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

1. 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.

2. 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.

3. 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.

4. 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.

5. CUT ALL DUCT TAPS INTO THE BOTTOM PANEL OF THE ROOF CURB. BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE CUTS.

6. 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.

7. 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.

8. APPLY DUCT SEALER TO OPEN END OF COLLAR. SLIDE INNER CORE OF FLEXIBLE DUCT ONTO COLLAR, AND CONNECT PANDUIT STRAP PER MANUFACTURERS INSTRUCTIONS.

9. 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. SQUEEGEE OUT ALL AIR BUBBLES FOR PROPER ADHESION.

10. TURN CURB RIGHT SIDE UP, LEVEL CURB BETWEEN BOTTOM OF CURB AND DECK, INSTALL IN ROOF OPENING. SECURE CURB TO ROOF FRAMING AS REQUIRED.

11. GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND ROOF IN THE CURB AS DETAILED ON THE DRAWINGS.

12. 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.

13. NOTE: IF NECESSARY, FLEX DROPS MAY BE CONNECTED TO TAPS AFTER CURB HAS BEEN INSTALLED. REFER TO STEPS #8 AND #9.

AIR DEVICE SCHEDULE

SYM.	SIZE	TYPE	DUCT SIZE	MODEL#	FINISH	BOOT SIZE	OPENING SIZE	QTY.
A*	24X24	SUPPLY 4 WAY	12"ø	NCA12	WHITE	12"ø	T-BAR	5
A2*	24X24	SUPPLY 2 WAY	10"ø	NCA10-2P	WHITE	10"ø	T-BAR	1
B**	24X24	SUPPLY PERF.	12"ø	APDF3-1424	WHITE	12"ø	T-BAR	2
C***	18X12	SUPPLY SIDEWALL	---	P620DF-1812	WHITE	12"ø	---	7
D****	12X12	SUPPLY 1 WAY	8"ø	630	WHITE	12X12	SIZE + 1/4"	1
E****	12X12	SUPPLY 1 WAY	6"ø	630	WHITE	12X12	SIZE + 1/4"	3
F	24X24	RETURN	18"ø	630TB	WHITE	22X22	T-BAR	2
G	12X12	EXHAUST	6"ø	630	WHITE	12X12	SIZE + 1/4"	2

ALL DIFFUSERS SHALL BE MANUFACTURED BY METALAIRE OR EQUIVALENT AND 100% ALUMINUM CONSTRUCTION
* PROVIDE WITH PVCR9 SLIDING-BLADE DAMPER AND TWO 24X24 LAY-IN FRAMES FOR INSTALLATION IN SHEETROCK CEILING
** PROVIDE WITH **TWO** 14"ø-TO-12"ø REDUCERS FOR TOPS OF DIFFUSERS
*** PROVIDE WITH DUAL DEFLECTION BLADES AND OPPOSED-BLADE DAMPER
**** PROVIDE WITH OPPOSED-BLADE DAMPER

RESTROOM FAN SCHEDULE

UNIT NUMBER	EF-2
AREA SERVED	RESTROOMS
MANUFACTURER	CAPTIVE AIRE
MODEL	DR10HFA
CFM	150
STATIC PRESSURE, "WG	0.25
FAN HORSEPOWER	0.06
DRIVE	DIRECT
RPM	1049
ELECTRICAL V/ø/HZ	120/1/60
NCA CURB LXWXH	17.5X17.5X12
ACCESSORIES	A,B,D,E,G,H,I,M

NOTES/ACCESSORIES
A. ALUMINIZED BIRDSCREEN
B. SAFETY DISCONNECT SWITCH
C. GRAVITY BACKDRAFT DAMPER
D. AMCA SEAL & U.L. CERTIFIED
E. SPEED CONTROL
G. INTERLOCK WITH SALES FLOOR LIGHTS
H. 12" HIGH PREFABRICATED ROOF CURB
J. CONTROLLED BY TEMP. PROBES IN HOODS. SEE SHEET M-3
K. REFER TO KITCHEN BALANCE SCHEDULE
L. ENSURE 10' – 0" MINIMUM CLEARANCE FROM AIR INTAKES
M. COORDINATE WITH MANUFACTURER FOR FINAL SELECTION

