

THERMOSTATIC CONTROLS

- A. GENERAL:**
THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. FOR THE PURPOSES OF SECTION 6.4.3.1, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.
- B. DEAD BAND:**
WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.
EXCEPTIONS:
THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
- C. SETBACK CONTROLS:**
HEATING SYSTEMS LOCATED IN CLIMATE ZONES 2-8 SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE A HEATING SETPOINT ADJUSTABLE DOWN TO 55°F OR LOWER. COOLING SYSTEMS LOCATED IN CLIMATE ZONES 1B, 2B, AND 3B SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW A COOLING SETPOINT ADJUSTABLE UP TO 90°F OR HIGHER OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.
- D. AUTOMATIC SHUTDOWN:**
HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING: CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY-TYPES PER WEEK, ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE, OR EQUIVALENT FUNCTION, THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.
- E. SETPOINT OVERLAP RESTRICTION:**
WHERE HEATING AND COOLING TO A ZONE ARE CONTROLLED BY SEPARATE ZONE THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONE, MEANS (SUCH AS LIMIT SWITCHES, MECHANICAL STOPS, OR FOR DDC SYSTEMS, SOFTWARE PROGRAMMING) SHALL BE PROVIDED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT MINUS ANY APPLICABLE PROPORTIONAL BAND.

- F. HEAT PUMP SUPPLEMENTARY HEAT:**
HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

PLENUMIZED CURB INSTALLATION NOTES

- CAREFULLY LOCATE AND MARK ROOF CURB LOCATIONS SO THAT DUCT WORK CAN BE INSTALLED IN THE APPROXIMATE LOCATIONS AS SHOWN BY THE FLOOR PLAN. PAY ATTENTION TO THE LOCATION OF THE ROOF STRUCTURE IN ORDER TO ACCOMMODATE THE DUCT DROPS.
- MARK THE EXACT LOCATION OF EACH ROOF CURB. LAY OUT ALL EQUIPMENT LOCATIONS IN ORDER TO MAINTAIN PROPER CLEARANCES FROM EXHAUST FANS AND VENTS AS WELL AS PROVIDING FOR PROPER SERVICE CLEARANCES.
- GENERAL CONTRACTOR SHALL CUT ROOF DECKING MATERIAL TAKING CARE TO AVOID CUTTING ANY STRUCTURAL COMPONENTS. GENERAL CONTRACTOR SHALL ALSO INSTALL ANY NECESSARY FRAMING OR BLOCKING AT OPENINGS.
- WITH ROOF CURB UPSIDE DOWN (SOLID METAL BOTTOM UP) MEASURE AND MARK THE LOCATION OF ANY JOISTS OR OTHER FRAMING MEMBERS THAT MUST BE AVOIDED. MEASURE AND MARK THE LOCATION OF ALL THE DUCT TAPS.
- CUT ALL DUCT TAPS INTO THE BOTTOM PANEL OF THE ROOF CURB. BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE CUTS.
- INSTALL DUCT TAP FITTINGS AND MANUAL DAMPERS INTO THE OPENINGS PREVIOUSLY CUT. SEAL ALL CONNECTIONS ON BOTH THE BOTTOM AND THE TOP SIDES OF THE TAPS.
- FLATTEN TAB OF START COLLAR INSIDE CURB, TIGHT AGAINST INSULATION. SEAL INSIDE OF COLLAR AND TABS TO INSULATION USING MASTIC DUCT SEALER. ALLOW SEALER TO DRY PRIOR TO PROCEEDING.
- APPLY DUCT SEALER TO OPEN END OF COLLAR. SLIDE INNER CORE OF FLEXIBLE DUCT ONTO COLLAR, AND CONNECT PANDUIT STRAP PER MANUFACTURER'S INSTRUCTIONS.
- SLIDE OUTER INSULATION SLEEVE OF FLEX TIGHT TO BOTTOM OF CURB. SEAL INSULATION TO BOTTOM OF CURB WITH PRESSURE-SENSITIVE FOIL TAPE. DO NOT USE TAPE MEANT FOR RIGID DUCTBOARD. SOUZE/EGG OUT ALL AIR BUBBLES FOR PROPER ADHESION.
- TURN CURB RIGHT SIDE UP. LEVEL CURB BETWEEN BOTTOM OF CURB AND DECK. INSTALL IN ROOF OPENING. SECURE CURB TO ROOF FRAMING AS REQUIRED.
- GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND ROOF IN THE CURB AS DETAILED ON THE DRAWINGS.
- INSIDE BUILDING, THE DUCT RUNS SHALL BE INSTALLED FROM THE TAPS TO THE DIFFUSER LOCATIONS AS SHOWN ON THE PLANS. SUPPORT PER SMACNA AND LOCAL CODES.
- NOTE: IF NECESSARY, FLEX DROPS MAY BE CONNECTED TO TAPS AFTER CURB HAS BEEN INSTALLED. REFER TO STEPS #8 AND #9.

CONTRACTORS NOTES

- HVAC CONTRACTOR**
- THE HVAC CONTRACTOR IS TO FURNISH AND INSTALL NEW RTU, HOODS, FANS, DUCTWORK, INSULATION WRAP, DIFFUSERS, GRILLES, SMOKE DETECTORS, AND TEMPERATURE CONTROLS. **SEE KEYED NOTE #1, THIS SHEET.**
 - THE HVAC CONTRACTOR IS TO VERIFY LOCATIONS FOR THE HOODS AND HOOD FANS ON SITE FROM MOST-RECENT KITCHEN EQUIPMENT PLANS. ALL FANS ARE TO BE UL LISTED.
 - ALL NEW HVAC EQUIPMENT CURBS ARE TO BE SUPPLIED BY THE HVAC CONTRACTOR.
 - ALL NEW HVAC CURBS ARE TO BE FABRICATED FROM 18 GA. GALVANIZED METAL WITH FULLY WELDED SEAMS, WATER TIGHT AND INTERNALLY INSULATED. FACTORY CURB CONVERSION SHALL NOT BE ACCEPTED.
 - SHIMS ARE TO BE PROVIDED BY HVAC CONTRACTOR BETWEEN THE ROOF DECK AND THE NEW CURBS TO COMPENSATE FOR ROOF PITCH.
 - ALL NEW FLEX DUCT IS TO BE U.L. LISTED, R-6, FOIL-BACKED, CLASSIFIED AS A CLASS 1 AIR DUCT. MAXIMUM LENGTH PER LOCAL CODE.
 - ALL NEW METAL DUCT AND AIR DISTRIBUTION DEVICES ARE TO BE INSULATED WITH R-6, 2" X .75 DENSITY FOIL-BACKED INSULATION, WITH FIRE AND SMOKE RATING [25]-[50].
 - ALL NEW DUCTWORK IS TO BE INDEPENDENTLY HUNG FROM STRUCTURAL MEMBERS.
 - ALL NEW DUCTWORK IS TO BE FABRICATED, INSTALLED, SEALED, AND EXTERNALLY INSULATED PER SMACNA LOW-VELOCITY DUCT MANUAL (LATEST ISSUE). **INTERNALLY LINED DUCTWORK IS NOT ALLOWED.**
 - UNLESS OTHERWISE NOTED, ALL NEW SUPPLY TAKEOFFS ARE TO HAVE A MANUAL VOLUME CONTROL DAMPER.
 - THE HVAC CONTRACTOR IS TO COORDINATE NEW DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
 - THE HVAC CONTRACTOR IS TO FURNISH A WRITTEN GUARANTEE COVERING A ONE-YEAR PERIOD FOR ALL NEW HVAC EQUIPMENT AND HVAC WORK, AND AN ADDITIONAL TWO-YEAR WARRANTY ON THE COMPRESSOR IN THE NEW RTU. ALL NEW FANS TO BE U.L. LISTED.
 - UPON COMPLETION OF PROJECT THE HVAC CONTRACTOR IS TO HIRE AN A.A.B.C. OR N.E.E.B. CERTIFIED, INDEPENDENT TEST AND BALANCE COMPANY TO CONDUCT A COMPLETE TEST AND BALANCE OF ALL EQUIPMENT. PROVIDE A WRITTEN REPORT TO NCA CONSULTANTS. ALL CAPACITIES MUST BE SET TO AMOUNTS INDICATED ON THE FLOOR PLANS AND SCHEDULES.**
 - THE HVAC CONTRACTOR IS TO MAKE ALL LOW-VOLTAGE WIRING FINAL CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, RTUS, AND SMOKE DETECTORS.

- GENERAL CONTRACTOR**
- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO RECEIVE, OFFLOAD, AND STORE ALL HVAC MATERIALS WHICH ARRIVE AT THE JOB SITE. ALL MATERIAL MUST BE STORED INSIDE THE BUILDING. **HOODS MUST BE STORED IN THE KITCHEN.**
 - IT IS VERY IMPORTANT THAT ACCURATE MEASUREMENTS ARE USED WHEN LOCATING EXHAUST FAN ROOF OPENING. COORDINATE ROOF OPENINGS WITH THE KITCHEN EQUIPMENT PLAN AND EXHAUST HOOD PLANS. OBTAIN THE CORRECT PLANS FROM THE KITCHEN EQUIPMENT SUPPLIER.
 - RTU ROOF OPENING SIZES AND ROOF CURBS ARE BASED ON EQUIPMENT SHOWN. IF OTHER EQUIPMENT IS USED, VERIFY ROOF OPENING REQUIREMENTS. MAKE PENETRATION AS NEEDED FOR INSTALLATION OF NEW CURB AND RTU. COORDINATE ON SITE WITH HVAC CONTRACTOR. ENSURE THAT ROOFING MATERIAL DOES NOT COVER THE TOP OF ANY HVAC EQUIPMENT CURB.
 - ALL ROOF, CEILING, WALL, AND STRUCTURAL FRAMING REQUIRED FOR UNIT, FAN, DUCT, DIFFUSER, AND ALL OTHER HVAC WORK IS TO BE BY THE G.C. COORDINATE ON SITE WITH HVAC CONTRACTOR. GENERAL CONTRACTOR IS TO PROVIDE ANY SCREENING, GUARD RAILS, ETC. FOR ROOF-MOUNTED HVAC EQUIPMENT PER IBC AND LOCAL CODES. **ANY REQUIRED PAINTING OF HVAC WORK IS TO BE BY THE GENERAL CONTRACTOR.**
 - IF NECESSARY THE GENERAL CONTRACTOR IS TO REMOVE, REPLACE, AND/OR REPAIR CEILING GRID AND TILES IN ORDER FOR THE HVAC WORK TO BE PERFORMED.

- ELECTRICAL CONTRACTOR**
- THE ELECTRICAL CONTRACTOR IS TO FURNISH AND INSTALL PITCH POCKETS FOR POWER AND CONTROL WIRING, AND IS TO MAINTAIN 12" MINIMUM CLEARANCE FROM BACK PANEL OF AIR CONDITIONING UNITS.
 - THE ELECTRICAL CONTRACTOR IS TO INSTALL LOW-VOLTAGE CONTROL WIRING FOR ALL AIR CONDITIONING CONTROLS.
 - THE ELECTRICAL CONTRACTOR IS TO FURNISH AND INSTALL DISCONNECTS FOR RTUS AND FANS. WIRE THE RESTROOM EXHAUST FAN TO RUN CONTINUOUSLY WHILE THE DINING ROOM LIGHTS ARE ON, AND WIRE KITCHEN HOOD EXHAUST FANS PER NFP96 AND LOCAL CODES. **PROVIDE ALL INTERLOCKING REQUIRED BETWEEN THE APPLIANCES SERVED BY THE HOODS, THE HOOD FANS, AND THE RTU BLOWERS.** SEE "AIR BALANCE SCHEDULE", THIS SHEET.
 - THE ELECTRICAL CONTRACTOR IS TO USE A MINIMUM OF 4"-6" SEALTITE FLEXIBLE CONDUIT WHEN WIRING KITCHEN HOOD EXHAUST FANS ON ROOF SO THAT FANS MAY BE REMOVED FROM CURBS AND PLACED ON ROOF FOR CLEANING EXHAUST DUCTWORK.
 - FOR EACH UNIT, THE ELECTRICAL CONTRACTOR IS TO PROVIDE ONE SINGLE-GANG RECEPTACLE FOR THE T-STAT AND ONE DOUBLE-GANG RECEPTACLE FOR THE ANNUNCIATOR, WITH GREEN AND RED LIGHT INDICATORS. THE FIRE AND MECHANICAL INSPECTORS WILL DETERMINE SUITABLE LOCATION FOR TEST STATIONS. ANNUNCIATORS AND TEST STATION WILL BE LOOPED IN THE CIRCUITRY OF THE SMOKE DETECTION DEVICES. WIRING WILL BE INSTALLED BY ELECTRICAL CONTRACTOR. **PROVIDE ADDITIONAL RECEPTACLE FOR RTU1 HUMIDISTAT.**

- PLUMBING CONTRACTOR**
- THE PLUMBING CONTRACTOR IS TO PROVIDE AND INSTALL CONDENSATE DRAINS/GAS PIPING FOR ALL HVAC EQUIPMENT, AND PITCH POCKETS FOR RTU CONNECTIONS.
 - THE PLUMBING CONTRACTOR IS TO COORDINATE PLUMBING VENT STACKS AND WATER HEATER FLUES WITH OUTSIDE AIR INTAKES OF A/C UNITS. 10'-0" MINIMUM CLEARANCE REQUIRED OR PER LOCAL CODE.
 - THE PLUMBING CONTRACTOR IS TO PROVIDE AND INSTALL FLUE GAS EXHAUST VENT FOR WATER HEATER. MAINTAIN 10'-0" MINIMUM CLEARANCE TO AIR INTAKES, OR PER LOCAL CODE. COORDINATE ON SITE WITH G.C. AND HVAC CONTRACTOR.

KEYED NOTES

- PROVIDE TYPE-I GREASEHOOD OVER COOKLINE WITH 16 GAUGE BLACK IRON SHEETMETAL DUCT WELDED LIQUID-TIGHT FROM CONNECTION ON HOOD TO EXHAUST FAN ON ROOF. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED. VERIFY DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION. REFER TO HOOD DETAILS SHEET. THIS SET. ALL WORK IS TO BE PER NFP96 AND LOCAL CODES, INCLUDING THE PITCH ON HORIZONTAL RUNS AND PROVISION OF ACCESS DOORS AND FIRE WRAP. CONFIRM LOCATION ON SITE WITH MOST RECENT KITCHEN PLANS.
- PROVIDE REMOTE SENSOR 66" A.F.F. IN A WALL NEAR LOCATION SHOWN. SEAL WALL OPENINGS WITH CAULK. AUDIO-VISUAL ANNUNCIATOR TIED INTO SMOKE DETECTOR. PROVIDE THERMOSTAT ON KITCHEN WALL. VERIFY ALL LOCATIONS ON SITE WITH GC. AVOID SOURCES OF HEAT. RTU-1 ONLY: HUMIDISTAT SET TO 55% RELATIVE HUMIDITY.
- WATER HEATER IS ELECTRIC AND DOES NOT REQUIRE FLUE NOR COMBUSTION AIR.
- PROVIDE 10X10 SHEETMETAL DROP WITH ENDCAP FROM EXHAUST FAN ON ROOF, AND EXHAUST DUCT RUNS TO RESTROOM GRILLES AS SHOWN. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED. VERIFY DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION.
- PROVIDE TYPE-II "HEAT ONLY" HOOD OVER OVEN WITH 8" SHEETMETAL DUCT FROM CONNECTION ON HOOD TO EXHAUST FAN ON ROOF. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED. VERIFY DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION. REFER TO HOOD DETAILS SHEET, THIS SET. USE FACTORY-MANUFACTURED PIPE AND FITTINGS ONLY. CONFIRM LOCATION ON SITE WITH MOST RECENT KITCHEN PLANS.
- SHIM CURBS ON ROOF IN ORDER TO MAKE TOP OF CURBS LEVEL. SEE DETAIL ON SHEET M-2. CONFIRM STRUCTURAL FRAMING ON SITE PRIOR TO LAYING OUT ROOF PENETRATIONS.
- PROVIDE MAKEUP AIR FAN PER HOOD DETAILS SHEETS. THIS SET WITH MAKEUP AIR DUCT DROPS TO HOOD INTAKE COLLARS. VERIFY ROUTING IN THE FIELD PRIOR TO FABRICATION AND INSTALLATION. OFFSET AND TRANSITION AS NEEDED. ALL WORK IS TO BE PER SMACNA AND LOCAL CODES.
- HOOD CABINET HOUSES CONTROLS AND FIRE SUPPRESSION TANKS.

SYM.	SIZE	TYPE	DUCT SIZE	MODEL#	FINISH	BOOT SIZE	OPENING SIZE	QTY.
A*	24X24	SUPPLY 4-WAY	12"	INCA12	WHITE	12"Ø	T-BAR	7
B**	24X24	SUPPLY PERF.	12"	APDF3-1424	WHITE	12"Ø	T-PAR	4
C**	12X12	SUPPLY 1-WAY	6"	630	WHITE	12X12	SIZE + 1/4"	2
D	24X24	RETURN/TRANSFER	18"	630TB	WHITE	22X22	T-BAR	3
E	12X12	EXHAUST	6"	630	WHITE	12X12	SIZE + 1/4"	2

ALL DIFFUSERS SHALL BE MANUFACTURED BY METALAIR OR EQUIVALENT AND 100% ALUMINUM CONSTRUCTION
 * PROVIDE WITH PVC90 SLIDING-BLADE DAMPER
 ** PROVIDE WITH FOUR 14"Ø-12" REDUCERS FOR TOPS OF DIFFUSERS
 *** PROVIDE WITH OPPOSED-BLADE DAMPER

TAG	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	BLDG. PRESSURE	% OUTSIDE AIR
RTU-1	3000 CFM	750 CFM	2250 CFM	---	+ 750 CFM	25
RTU-2	2000 CFM	400 CFM	1600 CFM	---	+ 400 CFM	20
EF-1	---	---	---	1000 CFM	1000 CFM	---
MAU-1	---	600 CFM	---	---	+ 600 CFM	100
EF-2	---	---	---	375 CFM	- 375 CFM	---
EF-3	---	---	---	150 CFM	- 150 CFM	---
TOTAL	5000 CFM	1750 CFM	3850 CFM	1525 CFM	+ 225 CFM	23

UNIT NUMBER	EF-1	EF-2	MAU-1	EF-3
AREA SERVED	HOOD-1	HOOD-2	HOOD-1	RESTROOMS
MANUFACTURER	CAPTIVE AIRE	CAPTIVE AIRE	CAPTIVE AIRE	CAPTIVE AIRE
MODEL	DUS0HFA	DU12HFA	D78-G7D	DR10HFA
CFM	1000	375	600	150
STATIC PRESSURE, "WG	1.0	0.50	0.40	0.25
FAN HORSEPOWER	0.50	0.18	1.0	0.06
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT
RPM	1359	1404	1635	1049
ELECTRICAL V/Ø/HZ	120/1/60	120/1/60	120/1/60	120/1/60
NCA CURB DIMXHX	19.5X19.5X20	17.5X17.5X20	19.5X52X20	17.5X17.5X12
ACCESSORIES	A,B,D,E,H,J,K,L,M	B,D,E,H,J,K,L,M	A,B,D,E,H,J,K,L,M,N	A,B,C,D,E,G,H,I,M
NOTES/ACCESSORIES	A. ALUMINIZED BIRDSCREEN B. SAFETY DISCONNECT SWITCH C. GRAVITY BACKDRIFT DAMPER D. AMCA SEAL & U.L. CERTIFIED E. SPEED CONTROL	G. INTERLOCK WITH SALES FLOOR LIGHTS H. PREFABRICATED ROOF CURB I. INTERLOCKED BY ELECTRICAL CONTRACTOR PER NFP96 J. REFER TO KITCHEN BALANCE SCHEDULE K. ENSURE 10' - 0" MINIMUM EXHAUST-INTAKE CLEARANCES L. COORDINATE WITH MANUFACTURER FOR FINAL SELECTION M. COORDINATE WITH MANUFACTURER FOR FINAL SELECTION N. 40 MBTUH NATURAL GAS HEAT INPUT FURNACE SECTION P. CONTROLLED BY WALL SWITCH IN REAR AREA BATHROOM		

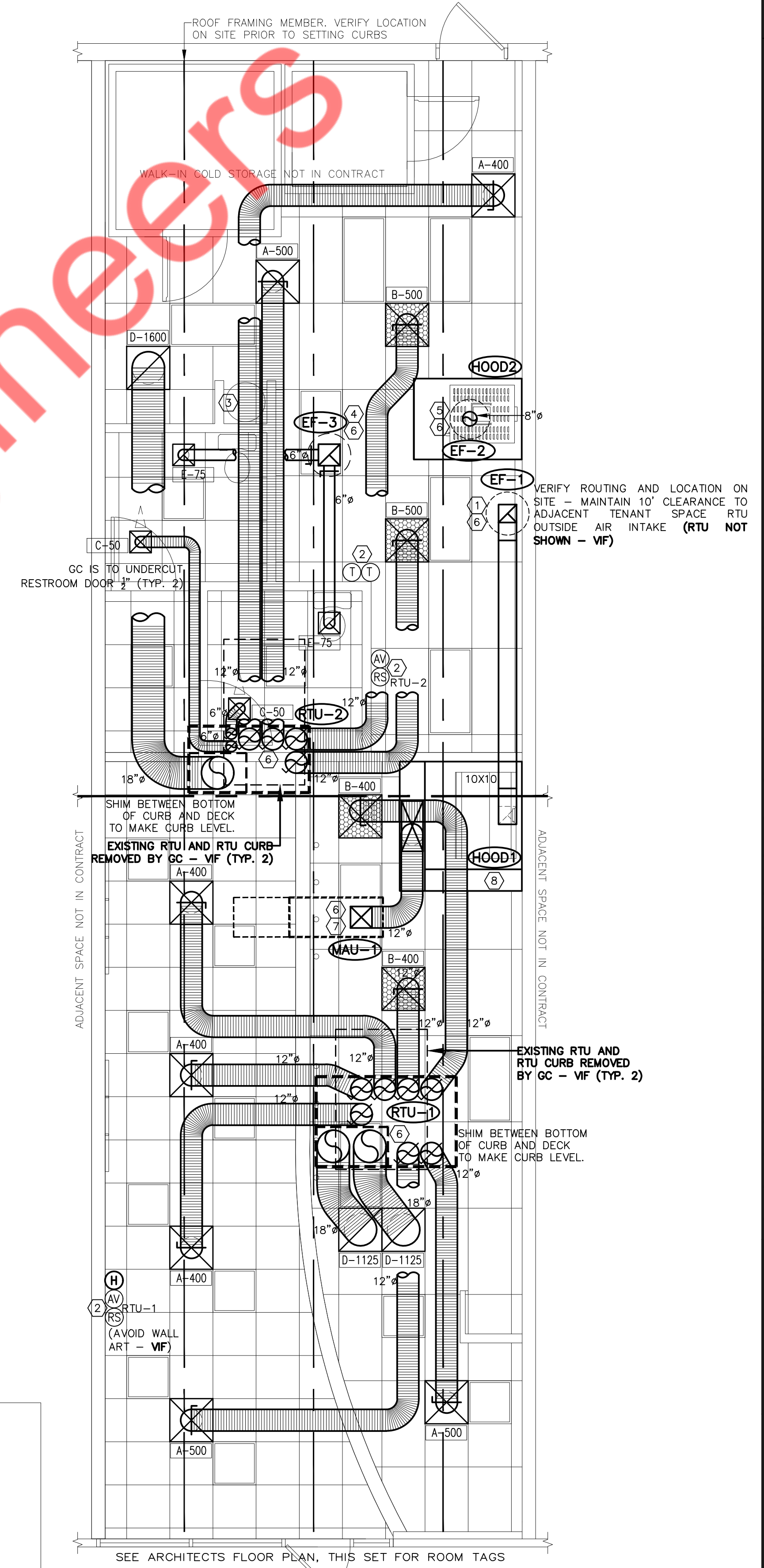
TAG	RTU-1	RTU-2
MANUFACTURER	CARRIER	CARRIER
MODEL	48HCED08 (7.5 TON)	48GCFA06 (5 TON)
LOCATION, CURB DIMENSIONS	ROOF, 78" X 50"	ROOF, 67" X 37"
TYPE OF HEAT	NATURAL GAS	NATURAL GAS
TOTAL COOLING CAPACITY, MBTU/HR	93.3	63.0
SENSIBLE COOLING CAPACITY, MBTU/HR	75.2	48.3
ENTERING AIR CONDITIONS, DBT/WBFT	80/67	80/67
AMBIENT AIR DB TEMPERATURE, °F	95	95
SUPPLY AIR, CFM	3000	2000
OUTSIDE AIR, CFM	SEE SCHEDULE	SEE SCHEDULE
EXTERNAL STATIC PRESSURE, "WG	0.75	0.75
BHP - MEDIUM STATIC MOTOR	2.4	2.24
E.F.E.R.	12.0	16.0 (S.E.F.E.R.)
GAS INPUT MBTU/HR	90/180	82/110
GAS OUTPUT MBTU/HR	73/148	65/88
UNIT WEIGHT, LBS.	1100	800
ELECTRICAL REQUIREMENT, V/PHASE/HZ	208-230/3/60	208-230/3/60
MINIMUM CIRCUIT AMPERAGE	38.8	33.0
MAXIMUM OVER CURRENT PROTECTION	50	45

- ACCESSORIES:**
- 100% ECONOMISER WITH BAROMETRIC RELIEF
 - NCA PLENUMIZED CURBS, TO ORDER CALL TOLL-FREE (877) 530-0078.
 - ONE YEAR COMPLETE PARTS AND LABOR WARRANTY
 - ADDITIONAL FOUR YEAR PARTS WARRANTY COVERING COMPRESSORS
 - SMOKE DETECTOR (SEE HVAC ROOF PLAN, SHEET M-2)
 - AQUAGUARD AG-3180E MOISTURE SENSOR FOR PRIMARY PAN
 - RTU-1 ONLY: HUMIDISTAT HOT GAS RE-HEAT COIL WITH HUMIDISTAT SET TO 55% R.H.
- NOTE: COORDINATE RTU PLACEMENT ON SITE PRIOR TO SETTING EQUIPMENT. IF ADJUSTMENT IS NECESSARY MAINTAIN FRESH AIR INTAKE CLEARANCES, INCLUDING EQUIPMENT ON ADJACENT SPACE.

EXCLUDING ITEMS THAT ARE EXPLICITLY STATED TO BE REUSED, THE GENERAL CONTRACTOR IS TO REMOVE EXISTING ROOFTOP UNITS, DUCTWORK, CURBS, CONTROLS, SUPPORTS, AND OTHER ACCESSORIES ASSOCIATED WITH THE ROOFTOP EQUIPMENT; REMOVE, ALTER, AND REPLACE STRUCTURAL FRAMING AS NEEDED; RE-DECK AND RE-ROOF EXISTING OPENINGS TO MATCH EXISTING ROOF; AND REMOVE ALL EXISTING GRILLES, DIFFUSERS, DUCTWORK, HANGERS, AND ASSOCIATED MATERIALS.

ATTENTION GENERAL CONTRACTOR:
RE-ENGINEERING DEVIATIONS FROM THE SHOWN DESIGN AND REQUIRED HVAC EQUIPMENT MUST BE APPROVED IN ADVANCE BY THE ARCHITECT AND PROFESSIONAL ENGINEER. UNAUTHORIZED SUBSTITUTIONS OR ALTERATIONS WILL VOID THE SIGNATURE AND SEAL OF THE PROFESSIONAL ENGINEER AND LEAVE VIOLATORS RESPONSIBLE FOR RESUBMISSION OF SIGNED AND SEALED DRAWINGS.

