CASTERS	TRUE	TUC-48-HC
4	1	HOT WATER DISPENSER	BUNN	HSX
5	1	CUP SEALING MACHINE	XYTRONIC	AL-95
12B	1	BLENDER	VITAMIX	62828
31A	1	DUMPLING GRIDDLE	WISE	FDWGT-S2
34	3	NOODLE COOCKER		WBLL-540CA-S
37	3	TWO SECTION DOOR FREEZER	HOSHIZAKI	F2A-HS
37A	2	UPRIGHT REACH-IN REFRIGERATOR WITH CASTERS	EVEREST	SESRH2
54	2	INDUCTION COOKER	WARING COMMERICAL	WEB300
56A	2	SOUP WARMER	NEMCO	6101A(11QT)
57	1	MICROWAVE OVEN	SHARP	R21LCFS
58	1	ICE MAKER	HOSHIZAKI	KM-660MAJ/B-500SF
78	1	FLAT LID DISPLAY FREEZER	NORLAKE	FTB31-6
97	1	ICE CUBE MACHINE	MANITOWOC	IYT0420A
99	1	SODA MACHINE	CORNELIUS	RENEW ED175

FAULT - X1

$I_{total\ s.c.\ (L-L-L)}$	25056 AMPS
Voltage (L-L)	480 V

CONDUCTOR RUN - C1

LENGTH	150 FT
SIZE	3/0
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - X2

$I_{total\ s.c.\ (L-L-L)}$	12187 AMPS
Voltage (L-L)	480 V

CONDUCTOR RUN - C2

LENGTH	250 FT
SIZE	3/0
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - X3

$I_{total\ s.c.\ (L-L-L)}$	6566 AMPS
Voltage (L-L)	480 V

CONDUCTOR RUN - C3

LENGTH	20 FT
SIZE	3
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - X4

$I_{total\ s.c.\ (L-L-L)}$	5973 AMPS
Voltage (L-L)	480 V

CONDUCTOR RUN - C4

LENGTH	15 FT
SIZE	3/0
QTY (per phase)	1
TYPE	Three Single Conductors
CONDUIT	Steel
WIRE	Cu, 600 V

FAULT - X5

$I_{total\ s.c.\ (L-L-L)}$	5826 AMPS
Voltage (L-L)	480 V

SHORT CIRCUIT CALCULATIONS — SCALE: N.T.S. — 3

Consultant
NY ENGINEERS
382 NE 191ST STREET, SUITE 49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

1	04-23-2024 CITY COMMENTS
2	06-28-2024 CITY COMMENTS
3	08-16-2024 CLIENT CHANGES

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE

E-4

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name: Bafang,		Report Page:	(Page 1 of 8)
Project Address:		Date Prepared:	2024-04-23T04:04:24-04:00

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Arcadia	04	Total Conditioned Floor Area (ft²)	2,114
02	Climate Zone	9	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Restaurant

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Complete Building Method	2114	Complete Building Method	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
Total Area of Work (ft²)	2114			

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)					Compliance Results
	01	02	03	04		05	06	07		08		09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments		**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)				
Conditioned	1,475.5				=	1,475.5	≥ 1,470.4		=	1470.4		COMPLIES
Unconditioned					=		≥		=			
										Controls Compliance (See Table H for Details)		COMPLIES
										Rated Power Reduction Compliance (See Table Q for Details)		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

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F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
L-2	PENDANT LIGHT	No	NA	15	Mfr. Spec	11	No	165	☐	☐
L-3	LINEAR LIGHT	No	NA	26.4	Mfr. Spec	8	No	211.2	☐	☐
L-4a	RECESSED CAN LIGHTS	No	NA	22.2	Mfr. Spec	10	No	222	☐	☐
L-4b	RECESSED CAN LIGHTS	No	NA	22.2	Mfr. Spec	4	No	88.8	☐	☐
L-5b	LINEAR WALL WASH LIGHT RECESSED	No	NA	15	Mfr. Spec	18	Exempt	---	☐	☐
L-6	GENERAL LIGHTS	No	NA	42.3	Mfr. Spec	9	No	380.7	☐	☐
L-7	LED TRODDERS	No	NA	31	Mfr. Spec	10	No	310	☐	☐
L-8	LED LIGHT COVE	No	NA	13	Mfr. Spec	2	Exempt	---	☐	☐
L5a	LINEAR WALLWASH	No	NA	6.6	Mfr. Spec	12	Exempt	---	☐	☐
L4c	RECESSED DOWNLIGHT	No	NA	22.2	Mfr. Spec	3	No	66.6	☐	☐
L-1	PENDANT LIGHT	No	NA	8.7	Mfr. Spec	3	No	26.1	☐	☐
							Total Designed Watts: CONDITIONED SPACES	1,470.4		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Field Inspector	
		Pass	Fail
NA < 4,000W subject to multilevel	See Area/Space Level Controls	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
Dining Area	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Restroom	Restaurant	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
kitchen/BOH	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Hallway	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Storage	Restaurant	Readily Accessible	NA: Enclosed area <100SF	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
					13				
					Plan Sheet Showing Daylit Zones:				

STATE OF CALIFORNIA
Indoor Lighting
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Project Address:		Date Prepared:	2024-04-23T04:04:24-04:00

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Dining Area	Restaurant	0.65	1,300	845	No	No
Restroom	Restaurant	0.65	150	97.5	No	No
kitchen/BOH	Restaurant	0.65	510	331.5	No	No
Hallway	Restaurant	0.65	280	182	No	No
Storage	Restaurant	0.65	30	19.5	No	No
		TOTALS:	2,270	1,475.5	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

STATE OF CALIFORNIA
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N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
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Project Address:		Date Prepared:	2024-04-23T04:04:24-04:00

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Dining Area; Restroom; kitchen/BOH; Hallway; Storage

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name: Bafang,		Report Page:	(Page 8 of 8)
Project Address:		Date Prepared:	2024-04-23T04:04:24-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: TRAVUTH MOCK	Documentation Author Signature:
Company: Empire 3 Consulting Engineers	Signature Date:
Address: 3711 Long Beach Blvd. Suite 9058	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Long Beach, CA. 90807	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: TRAVUTH MOCK	Responsible Designer Signature:
Company: Empire 3 Consulting Engineers	Date Signed:
Address: 3711 Long Beach Blvd. Suite 9058	License:
City/State/Zip: Long Beach, CA. 90807	Phone:

Consultant
NY ENGINEERS
382 NE 191ST STREET, SUITE
49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

1	04-23-2024 CITY COMMENTS

ENERGY COMPLIANCE

E-5

PLUMBING SYMBOLS LIST

- CD — CONDENSATE PIPING
- VENT PIPING
- FILTERED WATER PIPING
- COLD WATER PIPING
- EX.CW — EXISTING COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RETURN PIPING
- SAN — UNGD. SANITARY PIPING
- GW — UNGD. GREASE WASTE PIPING
- SAN — EXISTING UNGD. SANITARY PIPING
- GW — EXISTING UNGD. GREASE WASTE PIPING
- G — GAS PIPING
- EX.G — GAS PIPING
- P-TRAP
- PIPE UP
- PIPE DROP
- PLUGGED OUTLET/CLEANOUT
- SHUT-OFF VALVE
- CHECK VALVE
- BACK FLOW PREVENTER
- SLEEVE
- GAS PLUG VALVE
- BALANCING VALVE
- POINT OF NEW CONNECTION
- POINT OF DISCONNECTION