KEYED NOTES

1. 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 NFPA96 AND LOCAL CODES, INCLUDING THE PROVISION OF ACCESS DOORS AND FIRE WRAP.** CONFIRM LOCATION ON SITE WITH MOST RECENT KITCHEN PLANS.
2. PROVIDE THERMOSTAT 66" A.F.F. IN A WALL NEAR LOCATION SHOWN. SEAL WALL OPENINGS WITH CAULK. AUDIO-VISUAL ANNUNCIATOR TIED INTO SMOKE DETECTOR. COORDINATE LOCATION ON SITE WITH G.C. AND EQUIPMENT. AVOID SOURCES OF HEAT. INSULATE BACKS OF STATS.
3. WATER HEATER FLUE / COMBUSTION PROVIDED BY PLUMBING CONTRACTOR. ENSURE 10' CLEARANCE TO ALL OUTSIDE AIR INTAKES.
4. PROVIDE 10X10 EXHAUST DUCT TO EXHAUST FAN ON ROOF AS SHOWN. OFFSET AND TRANSITION AS NEEDED.
5. 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. **BALANCE EACH OF FOUR DUCT DROPS TO 610 CFM EACH.**
6. 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.
7. **SHEETMETAL TRUNKLINE FABRICATED, INSTALLED, SEALED, AND EXTERNALLY INSULATED PER SMACNA AND LOCAL CODES. VERIFY ROUTING ON SITE PRIOR TO FABRICATION. OFFSET AND TRANSITION AT CONNECTIONS AS NEEDED.**

PACKAGE ROOFTOP UNIT SCHEDULE (RTU-1,2)

TAG	RTU-1,2
MANUFACTURER	CARRIER
MODEL	48HCED08 (7.5 TON)
LOCATION, CURB DIMENSIONS	ROOF, 78" X 50"
TYPE OF HEAT	NATURAL GAS
TOTAL COOLING CAPACITY, MBTU/HR	95.2
SENSIBLE COOLING CAPACITY, MBTU/HR	71.0
ENTERING AIR CONDITIONS, DBT/WBT	80/67
AMBIENT AIR DB TEMPERATURE, °F	95
SUPPLY AIR, CFM	3000
OUTSIDE AIR, CFM	SEE SCHEDULE
EXTERNAL STATIC PRESSURE, "WG	0.75
BHP – MEDIUM STATIC MOTOR	2.4
E.E.R.	12.0
GAS INPUT MBTU/HR	120/180
GAS OUTPUT MBTU/HR	98/148
UNIT WEIGHT, LBS.	1100
ELECTRICAL REQUIREMENT, V/PHASE/HZ	**480/3/60**
MINIMUM CIRCUIT AMPERAGE	**19**
MAXIMUM OVER CURRENT PROTECTION	**25**