DATE	DESCRIPTION	BY
06-23-21	FOR CONSTRUCTION	KM

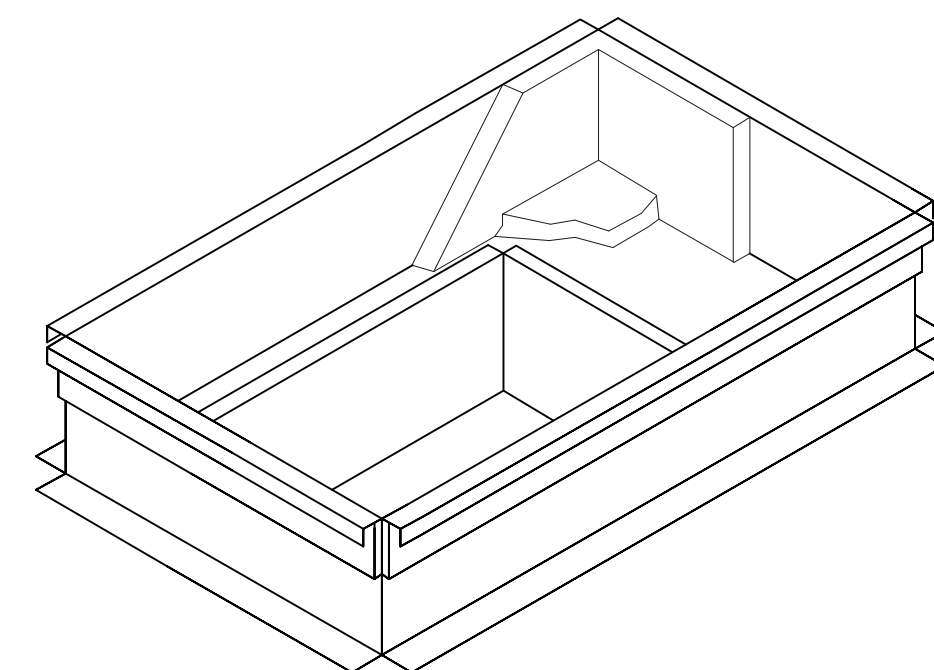


BUILDING KEY
SCALE 1/4" = 10' - 0"

FLOOR PLAN - HVAC
SCALE 1/4" = 1' - 0" WHEN PLOTTED 36" X 24" 21848

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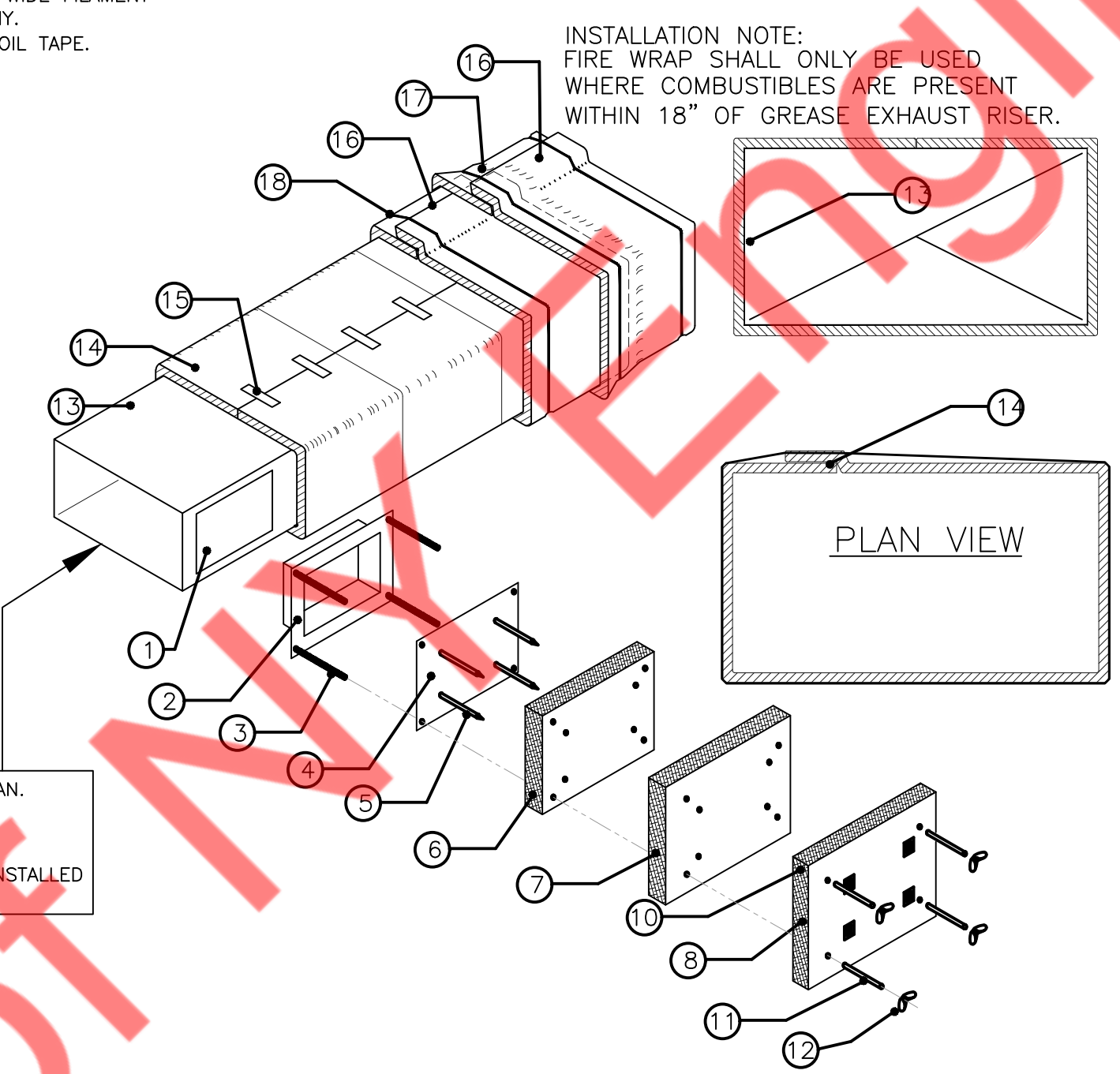
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06-23-21	FOR CONSTRUCTION	KM



FACTORY CURB CONVERSION SHALL NOT BE ACCEPTED.
NCA PLENUMIZED AC CURB DETAIL
 NOT TO SCALE

- NOTES:
- BANDING MATERIAL, 3/4" WIDE, MINIMUM 0.015" THICK, CARBON STEEL FOR CONSTRUCTION REQUIREMENTS OF ZERO CLEARANCE TO COMBUSTIBLES OR 1 HR. RATINGS. STAINLESS STEEL BANDING IS USED FOR 2 HR. REQUIREMENTS.
 - 3M FIRE BARRIER DUCT WRAP 615+, 1-1/2" THICK, 24" OR 48" WIDE, 300" STANDARD LENGTH (2 LAYERS) 6 LBS PER CUBIC FT TO BE UTILIZED.
 - HOLD INTERIOR WRAP OF INSULATION USING 1" WIDE FILAMENT TAPE (NO. 898) MANUFACTURED BY 3M COMPANY.
 - SEAL CUT EDGES OF BLANKET WITH ALUMINUM FOIL TAPE.

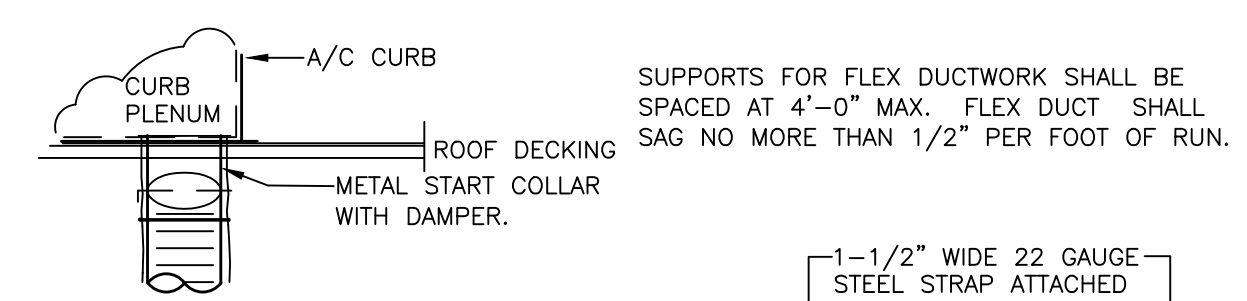
LEGEND	
1	DOOR HOLE
2	ACCESS FRAME WELDED TO DUCT
3	1/4" DIA. ALL THREAD RODS
4	ACCESS COVER; 16 GA.
5	INSULATION PINS; WELDED
6	1 3M FIRE BARRIER 615 PLUS
7	1 3M FIRE BARRIER 615 PLUS 1" OVERLAP
8	1 3M FIRE BARRIER 615 PLUS 1" OVERLAP
9	SPEED CLIPS
10	ALUMINUM TAPE EDGES
11	SPOOL PIECES FOR THREADED RODS
12	1/4" DIA. WING NUTS
13	16 GA. SHEET METAL DUCT (FULLY WELDED WATER TIGHT)
14	1ST LAYER 3M FIRE BARRIER DUCT WRAP 615 PLUS LONGITUDINAL JOINT BUTT OR MIN. 3" OVERLAP ON INNER LAYER, MIN. 3" OVERLAP ON OUTER LAYER
15	3/4" (19mm) WIDE FILAMENT TAPE
16	2ND LAYER 3M FIRE BARRIER DUCT WRAP 615 PLUS OR APPROVED EQUIVALENT
17	3" MINIMUM PERIMETER OVERLAP - TYP.
18	STEEL BANDING 1/2" WIDE MIN. TYP. FOR PERMANENT FASTENING



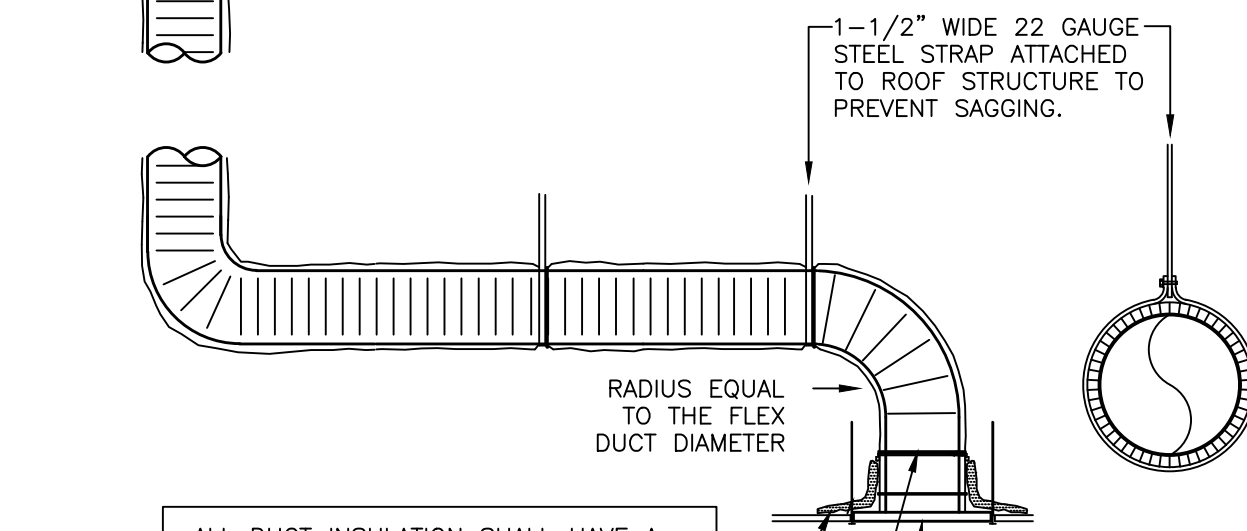
INSTALLATION NOTE:
 FIRE WRAP SHALL ONLY BE USED WHERE COMBUSTIBLES ARE PRESENT WITHIN 18" OF GREASE EXHAUST RISER.

FULLY WELDED GREASE RATED EXHAUST DUCT. SEE SIZE ON PLAN. RISER SHALL BE LIGHT INSPECTED LAYING ON FLOOR. FULLY PREPARE FOR SCHEDULED INSPECTION. HVAC CONTRACTOR SHALL VERIFY TEST PRIOR TO SCHEDULE. THE USE OF U.L. LISTED PREFABBED DUCT BY CAPTIVE AIR, INSTALLED CORRECTLY MAY BE EXEMPT FROM LIGHT INSPECTION IF USED.

NOTE: ACCESS DOOR NOT REQUIRED UNLESS OFFSET, OR HORIZONTALLY EVERY 12'-0"
1 HR. FIRE WRAP ("0" CLEARANCE) TO COMUSTIBLES - INSTALLATION DETAIL
 NOT TO SCALE



SUPPORTS FOR FLEX DUCTWORK SHALL BE SPACED AT 4'-0" MAX. FLEX DUCT SHALL SAG NO MORE THAN 1/2" PER FOOT OF RUN.



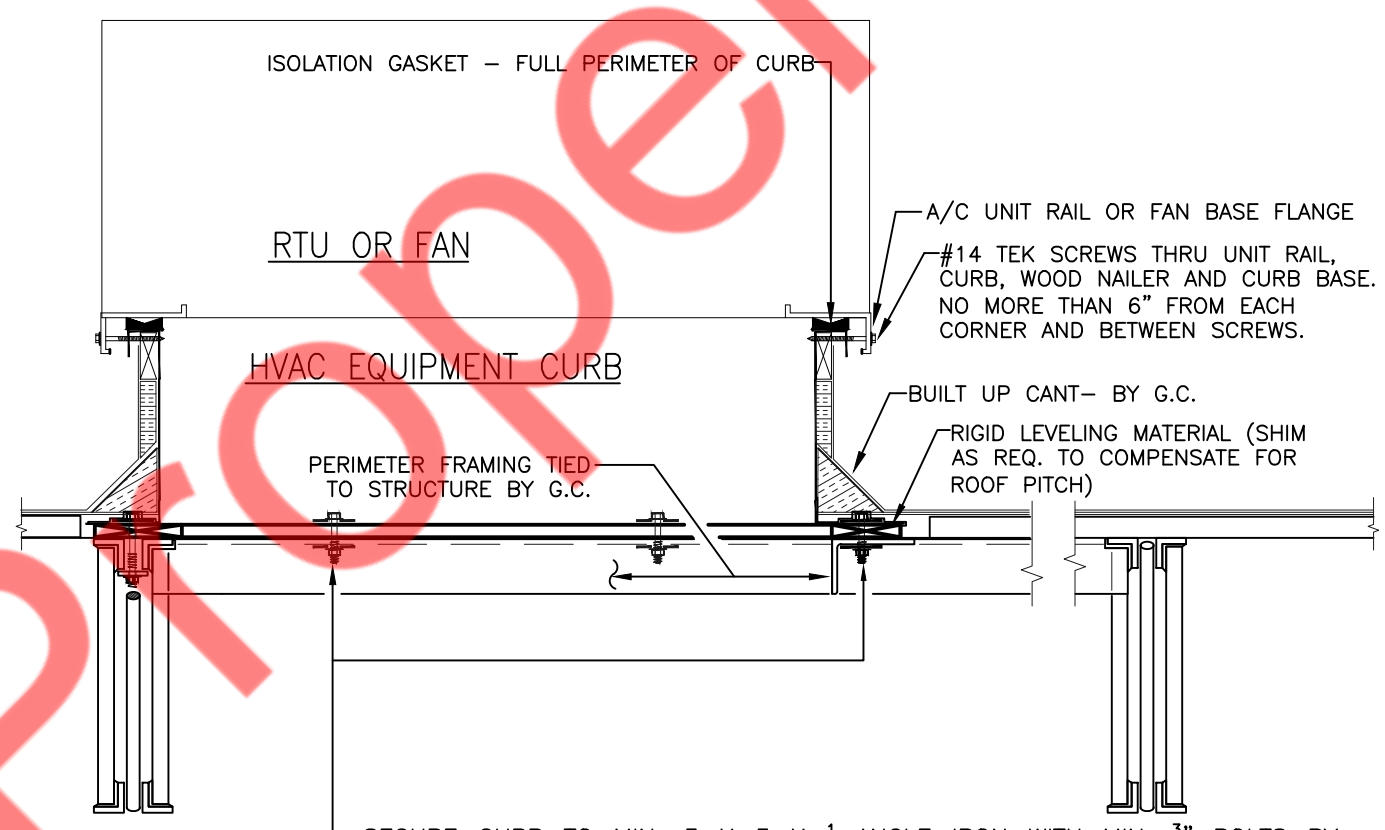
ALL DUCT INSULATION SHALL HAVE A MINIMUM INSULATING VALUE OF R-6.

NOTE: USE "FLEXIBLE DUCT" ONLY, NOT "FLEXIBLE CONNECTOR." IF LOCAL CODE LIMITS LENGTH OF FLEXIBLE DUCT, USE EXTERNALLY INSULATED SNAPLOCK PIPE TO FLEXIBLE DUCT, TO GRILLE/DIFFUSER

DUCT SCHEDULE	
SIZE	GAUGE
6" - 8"	28
10" - 12"	26
14" - 16"	24
18" - 20"	22

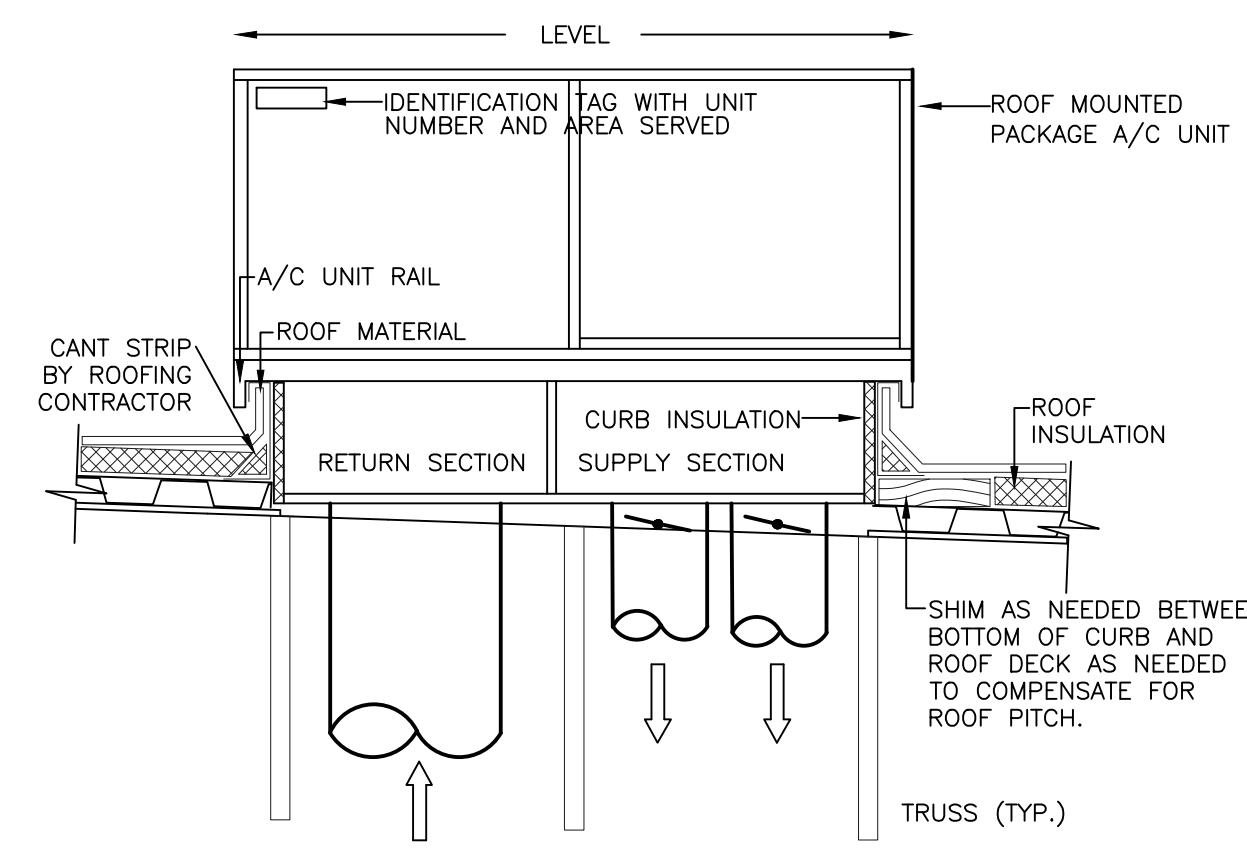
DUCT SUPPORT
 SUPPORT DUCTWORK WITH 1-1/2" WIDE 22 GAUGE STEEL STRAPS FIRMLY ATTACHED TO THE BUILDING STRUCTURE. SPACING SHALL BE MAXIMUM 10'-0" FOR RIGID DUCTWORK, AND MINIMUM 4'-0" FOR FLEXIBLE DUCTWORK. 12 GAUGE WIRE MAY BE SUBSTITUTED FOR STRAPS IF 1-1/2" WIDE 22 GAUGE STEEL SADDLES ARE USED TO FULLY ENCRICLE DUCT. REFER TO THE HVAC DUCT CONSTRUCTION STANDARDS PUBLISHED BY SMACNA FOR ADDITIONAL DETAILS. FULLY COMPLY WITH MECHANICAL CODES.

RIGID/FLEXDUCT CONNECTION/INSTALL DETAIL
 NOT TO SCALE



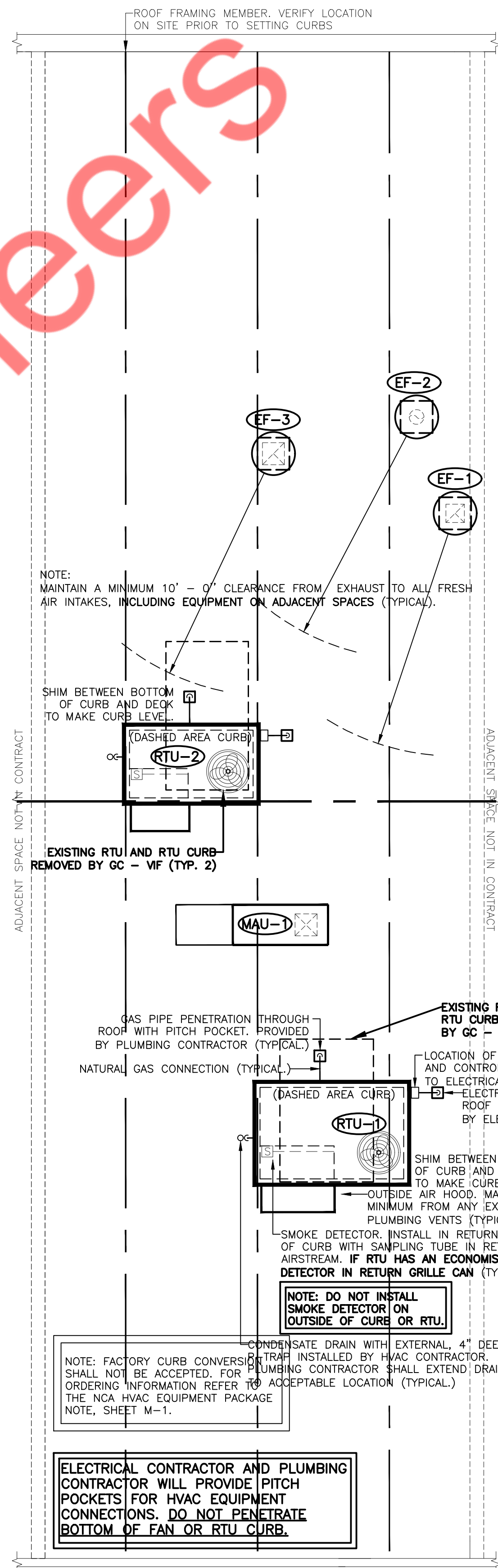
SECURE CURB TO MIN. 3 X 3 X 1/4 ANGLE IRON WITH MIN. 3/8" BOLTS BY REQUIRED LENGTH WITH FENDER WASHERS, LOCK WASHERS & NUTS @ EA. SIDE OF FAN CURBS & 4 PER LONG SIDE OF ROOF TOP CURBS & 2 AT EA. SHORT END EQUALLY SPACED - START FROM CORNER A MIN. OF 6". ON ROOF TOP A/C CURBS, GENERAL CONTRACTOR SHALL PROVIDE STRUCTURAL PERIMETER FRAMING FOR EDGE SUPPORT OF CURB AS ILLUSTRATED IN THIS DETAIL FOR HURRICANE FASTENING

ACCEPTABLE FOR 170 MPH ZONE
VERIFY ON SITE WITH GENERAL CONTRACTOR
ROOF EQUIP. CURB MOUNTING DETAIL
 NOT TO SCALE



NOTE: INSULATE ALL COLLARS. SEAL TO PLENUM AND FLEX INSULATION

DUCT RISER/LEVELING DETAIL
 NOT TO SCALE



NOTE: MAINTAIN A MINIMUM 10'-0" CLEARANCE FROM EXHAUST TO ALL FRESH AIR INTAKES, INCLUDING EQUIPMENT ON ADJACENT SPACES (TYPICAL).

SHIM BETWEEN BOTTOM OF CURB AND DECK TO MAKE CURB LEVEL.

GAS PIPE PENETRATION THROUGH ROOF WITH PITCH POCKET. PROVIDED BY PLUMBING CONTRACTOR (TYPICAL).

LOCATION OF ELECTRICAL DISCONNECT AND CONTROL WIRING ENTRANCE. REFER TO ELECTRICAL PLANS (TYPICAL).

SHIM BETWEEN BOTTOM OF CURB AND DECK TO MAKE CURB LEVEL.

OUTSIDE AIR HOOD, MAINTAIN 10'-0" MINIMUM FROM ANY EXHAUST OR PLUMBING VENTS (TYPICAL.)

SMOKE DETECTOR. INSTALL IN RETURN SECTION OF CURB WITH SAMPLING TUBE IN RETURN AIRSTREAM. IF RTU HAS AN ECONOMISER, INSTALL DETECTOR IN RETURN GRILLE CAN (TYPICAL.)

NOTE: DO NOT INSTALL SMOKE DETECTOR ON OUTSIDE OF CURB OR RTU.

CONDENSATE DRAIN WITH EXTERNAL, 4" DEEP TRAP INSTALLED BY HVAC CONTRACTOR. SHALL NOT BE ACCEPTED. FOR PLUMBING CONTRACTOR SHALL EXTEND DRAIN TO ACCEPTABLE LOCATION (TYPICAL).

ELECTRICAL CONTRACTOR AND PLUMBING CONTRACTOR WILL PROVIDE PITCH POCKETS FOR HVAC EQUIPMENT CONNECTIONS. DO NOT PENETRATE BOTTOM OF FAN OR RTU CURB.

ROOF PLAN - HVAC
 SCALE 1/4" = 1' - 0" WHEN PLOTTED 36" X 24"

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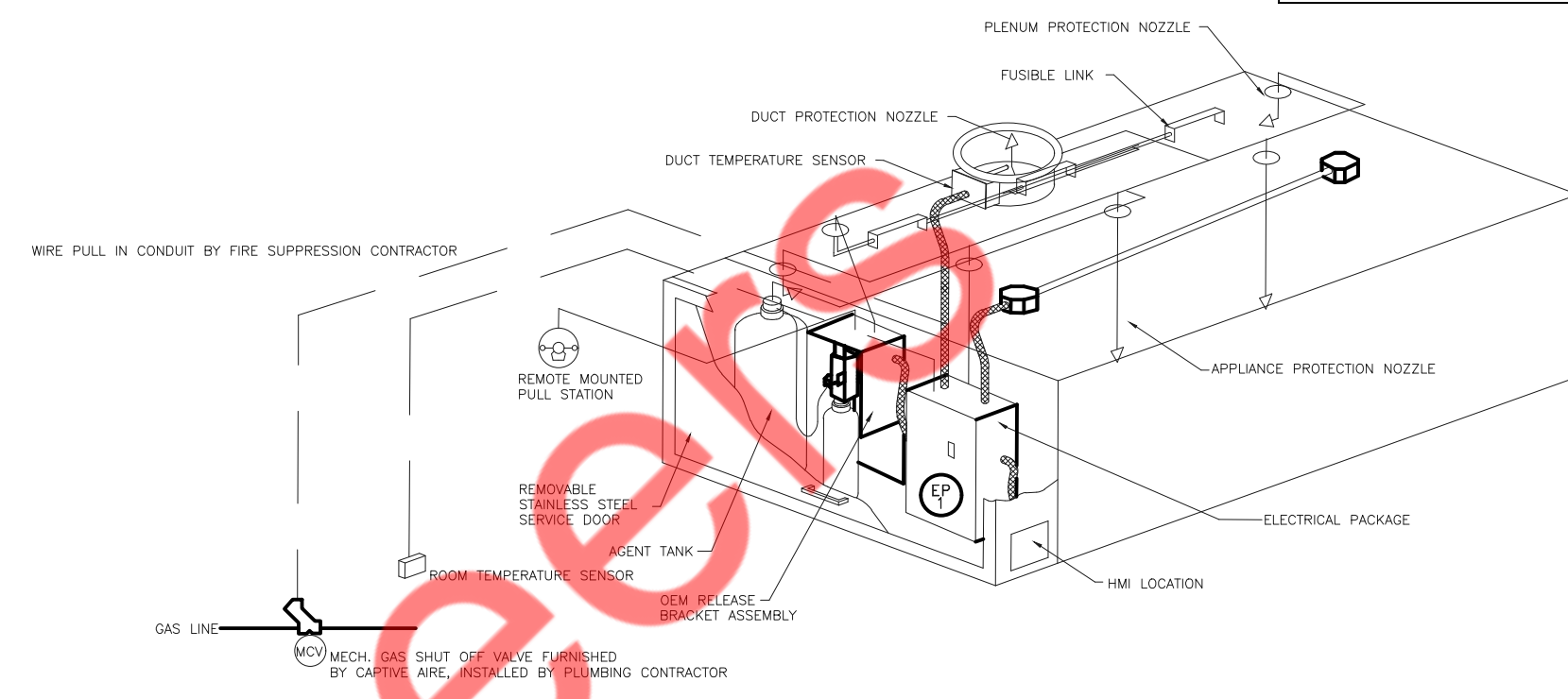
HOOD INFORMATION - Job#3985696																					
HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)					TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG.			SWITCHES			
								WIDTH	LENG.	HEIGHT	DIA.	CFM			VEL.	S.P.	END TO END	ROW	QUANTITY	LOCATION	
1	Type I	5424 ND-2-PSP-F	5' 0"	600 Deg.	Heavy	200	1000			4"	10"	1000	1833	-0.363"	600	430 SS Where Exposed	ALONE	ALONE			
2	Type II	6024 VHB-ND	3' 9"	700 Deg.	N/A	100	375			4"	8"	375	1074	-0.054"	0	430 SS 100%	ALONE	ALONE	1 FAN	FRONT RIGHT FACE	

HOOD INFORMATION																	
HOOD NO.	TAG	TYPE	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT	
			QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #			QUANTITY
1	Type I	SS Baffle with Handles	3	16"	16"	30%	3	L55 Series E26	NO	Left	12"x54"x24"	Ansul R102	3.0	SC-111110FP	1 Light 1 Fan	YES	472 LBS
2	Type II						0									NO	225 LBS

HOOD OPTIONS													
HOOD NO.	TAG	OPTION											
1	Type I	FIELD WRAPPER 18.00" High Front, Left, Right BACKSPLASH 80.00" High X 72.00" Long 430 SS Vertical LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS RISER SENSOR INSTALL 6IN PLEN											
2	Type II	FIELD WRAPPER 18.00" High Front, Left, Right BACKSPLASH 84.00" High X 45.00" Long 430 SS Vertical											

PERFORATED SUPPLY PLENUM(S)													
HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)						
							WIDTH	LENG.	DIA.	S.P.			
1	Type I	Front	72"	12"	6"	MUA	8"	36"	600	0.131"			

Fire System Information - Job#3985696						
FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		Ansul R102	3.0	10	Fire Cabinet Left	Left



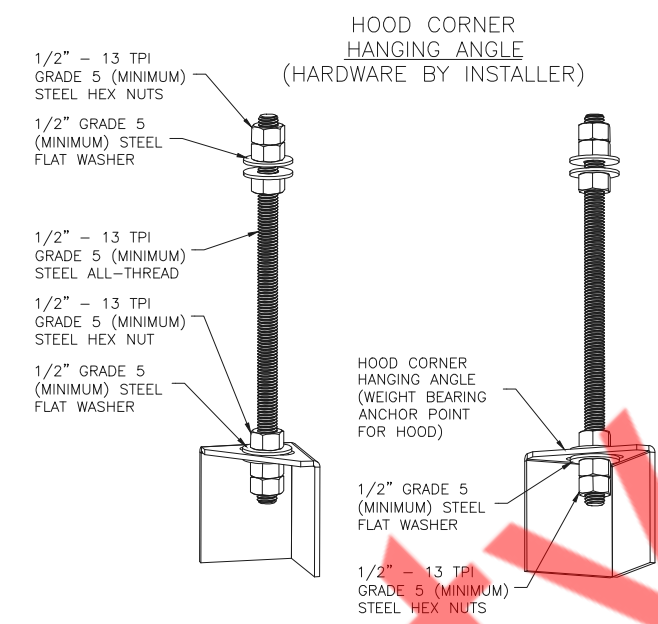
ACTUAL FIRE SYSTEM PIPING SCHEMATIC TO BE PROVIDED BY CONTRACTED FIRE SYSTEM DISTRIBUTOR AT TIME OF PERMITTING

NOTE:
THIS HOOD SYSTEM HAS A HEAT SENSOR THAT COMPLIES WITH IMC 507.2.1.1 FOR AUTOMATIC FAN ACTIVATION WHENEVER COOKING OPERATIONS OCCUR.