PLUMBING ABBREVIATIONS

FCO	FLOOR CLEAN OUT
FW	FILTERED WATER
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
GW	GREASE WASTE
V	VENT
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
EX./(E)	EXISTING
G	GAS
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
BFP	BACK FLOW PREVENTER
WH	WATER HEATER
VTR	VENT THROUGH ROOF
UR	URINAL
FS	FLOOR SINK
HD	HUB DRAIN
TP	TRAP PRIMER
RTU	ROOF TOP UNIT
MUA	MAKE UP AIR UNIT

PLUMBING DRAWING LIST

NON-RESIDENTIAL ENERGY CONSERVATION NOTES

1. PIPING INSULATION SHALL COMPLY WITH CALIFORNIA ENERGY CODE BUILDING EFFICIENCY STANDARD.
2. ALL PLUMBING EQUIPMENT SHALL BE CERTIFIED PER CALIFORNIA BUILDING EFFICIENCY STANDARD.
3. THE MANDATORY MEASURES OF THE ENERGY EFFICIENCY STANDARD HAVE BEEN REVIEWED. THE PROJECT DESIGN, DRAWINGS AND CALCULATIONS COMPLY WITH THESE CALCULATIONS.

PLUMBING GENERAL NOTES:

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER & GAS DISTRIBUTION PIPING SYSTEMS) SHALL COMPLY WITH 2022 CALIFORNIA PLUMBING CODE.
2. DRAWING AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES AT POINT OF CONNECTION BEFORE START OF WORK.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES AND KITCHEN EQUIPMENT.
5. ALL UNDERGROUND SHUT-OFF VALVES OUTSIDE OF BUILDING SHALL BE IN CONCRETE BOXES WITH THE NAME OF THE SERVICE CASTED IN THE COVER.
6. ALL PLUMBING FIXTURES AND EQUIPMENT SHALL HAVE ISOLATING VALVES ON WATER SUPPLY LINES. VALVES SHALL BE LINE SIZED UNLESS NOTED OTHERWISE.
7. ALL PLUGGED TEES AND PLUGGED WYES SHALL BE LINE SIZED UNLESS NOTED OTHERWISE.
8. ALL PIPING PENETRATING WALLS, CEILING, AND FLOOR SHALL BE ISOLATED FROM BUILDING STRUCTURES WITH RESILIENT SEALS.
9. RUN ALL INDOOR PLUMBING PIPING CONCEALED IN WALL OR ABOVE CEILING, UNLESS NOTED OTHERWISE.
10. PROVIDE DIELECTRIC UNIONS AT BIMETALLIC PIPE JOINTS.
11. PROVIDE CHROME PLATED CAPS FOR WALL CLEANOUTS.
12. SANITARY & GREASE WASTE LINE SHALL NOT BE SLOPED LESS THAN 1/4" PER FT. IN THE DIRECTION OF FLOW.
13. ALL VALVES AND COCKS SHALL BE LOCATED TO BE READILY ACCESSIBLE. WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS OR CEILING, ACCESS PANELS SHALL BE INSTALLED.
14. WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE BE CONFIGURED TO PROTECT AGAINST CONTACT. PROTECTORS, INSULATORS, OR BOTH SHALL COMPLY WITH ASME A112.18.9.
15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FT. FROM OR AT LEAST 3 FT. ABOVE ANY WINDOW, DOOR, OPENING AIR INTAKE OR VENT SHAFT, NOR LESS THAN 3 FT. FROM ANY LOT LINE IN ANY DIRECTION; ALLEY AND STREET EXCEPTED.
16. ALL REQUIRED CLEANOUTS SHALL BE INSTALLED PER SECTION 707 & 719 OF 2022 CALIFORNIA PLUMBING CODE.
17. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENT.
18. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.10 OF THE 2022 CALIFORNIA PLUMBING CODE.
19. PROVIDE NON-LEAD SOLDER FOR POTABLE WATER PIPING JOINTS AND CONNECTION.
20. MAX. HOT WATER TEMPERATURE TO PUBLIC LAVATORIES TO BE MIN. 110 DEG F & MINIMUM TEMPERATURE TO KITCHEN FIXTURES TO BE 120 DEG F.
21. FLOOR DRAIN OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH TRAP PRIMING. TRAP PRIMING DEVICES SHALL BE ACCESSIBLE FOR MAINTENANCE (SECTION 1007 OF 2022 CALIFORNIA PLUMBING CODE).
22. COMBUSTIBLE PIPING INSTALLATIONS SHALL BE INSTALLED PER CHAPTER 14 OF 2022 CALIFORNIA PLUMBING CODE FOR FIRESTOP PROTECTION.
23. PROPOSED ADDITION, ALTERATION OR IMPROVEMENT REQUIRES THAT ALL NON-COMPLIANT FIXTURES BE REPLACED WITH WATER CONSERVING PLUMBING FIXTURE.
24. CONDENSATE DRAIN ARE TRAPPED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTION.
25. PROTECT RECEPTOR ON ROOF OR OUTSIDE OF THE BUILDING FROM RAIN WATER BY ELEVATING THE RIM TWO INCHES ABOVE ADJACENT SURFACE.
26. PUBLIC LAVATORIES SHALL HAVE A WATER TEMPERING DEVICE THAT COMPLIES WITH ASSE 1070 OR CSA B125.3. WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL TO MEET THIS PROVISION.
27. INSULATION OF DOMESTIC HOT WATER PIPING SHALL BE IN ACCORDANCE WITH SECTION 609.12 OF 2022 CALIFORNIA PLUMBING CODE.
28. INSULATION OF LAVATORY TAILPIPE AND HOT WATER LINES SHALL BE INSULATED OR COVERED SHALL BE IN ACCORDANCE WITH SECTION 118-606.5 OF CALIFORNIA PLUMBING CODE.