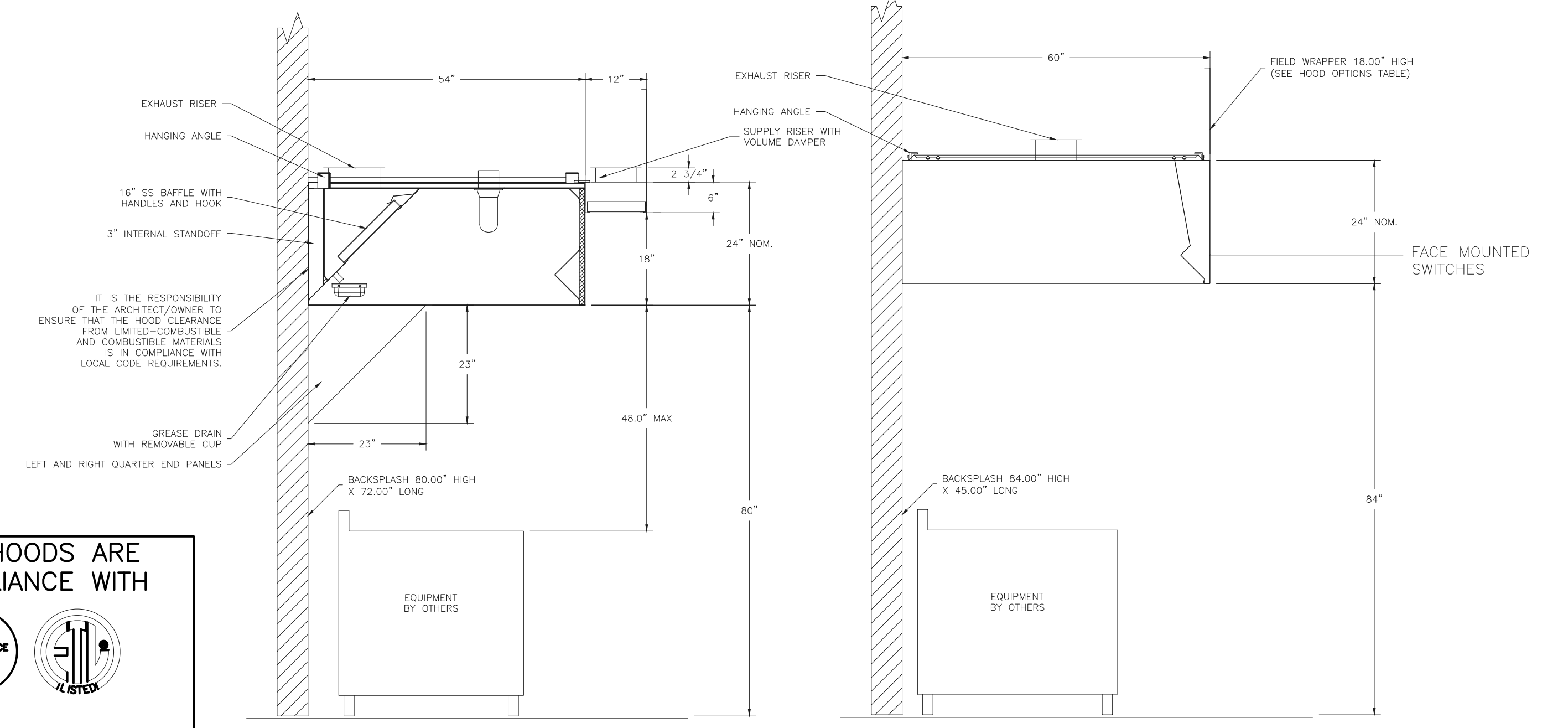
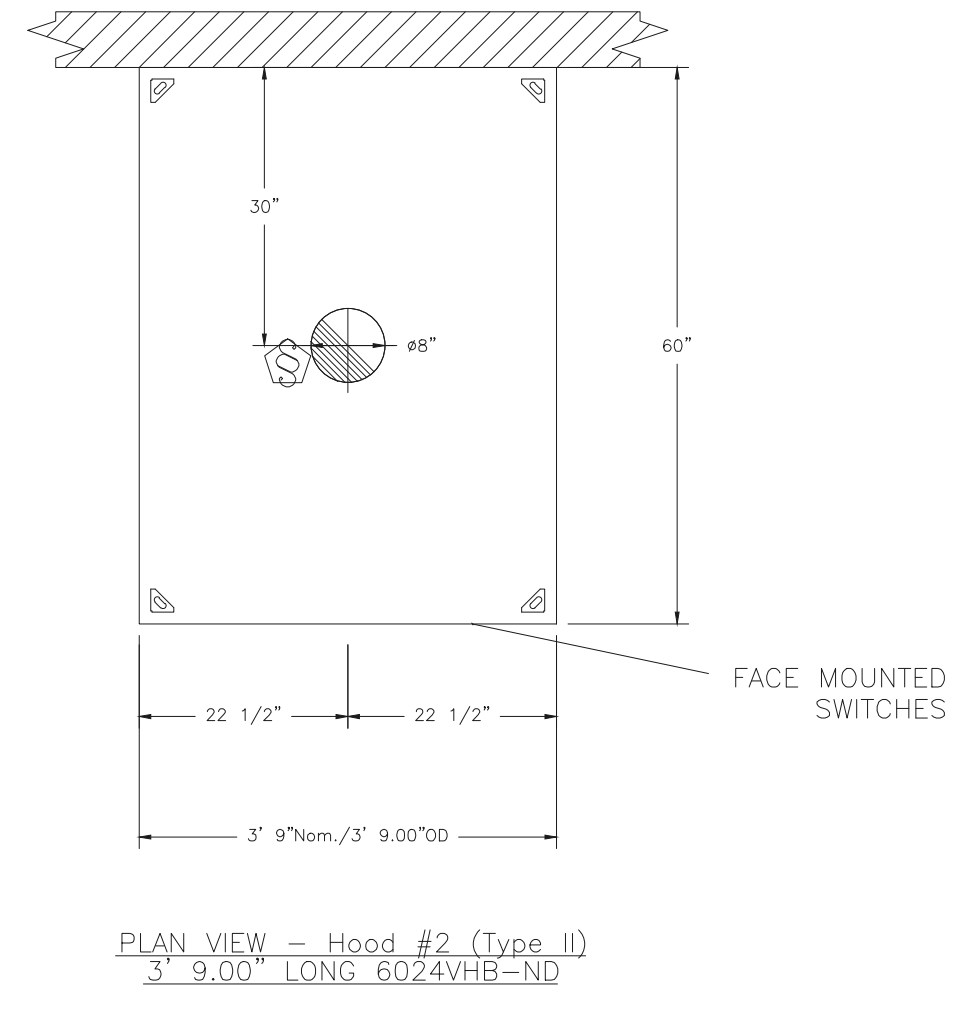
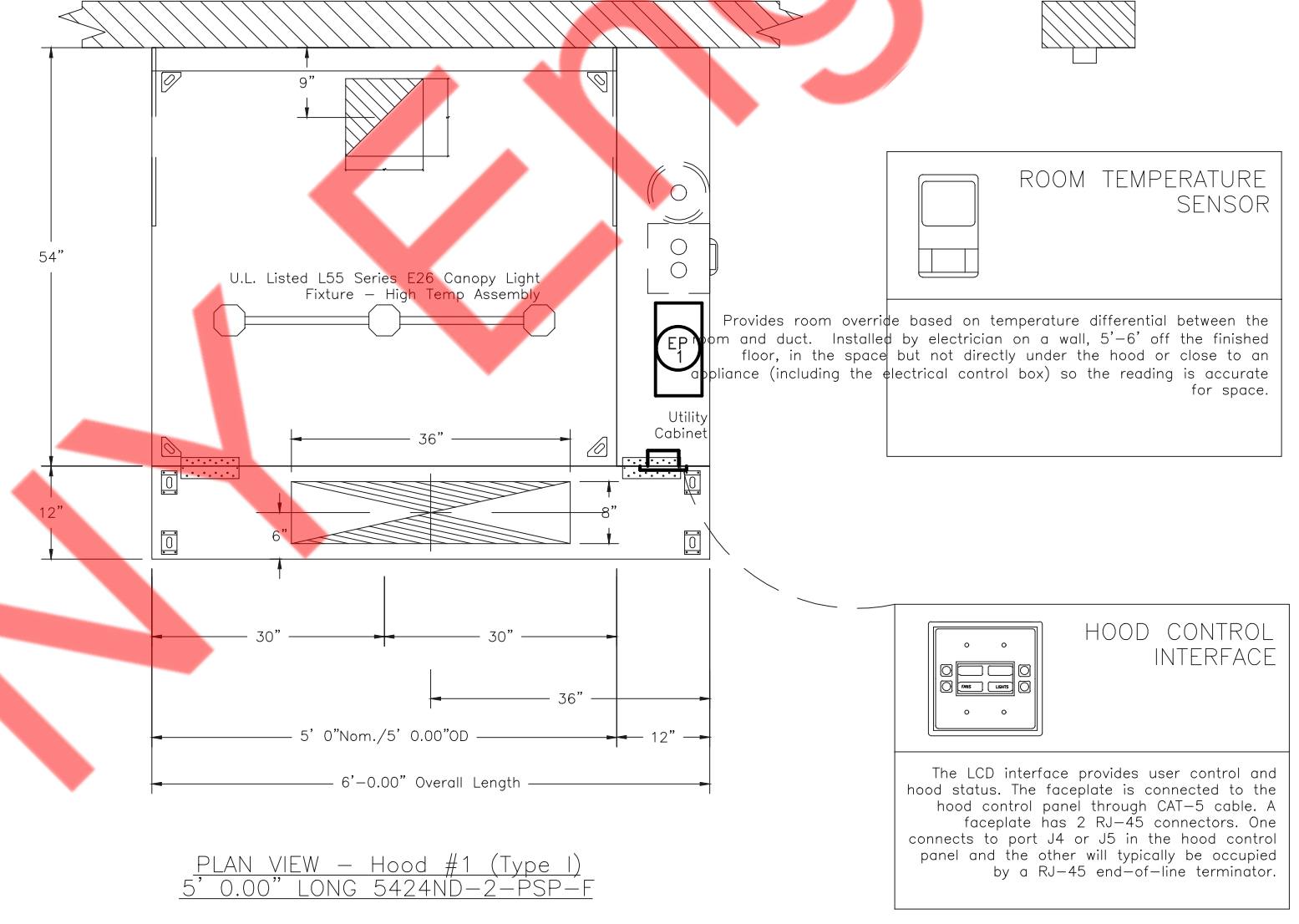
VERIFY CEILING HEIGHT
Height required to verify that the hood will fit and to size the enclosure panels

ELECTRICIAN NOTES :
All Hood/Fan/EMS/UDS/PCU electrical connections and interconnections to be provided and installed by Electrician. Electrician to provide, install, and land wiring between hood lights, hood temp sensors, remote Ansul system microswitches, and any other component requiring an electrical connection to the Captive-Aire electrical package. Failure by the Electrician to make ALL required electrical connections and interconnections will result in the electrical controls not working properly. Any loss or failed test as a result of electrical controls not working properly is the responsibility of the Electrician. Light bulbs for kitchen hoods to be provided and installed by electrician.

- GENERAL NOTES :**
- ELECTRICAL HOOK-UP TO GAS MOTOR CONTROLS (MOTOR STARTERS, FAN SWITCHES, FAN DISCONNECTS, RELAYS, ETC.) BY OTHERS. FIRE CHASE BY OTHERS, IF REQUIRED.
 - ALL PHASES OF INSTALLATION SHALL COMPLY WITH NFPA 96.
 - WRITTEN MEASUREMENTS HAVE PRECEDENCE OVER SCALE.
 - PROVIDE CLEANOUTS IN EXHAUST AIR DUCTS AS INDICATED TO ALLOW CLEANING AT ALL BENDS AND HORIZONTAL RUNS.
 - UNLISTED EXHAUST DUCT TO BE 16 GA. GAV STEEL ALL SEAMS AND JOINTS TO HAVE A LIQUID TIGHT CONTINUOUS EXTERNAL WELD.
 - FAN TO HAVE A MINIMUM OF 10 FT. OF CLEARANCE FROM THE OUTLET TO ADJACENT BUILDINGS, PROPERTY LINES, AIR INTAKES OR 3 FT. VERTICAL CLEARANCE PER NFPA96
 - HORIZONTAL EXHAUST DUCT TO SLOPE NOT LESS THAN 1/4" PER FOOT TOWARD HOOD FOR DUCT LESS THAN 75' LONG.
 - 1" PER FOOT SLOPE FOR DUCT LONGER THAN 75'
 - HOOD TO OVERHANG COOKING EQUIPMENT 6" ON ALL OPEN SIDES.
 - EXHAUST DUCT TO BE PROTECTED FROM COMBUSTIBLES PER NFPA96 AND LOCAL CODE.
 - BUILDING PRESSURE SHALL NOT EXCEED 0.02" WATER COLUMN AT EXTERIOR DOORS.
 - KITCHEN SHALL BE BALANCED TO BE NEGATIVE WITH RESPECT TO THE DINING ROOM.



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 87 FT-LBS.



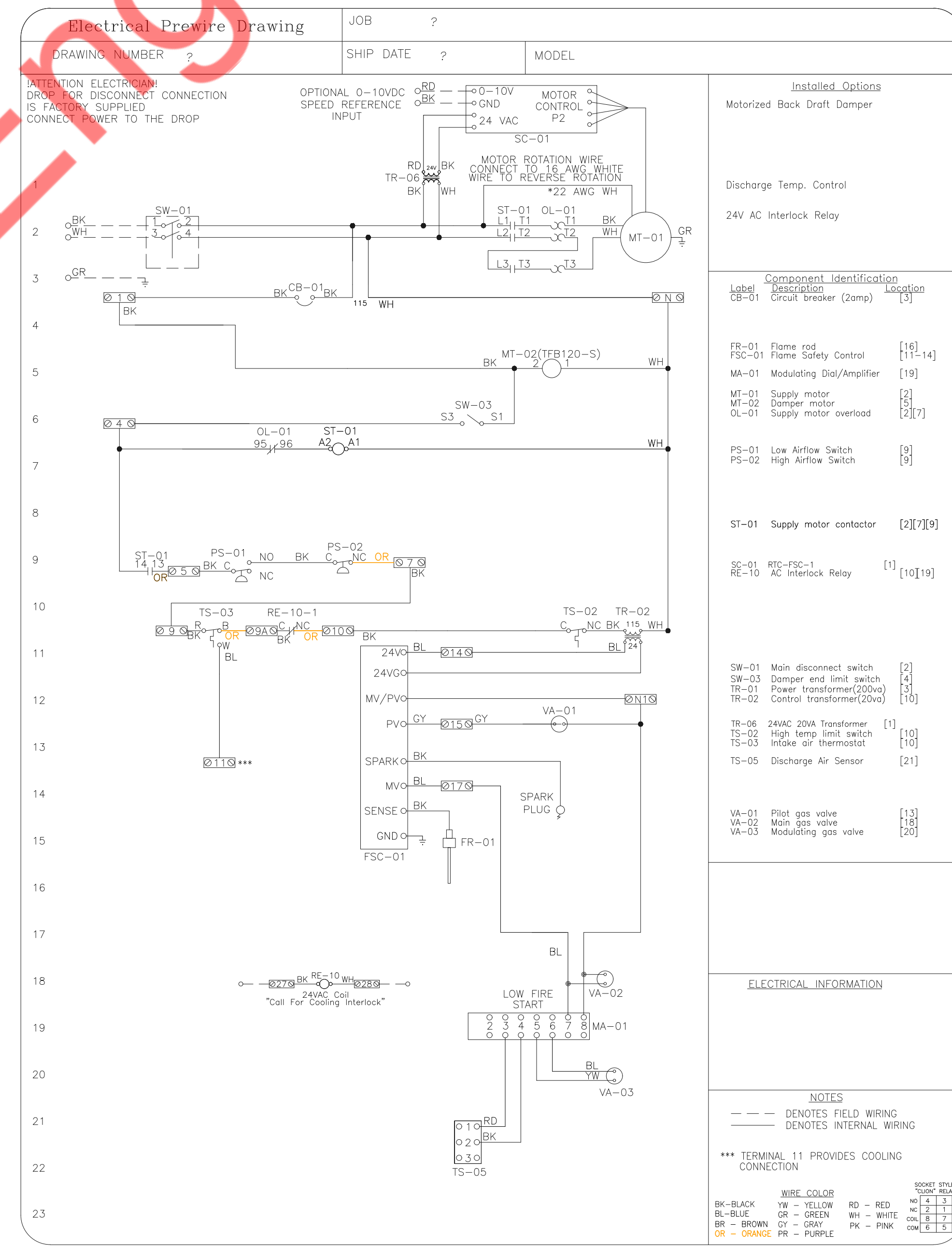
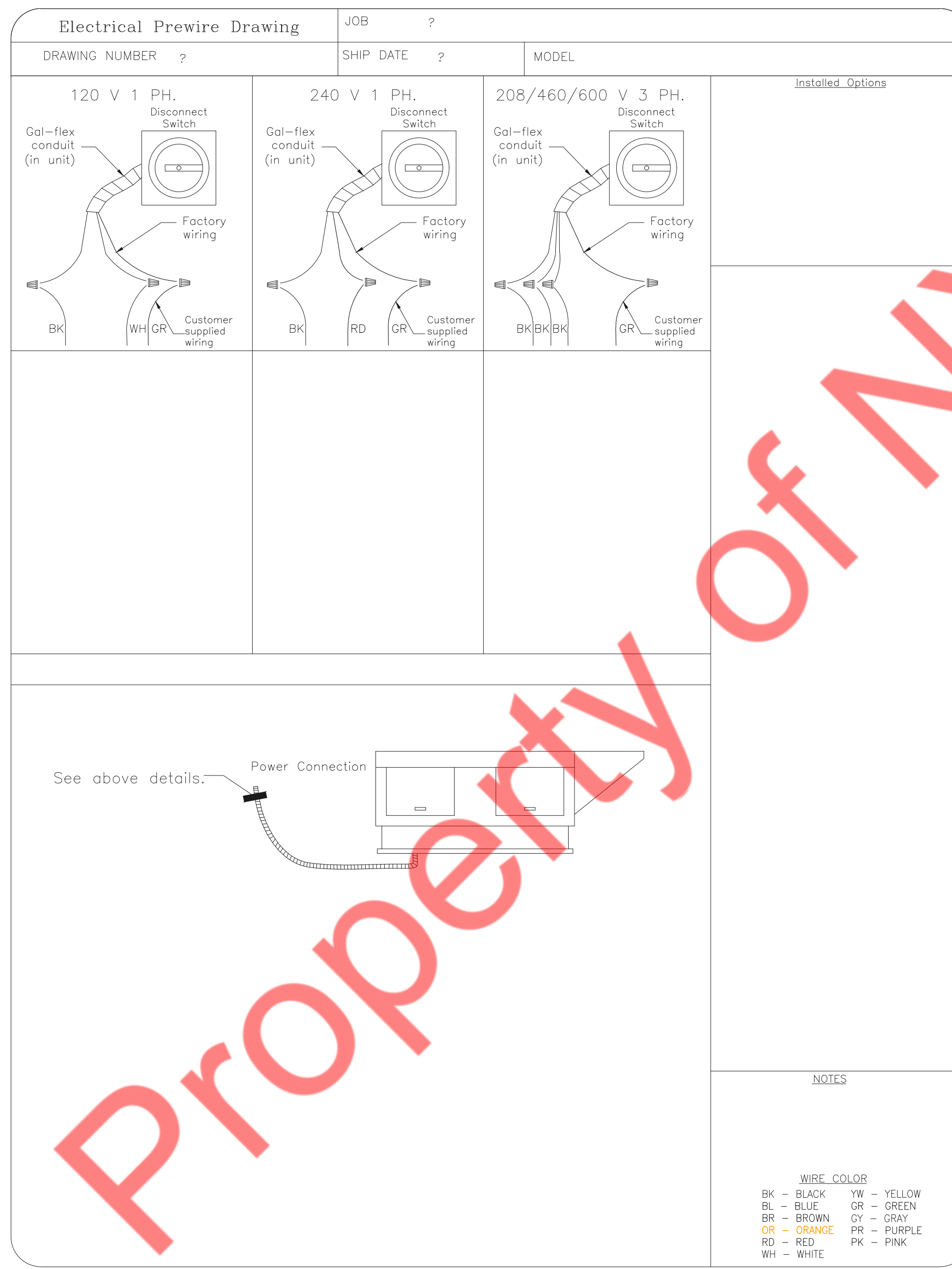
CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

CAPTIVE-AIRE SYSTEMS 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

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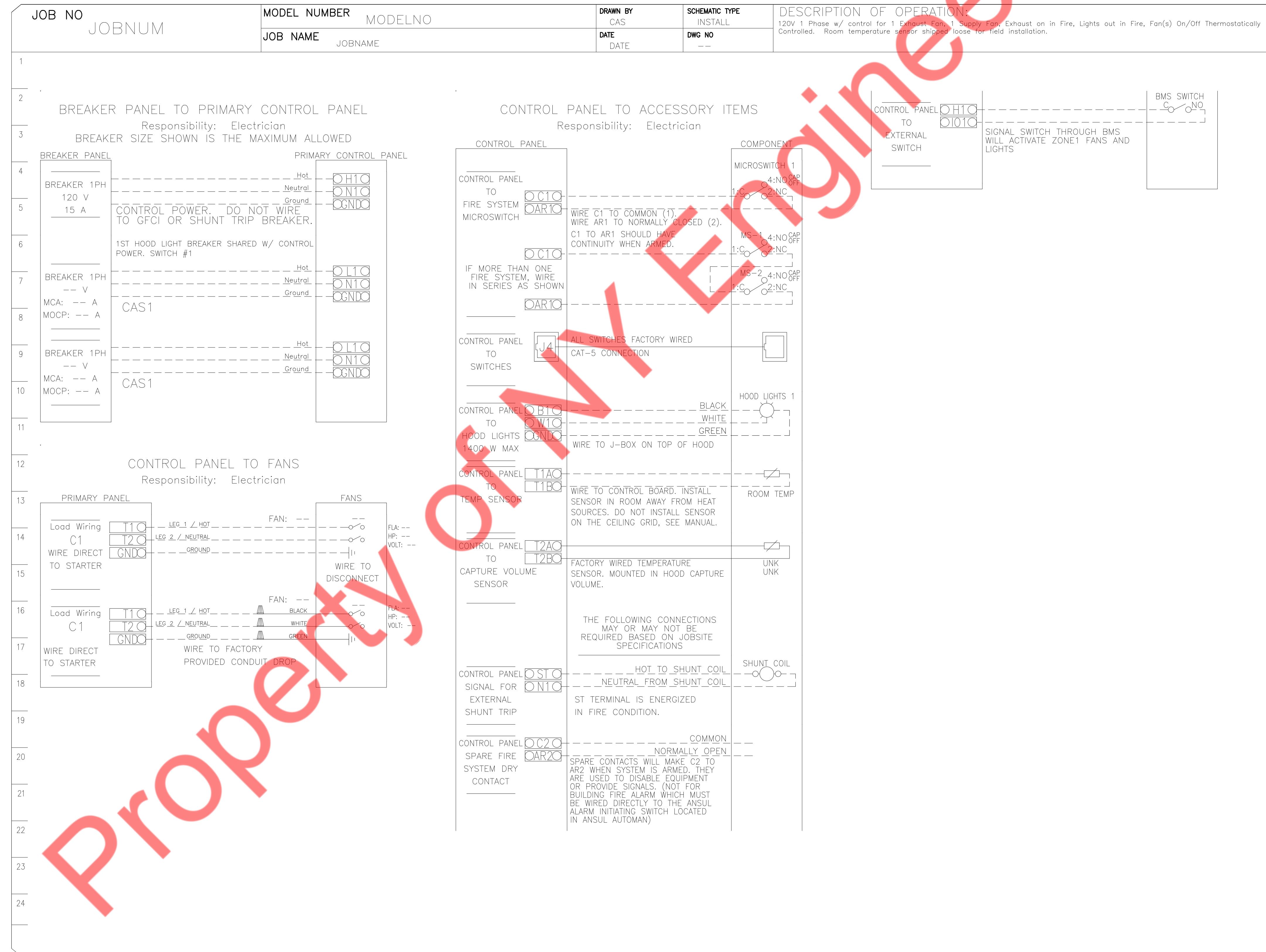


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ELECTRICAL PACKAGE - Job#3985696

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	φ	H.P.	VOLT	FLA
1	EP1	SC-111110FP	Utility Cabinet Left	03 - Utility Cabinet Left	1 Light	Smart Controls Thermostatic Control	EF-1	Exhaust	1	0.500	115	8.4
				Hood # 1	1 Fan		MAU-1	Supply	1	1.000	115	11.6
2		Switches		02 - Face Mount Right Side of Hood Hood # 2	1 Fan							



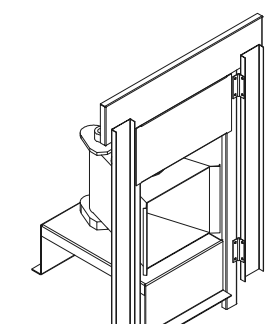
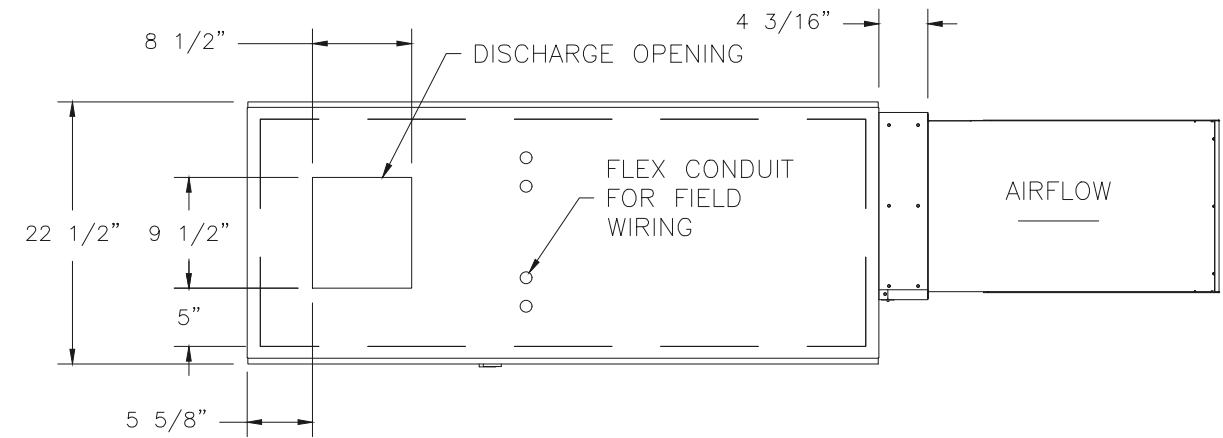
Property of ONY ENGINEERS

- FAN #3 D76D - HEATER
1. LOW CFM DIRECT FIRED HEATER, DIRECT DRIVE.
 2. INTAKE HOOD WITH EZ FILTERS
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
 5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
 6. MOTORIZED BACK DRAFT DAMPER 13" X 17" FOR D76 COMPACT DIRECT FIRED HEATERS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, FF120S ACTUATOR INCLUDED
 7. FREEZESTAT WITH 10" SENSOR, FACTORY SET AT 35°F AND 10 MINUTES.
 8. ECM WIRING PACKAGE AND MANUAL OR 0-10VDC CONTROL FOR SUPPLY EC MOTORS. RTC CONTROLLER. **DO NOT ORDER UNDER WARRANTY, SEE PART NUMBER "ECM-VCU-RTC**.

SUPPLY SIDE HEATER INFORMATION:

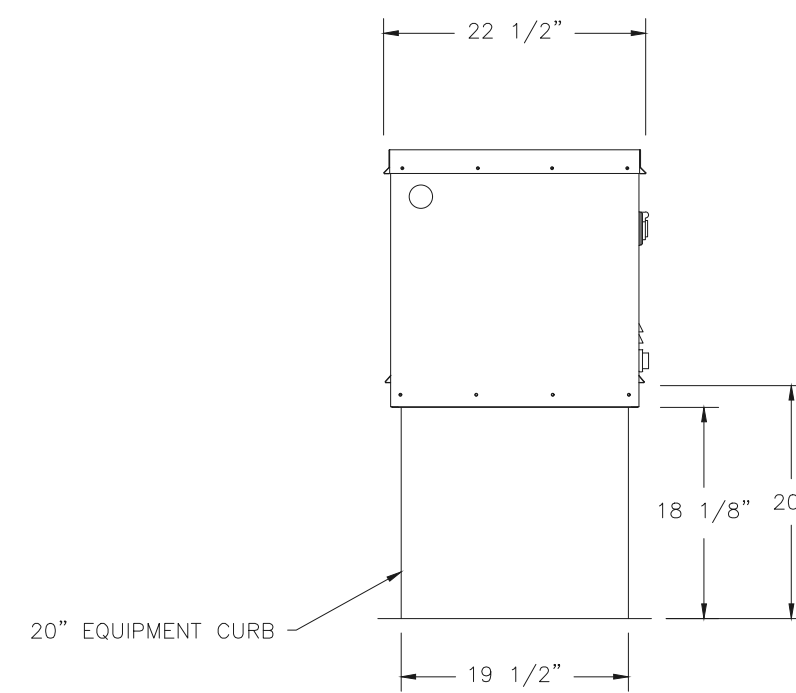
WINTER TEMPERATURE = -30°F. TEMP. RISE = 100°F.
 BTUS CALCULATED OFF ACTUAL AIR DENSITY
 OUTPUT BTUS AT ALTITUDE OF 0.0 ft. = 64706
 INPUT BTUS AT ALTITUDE OF 0.0 ft. = 70332
 OUTPUT BTUS AT ALTITUDE OF 1296 ft. = 61732
 INPUT BTUS AT ALTITUDE OF 1296 ft. = 67100

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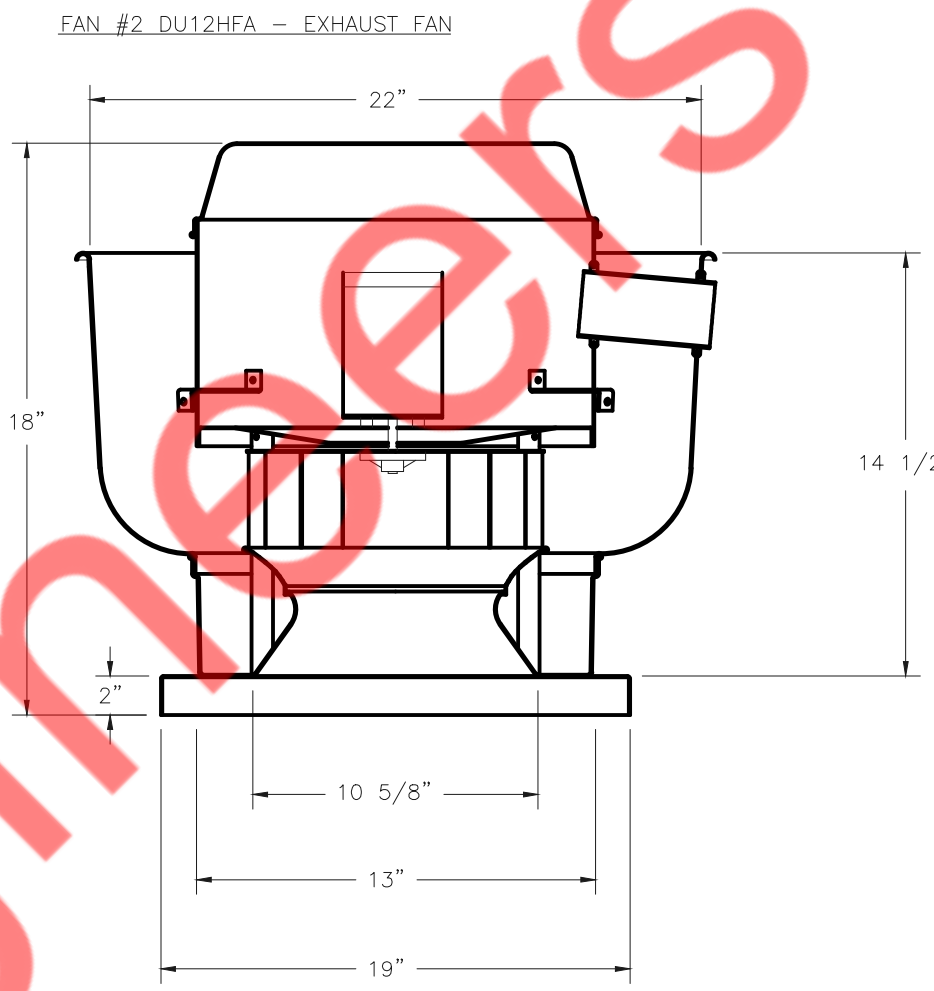
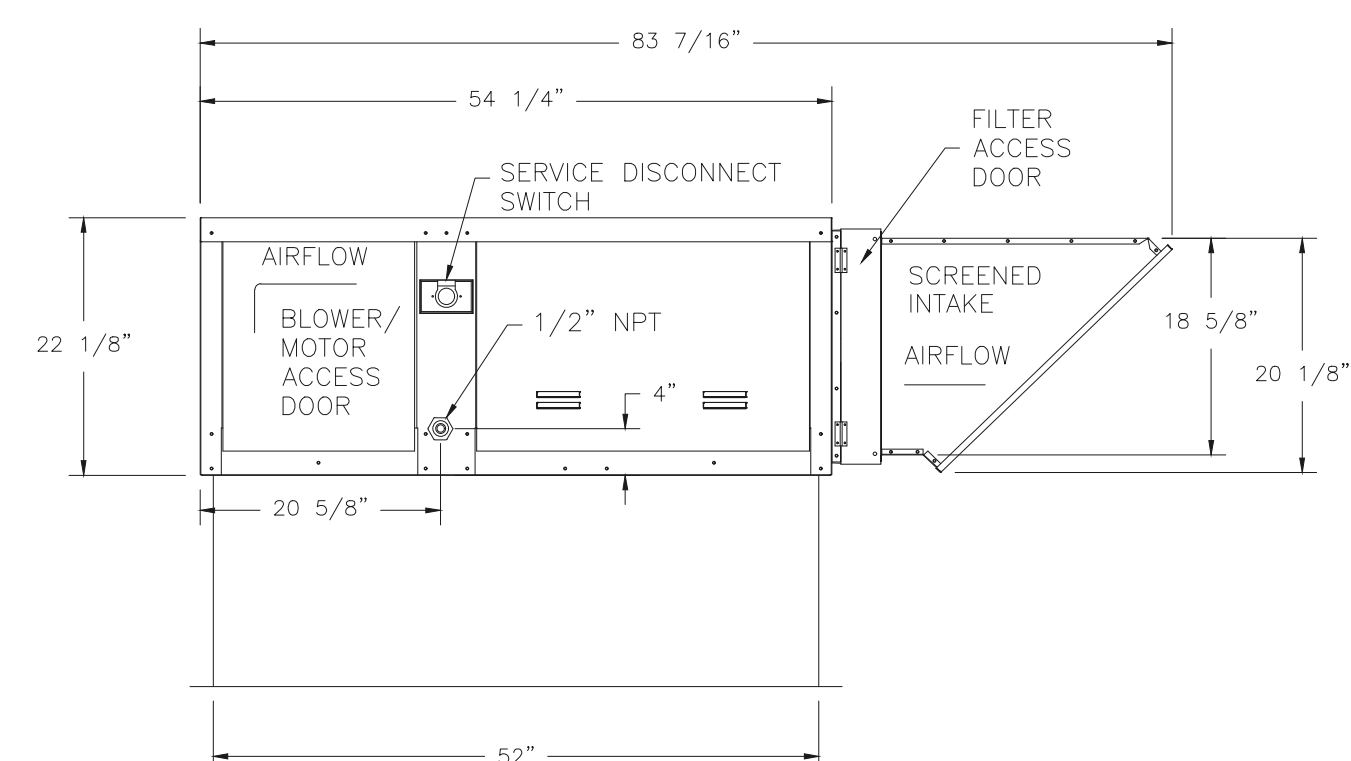


Direct Fired (DF) Profile Plate Assembly

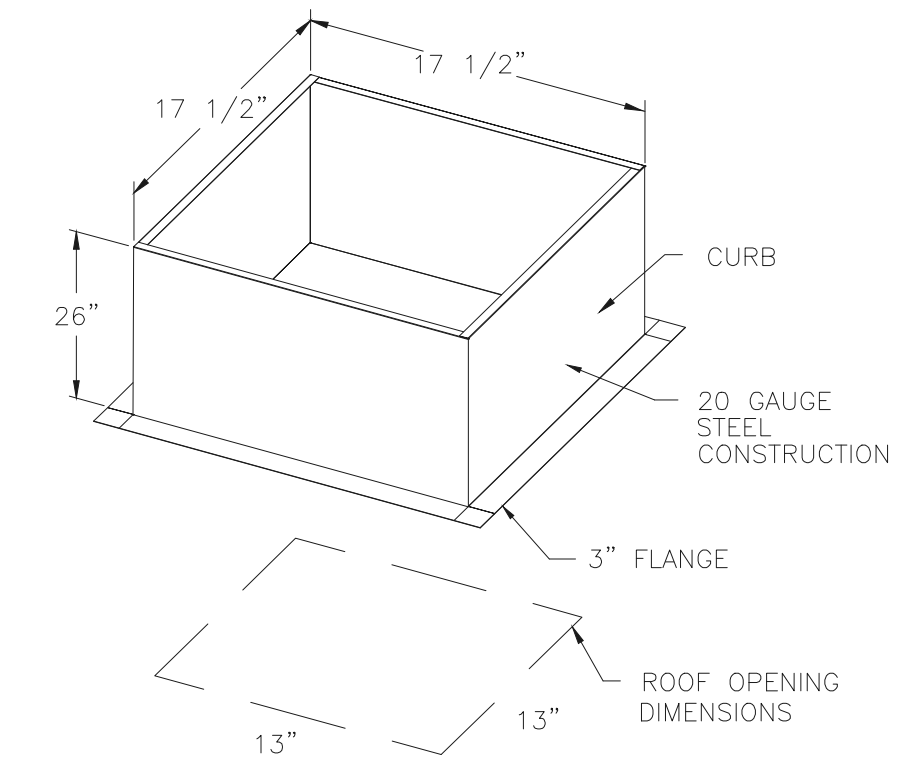
Direct Fired Profile Plate Specifications:
Description: Direct fired burners shall have patented (US Patent No. US6629523B2), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve clean combustion by limiting by-product levels to a maximum of 5ppm of carbon monoxide (CO), and 15ppm of nitrogen dioxide (NO2). Direct fired units shall be configured with the blower mounted downstream of the burner. This arrangement will ensure a consistent airflow, regardless of inlet or temperature.
Application: Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for Demand Control Ventilation (DCV) requirements.
Certifications: All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 3.7 (non-recirculating DF heaters) and ANSI Z83.16 (recirculating DF heaters).
General Construction:
 -Profile plates shall be formed from G90 galvanized steel.
 -Profile plates shall vary in size per unit.
 -Profile plates shall be mounted along the same plane as the discharge of the burner.
 -Design shall incorporate properly torqued, permanently mounted spring hinges.
 -Spring hinges shall be made from plated steel.



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.

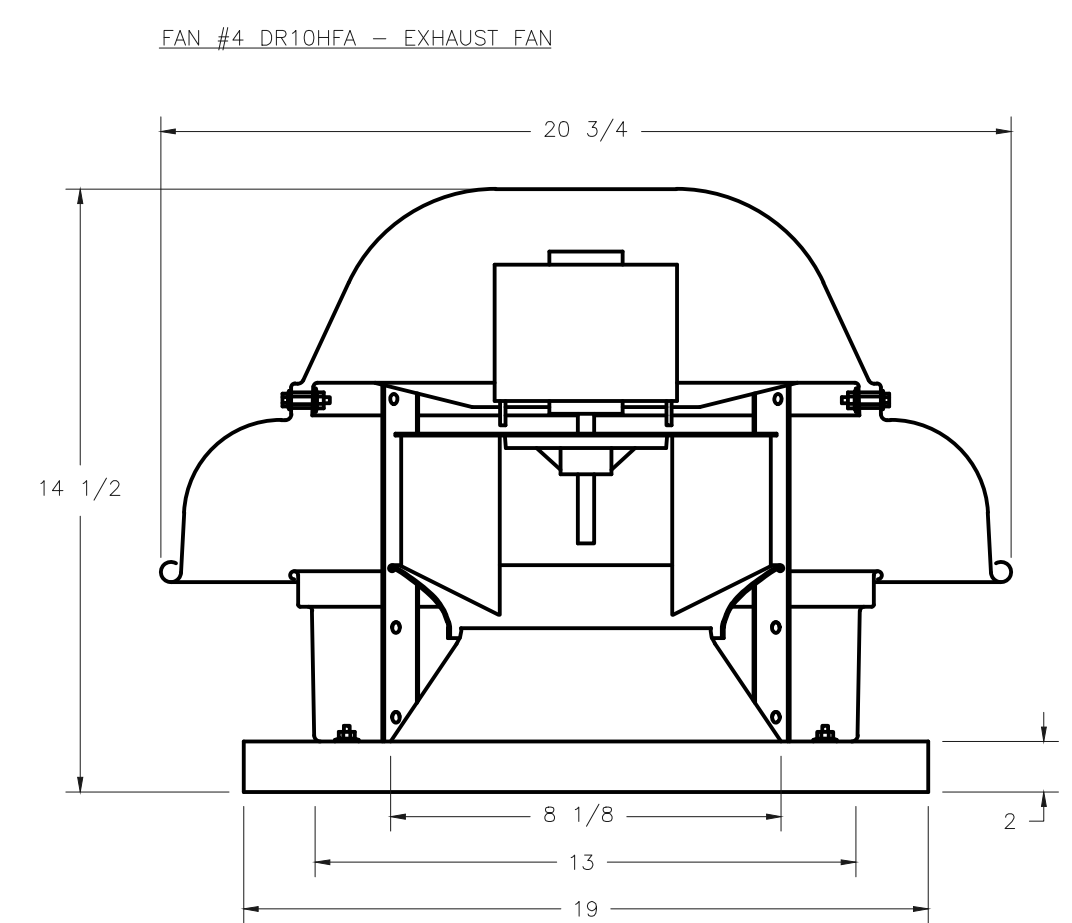
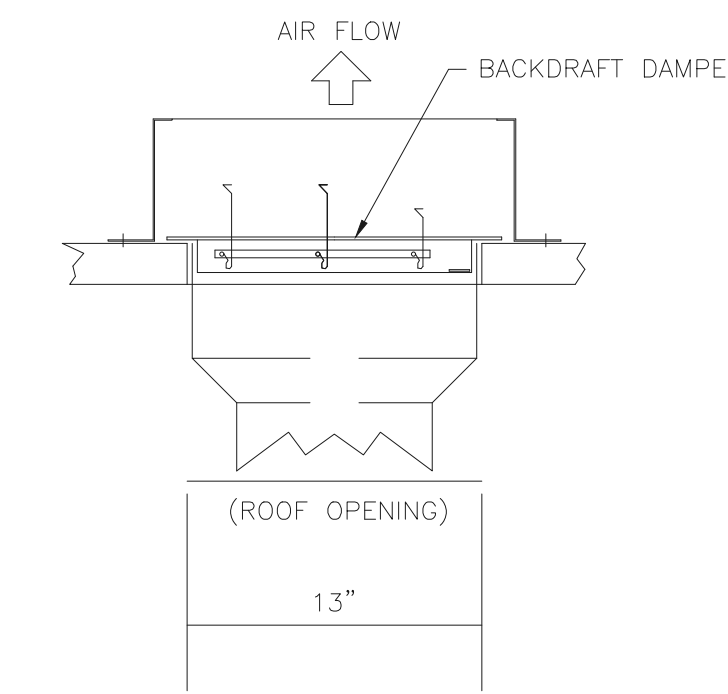


- FEATURES:**
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
 - ROOF MOUNTED FANS
 - UL705
 - VARIABLE SPEED CONTROL
 - INTERNAL WIRING
 - WEATHERPROOF DISCONNECT
 - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- OPTIONS:**
- 1 12-BDD DAMPER.



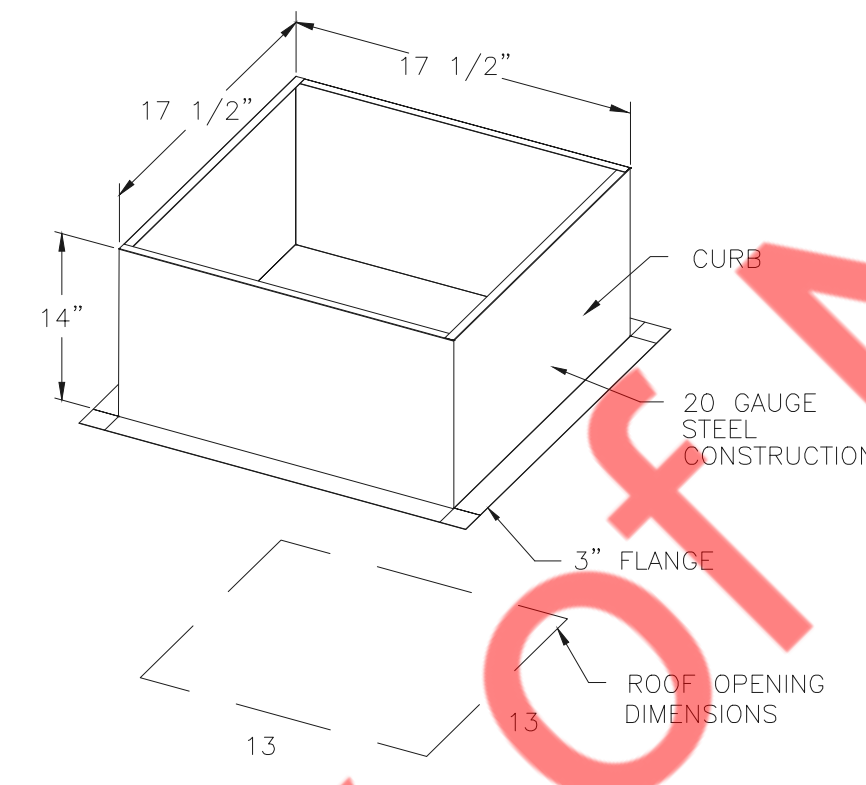
PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.
 SPECIFY PITCH:
 EXAMPLE: 7/12 PITCH = 30° SLOPE

BACKDRAFT DAMPER INSTALLATION

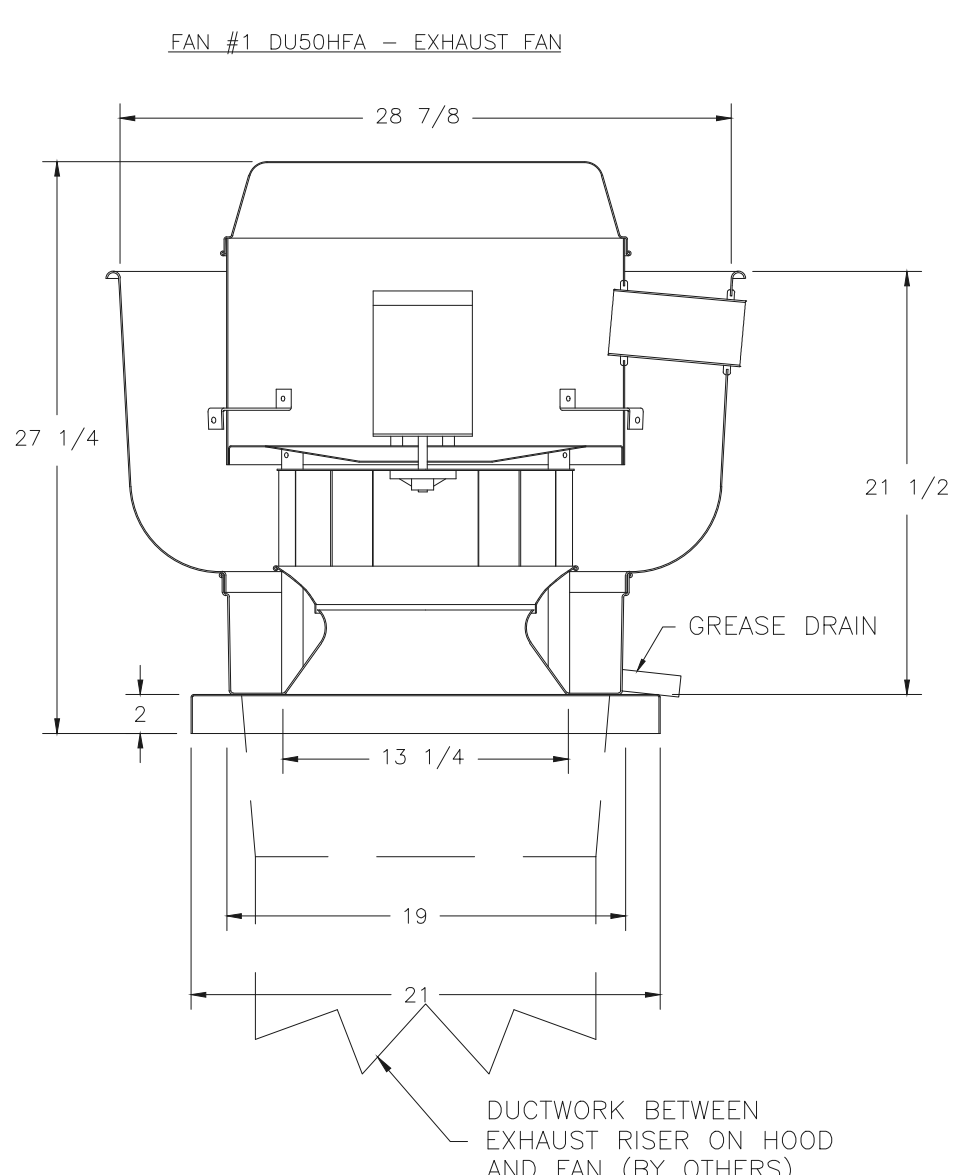


- FEATURES:**
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
 - ROOF MOUNTED FANS
 - UL705
 - SAFETY DISCONNECT
 - STANDARD BIRD SCREEN
 - SPEED CONTROL

- OPTIONS:**
- ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (TELCO MOTOR), CCW ROTATION.



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

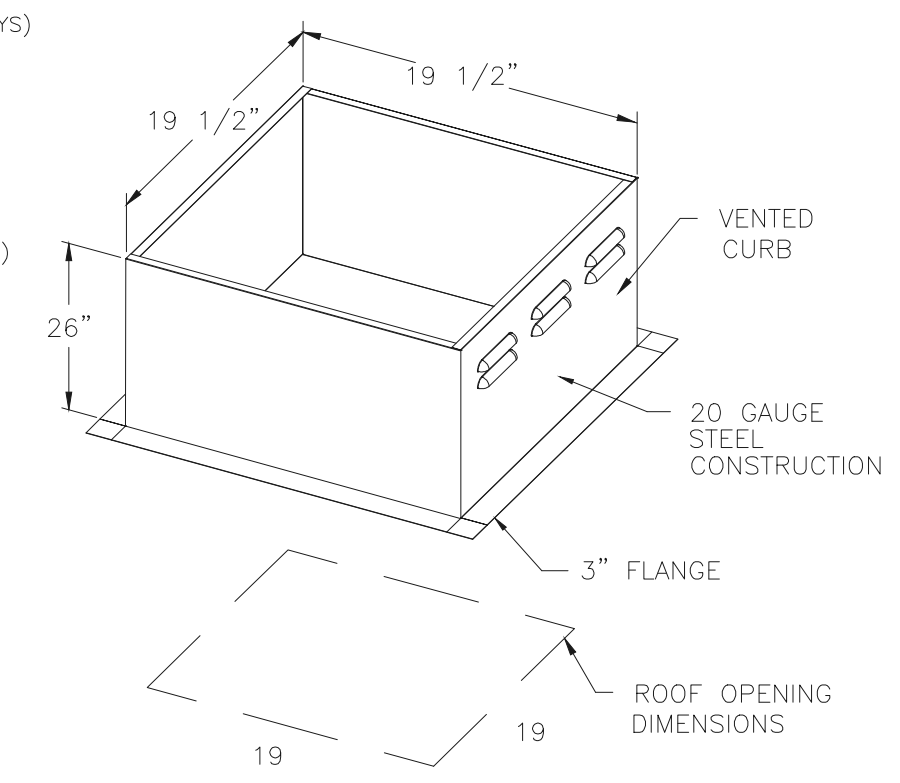


- FEATURES:**
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
 - ROOF MOUNTED FANS
 - RESTAURANT MODEL
 - UL705 AND UL762 AND ULC-S645
 - VARIABLE SPEED CONTROL
 - INTERNAL WIRING
 - WEATHERPROOF DISCONNECT
 - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
 - HIGH HEAT OPERATION 300°F (149°C)
 - GREASE CLASSIFICATION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

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

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

- OPTIONS:**
- GREASE BOX.
 - ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (TELCO MOTOR), CCW ROTATION.