KITCHEN EQUIPMENT SCHEDULE

ITEM	PLUMBING FIXTURE	CONNECTION SIZE – INCHES							OTHER PARAMETERS	REMARKS
		P-TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	FILTER WATER	THERMOSTATIC MIXING VALVE	GAS SIZE	GAS LOAD (BTU/HR)	
3	DIPPER WELL SINK	–	–	–	–	–	½"	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
4	HOT WATER DISPENSER	–	–	–	–	–	½"	–	–	–	
7	DROP-IN ICE BIN	–	–	–	–	–	–	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
8	DROP-IN DUMP SINK	2"	2"	2"	½"	½"	–	PROVIDE	–	–	–
9	HAND SINK	2"	2"	2"	½"	½"	–	PROVIDE	–	–	–
9A	HAND SINK	2"	2"	2"	½"	½"	–	PROVIDE	–	–	–
14	GLASS FILLER	–	–	–	–	–	½"	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
17	1-COMPARTMENT SINK	–	–	2"	–	¾"	¾"	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
34	NOODLE COOKER	–	–	–	–	(#2) ½"	–	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
36	MJ40 FRYER	–	–	–	–	–	–	–	1"	110000	–
40	WATER FILTER	–	–	–	1"	–	1"	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
55/91	STOCK POT RANGE & FAUCET	–	–	–	–	½"	–	–	1¼"	180000	
56A	STEAM TABLE	–	–	–	½"	–	–	–	–	–	INDIRECT WASTE SPILLS INTO FLOOR SINK WITH APPROVED AIR GAP.
59	3-COMP SINK	–	–	–	¾"	¾"	–	–	–	–	INDIRECT WASTE. FROM 3-COMP SINK SPILLS INTO FLOOR SINK
60	MOP SINK	2"	2"	2"	¾"	¾"	–	–	–	–	–
97	ICE CUBE MACHINE	–	–	–	–	–	½"	–	–	–	I.W. FROM EQUIPMENT SPILLS INTO FLOOR SINK. PROVIDE BFP TO WATER SUPPLY LINES.
99	SODA MACHINE	–	–	–	–	–	½"	–	–	–	I.W. FROM EQUIPMENT SPILLS INTO FLOOR SINK. PROVIDE BFP TO WATER SUPPLY LINES.

NOTE: CONTRACTOR TO COORDINATE WITH KITCHEN CONTRACTOR FOR ALL KITCHEN EQUIPMENT SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

PLUMBING FIXTURE SCHEDULE

ITEM	PLUMBING FIXTURE	CONNECTION SIZE – INCHES						REMARKS
		P-TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE	
WC	WATER CLOSET	–	2-1/8" (6)	2"	3/4"	–	–	FLUSH VALVE WC BOWL MODEL: KOHLER K-96057 (4)
LAV	LAVATORY	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE	–
FFD	FUNNEL FLOOR DRAIN	3"	3"	2"	–	–	–	–
HD	HUB DRAIN	2"	2"	2" (6)	–	–	–	–
FD	FLOOR DRAIN	2"	2"	2"	–	–	–	–
FS	12"x12" FLOOR SINK	2"	2"	2"	–	–	–	FLOOR SINK MUST BE CAPABLE OF ACCOMMODATING 140 DEG F WATER

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS.

HOT WATER HEATER SCHEDULE

TAG	MAX INPUT (MBH)	FIXTURES SERVING	QUANTITY	CAPACITY GAL.	RECOVERY @ 90 DEG F GPH	TYPE	THERMAL EFFICIENCY %	MANUFACTURER & MODEL NO.	REMARKS
WH	130	3-COMP SINK, 1-COMP SINK, MOP SINK, HAND SINK, LAVATORY, DUMPLING BOILER.	1	34	165	GAS STORAGE TYPE WATER HEATER	96	A.O. SMITH POLARIS BSS-130	-DIMENSIONS 22" DIA X 48.5" HEIGHT -MOUNTED ABOVE MOP SINK

THERMOSTATIC MIXING VALVE SCHEDULE

TAG	SERVING	SERVICE	CAPACITY RANGE (GPM)		TEMP. RANGE (°F)		MANUFACTURER & MODEL NO.	REMARKS
			MIN.	MAX.	MIN.	MAX.		
TMV	HAND SINK, LAVATORY	HOT WATER	0.25	2.25	80	120	WATTS MODEL LFUSG-B M2	-ASSE 1070 LISTED

EXPANSION TANK SCHEDULE

TAG	LOCATION	SERVICE	CAPACITY (GALLONS)	MANUFACTURER & MODEL	DIMENSIONS (DIA X HEIGHT)	WEIGHT (LBS)
ET	REFER FLOOR PLANS	HW	2.0	THERM-X-TROL ST-5	8" X 13"	5

RECIRCULATING PUMP SCHEDULE

TAG	SERVICE	QTY	GPM	TOTAL HEAD FT.	MOTOR HP	MANUFACTURER & REMARKS
RCP	HOT WATER RETURN RECIRCULATION	1	2	10	0.115	GRUNDFOS UPS 15-18 BUC5 W/AQUASTAT + TIMER

PIPE MATERIAL SCHEDULE

SERVICE	UNDERGROUND	ABOVE GROUND
DOMESTIC WATER	HARD DRAWN COPPER TUBE TYPE "K" OR "L"	HARD DRAWN COPPER TUBE TYPE "L". SEE NOTE 1
SANITARY WASTE	"NO-HUB" CAST IRON OR ABS. SEE NOTE 2.	GALVANIZED STEEL, SCH 40, "NO-HUB" CAST IRON OR ABS. SEE NOTE 2.
INDIRECT DRAIN	–	HARD DRAWN COPPER TUBE TYPE "M".
GAS	–	BLACK STEEL, SCH 40

NOTE:
1. ABS MAY BE USED ONLY AFTER OWNER & LOCAL AUTHORITY APPROVAL.
2. CPVC OR PEX MAY BE USED ONLY AFTER OWNER & LOCAL AUTHORITY APPROVAL.

BACKFLOW PREVENTER SCHEDULE

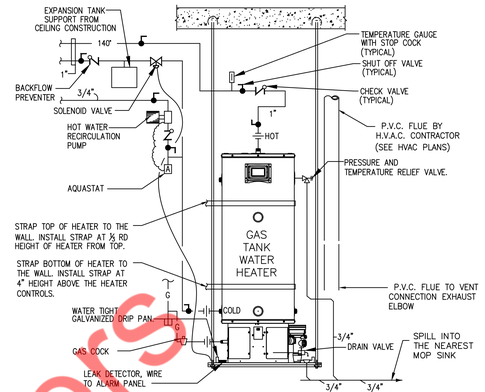
TAG	LOCATION	MODEL	COMPLIES WITH ASSE CODE
BFP-1	NOODLE COOKER, STOCK POT RANGE, STEAM TABLE	WATTS SD3 DUAL CHECK VALVE	1022
BFP-2	ICE MACHINES, DIPPER WELL, WATER FILTER, SODA MACHINE	WATTS LF9D DUAL CHECK VALVE	1012
RPZ	AFTER WATER METER	WATTS LF009 REDUCED PRESSURE ZONE	1013

NOTE:
1. VERIFY BACKFLOW VALVE REQUIREMENTS FOR ALL EQUIPMENT WITH AUTHORITIES HAVING JURISDICTIONS PRIOR TO INSTALLATION.
2. ENSURE ISOLATION VALVE BEFORE AND AFTER BFP FOR MAINTENANCE.