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

ELECTRICAL SPECIFICATIONS

- MATERIALS AND INSTALLATION, AS A MINIMUM, ARE TO CONFORM WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, THE LATEST EDITION OF N.F.P.A., AND THE LATEST EDITIONS OF THE LOCAL CODES AND ORDINANCES, INCLUDING ALL AMENDMENTS TO THE N.E.C. EQUIPMENT, WHERE APPLICABLE, WILL BE LISTED WITH THE UNDERWRITERS LABORATORIES, INC. QUALITY AND WORKMANSHIP ESTABLISHED BY DRAWINGS AND SPECIFICATIONS ARE NOT TO BE REDUCED BY THE ABOVE MENTIONED CODES.
- BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM IS TO BE FULLY OPERABLE AND ACCEPTANCE OF THIS SYSTEM BY THE ENGINEER/ARCHITECT MUST BE A CONDITION OF THE SUB CONTRACT.
- ALL WORK TO BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- CORRECTION OF ANY DEFECTS TO BE COMPLETED WITHOUT ADDITIONAL CHARGE AND TO INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- ALL REQUIRED INSURANCE TO BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OF PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- CONTRACTOR TO PAY FOR ALL PERMITS, FEES INSPECTIONS AND TESTINGS.
- ELECTRICAL INSTALLATION TO MEET ALL STANDARD REQUIREMENTS OF LOCAL POWER AND TELEPHONE COMPANIES. ELECTRICAL CONTRACTOR SHALL CONTACT LOCAL POWER AND TELEPHONE COMPANIES PRIOR TO START OF CONSTRUCTION.
- ALL WIRING SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED. MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER WITH THWN/THHN INSULATION. CONDUCTORS #10 AND SMALLER MAY BE SOLID; ALL THOSE #8 AND LARGER TO BE STRANDED.
- ALL UNDERGROUND RACEWAYS SHALL BE MINIMUM 3/4", GALVANIZED RIGID STEEL CONDUIT OR SCHEDULE 40 PVC. ALL OTHER RACEWAYS TO COMPLY WITH GOVERNING CODES. WHERE RIGID STEEL IS USED, IT SHALL BE COMPLETELY COATED WITH AN ALKALI AND RUST RESISTANT BITUMASTIC PAINT, COPPER NO. 50, AND THREADS SHALL BE COATED WITH ZINC CHROMATE. RIGID STEEL SHALL ALSO BE USED WHEN CONDUIT IS EXPOSED TO EXTERIOR ENVIRONMENT SUCH AS BUILDING OR EXTERIOR OR WHERE IT IS EXPOSED AND SUBJECT TO DAMAGE, INSIDE OF BUILDING.
- ALL UNDERGROUND SERVICE CONDUITS/RACEWAYS ENTERING BUILDING OR STRUCTURE FROM OUTSIDE TO INSIDE SHALL BE SEALED, INCLUDING SPARE CONDUITS. SEALANT SHALL BE SUITABLE FOR THIS USE.
- OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND BE OF SPECIAL CONSTRUCTION FOR OTHER CLASSIFIED AREAS. ALL BOXES SHALL BE RECESSED (FLUSH) IN WALLS OR CEILINGS WHENEVER POSSIBLE.
- DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK TYPE. ENCLOSURES SHALL BE AS REQUIRED BY N.E.C. AND LOCATION (WEATHERPROOF, EXPLOSION PROOF, ETC.). ENGRAVED LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL PANELS, DISCONNECT SWITCHES, CONTACTORS AND STARTERS.
- ALL FUSES FOR SAFETY SWITCHES SHALL BE DUAL ELEMENT, CARTRIDGE TYPE. FUSES SHALL BE THOSE MANUFACTURED BY EITHER BUSSMAN OR LITTLEFUSE. THE CONTRACTOR SHALL FURNISH TO THE OWNER ONE SPARE FUSE FOR EACH SIZE AND TYPE OF FUSE INSTALLED. FUSES 600 AMPS OR LESS SHALL BE CLASS RK1, TYPICAL UNLESS OTHERWISE NOTED. FUSES OVER 600 AMPS SHALL BE CLASS L.
- ALL GENERAL PURPOSE SWITCHES AND RECEPTACLES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. CATALOG NUMBERS LISTED ARE LEVITON; HOWEVER, COMPARABLE DEVICES BY PASS & SEYMOUR, BRYANT, OR ARROW HART WILL BE ACCEPTED. COLOR OF DEVICES AND PLATES SHALL BE DICTATED BY ARCHITECT/OWNER.
 - A. SWITCHES: LEVITON #CSB1-20I (SALES AREA); LEVITON #CSB1-20B (SERVICE LINE)
 - B. RECEPTACLES: LEVITON #BR20-I (SALES AREA); LEVITON #BR20-B (SERVICE LINE)
 - C. COVER PLATES: STAINLESS STEEL

NOTE: ALL OTHER REQUIRED DEVICES SHALL MATCH IN COLOR AND STYLE.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM, AND PROVIDE ALL NECESSARY DEVICES AND COMPONENTS FOR EQUIPMENT BE PLACED IN PROPER WORKING ORDER.
- A SEPARATE, GREEN TYPE THW COPPER GROUND CONDUCTOR SHALL BE RUN FROM GROUND LUG OF EACH GROUNDED RECEPTACLE TO AN APPROVED CONNECTION INSIDE THE ENCLOSING STEEL OUTLET BOX. DEVICE MOUNTING SCREWS SHALL NOT BE CONSIDERED AN APPROVED GROUND.
- A SEPARATE GROUND CONDUCTOR SHALL BE INSTALLED IN EVERY CONDUIT AND RACEWAY AND SECURELY BONDED IN AN APPROVED GROUNDING TERMINAL AT BOTH ENDS OF THE RUN. THE GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.122 OF THE N.E.C. CONTRACTOR SHALL SIZE CONDUIT TO ACCOMMODATE ADDITIONAL CONDUCTOR.
- GROUND RODS SHALL BE 5/8" DIAMETER, TEN (10) FEET LONG COPPERCLAD STEEL. OBTAIN TWENTY FIVE (25) OHMS MAXIMUM RESISTANCE AS READ WITH A GROUNDING RESISTANCE TESTER, USING TWO REFERENCE RODS. IF TWENTY FIVE (25) OHMS CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE ADDITIONAL RODS, UNTIL TWENTY FIVE (25) HAS BEEN OBTAINED.
- LOAD DATA IS BASED ON INFORMATION GIVEN TO ENGINEER AT THE TIME OF DESIGN. VERIFY ALL EQUIPMENT NAMEPLATE RATINGS BEFORE ORDERING.
- CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZES. THE CONTRACTOR IS TO PROVIDE CIRCUITS AND ROUTING OF CONDUITS TO SUIT JOB CONDITIONS.
- FURNISH AND INSTALL DISCONNECT SWITCHES, WIRING, AND CONNECTIONS ON AIR CONDITIONING SYSTEM AS SHOWN ON PLANS. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE WITH MECHANICAL CONTRACTOR REGARDING SUPPLY AND INSTALLATION OF ALL REQUIRED CONTROLS.

- ELECTRICAL CONTRACTOR SHALL MAKE LINE VOLTAGE CONNECTIONS TO THE MAIN TERMINAL BLOCK OR LUGS ON ALL EQUIPMENT SHOWN. ANY ADDITIONAL LINE VOLTAGE CONNECTIONS BETWEEN VARIOUS COMPONENTS OF A MULTI-COMPONENT PIECE OF EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE EQUIPMENT INSTALLER, UNLESS THE FULL SCOPE OF THE ELECTRICAL INSTALLATION REQUIREMENTS ARE PROVIDED TO THE ENGINEER AT THE TIME OF DESIGN.
- THE DISCONNECT SWITCH, FUSE SIZES, CONDUIT AND WIRE SHOWN FOR ALL HVAC ARE SIZED PER THE MANUFACTURER, AND MODEL NUMBER LISTED ON THE MECHANICAL PLANS. IF THERE IS AN EQUAL MANUFACTURER, OR OTHER MANUFACTURER PROVIDED, THE MECHANICAL/GENERAL CONTRACTOR SHALL BEAR ANY ADDITIONAL COST INCURRED IF THE ELECTRICAL IS NOT EQUAL TO SPECIFICATIONS.
- ALL SWITCHBOARDS, PANELS, STARTERS, CONTACTORS ETC., SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER, THE SYSTEM DESIGN IS BASED ON SQUARE "D"; HOWEVER, COMPARABLE EQUIPMENT BY SIEMENS, G.E. AND CUTLER HAMMER ONLY WILL BE ACCEPTABLE. ALL PANELBOARDS SHALL HAVE BOLT-ON TYPE CIRCUIT BREAKERS. TANDEM AND HALF-SPACE CIRCUIT BREAKERS SHALL NOT BE USED.
- TYPED CIRCUIT INDEX SHALL BE AFFIXED TO INSIDE SURFACE OF EACH PANELBOARD DOOR, CLEARLY INDICATING AREA AND TYPE OF LOAD SERVED BY EACH BRANCH CIRCUIT PROTECTIVE DEVICE, INCLUDING SPARES. HAND PRINTED WILL NOT BE ACCEPTED.
- ENGRAVED, LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL PANELS AND SWITCHBOARDS. PLATES SHALL BE AFFIXED TO FRONT OF PANELS, INDICATING PANEL NAME, VOLTAGE AND AMPERAGE.
- ALL UNDERGROUND PVC CONDUIT RUNS SHALL HAVE RIGID STEEL ELBOWS AND RIGID STEEL SECTIONS AT SLAB PENETRATIONS WHERE SUBJECT TO POSSIBLE DAMAGE.
- THE ELECTRICAL CONTRACTOR SHALL MEET AND COORDINATE WITH THE LOCAL POWER COMPANY AT THE SITE PRIOR TO CONSTRUCTION. AT THAT TIME, THE CONTRACTOR SHALL COORDINATE ALL RELATED WORK WITH THE UTILITY COMPANY'S RESPONSIBILITIES TO MEET THE OWNER'S SCHEDULE.
- ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY, EMT, IMC, RIGID GALVANIZED CONDUIT OR SCHEDULE 40 P.V.C. TYPE "MCT" ELECTRICAL NON-METALLIC TUBING. & FLEXIBLE METAL CONDUIT MAY BE USED FOR BRANCH CIRCUITING AS ALLOWED BY THE N.E.C. & AHJ. MAXIMUM NUMBER OF 120V CIRCUITS ALLOWED IN A COMMON CONDUIT SHALL BE SIX (6). THE CONTRACTOR SHALL STRICTLY CONFORM TO THE N.E.C. REQUIREMENTS OF DERATING FOR CONDUCTOR AMPACITY AND CONDUIT FILL. NO CONDUITS SHALL BE INSTALLED, EXPOSED ON ROOF.
- CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

208V SYSTEM NEUTRAL - WHITE PHASE A - BLACK PHASE B - RED PHASE C - BLUE GRD. CON. - GREEN	PHASE SEQUENCE ABC, TOP TO BOTTOM LEFT TO RIGHT, FRONT TO BACK
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- WHEN MAIN ELECTRICAL SERVICE HAS A WIREWAY, E.C. SHALL TAP OFF OF ALL SERVICE ENTRANCE FEEDERS (PARALLEL CONDUCTORS) FOR TOTAL AMPACITY & BALANCING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT PENETRATIONS MADE THROUGH FIRE RATED WALLS, CEILINGS, SLABS, ETC. PENETRATION SEALS SHALL BE PER U.L. ASSEMBLY STANDARDS.
- CONTRACTOR SHALL PROVIDE SHOP DRAWING SUBMITTALS FOR LIGHT FIXTURES, SWITCHBOARDS, WIRING DEVICES, EMERGENCY GENERATOR/TRANSFER EQUIPMENT, AND ALL SYSTEMS (FIRE ALARM, SECURITY, ETC.). PROVIDE TWO (2) COPIES, TEN (10) DAYS PRIOR TO BID DATE FOR ENGINEER'S APPROVAL TO SUBMIT. ENGINEER'S APPROVAL OF THE PRIOR APPROVAL PACKAGE WILL BE CONSIDERED PRELIMINARY. FINAL APPROVAL WILL BE CONTINGENT UPON REVIEW OF FINAL SHOP DRAWINGS. ALL PROPOSED ALTERNATES MUST BE INDUSTRY STANDARD EQUALS TO THE ITEMS SPECIFIED AS THE BASIS OF DESIGN; HOWEVER, IF THE ITEMS ARE NOT CONSIDERED EQUAL BY THE ENGINEER, IT SHALL BE DISAPPROVED FOR FINAL SUBMITTAL. IF ELECTRICAL CONTRACTOR/GENERAL CONTRACTOR DOES NOT SUBMIT SHOP DRAWINGS TO ELECTRICAL ENGINEER FOR ITEMS LISTED ABOVE, ELECTRICAL ENGINEER WILL NOT BE RESPONSIBLE FOR ANY OMISSIONS AND/OR ERRORS DUE TO SHOP DRAWINGS NOT SUBMITTED. SHOP DRAWINGS WILL ONLY BE REVIEWED TWICE AS PART OF THIS CONTRACT. ADDITIONAL SHOP DRAWING REVIEWS SHALL BE INVOICED AT \$85.00 PER HOUR, BILLABLE TO THE SUB-CONTRACTOR, C.O.D.
- CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DRAWINGS AT JOB SITE WITH COLORED MARKINGS INDICATING PROGRESS OF WORK. THIS SET OF CONTRACT DRAWINGS IS TO BE SEPARATE FROM AND IN ADDITION TO CONTRACTOR'S CONSTRUCTION SET. EVERY UNIT OF EQUIPMENT, DEVICE, CONDUIT AND WIRE IS TO BE MARKED WHEN INSTALLED. USE GREEN TO INDICATE INSTALLATION AS SHOWN ON DRAWINGS AND USE RED TO INDICATE FIELD CHANGES. UPON COMPLETION OF WORK, THIS SET OF CONTRACT DRAWINGS IS TO BE TURNED OVER TO, AND BECOME PROPERTY OF THE ARCHITECT.
- THE OWNER RESERVES THE RIGHT TO REVISE THE DRAWING FROM TIME TO TIME TO INDICATE CHANGES IN THE WORK. WHEN REVISED DRAWINGS AND/OR ANY REVISIONS ARE ISSUED, THE CONTRACTOR SHALL EVALUATE THE CHANGES PROMPTLY, BEFORE INSTALLATION OF ANY ITEM OR PERFORMANCE OF THE WORK INDICATED BY THE REVISED DRAWINGS OR REVISIONS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IN WRITING THAT THE REVISED DRAWINGS INVOLVE AN ADDITION OR DEDUCTION OF A SPECIFIC AMOUNT OF MONEY TO THE CONTRACT PRICE. THE CONTRACTOR SHALL NOT PROCEED WITH THE REVISED WORK WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT/ENGINEER OF THE COST OF THE REVISED WORK.
- IF ELECTRICAL CONTRACTOR HAS QUESTIONS, OR IN THEIR OPINION FINDS OMISSIONS OR ERRORS ON ELECTRICAL DOCUMENTS, IT IS THEIR RESPONSIBILITY TO BRING THIS TO THE ATTENTION OF THE ELECTRICAL ENGINEER/ARCHITECT/OWNER IMMEDIATELY. IF ELECTRICAL CONTRACTOR PROCEEDS WITH ANY CHANGES TO THE CONTRACT DOCUMENTS WITHOUT WRITTEN PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER/ARCHITECT/OWNER WILL NOT BE COMPENSATED.
- CONTRACTOR SHALL PROVIDE TWO (2) COPIES OF THE PROPOSED SITE LIGHT FIXTURE PACKAGE TEN (10) DAYS PRIOR TO BID DATE FOR ENGINEER'S APPROVAL TO SUBMIT. ENGINEER'S APPROVAL OF THE PRIOR APPROVAL PACKAGE WILL BE CONSIDERED PRELIMINARY. FINAL APPROVAL WILL BE CONTINGENT UPON REVIEW OF FINAL SHOP DRAWING. ALL PROPOSED ALTERNATES MUST BE INDUSTRY STANDARD EQUALS TO THE SITE FIXTURES SPECIFIED AS THE BASIS OF DESIGN; HOWEVER, IF THE SITE FIXTURE IS NOT CONSIDERED EQUAL BY THE ENGINEER, IT SHALL BE DISAPPROVED FOR FINAL SUBMITTAL. ALTERNATE SITE FIXTURES SHALL INCLUDE A COMPUTER GENERATED POINT-BY-POINT PHOTOMETRIC CALCULATION BASED ON THE PLANS (FIXTURE CHARACTERISTICS AND POLE PLACEMENT SHALL NOT BE ALTERED). THIS DIAGRAM SHALL SHOW COMPOSITE VALUES OF THE ILLUMINANCE PROJECTED FROM THE ARRANGEMENT OF LIGHT SOURCES AS SHOWN ON PLAN. COMPUTER PLOT DIAGRAM SHALL ALSO SHOW THE LOCATIONS OF THE POLES, SPACING BETWEEN POLES, THE MOUNTING HEIGHT USED IN THE CALCULATIONS, AND THE FIXTURE CATALOG NUMBER BEING USED.

PROJECT COORDINATION NOTES

- BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.
- COORDINATE WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK (DISCONNECTION/RECONNECTION, ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL PLANS.

ELECTRICAL LEGEND

<p>FLUORESCENT LIGHT FIXTURE, LETTER INDICATES TYPE</p> <p>RECESSED LIGHT FIXTURE, LETTER INDICATES TYPE</p> <p>WALL BRACKET LIGHT FIXTURE, LETTER INDICATES TYPE</p> <p>POLE WITH ARM MOUNTED FIXTURE, LETTER INDICATES TYPE</p> <p>LIGHT FIXTURE ON EMERGENCY POWER OR WITH BATTERY PACK</p> <p>EXIT LIGHT (ARROW INDICATES DIRECTION, SHADING INDICATES FACE)</p> <p>BATTERY POWERED EMERGENCY LIGHT</p> <p>TRACK LIGHTING</p> <p>S¹ SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHT CONTROLLED, MOUNT 48" AFF UON</p> <p>S² DOUBLE POLE SWITCH, MOUNT 48" AFF UON</p> <p>S³ THREE-WAY SWITCH, MOUNT 48" AFF UON</p> <p>S⁴ FOUR-WAY SWITCH, MOUNT 48" AFF UON</p> <p>D¹ DIMMER SWITCH, WATTS AS NOTED, (6= 600W, 10= 1000W) MOUNT 48" AFF UON</p> <p>S¹ SINGLE POLE SWITCH WITH PILOT LIGHT, MOUNT 48" AFF UON</p> <p>F¹ FAN CONTROLLER, MOUNT 48" AFF UON</p> <p>M¹ MOTOR RATED SWITCH</p> <p>M² MOMENTARY CONTACT SWITCH, MOUNT 48" AFF UON</p> <p>S¹ KEY OPERATED SINGLE POLE SWITCH, MOUNT 48" AFF UON</p> <p>S¹ OCCUPANCY SENSOR SWITCH, MOUNT 48" AFF UON</p> <p>S¹ OCCUPANCY SENSOR SWITCH, CEILING MOUNT</p> <p>R¹ SINGLE RECEPTACLE, 125V, 20A MOUNT 18" AFF UON</p> <p>R² DUPLEX RECEPTACLE, MOUNT 18" AFF UON</p> <p>R³ DUPLEX RECEPTACLE, FLUSH CEILING MOUNT</p> <p>R⁴ DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT UON</p> <p>R⁵ QUADRAPLEX RECEPTACLE, MOUNT 18" AFF UON</p> <p>R⁶ QUADRAPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT UON</p> <p>R⁷ DUPLEX RECEPTACLE, HORIZONTAL MOUNT</p> <p>R⁸ 1/2 SWITCHED DUPLEX RECEPTACLE, MOUNT 18" AFF UON</p> <p>R⁹ 14, 250V. RECEPTACLE, AMPS AS NOTED, MOUNT 18" AFF UON</p> <p>R¹⁰ SPECIAL RECEPTACLE AS NOTED</p> <p>R¹¹ FLOOR MOUNTED DUPLEX RECEPTACLE</p> <p>PLUGMOLD (SIZE AND LENGTH AS NOTED)</p> <p>JUNCTION BOX (FLUSH MOUNT IN FINISHED AREAS UON)</p> <p>DISCONNECT SWITCH, NEMA/SIZE/POLE/FUSES (250V, NEMA 1 UON)</p> <p>MAGNETIC MOTOR STARTER</p> <p>COMBINATION MAGNETIC MOTOR STARTER/DISCONNECT SWITCH</p> <p>LIGHTING OR POWER PANELBOARD</p> <p>277/480V, PANELBOARD</p> <p>DRY TYPE TRANSFORMER</p>	<p>CONDUIT CONCEALED IN WALL OR ABOVE CEILING WITH 2 #12, 1 #12 EG CONDUCTORS IN 1/2" CONDUIT MIN UON</p> <p>CONDUIT CONCEALED BELOW FLOOR SLAB OR FINISHED GRADE WITH 2 #12, 1 #12 EG CONDUCTORS IN 3/4" CONDUIT MIN UON</p> <p>CONDUIT EXPOSED ON WALL OR CEILING WITH 2 #12, 1 #12 EG CONDUCTORS IN 1/2" CONDUIT MIN UON</p> <p>PHASE, NEUTRAL, ISOLATED GROUND CONDUCTORS</p> <p>FLEXIBLE CONDUIT NOT TO EXCEED 6 FEET IN LENGTH</p> <p>TELEVISION SYSTEM EMPTY CONDUIT WITH PULL WIRE</p> <p>LOW VOLTAGE WIRING</p> <p>CONDUIT SEAL-OFF FITTING FOR COOLER/FREEZER CIRCUITS</p> <p>CONDUIT STUB</p> <p>DRIVEN GROUND ROD</p> <p>CONDUIT UP</p> <p>CONDUIT DOWN</p> <p>JUNCTION BOX FOR PADDLE FAN, FLUSH MOUNTED PER THE N.E.C.</p> <p>THERMOSTAT, PROVIDE SINGLE GANG BOX WITH 1/2" C STUBBED INTO CEILING SPACE. MOUNT 60" AFF UON (COORDINATE WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN)</p> <p>ELECTRIC DUCT HEATER</p> <p>MOTOR PERMANENTLY CONNECTED WITH FLEXIBLE CONDUIT</p> <p>SPEAKER</p> <p>T.V. CAMERA</p> <p>DATA OUTLET, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 18" AFF UON</p> <p>REFER TO LIKE NUMBERED NOTES/EQUIPMENT DESIGNATIONS</p> <p>TELEVISION OUTLET, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 18" AFF UON</p> <p>TELEPHONE WALL OUTLET, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 18" AFF UON</p> <p>COMBINATION TELEPHONE/DATA WALL OUTLET, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 18" AFF UON</p> <p>FLOOR MOUNTED TELEPHONE OUTLET</p> <p>TELEPHONE BACKBOARD (SIZE AS NOTED) #6 GROUNDING CONDUCTOR TO SERVICE GROUND.</p> <p>TELEPHONE WALL OUTLET, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 48" AFF UON</p> <p>STUB-UP, PROVIDE SINGLE GANG BOX WITH 3/4" CONDUIT WITH PULL WIRE AND INSULATING BUSHING STUBBED INTO CEILING SPACE. MOUNT BOX 18" AFF UON</p> <p>TELEPHONE/DATA-POWER POLE</p> <p>PUSHBUTTON, MOUNT 48" AFF UON</p> <p>DOOR CHIME WITH TRANSFORMER</p> <p>DEVICE AS NOTED</p>	<p>CONTACTOR (AS NOTED)</p> <p>TIME CLOCK</p> <p>PHOTOCELL</p> <p>MANUAL FIRE ALARM PULL STATION 48" AFF</p> <p>DUCT SMOKE DETECTOR</p> <p>REMOTE TEST/LED SWITCH</p> <p>RELAY</p> <p>MODULE</p> <p>MINI HORN</p> <p>SMOKE DETECTOR, PHOTOELECTRIC</p> <p>HEAT DETECTOR</p> <p>FLOW SWITCH</p> <p>TAMPER SWITCH</p> <p>SYSTEM BELL</p> <p>WATER GONG</p> <p>FIRE ALARM COMBINATION HORN/STROBE (75 CANDELLA UON) MOUNTED PER NFPA 72</p> <p>FIRE ALARM STROBE (75 CANDELLA UON) MOUNTED PER NFPA 72</p> <p>FIRE ALARM CONTROL PANEL</p> <p>FIRE ALARM ANNUNCIATOR PANEL</p>																																																																																
<p>ABBREVIATIONS</p> <table border="0" style="width: 100%;"> <tr> <td>ACC-CU</td> <td>CONDENSING UNIT</td> <td>HP</td> <td>HORSE POWER</td> </tr> <tr> <td>AFF</td> <td>ABOVE FINISH FLOOR</td> <td>IG</td> <td>ISOLATED GROUND</td> </tr> <tr> <td>AFG</td> <td>ABOVE FINISH GRADE</td> <td>JB</td> <td>JUNCTION BOX</td> </tr> <tr> <td>AFI</td> <td>ARC FAULT INTERRUPTER</td> <td>LSIG</td> <td>LONG, SHORT, INSTANTANEOUS GROUND FAULT SETTING</td> </tr> <tr> <td>A/H-AHU</td> <td>AIR HANDLING UNIT</td> <td>(N) NEW</td> <td></td> </tr> <tr> <td>ATS</td> <td>AUTOMATIC TRANSFER SWITCH</td> <td>NEUT</td> <td>NEUTRAL</td> </tr> <tr> <td>BFG</td> <td>BELOW FINISHED GRADE</td> <td>NF</td> <td>NON FUSED</td> </tr> <tr> <td>C</td> <td>CONDUIT</td> <td>NIC</td> <td>NOT IN CONTRACT</td> </tr> <tr> <td>CLG</td> <td>CEILING MOUNTED</td> <td>NL</td> <td>NIGHT LIGHT</td> </tr> <tr> <td>CT</td> <td>CURRENT TRANSFORMER</td> <td>NP</td> <td>NAME PLATE</td> </tr> <tr> <td>DN</td> <td>DOWN</td> <td>NTS</td> <td>NOT TO SCALE</td> </tr> <tr> <td>EX-(E)</td> <td>EXISTING</td> <td>PNL</td> <td>PANEL</td> </tr> <tr> <td>EC</td> <td>ELECTRICAL CONTRACTOR</td> <td>RE-(R)</td> <td>RELOCATED</td> </tr> <tr> <td>E/F-EF</td> <td>EXHAUST FAN</td> <td>RTU</td> <td>ROOF TOP UNIT</td> </tr> <tr> <td>EG</td> <td>EQUIPMENT GROUND</td> <td>TL</td> <td>TWIST LOCK</td> </tr> <tr> <td>EWC</td> <td>ELECTRIC WATER COOLER</td> <td>TTB</td> <td>TELEPHONE TERMINAL BOARD</td> </tr> <tr> <td>EWH</td> <td>ELECTRIC WATER HEATER</td> <td>TYP</td> <td>TYPICAL</td> </tr> <tr> <td>GEC</td> <td>GROUNDING ELECTRODE CONDUCTOR</td> <td>UON</td> <td>UNLESS OTHERWISE NOTED</td> </tr> <tr> <td>GFI</td> <td>GROUND FAULT INTERRUPTER</td> <td>WP</td> <td>WEATHERPROOF</td> </tr> <tr> <td>HID</td> <td>HIGH INTENSITY DISCHARGE</td> <td>WR</td> <td>WEATHER RESISTANT</td> </tr> </table>			ACC-CU	CONDENSING UNIT	HP	HORSE POWER	AFF	ABOVE FINISH FLOOR	IG	ISOLATED GROUND	AFG	ABOVE FINISH GRADE	JB	JUNCTION BOX	AFI	ARC FAULT INTERRUPTER	LSIG	LONG, SHORT, INSTANTANEOUS GROUND FAULT SETTING	A/H-AHU	AIR HANDLING UNIT	(N) NEW		ATS	AUTOMATIC TRANSFER SWITCH	NEUT	NEUTRAL	BFG	BELOW FINISHED GRADE	NF	NON FUSED	C	CONDUIT	NIC	NOT IN CONTRACT	CLG	CEILING MOUNTED	NL	NIGHT LIGHT	CT	CURRENT TRANSFORMER	NP	NAME PLATE	DN	DOWN	NTS	NOT TO SCALE	EX-(E)	EXISTING	PNL	PANEL	EC	ELECTRICAL CONTRACTOR	RE-(R)	RELOCATED	E/F-EF	EXHAUST FAN	RTU	ROOF TOP UNIT	EG	EQUIPMENT GROUND	TL	TWIST LOCK	EWC	ELECTRIC WATER COOLER	TTB	TELEPHONE TERMINAL BOARD	EWH	ELECTRIC WATER HEATER	TYP	TYPICAL	GEC	GROUNDING ELECTRODE CONDUCTOR	UON	UNLESS OTHERWISE NOTED	GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF	HID	HIGH INTENSITY DISCHARGE	WR	WEATHER RESISTANT
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<p>LEGEND NOTES:</p> <p>1. MOUNTING HEIGHTS SHOWN ARE MAXIMUM/MINIMUM HANDICAPPED ACCESSIBILITY STANDARDS - THEY SHALL NOT BE ALTERED WITHOUT WRITTEN AUTHORIZATION</p> <p>2. ALL MOUNTING HEIGHTS ARE TO CENTERLINE UON.</p> <p>3. ALL SYMBOLS MAY NOT BE USED</p>																																																																																		

LIGHTING FIXTURE (LUMINAIRE) SCHEDULE

TYPE	CATALOG NUMBER	LAMPS/TYPE	WATTS	VOLTS	MOUNTING	DESCRIPTION
A	72010201	LED	50	120	LAY IN	2X4 FLAT PANEL LED
A1	9702235	LED	50	120	LAY IN	2X4 DIRECT/INDIRECT PARABOLIC LED
A2	72017227	LED	40	120	LAY IN	1X4 FLAT PANEL LED
B	72010243	LED	40	120	LAY IN	2X2 FLAT PANEL LED
B1	9702243	LED	42	120	LAY IN	2X2 DIRECT/INDIRECT PARABOLIC LED
T1	18644197	LED	10	120	TRACK	WHITE TRACKHEAD FOR MENUBOARD AND ABOVE MEAT CASE AND SLICER
W1	18644197	LED	6	120	WALL	WALL SCONCE POLISHED NICKEL, G40 LED FILAMENT BULB
P1	86703496	LED	6	120	PENDANT	PENDANT POLISHED NICKEL, G40 LED FILAMENT BULB
LL	51900837	LED	40	120	SUSPENSION	4' WHITE LINEAR LIGHT
E1	90902323	LED	2.2	120	WALL	2-HEAD 6V EMERGENCY LIGHT
E2	90900301	LED	3.6	120	WALL	EXIT UNIV. LED RED
E3	90902167	LED	2.2	120	WALL	EXIT EMERGENCY COMBO LED W/ REMOTE
EEM	90903462	LED	2.2	120	WALL	OUTDOOR EMERGENCY EGRESS LIGHT

POWER PLAN NOTES

- FURNISH AND INSTALL TIME CLOCK. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO ROUGH-IN. MAKE ALL FINAL CONNECTIONS AS REQUIRED. TIME CLOCK INTERMATIC MODEL E770115C OR E770115CR.
- DATA JACK(S). COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN. DATA JACK(S), COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN. PROVIDE 3/4" C WITH PULL STRING FROM DATA J-BOX TO VOID ABOVE CEILING. (TYPICAL)
- PROVIDE 20 AMP RECEPTACLE IN WP J-BOX FOR CONNECTION TO GAS WATER HEATER. MAKE FINAL CONNECTION TO UNIT WITH PROVIDED CORD AND PLUG.
- HOOD CONTROL PANEL. CONTRACTOR SHALL MAKE ALL FINAL HOOD CONTROL PANEL. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS INCLUDING EXHAUST/SUPPLY FANS, LIGHTS, CONTROLS, FIRE SUPPRESSION SYSTEM AND INTERCONNECTION WITH FIRE ALARM SYSTEM. COORDINATE WITH HVAC CONTRACTOR AND HOOD SUPPLIER FOR ADDITIONAL REQUIREMENTS.
- 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.
- APPROXIMATE LOCATION OF ANSUL SYSTEM PULL STATION. PROVIDE J-BOX, CONDUIT AND CONDUCTORS AS REQUIRED. REFERENCE MECHANICAL AND FOOD SERVICE DRAWINGS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL INSTALL AND CONNECT LIGHT FIXTURES IN WALK-IN COOLER/FREEZER. LIGHT FIXTURES SHIPPED LOOSE WITH WALK-IN BOX. MAKE ALL FINAL CONNECTIONS AS REQUIRED.
- LOCATION OF EXISTING ELECTRICAL SERVICE TO REMAIN IN PLACE. SEE RISER DIAGRAM FOR ADDITIONAL ELECTRICAL REQUIREMENTS ON SHEET E-104.
- LOCATION OF EXISTING AND NEW PANEL BOARDS. SEE RISER DIAGRAM ON SHEET E-104.
- FURNISH AND INSTALL JUNCTION BOX ABOVE CEILING FOR LIGHTS AND DOOR HEATER. COORDINATE WITH MANUFACTURER FOR ADDITIONAL REQUIREMENTS PRIOR TO ROUGH-IN.
- LOCATE AUDIO/VISUAL DUCT SMOKE DETECTOR REMOTE TEST SWITCH AS DIRECTED BY AHJ.
- FURNISH AND INSTALL PHOTOCONTROL IN NEMA 3R ENCLOSURE. PHOTOCONTROL INTERMATIC MODEL EK4436M OR EQUAL. SET ON/OFF TIMES PER OWNER'S DIRECTION. LOCATE PHOTOCELL ON ROOF FACING NORTH.
- NEW SODA CONDUIT, ROUTE ABOVE CEILING. VERIFY SIZE AND NEW SODA CONDUIT, ROUTE ABOVE CEILING. VERIFY SIZE AND REQUIREMENTS WITH SODA VENDOR.
- RECEPTACLE FOR THIS EQUIPMENT SHALL BE LOCATED TO EITHER THE IMMEDIATE LEFT OR RIGHT OF UNIT, NOT DIRECTLY BEHIND UNIT.
- CONTRACTOR IS ADVISED THAT THERE IS A CENTRAL FIRE SPRINKLER MONITORING SYSTEM FOR THE ENTIRE BUILDING. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY DEVICES TO INTERFACE WITH MONITORING SYSTEM. IT IS THE SOLE RESPONSIBILITY OF THE FIRE ALARM SUBCONTRACTOR TO PROVIDE A COMPLETE SET OF SHOP DRAWINGS REFLECTING A FULLY-FUNCTIONAL, CODE-COMPLIANT INSTALLATION. BIDS SHALL BE BASED UPON SUCH A SYSTEM. CHANGE ORDERS FOR ADDITIONAL REQUIRED SYSTEM COMPONENTS AND WIRING NOT SHOWN ON THESE PLANS WILL NOT BE APPROVED. THE FIRE ALARM SHOWN ON THESE PLANS WILL NOT BE APPROVED. THE FIRE ALARM SUBCONTRACTOR SHALL SUBMIT A SEPARATE FIRE ALARM SYSTEM DESIGN TO THE BUILDING DEPARTMENT PER THE REQUIREMENTS OF THE AHJ IN ORDER TO OBTAIN A FIRE ALARM SYSTEM INSTALLATION PERMIT.