DOMESTIC HOT & COLD WATER PIPE SIZING CALCULATIONS PER 2022 CPC APPENDIX "A"

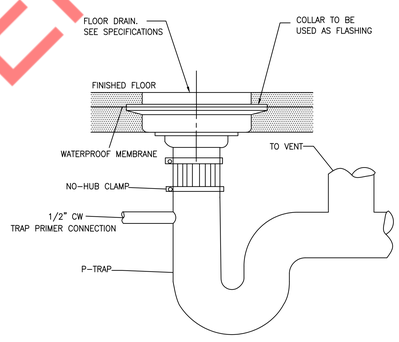
FIXTURE/EQUIPMENT	QTY.	WSFU/FIXT. (2022 UPC TABLE A 103.1)			TOTAL WSFU			REMARKS
		COLD	HOT	TOTAL	COLD	HOT	TOTAL	
WATER CLOSET	2	5		5	10	0	10	
URINAL	1	4		4	4	0	4	
LAVATORY	2	0.75	0.75	1	1.5	1.5	2	
HAND SINK	4	0.75	0.75	1	3	3	4	
DROP SINK	1	0.75	0.75	1	0.75	0.75	1	
MOP SINK	1	2.25	2.25	3	2.25	2.25	3	
3-COMP SINK	1	1.125	1.125	1.5	1.125	1.125	1.5	
1-COMP SINK	1	1.125	1.125	1.5	1.125	1.125	1.5	
MISC. FILTER WATER EQUIPMENT	5	0.5		0.5	2.5	0	2.5	ASSUMED EQUIVALENT TO DRINKING FOUNTAIN.
MISC. HOT WATER EQUIPMENT	7		0.5	0.5	0	3.5	3.5	ASSUMED EQUIVALENT TO DRINKING FOUNTAIN.
MAKE-UP AIR UNIT	1	2.5		2.5	2.5	0	2.5	ASSUMED EQUIVALENT TO HOSE BIB.
TOTAL WSFU					28.75	13.25	35.5	
TOTAL GPM					40	25	44	WSFU TO GPM PER 2022 CPC CHART A 103.1(2)

AS PER 2022 CPC CHART A 105.1(1) FOR TYPE L COPPER PIPE, 6-8 PSI FRICTION HEAD PER 100 FEET, 8 FT/SEC VELOCITY & ABOVE GPM RATES, MIN. REQUIRED SIZE FOR PIPE WILL BE 1" FOR HOT WATER & 1-1/2" FOR COLD WATER.

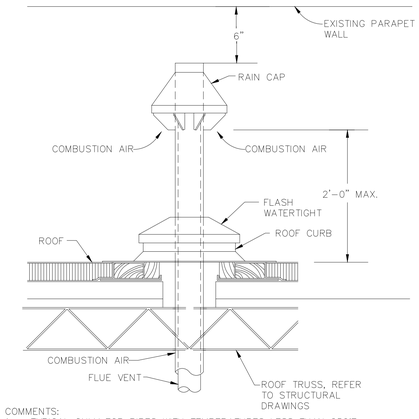


NOTES:
1. CONTRACTOR TO CO-ORDINATE WITH STRUCTURAL ENGINEER FOR WATER HEATER MOUNTING REQUIREMENTS.
2. STRAP HEATER TO WALL PER 2022 CPC SECTION 507.2.
3. PROVIDE BACKFLOW PREVENTER ON CW LINE BEFORE THE THERMAL EXPANSION TANK OR HWR CONNECTION.

1 / P-1 HOT WATER HEATER INSTALLATION DETAIL
N.T.S

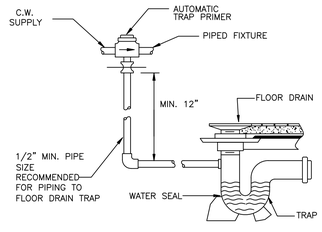


3 / P-1 FLOOR DRAIN DETAIL
N.T.S

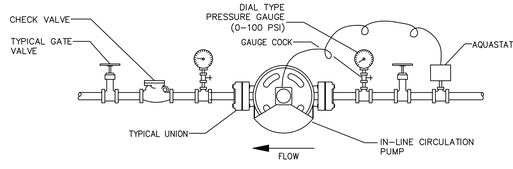


COMMENTS:
1. TYPICAL ONLY FOR PIPES WITH TEMPERATURES LESS THAN 250°F.
2. ROOF PENETRATION SHALL BE WEATHERPROOF.
3. PITCH FLUE PIPING BACK TOWARDS UNIT.
4. THE FLUE VENT SHOULD BE 6" BELOW PARAPET.

2 / P-1 FLUE VENT DETAIL
N.T.S

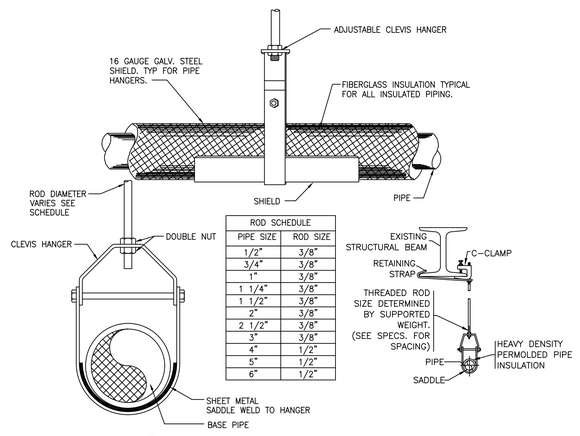


4 / P-1 FLOW CONTROLLED TRAP PRIMER DETAIL
N.T.S



NOTES:
1. INSTALL RECIRCULATING PUMP VERTICALLY. IF PUMP IS TO BE INSTALLED HORIZONTALLY, PROVIDE AN AUTOMATIC AIR VENT (AAV).
2. REFER HOT WATER HEATER INSTALLATION DETAIL TO SEE HOW PUMP WILL CONNECT TO HOT WATER SYSTEM.

5 / P-1 INLINE RECIRCULATING PUMP DETAIL
N.T.S



ROD SCHEDULE

PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"

6 / P-1 HANGER DETAIL
N.T.S

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BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

1	04-08-2024	PERMIT COMMENTS
2	07-02-2024	CLIENT CHANGES
6	03-25-2025	SITE COORDINATION

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

PLUMBING LEGENDS, NOTES, DETAILS & SCHEDULES

P-1

WATER HEATER SIZING:

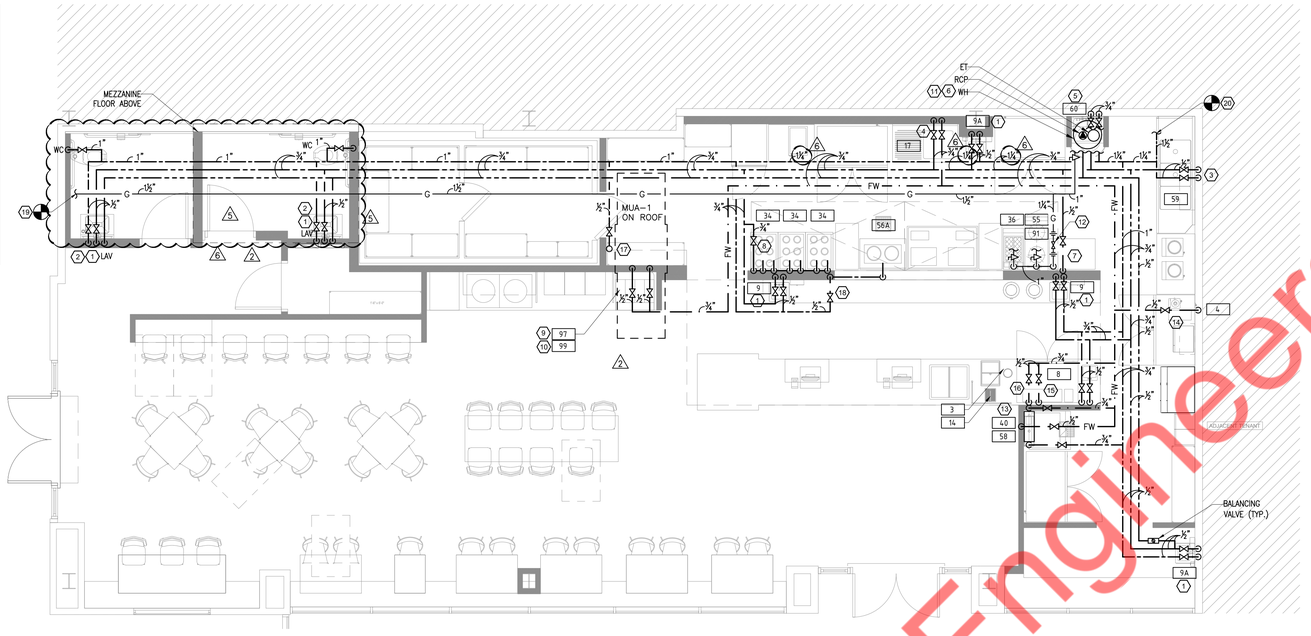
GPH VALUES FROM APPENDIX I: GUIDELINES FOR SIZING WATER HEATERS DOCUMENT PREPARED BY CALIFORNIA CONFERENCE OF DIRECTORS OF ENVIRONMENTAL HEALTH