POWER PLAN GENERAL NOTES

- ALL RECEPTACLES IN KITCHEN AREA SHALL BE "GFCI" PROTECTED IN ALL RECEPTACLES IN 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 PANEL.
- SEE ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF DEVICES.
- SEE SHEET E-103 FOR KITCHEN EQUIPMENT SCHEDULE AND ADDITIONAL ELECTRICAL REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CORDS AND PLUGS ON ALL APPLIANCE TYPE EQUIPMENT WHEN CORDS ARE NOT FURNISHED WITH EQUIPMENT. CORDS SHALL BE OF THE HEAVY DUTY TYPE AND BE WATER/OIL RESISTANT.
- ALL CONDUIT PENETRATIONS THRU COOLER/FREEZER WALLS AND ALL CONDUIT PENETRATIONS THRU COOLER/FREEZER WALLS AND CEILINGS SHALL BE SEALED OFF BY ELECTRICAL CONTRACTOR. PROVIDE AND INSTALL SEAL-OFF FITTINGS AS REQUIRED. PENETRATIONS THRU COOLER/FREEZER FLOOR PANELS ARE NOT PERMITTED.
- ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL LOAD DATA WITH ACTUAL NAMEPLATE RATINGS OF ALL TENANT FURNISHED EQUIPMENT. WHERE CONFLICTS OCCUR, NOTIFY ARCHITECT.
- MATCH RECEPTACLE TYPES AND MOUNTING HEIGHTS TO MANUFACTURER'S EQUIPMENT CONNECTION REQUIREMENTS.
- PROVIDE HUBBELL #MX4280S METAL LOW PROFILE "WHILE IN USE" COVERS FOR RECEPTACLES LOCATED BEHIND EXPO COUNTER AND AT COOKLINE. NO SUBSTITUTION.
- COORDINATE FINAL PLACEMENT OF ALL DEVICES WITH OWNER.
- ELECTRICAL CONTRACTOR SHALL COORDINATE HOODS AND FANS WITH MECHANICAL DRAWINGS DESIGN DOCUMENTS. REFER TO MECHANICAL SHEETS. COORDINATE WITH MECHANICAL CONTRACTOR FOR ADDITIONAL REQUIREMENTS PRIOR TO COMMENCING THE WORK.
- CONTRACTOR SHALL COORDINATE TELEPHONE/CATV WITH SERVING UTILITY WITH REGARDS TO TERMINAL CABINET/PEDESTAL INSTALLATION PRIOR TO BID. PROVIDE ALL MATERIALS AND LABOR AS REQUIRED.
- RECEPTACLES, SWITCHES AND DEVICE COVER PLATES SHALL BE ORDERED IN WHITE.

FIRE ALARM NOTES

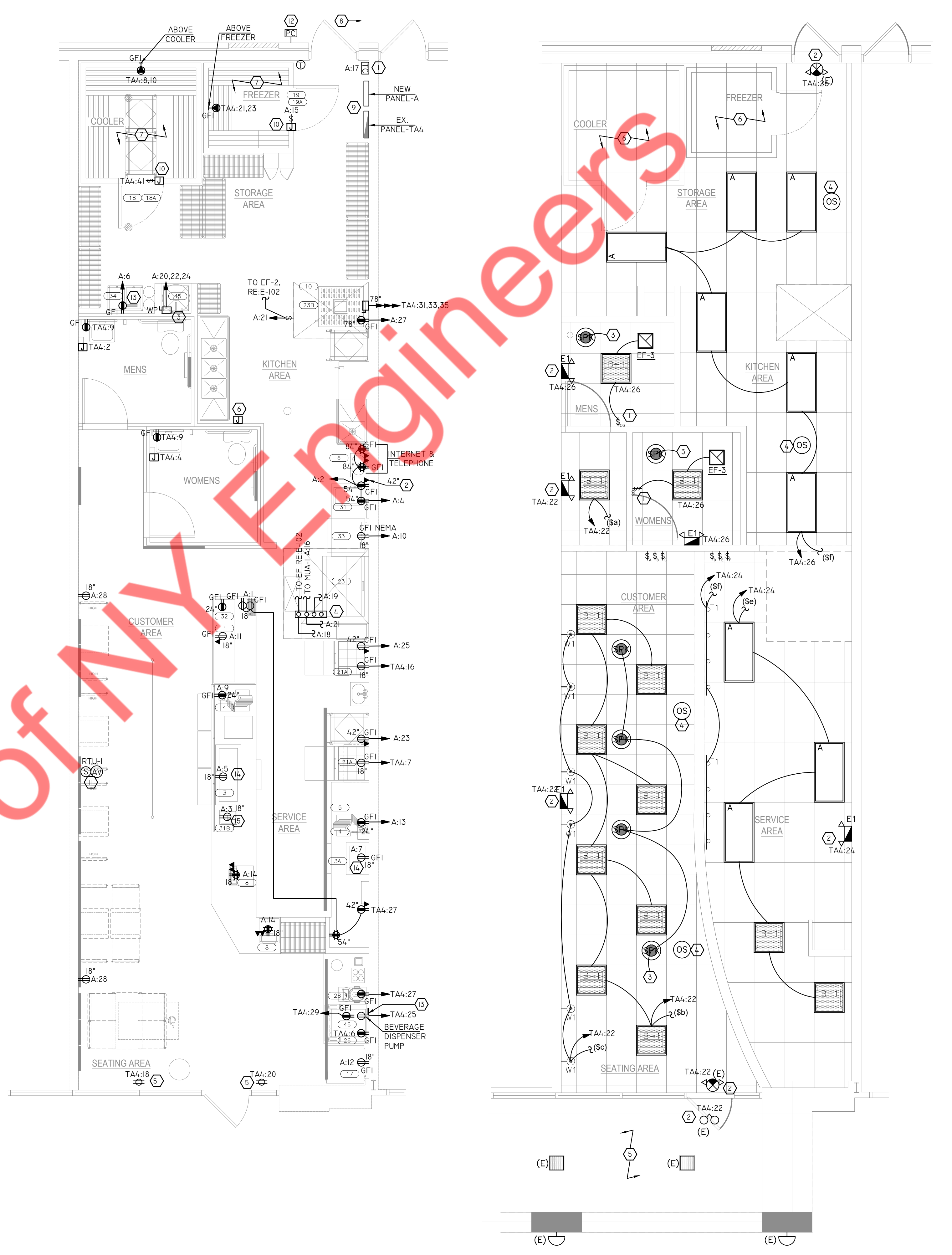
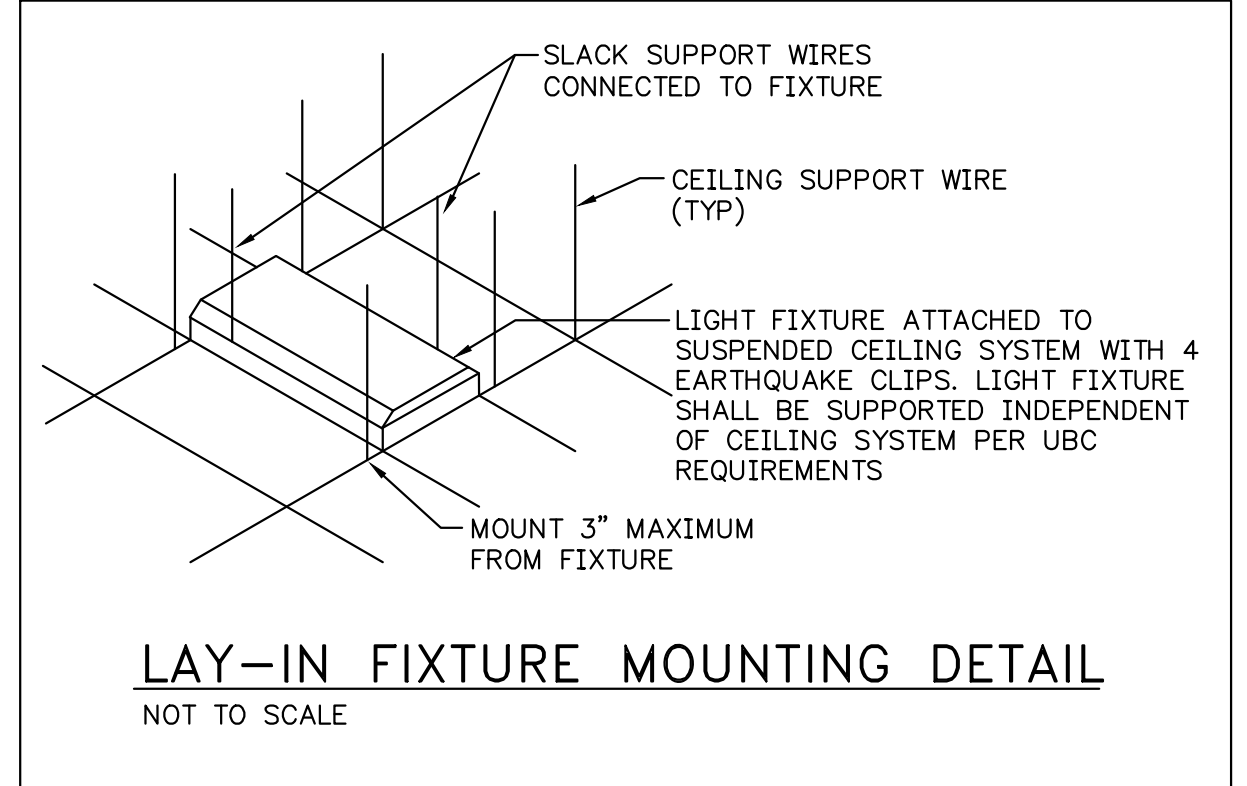
- ALL THE FIRE ALARM MODIFICATIONS SHALL BE COVERED IN A SEPARATE PERMIT. COORDINATE WITH GENERAL CONTRACTOR OR OWNER FOR MORE DETAILS.

FLOOR PLAN-LIGHTING KEYED WORK NOTES

- WALL MOUNTED OCCUPANCY SENSOR EQUAL TO WATTSTOPPER WS-250.SET OFF TIME TO 15 MINUTES FOR RESTROOM/OFFICE APPLICATIONS, SET DIP SWITCH TO AUTOMATIC ON.
- WIRE ALL EMERGENCY EXIT AND NIGHT LIGHT AHEAD OF SWITCHING FOR CONTINUOUS OPERATIONS.
- CONTRACTOR TO PROVIDE SPEAKER CABLE. ROUTE CABLE TO VOLUME CONTROLS COORDINATE VOLUME CONTROL LOCATIONS WITH OWNER PRIOR TO ROUGH-IN. PROVIDE SUFFICIENT SLACK CONDUCTOR AT CABLE REQUIREMENT SAND LOCATIONS WITH GC PRIOR TO PURCHASE AND INSTALLATION. SEE NOTE 2.
- LOW VOLTAGE OCCUPANCY SENSOR EQUAL TO WATTSTOPPER DT-305. PROVIDE LOW VOLTAGE OCCUPANCY SENSOR EQUAL TO WATTSTOPPER DT-305. PROVIDE WATTSTOPPER B2 POWER PACK(S) AS REQUIRED. INTERCONNECT OCCUPANCY SENSORS SO THAT ANY SENSOR WILL TRIGGER ALL LIGHTS. SET OFF TIME FOR 20 MINUTES.
- EXISTING LIGHTING FIXTURE IN THIS AREA SHALL REMAIN.COORDINATE WITH BASE BUILDING FOR MORE DETAILS.
- COORDINATE WITH WALK-IN BOX MANUFACTURER FOR LIGHTING.

LIGHTING PLAN GENERAL NOTES

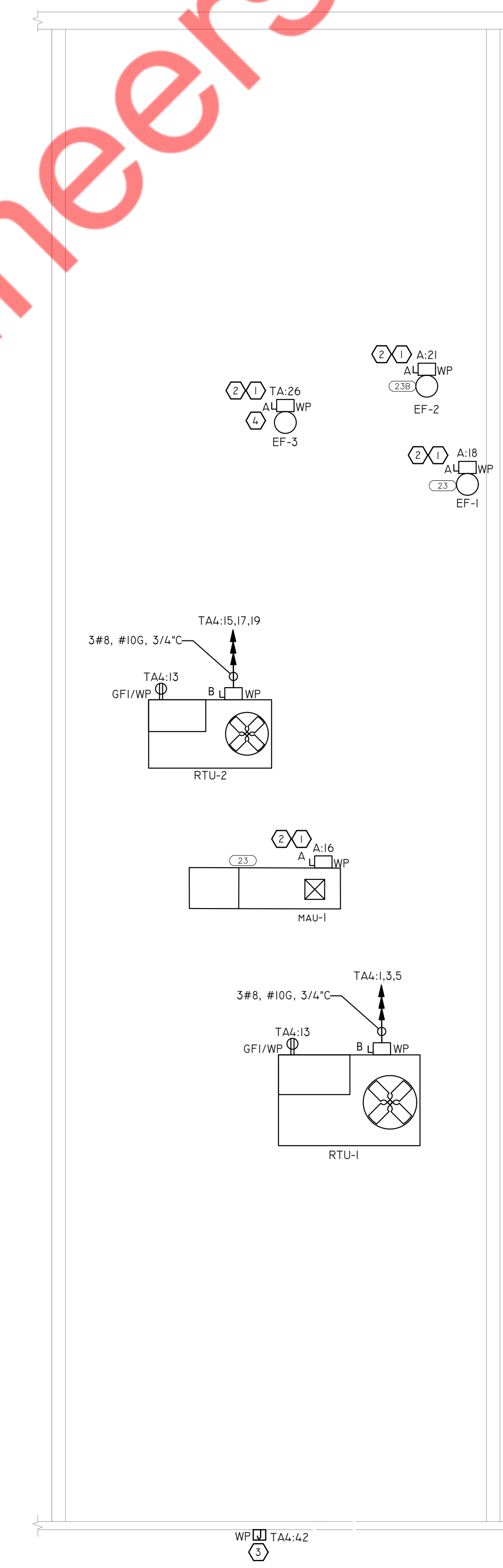
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LUMINAIRES.
- VERIFY ALL LUMINAIRE MOUNTING HEIGHTS PRIOR TO ORDERING SUSPENSION SYSTEMS/CORD LENGTHS.
- SEE SHEET E-001 FOR LUMINAIRE SCHEDULE. SEE SHEET E-001 FOR LUMINAIRE SCHEDULE.
- CONTRACTOR IS ADVISED THAT ADJUSTMENTS TO EMERGENCY AND EXIT LIGHT FIXTURE LOCATIONS/QUANTITIES MAY BE REQUIRED BY AHJ UPON FINAL INSPECTION.
- ALL NIGHT LIGHT, EMERGENCY AND EXIT LIGHT FIXTURES SHALL BE CONNECTED AHEAD OF SWITCHED LIGHTING CIRCUIT.



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

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

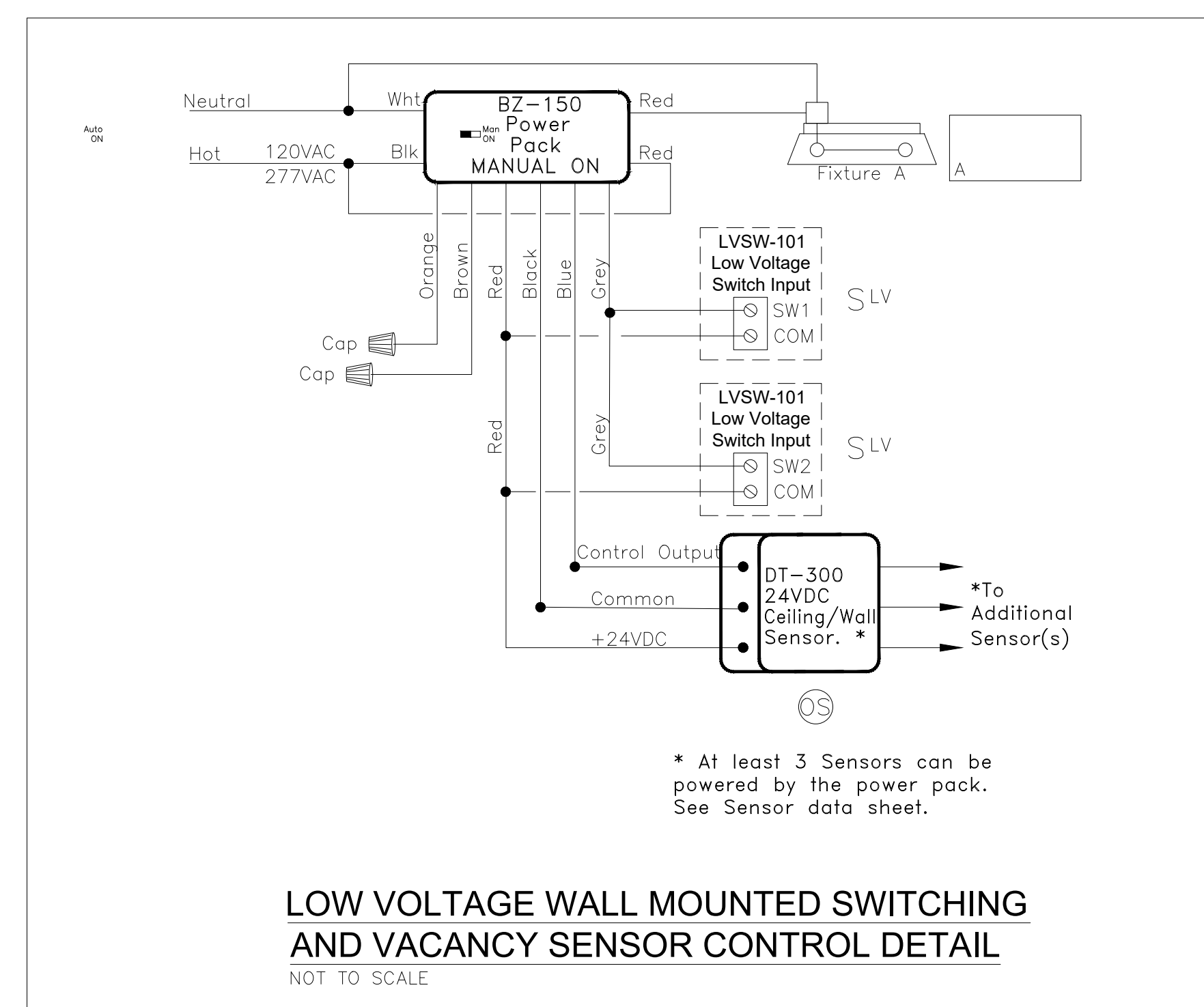
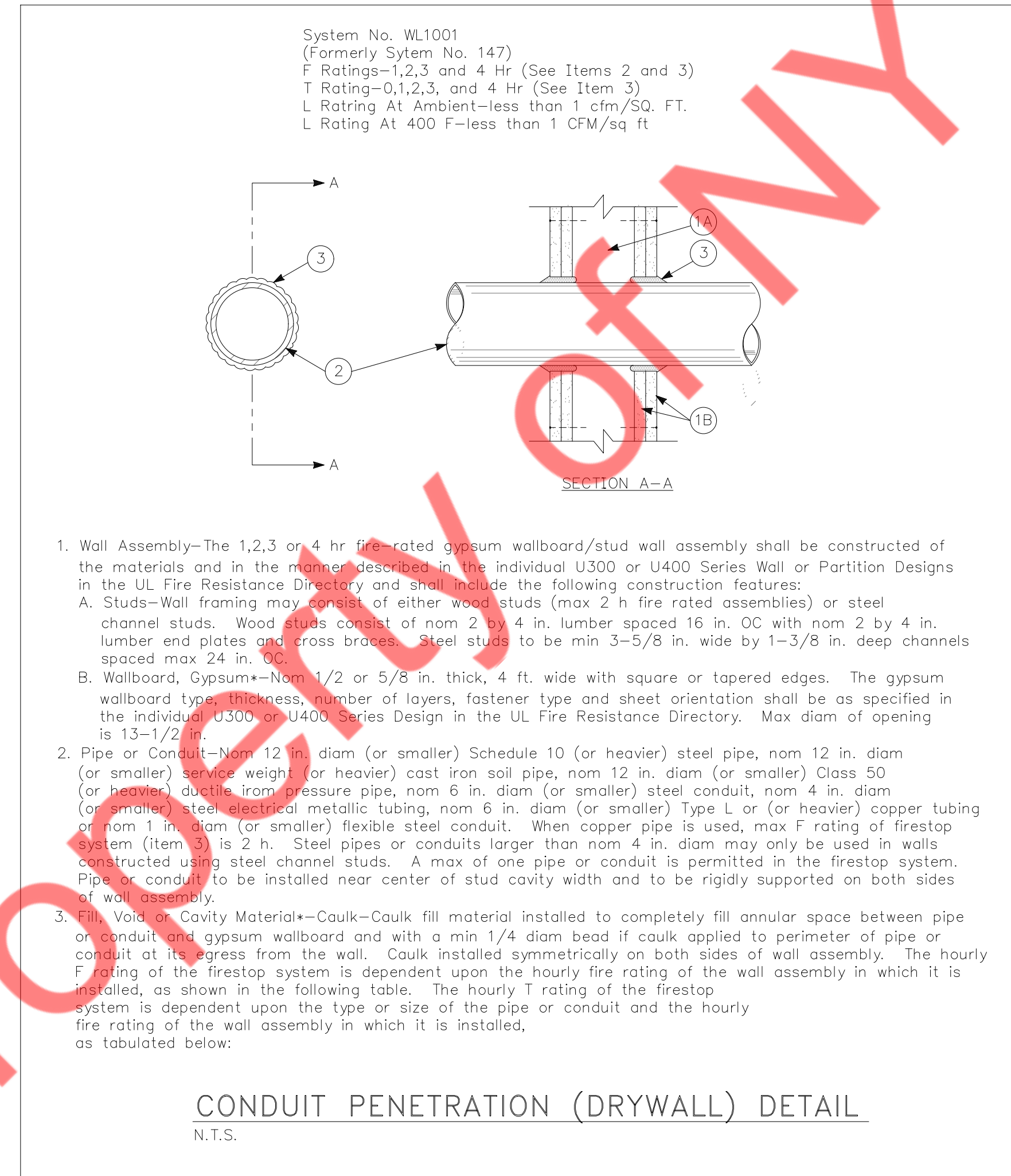
- ELECTRICAL ROOF PLAN NOTES
1. DISCONNECT SWITCH SUPPLIED WITH EQUIPMENT, INSTALLED BY ELECTRICAL CONTRACTOR.
 2. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS PRIOR TO ROUGH-IN.
 3. JUNCTION BOX WITH TOGGLE DISCONNECT PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY EXACT LOCATION AND CONNECT TO SIGN PER MANUFACTURE'S INSTRUCTION.
 4. EF-3 SHALL BE CONTROLLED ALONG WITH RESTROOM LIGHTING. E.C. SHALL COORDINATE EXACT LOCATION & PROVIDE REQUIRED ELECTRICAL CONNECTIONS.