FIXTURE	QUANTITY	GPH PER FIXTURE	TOTAL GPH
HAND SINK	4	5	20
LAVATORY	2	5	10
DROP SINK	1	5	5
3 COMP SINK	1	57	57
1 COMP SINK	1	5	5
MOP SINK	1	15	15
WOK RANGE FAUCET	7	5	35
TOTAL			147

CONSIDERING A GROUND WATER TEMPERATURE OF 57 DEG F & A MAX TEMP OF 140 DEG F, TEMP RISE = 140−57 = 83 DEG F.
ASSUMING AN OPERATING EFFICIENCY OF 80%.

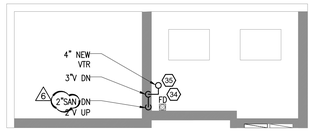
BTU/HR REQUIRED = (147 X 83 X 8.33)/0.8 = 127,042.9

SELECTED WATER HEATER:
A.O. SMITH BSS−130. GAS CONSUMPTION: 130000 BTU/HR
STORAGE: 34 GALLONS, RECOVERY 165 GPH @ 90 DEG F.



PLUMBING WATER & GAS FLOOR PLAN | SCALE: 1/4"=1'-0" | 1

NOTE: NO WATER SUPPLY SERVICE TO MEZZANINE FLOOR.



PLUMBING SANITARY & VENT MEZZANINE FLOOR PLAN | SCALE: 1/4"=1'-0" | 2

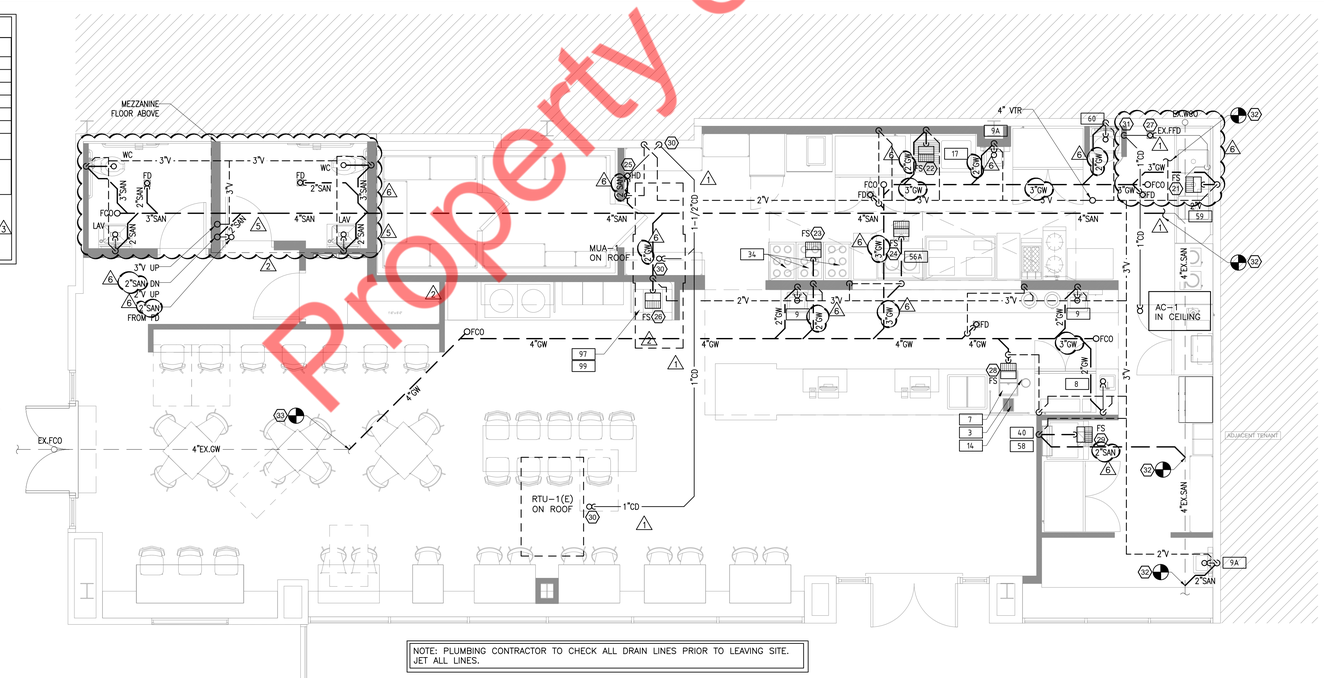
GREASE INTERCEPTOR SIZING:

DFU VALUES FROM CPC 2022 TABLE 702.1

FIXTURE	QUANTITY	DFU PER FIXTURE	TOTAL DFU
HAND SINK	3	1	3
MOP SINK	1	3	3
DROP SINK	1	1	1
FLOOR SINK	5	6	30
FLOOR DRAIN	3	6	18
TOTAL DRAINAGE FIXTURE UNITS (DFU) CONNECTED TO GREASE INTERCEPTOR			55
AS PER 2022 CALIFORNIA PLUMBING CODE TABLE 1014.3.6, MINIMUM SIZE OF GRAVITY GREASE INTERCEPTOR REQUIRED			1250

CAPACITY OF NEW GREASE INTERCEPTOR: 1250 GALLONS.

REFER SHEET P−2.1 OF CORE & SHELL SET FOR EXACT LOCATION.
CONTRACTOR TO VERIFY CONDITION OF EXISTING GREASE INTERCEPTOR.



NOTE: PLUMBING CONTRACTOR TO CHECK ALL DRAIN LINES PRIOR TO LEAVING SITE. JET ALL LINES.