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KITCHEN EQUIPMENT SCHEDULE

KEY QTY.	ITEM NAME	MANUFACTURER	MODEL NUMBER	SUPPLIER	POWER REQUIRED	MISC. NOTES
1	6" MEAT CASE	HOWARD MCCRAY	SC-CDS34N-6-JM	ECO	8.7AMP 115V/60/1	NSF-7. OUTLET INSTALLED AT 18" AFF
3	4' DROP IN COLD UNIT	DELFIELD	N8148-EFN	ECO	7.5 AMP 115V/115V/60V	NO DRAIN REQUIRED. OUTLET INSTALLED AT 18" AFF
3A	2' DROP IN COLD UNIT	DELFIELD	N8118-EF	ECO	7.5 AMP 115V/115V/60V	NO DRAIN REQUIRED. OUTLET INSTALLED AT 18" AFF
4	SLICER	BIZERBA	GSP-H33 WL1FT	ECO	120V/60/1	OUTLET INSTALLED AT 24" AFF. IN MILLWORK
8	CASH REGISTER	INFOSOFT	UP700	FRANCHISEE		REG. W/ COMM. MODEM. CASH DRAWER, RECEIPT & JOURNAL (2 SETS KEYS). OUTLET INSTALLED AT 18" AFF
10	BREAD OVEN	NUVU	QB 5/ 10 AUTOMIST	ECO	29AMP 208V3ph	AUTO MISTER NOT OPTIONAL. OUTLET INSTALLED AT 78" AFF
17	1 DOOR PEPSI COOLER	PEPSI	GDM-26	PEPSI		OUTLET INSTALLED AT 18" AFF
18	WALK IN COOLER	NORLAKE	KLB-7488xCL-36"	ECO	115V FOR LIGHTS AND DOOR HEATER, 15 AMP BREAKER	FLOORLESS. SELF-CONTAINED CAPSULE PAK SYSTEM. FIELD COORDINATE POWER REQUIREMENT
18A	CAPSULE PAK	NORLAKE	CPB-075-DCA	ECO	208-230/60/1, 8 TOTAL SYSTEM AMPS, 9.3 MINIMUM CIRCUIT AMPS, 15A MAX FUSE SIZE	POWER REQUIRED MAY VARY PER SITE. CONFIRM AMPS
19	STEP IN FREEZER	NORLAKE	KLF-7746-CL-36"	ECO	115V FOR LIGHTS AND DOOR HEATER, 15 AMP BREAKER	WITH 4" STEP-UP FLOOR PANEL. SELF CONTAINED CAPSULE PAK SYSTEM. FIELD COORDINATE POWER REQUIREMENT
19A	CAPSULE PAK	NORLAKE	CPF-075-DCA	ECO	208-230/60/1, 14.9 DEFROST AMPS, 8.4 TOTAL SYSTEM AMPS, 14.9 MINIMUM CIRCUIT AMPS, 15 MAX FUSE SIZE	POWER REQUIRED MAY VARY PER SITE. CONFIRM AMPS
21A	MEGATOP SANDWICH UNIT	DELFIELD	D4427-12M-JM3	ECO	115V/60/1	W/CASTERS AND COVER ENHANCEMENT. OUTLET INSTALLED AT 18" AFF
23	EXHAUST HOOD SYSTEM & FIRE SYSTEM	CAPTIVE AIRE	ANSUL	ECO	(4) 115V	SHOP DRAWINGS ARE REQUIRED. CONTACT: DAVID.LONG@CAPTIVEAIRE.COM AND REG32NA@CAPTIVEAIRE.COM
23B	CONDENSATE HOOD	CAPTIVE AIRE	6024VHB	ECO	(1) 115V	SHOP DRAWINGS ARE REQUIRED. CONTACT: DAVID.LONG@CAPTIVEAIRE.COM AND REG32NA@CAPTIVEAIRE.COM
26	DRINK DISPENSER & ADAPTER KIT	PEPSI	DISPENSER: IDC255, ADAPTOR: 80002957	PEPSI	9.3 AMP 115V/60/1	COORDINATE W/ PEPSI. OUTLET INSTALLED AT 42" AFF
28	ICED TEA BREWER/DISPENSER	BUNN	TB3Q	LUZIANNE	120V, 14.4 AMP	1-800-627-2094. OUTLET INSTALLED AT 42" AFF
31	COUNTER TOP FOOD WARMER	VOLLRATH	71001 MODEL 1001	SMALLWARES CO.	120V, 5.8 AMP	OUTLET INSTALLED AT 54" AFF
31B	RECESSED BACON WARMER	MARSHALL	CZ3N-1	UNISERV	120V, 3.5 AMP	NO DRAIN. 14/3 CORD WITH NEMA 5-15 PLUG. OUTLET INSTALLED AT 18" AFF
32	COUNTER SCALE	CAS	ED-30	ECO	AC ADAPTER DC 12V/1A OR 12V/800mA, INTERNAL RECHARGEABLE SEALED ACID BATTERY - 6V DC	SITS ON TOP OF AND POWERS INTO THE MEAT CASE
33	UNDER COUNTER REF.	HOSHIZAKI	HR24B	ECO	1.15 AMP 115V/60/1, 5-15P	NEMA 5-15P OUTLET INSTALLED AT 18" AFF
34	BAG IN BOX SYSTEM	PEPSI	PEPSI	PEPSI	110 / 120V - 20 AMP DUAL OUTLET	WATER CONNECTION IS NEEDED FOR THE FILTRATION SYSTEM. OUTLET CAN BE INSTALLED AT 80" AFF.
45	WATER HEATER			GC		
46	ICE MAKER	HOSHIZAKI	KM-520MAJ	ECO	115V/60 20 AMP BREAKER	OUTLET INSTALLED AT 42" AFF



PANEL:	TA4 (EX)			LOCATION:	KITCHEN AREA			MOUNTING:	SURFACE			
208Y/120	VOLTS,	3	PHASE,	4	WIRE							
MAIN CB	MLO	400A	BUS	400A	MIN.							
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
					A	B	C					
1			M	3.72	4.67		0.95	M	HAND DRYER	20	2	
3	50/3P	RTU-1	M	3.72	4.67		0.95	M	HAND DRYER	20	4	
5			M	3.72		4.78	1.06	F	DRINK DISPENSER (#26)	20	6	
7	20	MEGATOP SANDWICH UNIT(#21A)	R	0.90	1.795		0.90	M	WALK IN COOLER (#18A)	15/2P	8	
9	20	BATHROOM GFI	R	0.36		1.255		M			10	
11	20	GAS WATER HEATER	M	0.30			0.3	M	SPARE	20/2P	12	
13	20	ROOF GFI RECEPTACLE	R	0.36	0.36			M			14	
15			M	3.17		4.034		F	MEGATOP SANDWICH UNIT(#21A)	20	16	
17	45/3P	RTU-2	M	3.17			5.05	R	RECEPTACLE SHOW WINDOW	20	18	
19			M	3.17	3.7			R	RECEPTACLE SHOW WINDOW	20	20	
21	15/2P	WALK IN FREEZER (#19A)	M	0.94		1.536		L	SEATING & CUSTOMER AREA LIGHTS	20	22	
23			M	0.94			1.536	L	SERVICE AREA LIGHTS	20	24	
25	20	BEVERAGE DISPENSER PUMP	F	0.54	0.84			L	KITCHEDN & STORAGE AREA LIGHTS	20	26	
27	20	ICED TEA BREWER/DISPENSER (#28)	F	1.73		9.168		E			28	
29	20	ICE MAKER (#46)	F	1.84			10.74	E	PANEL-A	100/3	30	
31			F	1.16	10.63			E			32	
33	30/3P	BREAD OVEN(#10)	F	1.16		1.16			TOASTER (EXISTING)	30/2P	34	
35			F	1.16			1.16				36	
37	30/2P	SPARE	M		0				TOASTER (EXISTING)	30/2P	38	
39			M		0						40	
41	20	WALK IN COOLER LIGHT/DOOR HEATER (#18A)	M	1.00			2.2	L	SIGNAGE	20	42	
				TOTAL LOAD (KVA)		22.00	21.82	25.77				

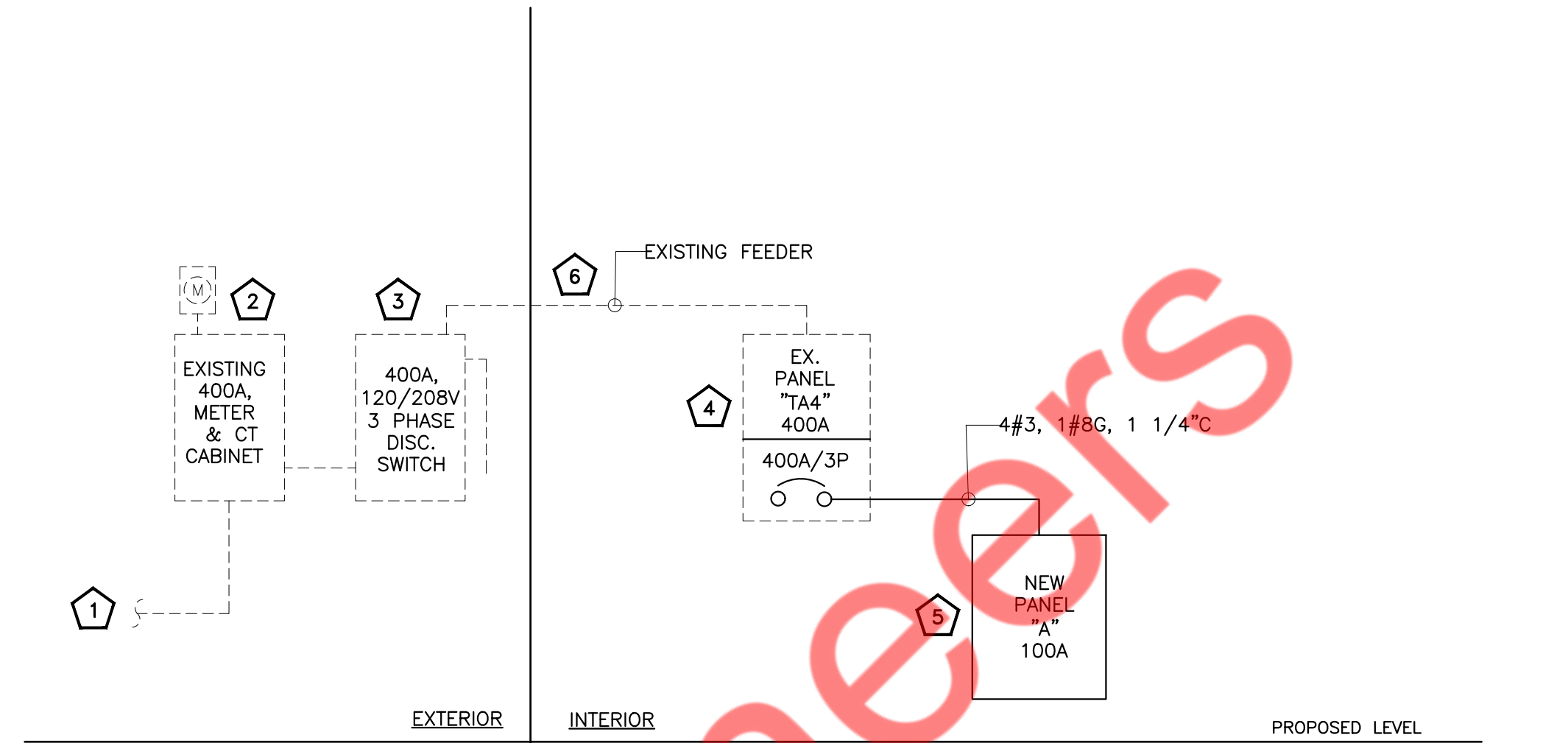
PANEL:	A (NEW)			LOCATION:	KITCHEN AREA			MOUNTING:	SURFACE			
208Y/120	VOLTS,	3	PHASE,	4	WIRE							
MAIN CB	MLO	100A	BUS	100A	MIN.							
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
					A	B	C					
1	20*	KITCHEN RECEPTACLE (#32)	F	0.90	1.8		0.90	R	KITCHEN RECEPTACLE	20	2	
3	20*	BACON WARMER(#31B)	F	0.42		1.116		F	COUNTER TOP FOOD WARMER(#31)	20*	4	
5	20*	4' DROP IN COLD UNIT (#3)	F	0.86			1.862	F	BAG IN BOX SYSTEM(#34)	20*	6	
7	20*	4' DROP IN COLD UNIT (#3A)	F	0.86	1.162			M	GAS WATER HEATER	20*	8	
9	20*	SLICER (#4)	F	0.42		1.116		F	UNDER COUNTER DRAWERED REF.#(33)	20*	10	
11	20*	6' MEAL CASE (#1)	F	1.00			1.864	F	PEPSI COOLER (#17)	20*	12	
13	20*	SLICER (#4)	F	0.42	1.14			R	CASH REGISTER (#8)	20*	14	
15	20*	WALK IN FREEZER LIGHT/DOOR HEATER (#19A)	M	1.00		2.334		M	MAU-1 (#23)	20	16	
17	20	TIME CLOCK/ BUILDING SIGN	R	1.20			2.32	M	EF-1	20	18	
19	20	HOOD CONTROL (#23)	M	0.10	2.98			M			20	
21	20	EF-2	M	0.67		3.55		M	WATER HEATER	30/3P	22	
23	20	FUTURE PRINTER	R	0.18			3.06	M			24	
25	20	FUTURE PRINTER	R	0.18	0.36			R	COUNTER SCALE (#32)	20	26	
27	20	CONDENSATE HOOD (#23B)	M	0.10		0.46		R	CONVENIENCE RECEPTACLE	20	28	
29	20	QUAD RECEPTACLE	R	0.36			0.36		SPARE	20	30	
				TOTAL LOAD (KVA)		7.44	8.58	9.47				

#	PANEL SCHEDULE KEY NOTE
A.	EXISTING 35A/3P BREAKER SHALL BE REPLACED WITH 50A/3P BREAKER. E.C.
B.	EXISTING 35A/3P BREAKER SHALL BE REPLACED WITH 45A/3P BREAKER.
C.	PROVIDE (1) 100A/3P BREAKER IN PLACE OF (3) 20A/1P BREAKERS.

NOTE:

- * INDICATES GFCI BREAKER.
- ALL 15A AND 20A RECEPTACLE USED IN THE KITCHEN AREA SHALL BE PROTECTED WITH GFCI BREAKER.

PANEL SCHEDULE GENERAL NOTES
1. ALL CIRCUITING SHOWN FOR THE EXISTING ELECTRICAL PANEL "TA4" IS FOR REFERENCE ONLY. E.C. SHALL ADJUST/MODIFY THE CIRCUITING AS REQUIRED.



- ELECTRICAL RISER SYMBOLS:**
- NEW
 - EXISTING ITEM/FEEDER TO REMAIN
 - EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVED
- RISER DIAGRAM KEYED NOTES:**
- EXISTING 120/208V, 3-PHASE, 400A ELECTRICAL SERVICE FOR JERSEY MIKE'S SPACE FROM EXISTING SWITCHGEAR. E.C. SHALL VERIFY EXACT SIZE, OPERABLE CONDITION AND EXACT POWER DISTRIBUTION ON FIELD, COORDINATE WITH BASE BUILDING/OWNER.
 - EXISTING 120/208V, 3-PHASE, 400A ELECTRICAL METER & CT CABINET SHALL REMAIN. E.C. SHALL VERIFY EXACT SIZE, OPERABLE CONDITION AND EXACT POWER DISTRIBUTION ON FIELD, COORDINATE WITH BASE BUILDING/OWNER.
 - EXISTING 120/208V, 3-PHASE, 400A ELECTRICAL DISCONNECT SWITCH TO REMAIN. E.C. TO VERIFY EXACT LOCATION & OPERABLE CONDITION ON FIELD.
 - EXISTING 400A, 120/208V, 3-PHASE ELECTRICAL PANEL "TA4" TO REMAIN. E.C. SHALL VERIFY EXACT LOCATION & OPERABLE CONDITION ON FIELD.
 - NEW 100A, 120/208V, 3-PHASE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER ON FIELD.
 - EXISTING ELECTRICAL FEEDER FOR THE JERSEY MIKE'S SPACE. E.C. SHALL VERIFY EXACT SIZE AND OPERABLE CONDITION OF THE FEEDER AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

EXISTING ELECTRICAL EQUIPMENT NOTES
A. ALL EXISTING ELECTRICAL DEVICES / EQUIPMENTS SHALL REMAIN CONNECTED TO RESPECTIVE EXISTING PANELS. E.C. SHALL VERIFY EXACT DETAILS & CIRCUIT NUMBER ON FIELD.

DESCRIPTION	ABBREV.	SYMBOL
SANITARY WASTE PIPING	SAN	---
GREASER WASTE PIPING	GSAN	---
VENT PIPING	V	---
GAS PIPING	G	---
CLEAN OUT TO GRADE	COTG	---
WALL CLEAN OUT	WCO	WCO
COLD WATER PIPING	CW	---
HOT WATER PIPING	HW	---
FILTERED WATER PIPING	FW	---
GATE VALVE	GV	⊗
GAS COCK		⊕
BACKFLOW PREVENTOR	BFP	⊗
CAP		⊕
VENT THRU ROOF	VTR	⊕
TEE UP		⊕
TEE DOWN		⊗
90° UP		⊕
90° DOWN		⊗
SHUT OFF VALVE	SOV	⊕
BELOW FINISHED FLOOR	BFF	---

- PLUMBING KEYED NOTES:**
- EXTEND AND CONNECT NEW 1-1/2" CW PIPING TO EXISTING 2" WATER LINE. COORDINATE WITH LANDLORD FOR NEW WATER METER AND BACKFLOW REQUIREMENT. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - EXTEND AND CONNECT NEW 4" SANITARY PIPING TO EXISTING SANITARY PIPING. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - PROVIDE THERMOSTATIC MIXING VALVES AT ALL LAVATORIES, DUMP SINK AND HAND SINKS. SET AT 110° F MAX.
 - ROUTE INDIRECT WASTE FROM DRINK DISPENSER TO FLOOR SINK WITH APPROVED AIR GAP.
 - ROUTE INDIRECT WASTE PREP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
 - ROUTE INDIRECT WASTE FROM 3CS (NON MANIFOLD) TO FLOOR SINK WITH APPROVED AIR GAP.
 - PROVIDE ASSE 1022 BACKFLOW PREVENTOR.
 - PROVIDE ASSE 1024 BACKFLOW PREVENTOR.
 - EXTEND AND CONNECT NEW 4" GREASE SANITARY PIPING TO EXISTING GREASE SANITARY STUB OUT. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - EXTEND AND CONNECT NEW GAS PIPING TO EXISTING GAS PIPING. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CAPACITY.
 - GAS PIPING UP THRU ROOF CURB. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - ROUTE GAS PIPING DOWN TIGHT TO WALL. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - PROVIDE WATER FILTER AT ICE MACHINE. CONTRACTOR SHALL VERIFY EXACT LOCATION.
 - GAS PIPING AT JOIST SPACE.
 - INSTALL MECHANICAL GAS SHUT OFF VALVE. PROVIDE BY CAPTIVEAIR.

CONTRACTOR NOTES:

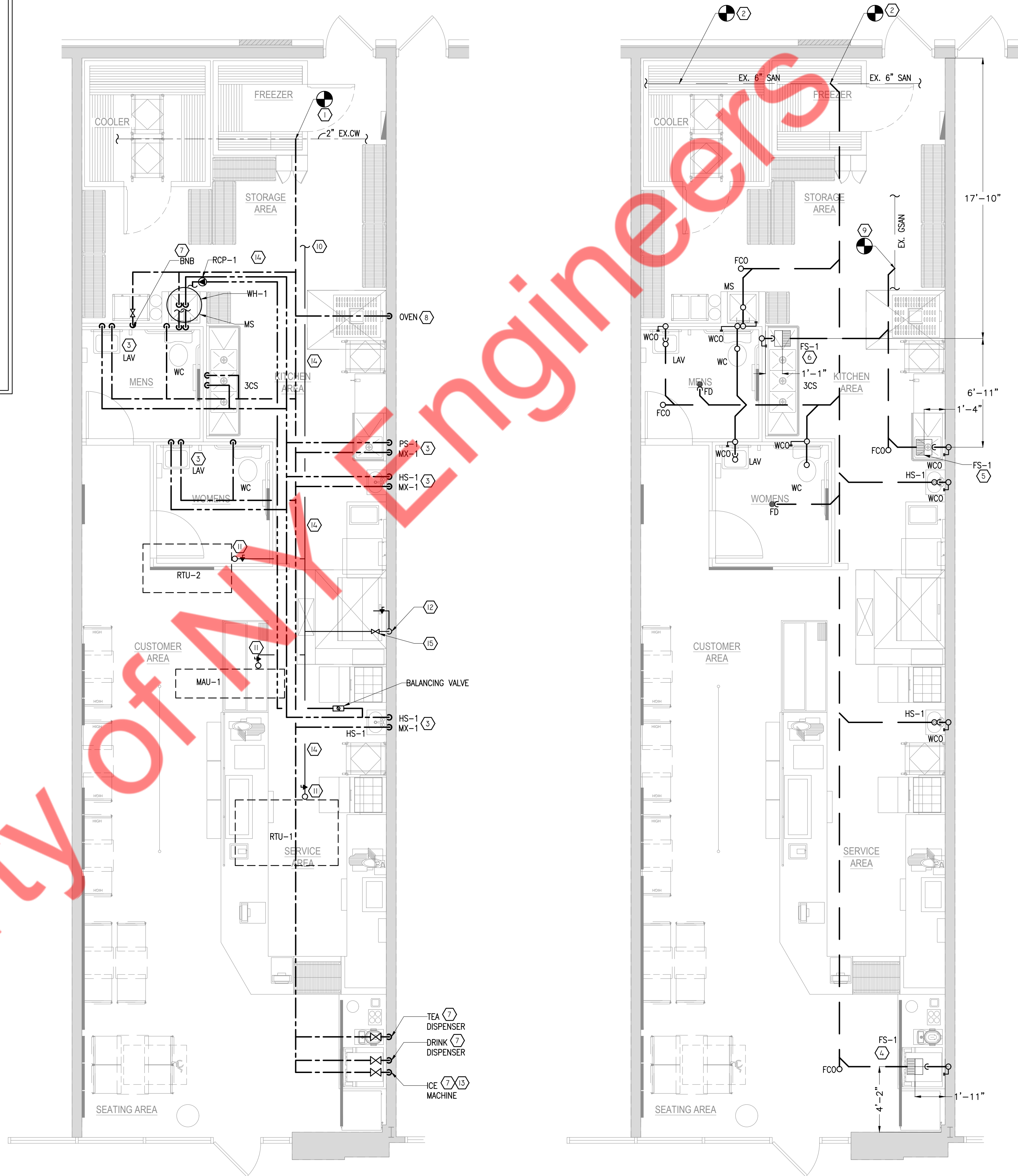
IT IS RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT, LANDLORD OR TENANT OF ANY DISCREPANCIES ENCOUNTERED ON THE PLANS OR IN EXISTING SITE CONDITIONS PRIOR TO SUBMISSION OF BID. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK. 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. THE SUBMISSIONS OF A BID WILL BE EVIDENCE THAT SUCH AS EXAMINATION AND COMPLIANCE WITH THE GOVERNING CODES/REQUIREMENTS HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION AND CODE/REQUIREMENTS REVIEW BEEN MADE, WILL NOT BE ALLOWED.

ENERGY CONSERVATION NOTES:

- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE OF MINIMUM PIPE INSULATION THICKNESS.

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	MINIMUM PIPE INSULATION THICKNESS		NOMINAL PIPE OR TUBE SIZE (INCHES)			
	CONDUCTIVITY BTU IN./ (H FT2 °F)	MEAN RATING TEMPERATURE, °F	<1	1 1/2	2	4 to <8
141-200	0.25-0.29	125	1.5	1.5	2	2
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0

- HOT WATER SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.5. THE HOT WATER VOLUME FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER MAXIMUM PIPING LENGTH TABLE.
- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RE-CIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.
- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
 - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
 - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).
- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.3, WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NON RE-CIRCULATING SYSTEM SHALL BE PROVIDED WITH HEAT TRAPS ON SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH EQUIPMENT.



2 FLOOR PLAN-WATER AND GAS
SCALE: 1/4" = 1'-0"

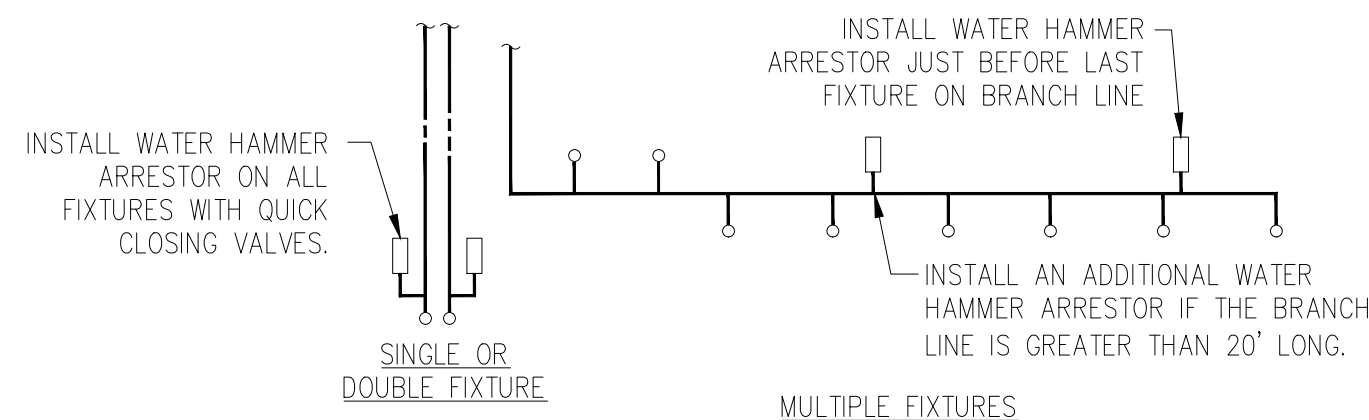
1 FLOOR PLAN-SANITARY
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- A. ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
- B. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
- C. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
- D. THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
- E. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THESE DRAWINGS UNLESS OTHERWISE NOTED. VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND / OR INSTALLATION.
- F. THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND / OR REPLACE ANY DEFECTIVE MATERIALS OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
- G. ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- H. ALL KITCHEN, PREP AREA AND SALES AREA EQUIPMENT WILL BE FURNISHED AND INSTALLED. EQUIPMENT WILL BE FURNISHED WITH TRIM, FAUCETS, ESCUTCHEONS, ETC. PLUMBING CONTRACTOR SHALL PROVIDE ALL ROUGH-IN TRAPS AND MAKE ALL FINAL CONNECTIONS (SEE EQUIPMENT SCHEDULE).
- I. ALL PIPING TO BE CONCEALED IN HUNG CEILINGS, CHASES AND FURRED SPACES.
- J. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT SPECIFICATIONS FOR EXACT LOCATIONS OF PLUMBING CONNECTIONS.
- K. THE CONTRACTOR SHALL VERIFY DEPTH, SIZE, LOCATION OF ALL EXISTING UTILITIES IN FIELD PRIOR TO STARTING WORK.
- L. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE HANGERS, AND SUPPORTS IN ACCORDANCE WITH THE LOCAL APPLICABLE CODES.
- M. THE CONTRACTOR TO PROVIDE TRAP PRIMERS, DEEP SEAL TRAP OR TRAP SEAL ON ALL FLOOR DRAINS AS PER APPLICABLE CODE.
- N. ALL PENETRATIONS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING THROUGH ANY WALL SHALL BE PROPERLY SEALED OFF TO MAINTAIN THE INTEGRITY OF THE STRUCTURE.
- O. ALL SHUT OFF AND ISOLATION VALVES SHALL BE BALL TYPE. ALL BALL VALVES SHALL BE INSTALLED VERTICALLY.
- P. PROVIDE AN INDIVIDUAL BALL VALVE AND BACK CHECK VALVE TO EACH INDIVIDUAL PIECE OF EQUIPMENT.
- Q. PROVIDE ASSE1022 BACKFLOW PREVENTER AT ICE MACHINE, TEA DISPENSER, DRINK DISPENSER, BNB AND ALL OTHER EQUIPMENT AS REQUIRED BY CODE.
- R. PROVIDE AERATORS ON ALL HAND SINKS AND LAVATORIES THROUGHOUT THE FACILITY.
- S. PROVIDE KEY CHEMICAL DISPENSER (SEE NATIONAL ACCOUNTS) AT MOP SINK AND THREE COMP SINK. MOUNT BOTTLE AND DISPENSER ABOVE SINK AS REQUIRED BY CHEMICAL SUPPLIER.

MATERIAL SPECIFICATIONS:

- 1. DOMESTIC WATER PIPING SHALL BE PEX IN LIEU OF COPPER. PEX PIPES SHALL CONFIRM TO ASTM F876, ASTM F877, AWWA C904, CSA B137.10 STANDARDS. HW PIPING SHALL BE INSULATED.
- 2. SANITARY WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT FITTING, CONFORMING TO ASTM STANDARDS.
- 3. PIPE INSULATION FOR DOMESTIC WATER SHALL BE 1" THICK 3/4 LB DENSITY FIBREGLASS WITH VAPOUR BARRIER JACKET. SEE ARCH PLANS FOR EXTERIOR WALL PLUMBING DETAIL.
- 4. EQUIPMENT PLUMBING CONNECT TO BE MADE WITH FLEX LINE FROM LOCATION OF BACKFLOW PREVENTER VALVE BEHIND EQUIPMENT AT MILLWORK WALL. ALL FLEX LINES SHALL BE BRAIDED LINES.

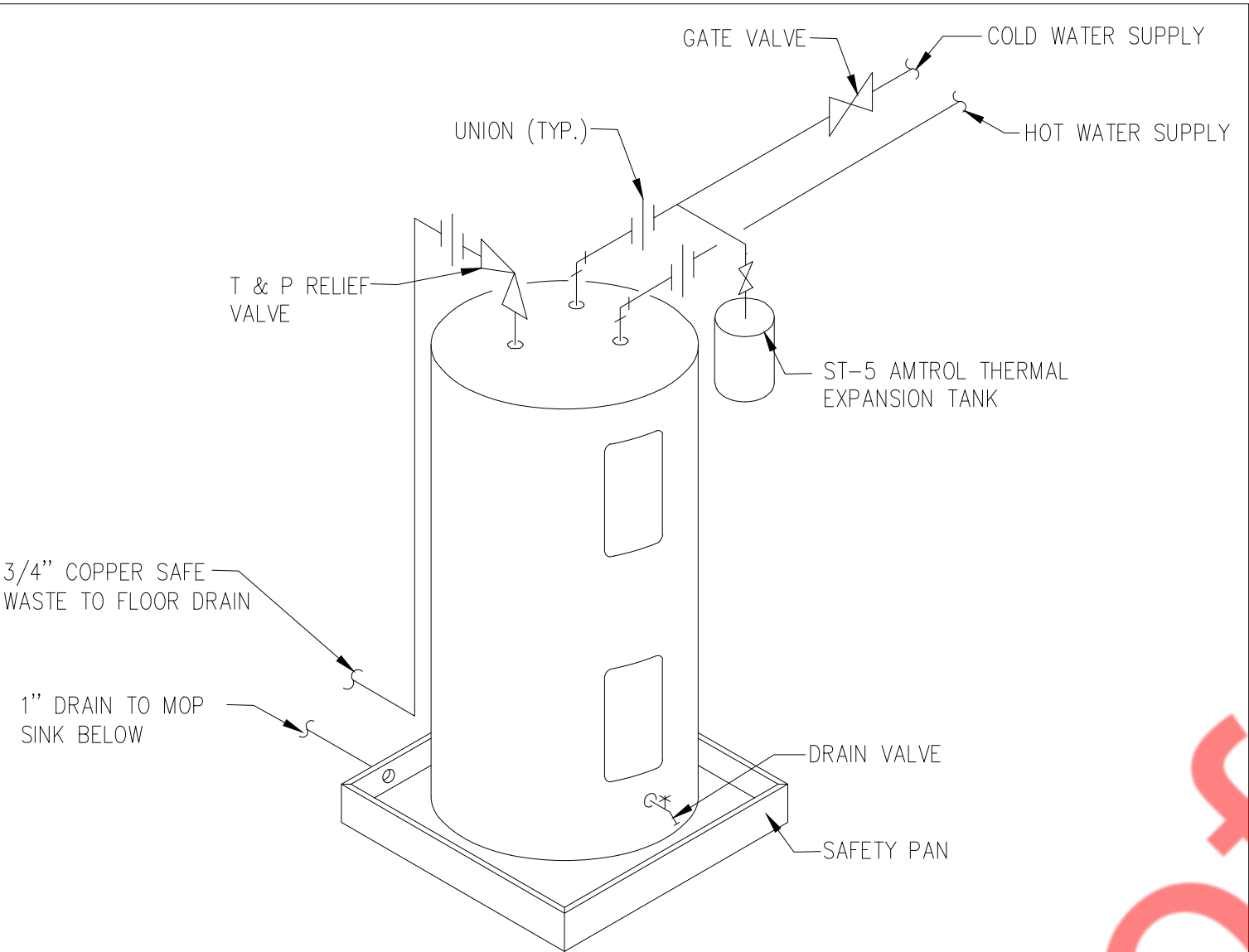


PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	WATER SUPPLY FIXTURE UNIT (WSFU)		
			FIXTURE	COLD	HOT
A	1/2"	1-11	VALVE WATER CLOSET	5	--
B	3/4"	12-32	URINAL	4	--
C	1"	33-60	LAVATORY/SINK	1.5	1.5
D	1-1/4"	61-113	JANITOR'S SINK	3	3
E	1-1/2"	114-154			
F	2"	154-330			

COMMENTS:
 1. WATER HAMMER ARRESTERS SHALL BE HAVE PISTON AND O-RING CONSTRUCTION WITH PDI #WH-201, ASSE # 1010 AND ANSI # A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. SIZE THE UNITS AS SHOWN PER THE TABLES SHOWN ABOVE.