PLUMBING SANITARY & VENT FLOOR PLAN | SCALE: 1/4"=1'-0" | 3

PLUMBING KEYED NOTES:

1. PROVIDE HAND SINKS (TAG #9 & #9A), DROP SINK (TAG #14) & LAVATORIES (LAV) WITH 1/2" CW & HW LINES. ALSO PROVIDE THEM WITH THERMOSTATIC MIXING VALVE. SET TEMPERATURE TO 105 DEG F.
2. PROVIDE BALANCING VALVE ON 1/2" HWR LINE TO LAVATORY. CONNECT HWR LESS THAN 2' FROM THE FIXTURE.
3. PROVIDE 3/4" CW & HW LINE TO 3 COMP SINK (TAG #59).
4. PROVIDE 3/4" FW & HW LINE TO 1 COMP SINK (TAG #17).
5. PROVIDE 3/4" CW & HW LINE TO MOP SINK (TAG #60).
6. PROVIDE WATER HEATER (WH) ABOVE MOP SINK. PROVIDE HEATER WITH EXPANSION TANK (ET) & RE−CIRCULATION PUMP (RCP). INSTALL HEATER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REFER SHEET P−1 FOR INSTALLATION DETAILS & EQUIPMENT SCHEDULE.
7. PROVIDE 1/2" HW TO WOK RANGE FAUCET (TAG #91). PROVIDE CONNECTION IN ACCORDANCE WITH EQUIPMENT VENDOR'S INSTRUCTIONS. PROVIDE BACKFLOW PREVENTER BFP−1 TO WATER LINES. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
8. PROVIDE #2 1/2" HW LINE TO EACH NOODLE COOKER (TAG #34). PROVIDE BACKFLOW PREVENTER BFP−1 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
9. PROVIDE 1/2" FW LINE TO ICE MACHINE. PROVIDE BACKFLOW PREVENTER BFP−2 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
10. PROVIDE 1/2" FW LINE TO SODA MACHINE. PROVIDE BACKFLOW PREVENTER BFP−1 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
11. ROUTE GAS PIPE DOWN TO WATER HEATER.
12. PROVIDE ANSUL VALVE SIZED FOR 500 CFH. DROP 1−1/4" GAS DOWN TO MANIFOLD. RUN NEAR FLOOR TIGHT TO WALL AND EXTEND TO EQUIPMENT (WITH QUICK DISCONNECT HOSE ASSEMBLY).
13. CONTRACTOR TO COORDINATE WITH VENDOR FOR EXACT MOUNTING LOCATION OF WATER FILTRATION SYSTEM (PENTAIR−EVERPURE EV9329−54).
14. PROVIDE 1/2" FW LINE TO HOT WATER DISPENSER (TAG #4). PROVIDE BACKFLOW PREVENTER BFP−2 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
15. ROUTE ALONG TABLE AND PROVIDE 1/2" FW TO DIPPER WELL SINK (TAG #3). PROVIDE BACKFLOW PREVENTER BFP−2 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
16. ROUTE ALONG TABLE & PROVIDE 1/2" FW TO GLASS FILLER (TAG #14). PROVIDE BACKFLOW PREVENTER BFP−2 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
17. RAISE 1/2" CW PIPE THROUGH ROOF & CONNECT TO MAKE−UP AIR UNIT (MUA). PROVIDE WITH ISOLATION VALVE & BFP−1. CONTRACTOR TO VERIFY THE EXACT LOCATION OF WATER CONNECTION TO MAU WITH HVAC CONTRACTOR PRIOR TO INSTALLATION OF WATER NETWORK.
18. ROUTE ALONG TABLE & PROVIDE 1/2" CW TO SOUP WARMER (TAG #56A). PROVIDE BACKFLOW PREVENTER BFP−1 TO WATER LINE. REFER BACKFLOW PREVENTER SCHEDULE ON SHEET P−1 FOR DETAILS.
19. CONNECT TO GAS LINE COMING FROM CORE & SHELL TIE−IN POINT. REFER TO SHEET P−2 ON CORE & SHELL SET FOR CONTINUATION.
20. CONNECT TO 1−1/2" CW LINE COMING FROM CORE & SHELL TIE−IN POINT. REFER SHEET P−2 ON CORE & SHELL SET FOR CONTINUATION.
21. ROUTE INDIRECT WASTE FROM EXISTING/RELOCATED 3 COMP SINK TO 3" SIZE FLOOR SINK (FS) WITH APPROVED AIR GAP.
22. ROUTE INDIRECT WASTE FROM 1 COMP SINK (TAG #17) TO FLOOR SINK (FS) WITH APPROVED AIR GAP.
23. ROUTE INDIRECT WASTE FROM #2 NOODLE COOKERS (TAG #33) TO FLOOR SINK (FS) WITH APPROVED AIR GAP.
24. ROUTE INDIRECT WASTE FROM STEAM TABLE (TAG #56A) TO FLOOR SINK (FS) WITH APPROVED AIR GAP.
25. ROUTE CONDENSATE DRAIN LINE FROM HVAC UNITS ABOVE WALK−IN COOLER TO HUB DRAIN (HD) WITH APPROVED AIR GAP.
26. ROUTE INDIRECT WASTE FROM SODA MACHINE (TAG #99) & ICE MACHINE (TAG #97) TO FLOOR SINK (FS) WITH APPROVED AIR GAP.
27. ROUTE INDIRECT WASTE FROM WATER HEATER (WH) TO 4" SIZE EXISTING FUNNEL FLOOR DRAIN (EX.FFD) WITH APPROVED AIR GAP. DO NOT DISCHARGE TO MOP SINK (TAG #60) AS MOP SINK IS CONNECTED TO GREASE INTERCEPTOR.
28. ROUTE INDIRECT WASTE FROM DIPPER WELL SINK (TAG #3), DROP−IN ICE BIN (TAG #7) & GLASS FILLER (TAG #14) TO FLOOR SINK WITH APPROVED AIR GAP.
29. ROUTE INDIRECT WASTE FROM WATER FILTER (TAG #40) & ICE MAKER (TAG #58) TO FLOOR SINK WITH APPROVED AIR GAP.
30. ROUTE 1" CONDENSATE DRAIN DOWN FROM RTU UNITS & 1−1/2" CONDENSATE DRAIN DOWN FROM MUA UNIT ON ROOF TO FALSE CEILING LEVEL. PROVIDE P−TRAP AT EACH UNITS.
31. ROUTE 1" CONDENSATE DRAIN PIPING DOWN TO HUB DRAIN(HD) / EXISTING HUB DRAIN(EX.HD) WITH APPROVED AIR GAP.
32. CONNECT NEW SANITARY PIPE TO CORE & SHELL SANITARY TIE−IN POINT. REFER SHEET P−2 ON CORE & SHELL SET FOR CONTINUATION.
33. CONNECT NEW GREASE WASTE PIPE TO CORE & SHELL GREASE TIE−IN POINT. REFER SHEET P−2 ON CORE & SHELL SET FOR CONTINUATION.
34. ROUTE 1" CONDENSATE WASTE FROM AC−2 TO FLOOR DRAIN ON MEZZANINE FLOOR.
35. PROVIDE NEW 4" VTR. AVOID CLASH WITH ANY ELECTRICAL CABLES OR EQUIPMENT. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

CONTRACTOR NOTE:

1. IT IS RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT, LANDLORD OR TENANT OF ANY DISCREPANCIES ENCOUNTERED ON THE PLANS OR IN EXISTING SITE CONDITIONS PRIOR TO SUBMISSION OF BID.
2. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK.
3. THE BASE BID SHALL REFLECT MODIFICATIONS TO SYSTEMS AND DEVICES AS REQUIRED BY STATE, LOCAL AND FEDERAL CODES WHETHER INDICATED OR NOT ON CONTRACT DOCUMENTS.
4. THE SUBMISSIONS OF A BID WILL BE EVIDENCE THAT SUCH AS EXAMINATION AND COMPLIANCE WITH THE GOVERNING CODES/REQUIREMENTS HAS BEEN MADE.
5. LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORSEEN HAD AND EXAMINATION AND CODE/REQUIREMENTS REVIEW BEEN MADE, WILL NOT BE ALLOWED.
6. GREASE & SANITARY U/G PIPES SHOWN ON FLOOR PLAN ARE SUSPENDED IN BASEMENT CEILING SPACE BEFORE PROJECT, THEY ARE NOT BURIED OR IN SLAB.
7. FLOOR CLEAN OUT SIZE MUST BE MINIMUM 2½" FOR 3" PIPE & 3½" FOR 4" PIPE PER 2022 CPC TABLE 707.1. IF ALLOWED BY LANDLORD, PROVIDE HORIZONTAL CLEAN OUT INSTEAD TO AVOID FLOOR PENETRATION.

SPRINKLER NOTE:

SPRINKLER MODIFICATIONS TO BE MADE UNDER SEPARATE PERMIT AND COVER.

SERVICE REQUIREMENTS:

SERVICE	OLD F.U.	ADDED F.U.	TOTAL F.U.
DOMESTIC WATER	0	35.5	35.5
SANITARY SEWER	0	51	51
GREASE WASTE	0	55	55

WATER F.U. VALUES PER TABLE A103.1 OF 2022 CALIFORNIA PLUMBING CODE.
SANITARY & GREASE WASTE F.U. VALUES PER TABLE 702.1 OF 2022 CALIFORNIA PLUMBING CODE.

FOR GAS SERVICE:

OLD GAS DEMAND: 0 MBH
NEW GAS DEMAND: 420 MBH
INCREASE IN DEMAND: 420 MBH.

SERVICE	CAPACITY	MIN. REQ SIZE OF MAIN	SIZE OF MAIN
DOMESTIC WATER	25 GPM	1−1/4"	1−1/2"
SANITARY SEWER	51 F.U.	4"	4"
GREASE WASTE	55 F.U.	4"	4"
NATURAL GAS *	420 MBH	2"	2"

* REFER GAS SCHEDULE & SIZING INFO ON SHEET P−3. SIZING IS BASED ON DESIGN ASSUMPTIONS, CONTRACTOR TO VERIFY THE SAME. RE−SIZE GAS LINE IF REQUIRED.

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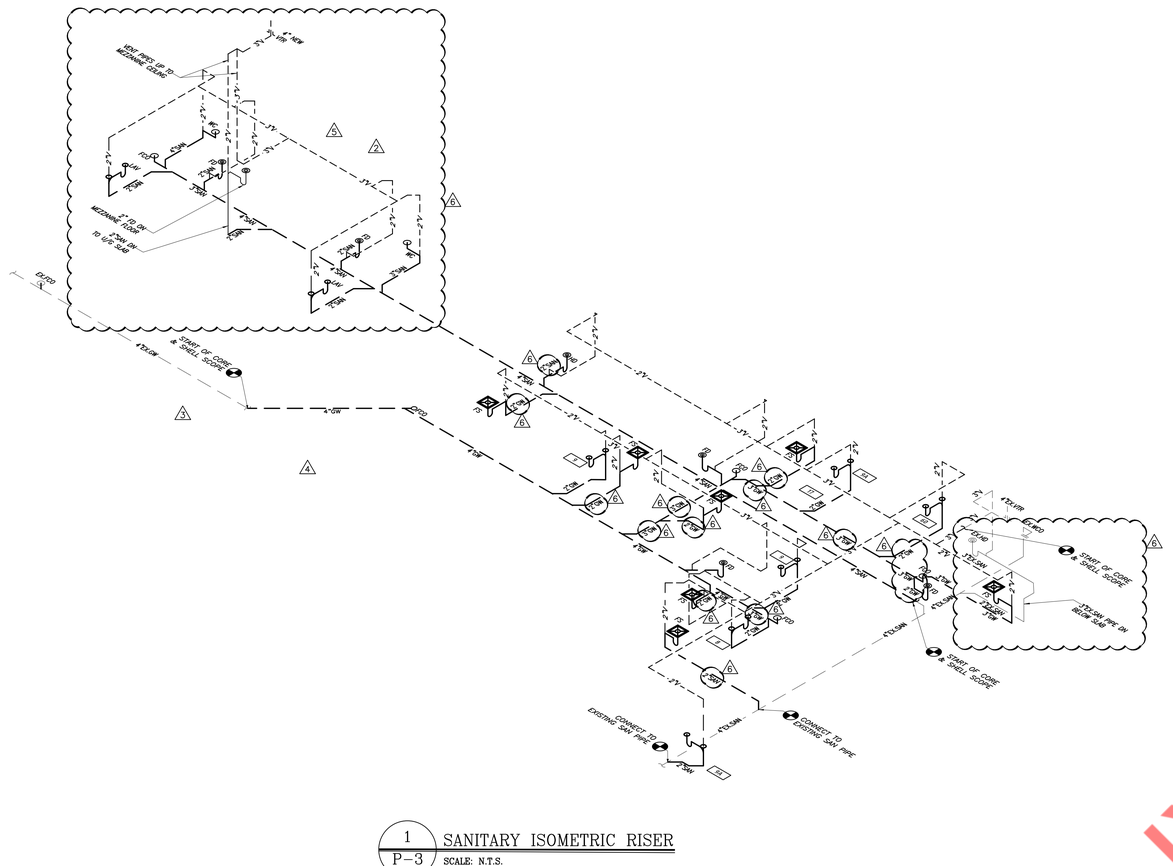
BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

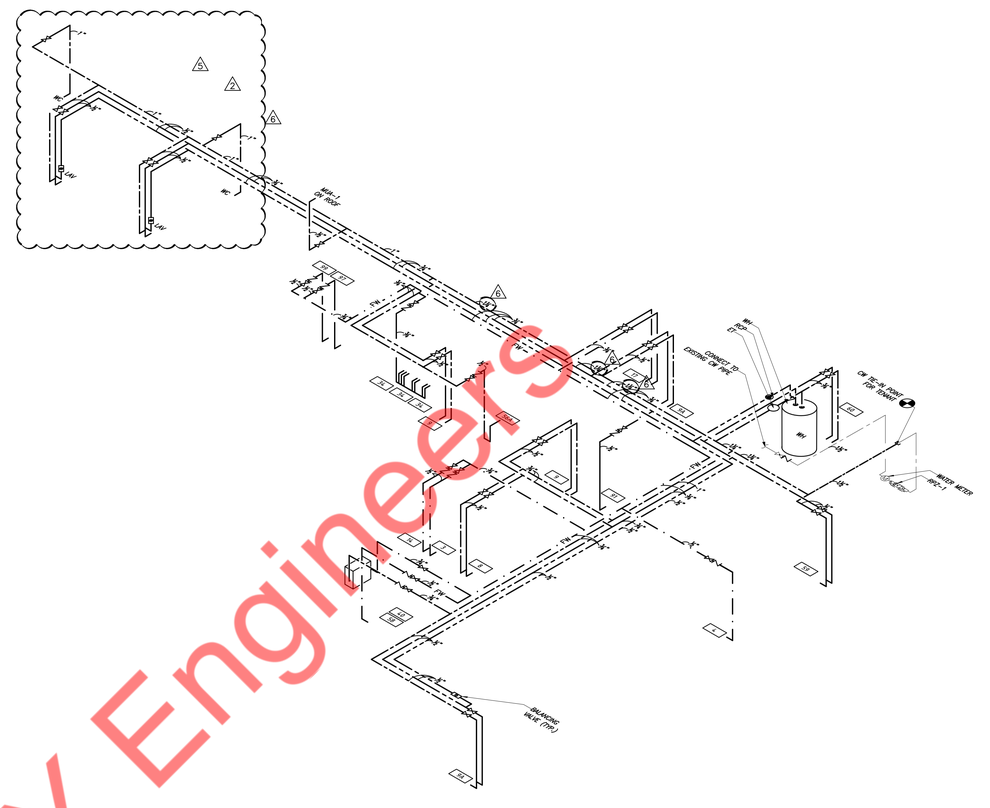
1	04-08-2024 PERMIT COMMENTS
2	07-02-2024 CLIENT CHANGES
3	07-17-2024 CLIENT CHANGES
4	08-07-2024 CLIENT CHANGES
5	08-16-2024 CLIENT CHANGES
6	03-25-2025 SITE COORDINATION

PLUMBING FLOOR PLANS

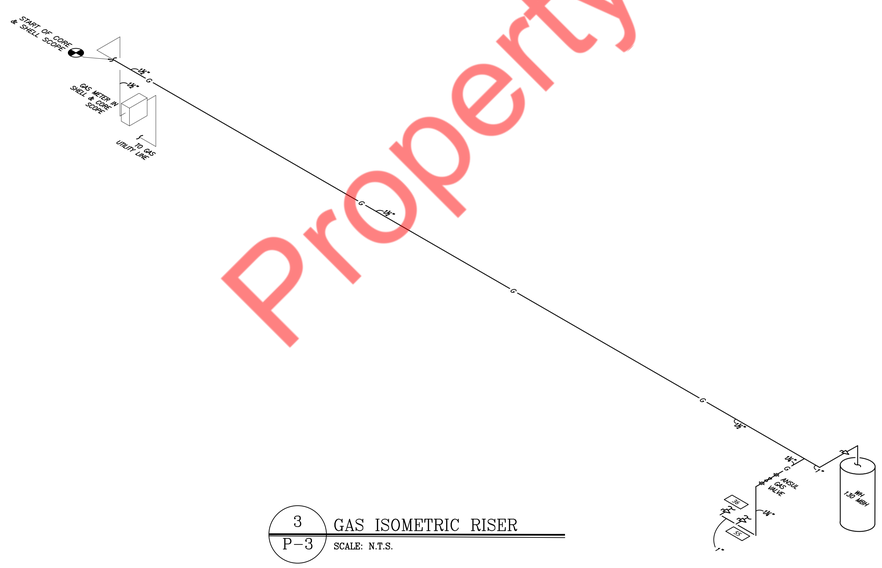
P-2



1 P-3 SANITARY ISOMETRIC RISER
SCALE: N.T.S.



2 P-3 WATER ISOMETRIC RISER
SCALE: N.T.S.



3 P-3 GAS ISOMETRIC RISER
SCALE: N.T.S.

NATURAL GAS PIPING SYSTEM
PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

NOTES:

1. CONTRACTOR TO VERIFY THE FOLLOWING:

A. DEVELOPED LENGTH OF GAS PIPE FROM GAS METER TO FARTHEST GAS FIXTURE.
B. SIZE & CAPACITY OF GAS METER.
C. GAS PRESSURE AT GAS METER.

IF REQUIRED, ADJUST PIPE SIZE ACCORDING CALIFORNIA PLUMBING CODE 2022, TABLE 1215.2(2).

2. VERIFY ALL EQUIPMENT BTU PRIOR TO INSTALLATION.
3. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
4. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWD FITTINGS
5. ALL GAS EQUIPMENT SHALL BE PROVIDED WITH PRESSURE REGULATOR TO OPERATE EQUIPMENT SATISFACTORILY.

GAS LOAD SUMMARY

EQUIPMENT	QTY	MBH LOAD
WATER HEATER (WH)	1	130
MJ140 FRYER (TAG #36)	1	110
STOCK POT RANGE (TAG #55)	1	180
TOTAL LOAD		420

GAS PIPE SIZING PER TABLE 1215.2(1) OF CALIFORNIA PLUMBING CODE 2022

GAS INLET PRESSURE– 8 IN. W.C. TO 2 PSI.

PRESSURE DROP– 0.5 IN. W.C.

SPECIFIC GRAVITY– 0.60

EQUIVALENT LENGTH OF PIPE = 150 FT

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BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

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6	03-25-2025 SITE COORDINATION	

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

PLUMBING ISOMETRIC RISER DIAGRAMS

P-3

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	BAFANG DUMPLING	Report Page: (Page 1 of 6)
Project Address:		Date Prepared: 2024-02-23T02:10:53-22:00

This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Cerritos	02	Climate Zone	8
03	Occupancy Types Within Project (select all that apply):				

• Restaurant

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☒ New system (DHW system being installed for the first time)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.*
[3] *DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies*

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03	04			05	06			
System Name	WH	Exception to 140.5(c)/ 170.2(d)3	Exceptions Do Not Apply	☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %		
07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
WH	Commercial Gas Storage Water Heater	34	130,000		0.96	0.8	TE	650	2,032.5

[1] *FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☒	☐	☐	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☒	☐	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft^2 and < 4 stories must install a heat pump water heating system per 140.5(a)11. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is soecified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft^2 per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☒	☐	☐	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity (dgte/) 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: MICHAEL TOBIAS	Documentation Author Signature:
Company: NY ENGINEERS	Signature Date: 2024-02-23
Address: 382 NE 191st ST, Suite 49674	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Miami, Florida 33179	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: MICHAEL TOBIAS	Responsible Designer Signature:
Company: NY ENGINEERS	Date Signed: 2024-02-23
Address: 382 NE 191st ST, Suite 49674	License: M33750
City/State/Zip: Miami, Florida 33179	Phone: 212-575-5300

LICENSED PROFESSIONAL ENGINEER
MICHAEL TOBIAS
M 33750
MECHANICAL
STATE OF CALIFORNIA

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BAFANG DUMPLINGS - ARCADIA

Sheet Issue & Revision Log

2	07-02-2024	CLIENT CHANGES

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ENERGY COMPLIANCE

P-4