1 WATER HAMMER ARRESTER DETAIL

N.T.S.

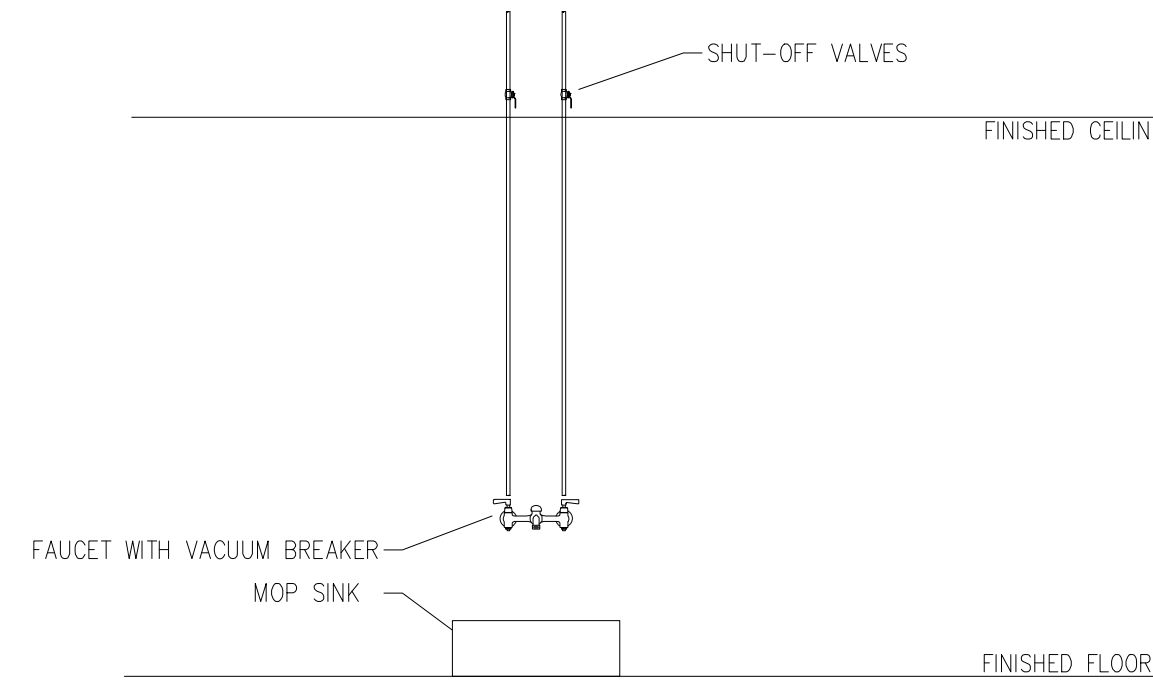


2 WATER HEATER DETAIL

N.T.S.

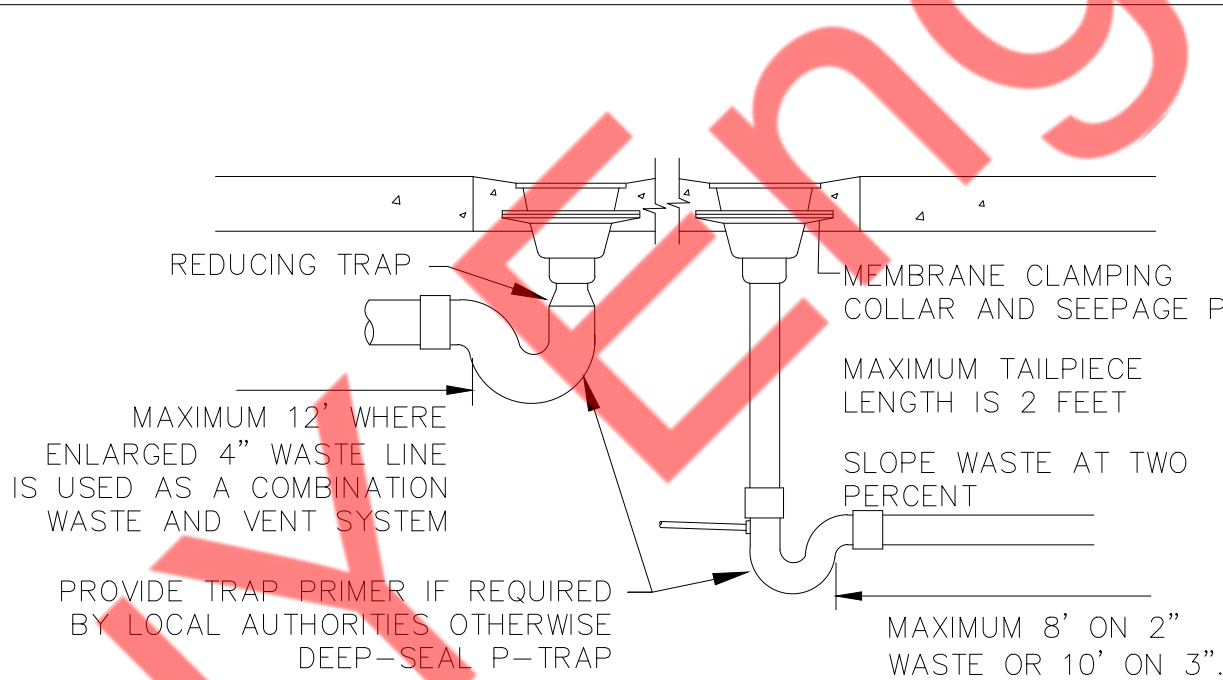
PLUMBING FIXTURE SCHEDULE:

- WC: WATER CLOSET - AMERICAN STANDARD NO.211AA,104 CHAMPION PRO,FLOOR MOUNTED WITH 5325.010 SEAT,1,28GPF.
- LAV: LAVATORY -AMERICAN STANDARD DECLYN NO.0321.075, WALL MOUNTED,WITH SINGLE HANDLE RELIANT 7385.003FAUCET,COMPRESSION STOPS & GRID DRAIN.
- HS-1: HAND SINK - WALL MOUNTED MOUNTED. SEE EQUIPMENT #13
- PS-1: PREP SINK - SEE EQUIPMENT #15
- 3CS: 3 COMP SINK - SEE EQUIPMENT #14
- MS-1: MOP SINK-MOP BASIN, FIAT NO MSB 14X24. WITH WALL MOUNTED FAUCET. VACUUM BREAKER AND HOSE CONNECTION.
- WCO: WALL CLEAN OUT - ZURN,#Z-1441, SMOOTH STAINLESS STEEL ACCESS COVER, DURA-COATED CAST IRON BODY. MATCH TO PIPE SIZE.
- FCO: FLOOR CLEAN OUT - ZURN NO. Z-1444. POLISHED BRONZE ACCESS COVER, DURA-COATED CAST IRON BODY. MATCH TO PIPE SIZE.
- FD: FLOOR DRAIN - J.R.SMITH SANI-CEPTOR 3020 .FLOOR DRAIN WITH TRAP PRIMER.MAYBE SUBSTITUTED WITH DEEP SEAL TYPE TRAP.
- TPP:TRAP PRIMER SHALL BE MIFB MI-300 ELECTRONIC TRAP SEAL PRIMER WITH AIR GAP,DISTRIBUTION UNIT WITH CONTROL PANEL.120VAC
- SA: SHOCK ABSORBER- SHALL BE J.R.SMITH 5005 THRU 5050 AND SIZED AS RECOMMENDED BY MANUFACTURER.
- FS-1: FLOOR SINK-J.R SMITH SANI-CEPTOR 3160,12.5 SQ.X10" DEEP.FLOOR SINK WITH TRAP PRIMER MAY BE SUBSTITUTED WITH DEEP SEAL TYPE TRAP.
- MX-1: MIXING VALVE - WATTS USG-B-M2, ASSE 1070.
- BFP: BACKFLOW PREVENTER - DUAL CHECK WITH VENT - WILKINS 740, ASSE 1022.
- WH-1: ELECTRIC STORAGE WATER HEATER - COMMERCIAL ELECTRIC WATER HEATER, AO SMITH-DEL-50, 50 GALLON STORAGE TANK WATER HEATER. PROVIDE 41 GPH @100°F TEMPERATURE RISE.PROVIDE EXPANSION TANK AND DRIP PAN FOR WATER HEATER.
- RCP-1: RECIRCULATION PUMP-GRUNDFOS UPS 15-18, 26PM, HEAD 10 FT. AND 0.115HP.



3 MOP SINK

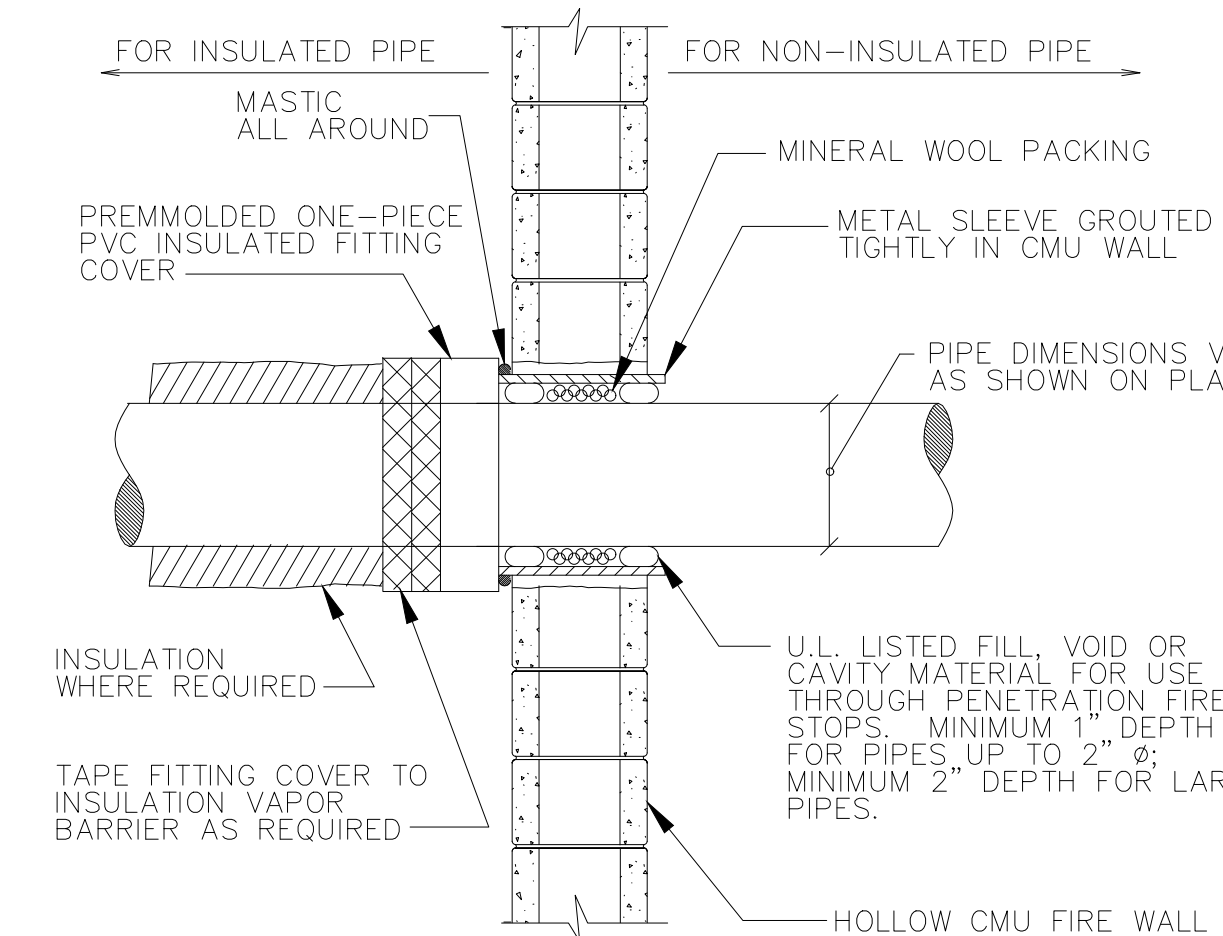
N.T.S.



COMMENTS:
 1. LOCATE FLOOR DRAIN/SINK WHERE SHOWN ON DIMENSIONED FLOOR PLAN. IF SITUATION IS FLOOR SLAB ON GRADE, SET DRAIN BODY IN PLACE, PROVIDE BACKFILL, AND POUR AROUND IT. RECESS TOP OF FLOOR DRAINS 1/2" BELOW FLOOR DATUM AND SLOPE FLOOR TO IT. DO NOT RECESS FLOOR SINKS.
 2. OTHER VENTING METHODS MAY BE USED, IF APPROVED BY LOCAL CODE AND/OR LOCAL AUTHORITIES.

4 FLOOR DRAIN AND SINK DETAIL

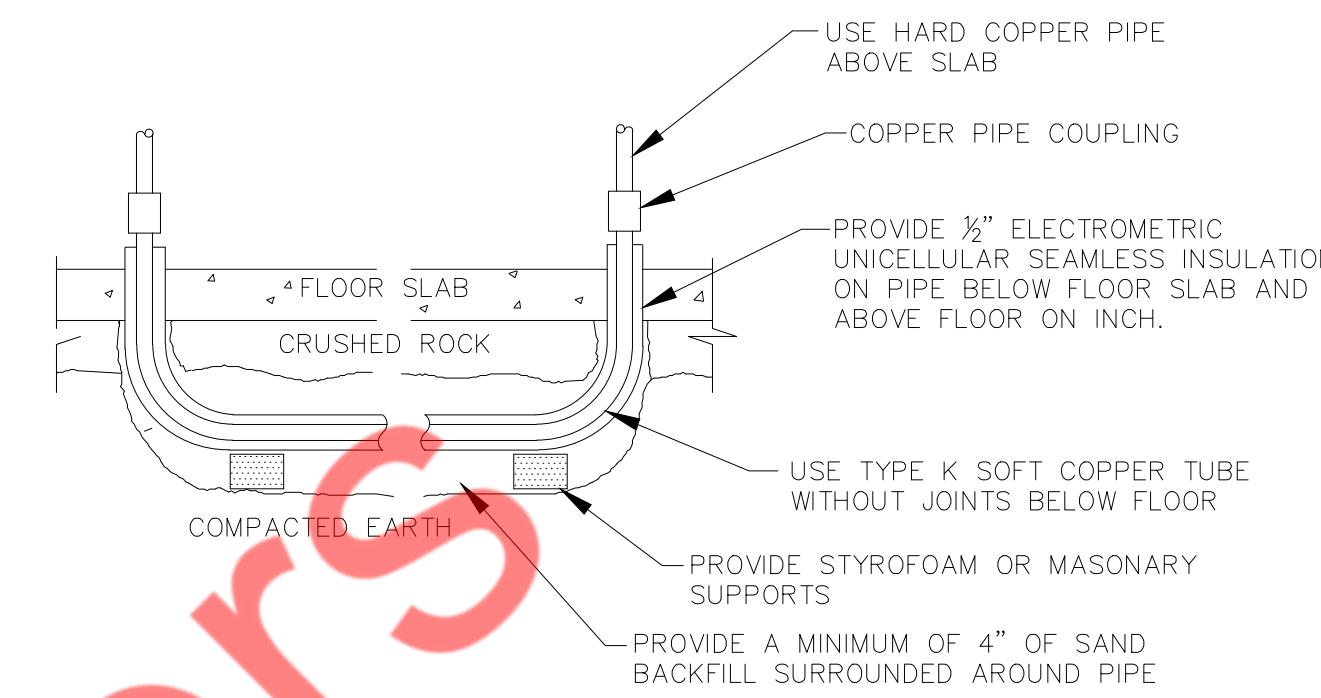
NONE



NOTE:
 DETAIL ILLUSTRATES PIPE INSULATION ON ONE SIDE OF FIRE RATED WALL. WHERE PIPE IS REQUIRED TO BE INSULATED ON BOTH SIDES, THE INSULATION END TREATMENT SHALL BE DUPLICATED ON BOTH SIDES.

8 PIPE PENETRATION (RATED WALL)

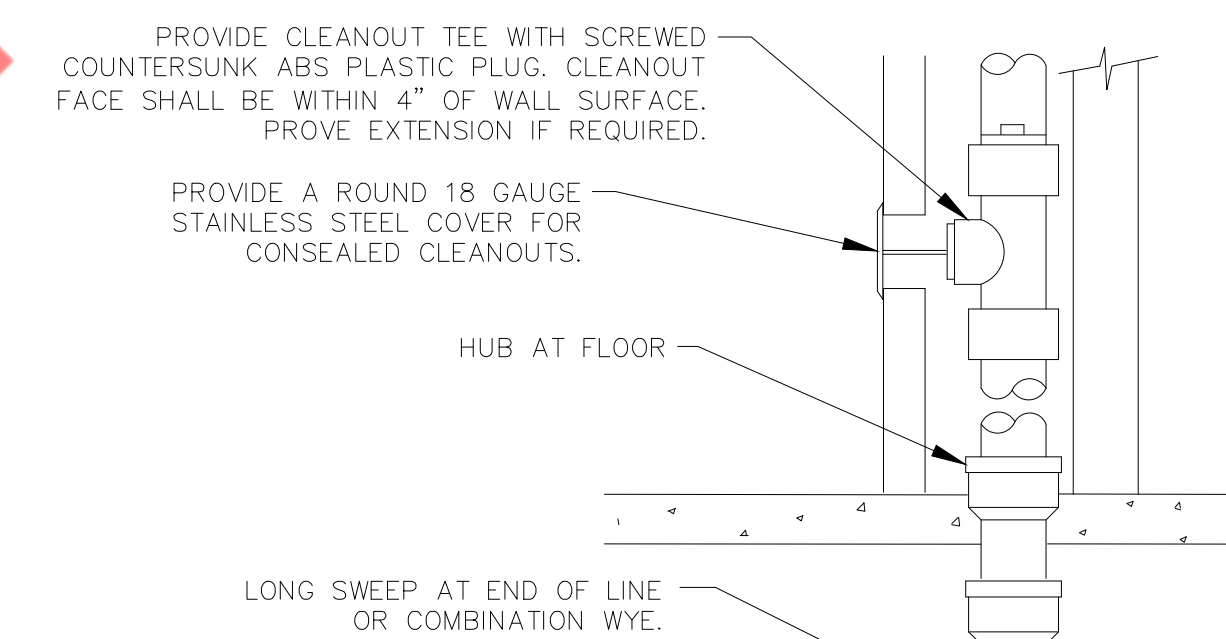
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COMMENTS:
 1. IF FLOOR SLAB IS EXISTING, SAW CUT FLOOR, EXCAVATE AS REQUIRED. INSTALL PIPING, REPAIR VAPOR BARRIER AND PATCH FLOOR AS REQUIRED.
 2. PIPING TO HAVE LONG RADIUS TURNS WITH NO KINKS IN THE LINE.
 3. THERE SHALL BE NO CONTACT OF COPPER PIPE WITH ANY OTHER PIPE, CONDUIT, OR REINFORCING STEEL.
 4. SEPARATE HOT AND COLD WATER LINES BY 12" MINIMUM.

5 WATER PIPE UNDER SLAB

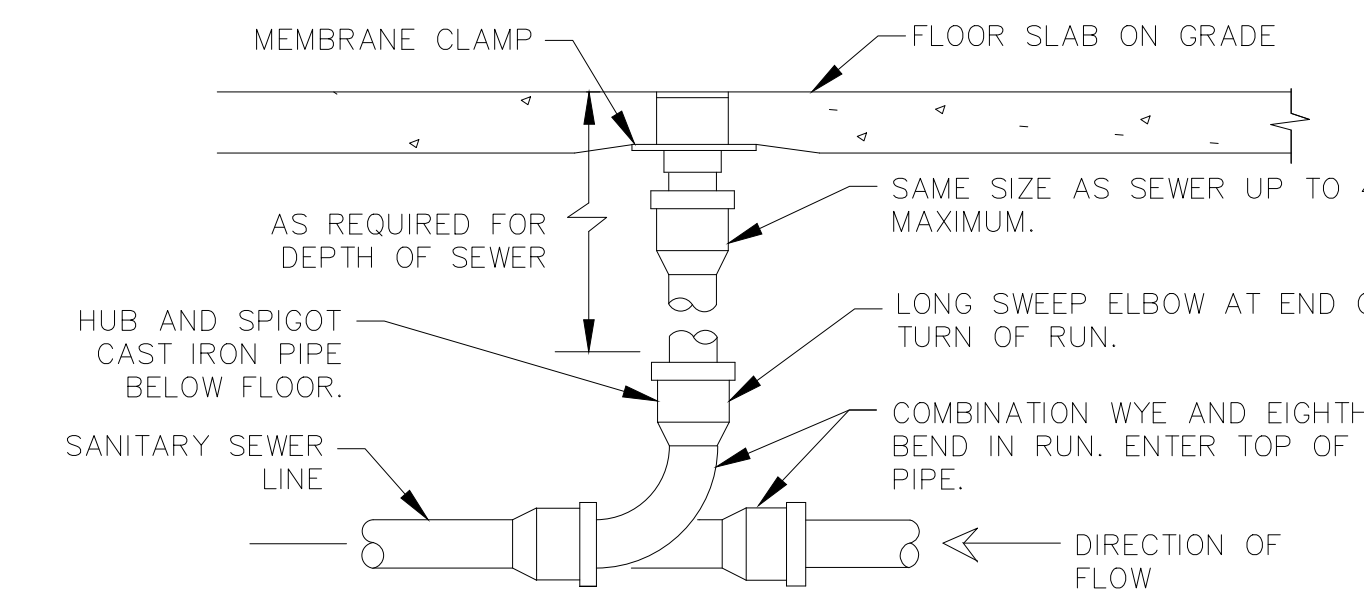
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COMMENTS:
 PROVIDE WALL CLEANOUT (WCO) WHERE SHOWN ON PLAN AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT.

6 WALL CLEANOUT

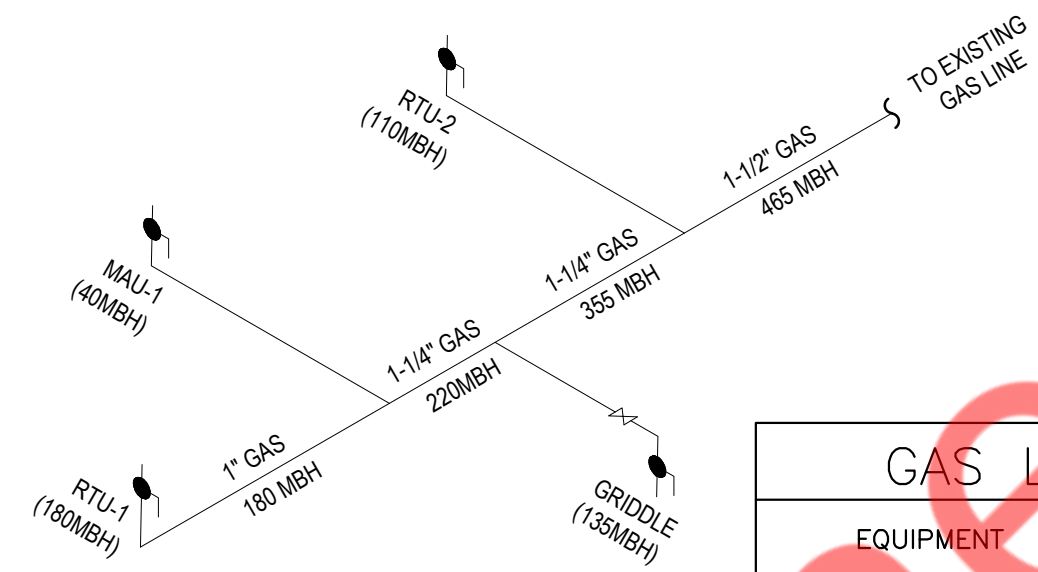
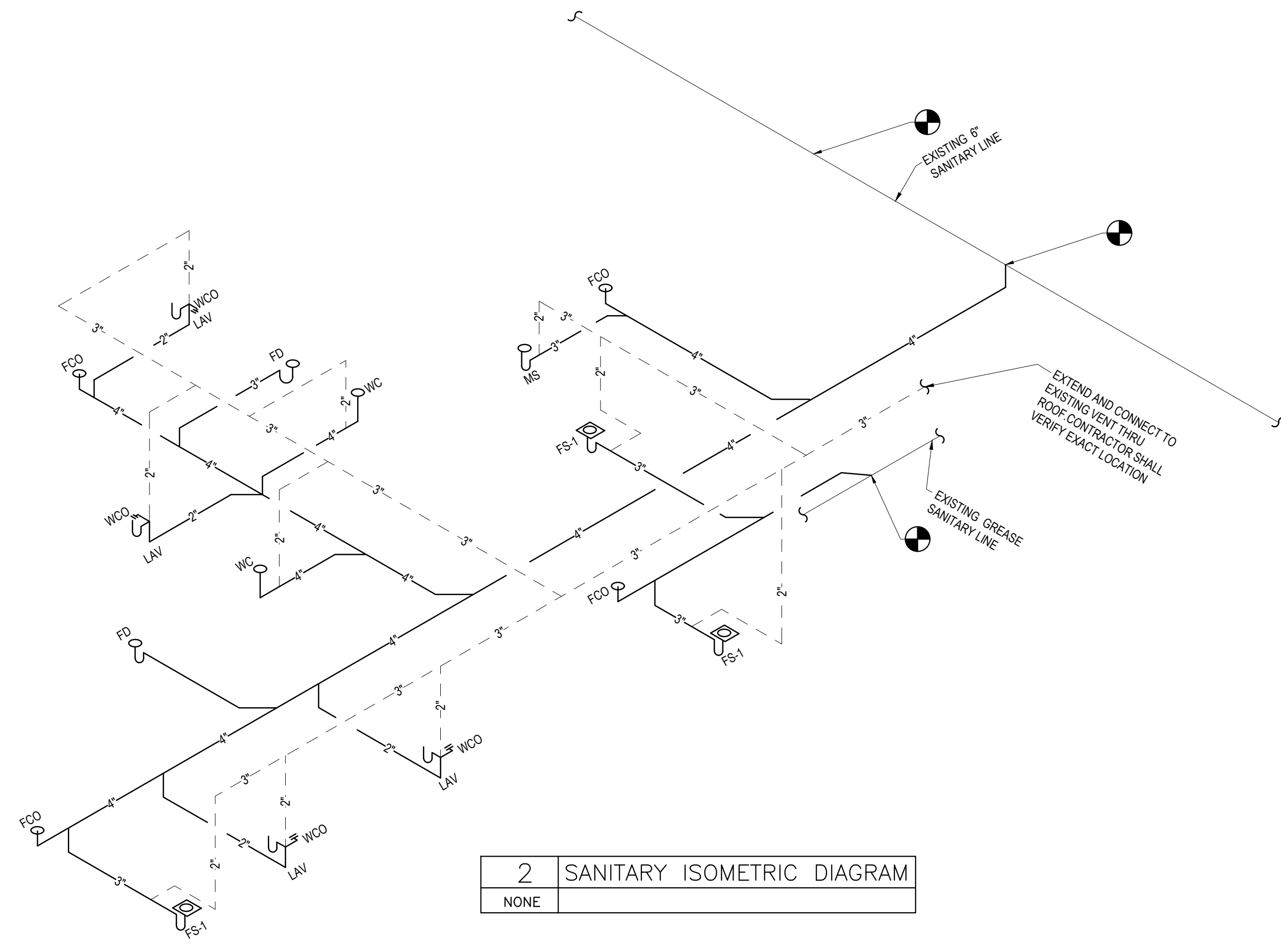
NONE



COMMENTS:
 1. LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50' INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 18" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.
 2. ROUND SECURED GASKETED NICKEL BRONZE ADJUSTABLE TOP WITH "CO" CAST IN COVER. PROVIDE CLEANOUT TOP WITH VARIATIONS SUITABLE FOR FLOOR COVERING (CARPET MARKER, RECESSED FOR TILE, SCORiated FOR UNFINISHED FLOORS). PROVIDE GASKETED PLASTIC PLUG IN CAST IRON BODY. USE TEFLON JOINT COMPOUND ON PLUG THREADS. CLEAN THE TOP OF EXPOSED FCO AFTER INSTALLATION.

7 FLOOR CLEANOUT DETAIL

NONE



GAS LOAD SUMMARY	
EQUIPMENT	CFH LOAD
RTU-1	180
RTU-2	110
GRIDDL	135
MAU-1	40
TOTAL LOAD	465

NOTE:
INLET PRESSURE LESS THAN 2 PSI WITH PRESSURE DROP OF 0.5"W.C. FOR 100FEET OF SCHEDULE 40 STEEL PIPING.

GAS METER AND REGULATOR BY GAS COMPANY.COORDINATE ALL REQUIREMENTS WITH GAS COMPANY.

3	GAS ISOMETRIC DIAGRAM
NONE	