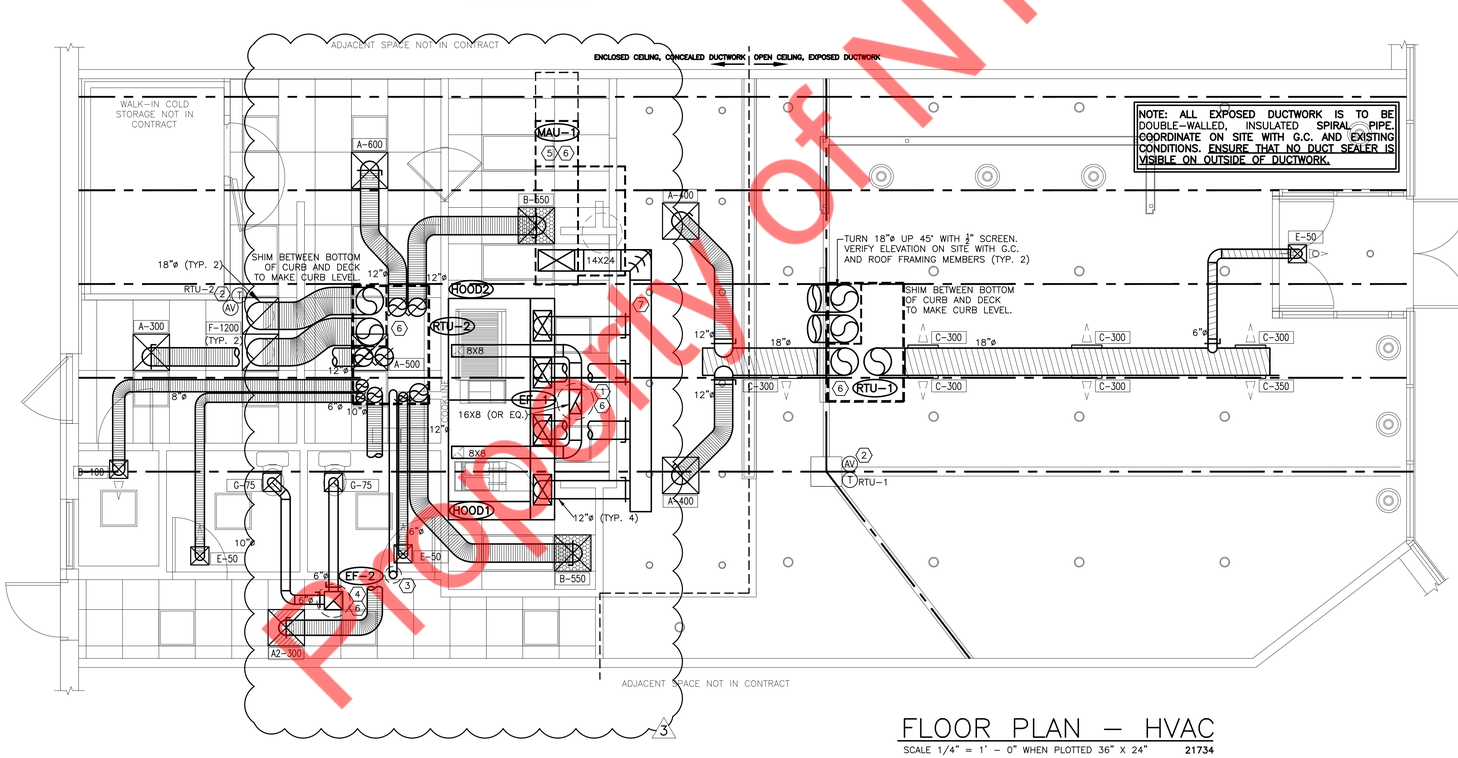
ACCESSORIES:
1. **100% ECONOMISER WITH BAROMETRIC RELIEF**
2. NCA PLENUMIZED CURB. TO ORDER CALL TOLL-FREE (877) 530-0078.
3. ONE YEAR COMPLETE PARTS AND LABOR WARRANTY
4. ADDITIONAL FOUR YEAR PARTS WARRANTY COVERING COMPRESSORS
5. SMOKE DETECTOR **FOR SUPPLY AND RETURN DUCTS** (SEE HVAC ROOF PLAN, **SHEET M-2)**
6. **AQUAGUARD AG-3180E MOISTURE SENSOR FOR PRIMARY FAN**

NOTE: COORDINATE RTU PLACEMENT ON SITE PRIOR TO SETTING EQUIPMENT. IF ADJUSTMENT IS NECESSARY MAINTAIN FRESH AIR INTAKE CLEARANCES, **INCLUDING EQUIPMENT ON ADJACENT SPACE.**

NOTE: SEE HOOD DETAILS SHEETS, THIS SET FOR HOOD FAN SCHEDULES AND DETAILS

AIR BALANCE SCHEDULE

TAG	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	BLDG. PRESSURE	% OUTSIDE AIR
RTU-1	3000 CFM	500 CFM	2500 CFM	---	+ 500 CFM	16
RTU-2	3000 CFM	500 CFM	2500 CFM	---	+ 500 CFM	16
EF-1	---	---	---	3070 CFM	3070 CFM	---
MAU-1	---	2450 CFM	---	---	+ 2450 CFM	100
EF-2	---	---	---	150 CFM	– 150 CFM	---
TOTAL	6000 CFM	3450 CFM	5000 CFM	3220 CFM	+ 230 CFM	16



FLOOR PLAN – HVAC

SCALE 1/4" = 1' – 0" WHEN PLOTTED 36" X 24" **21734**

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.

DRAWING INFORMATION

DATE	DESCRIPTION	BY
06-02-21	FOR CONSTRUCTION	KM
06-25-21	UPDATED	KM
06-29-21	UPDATED	KM
07-01-21	UPDATED	KM
12-09-21	REVISION 3	KM

EXISTING CONDITIONS:

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.

CONTRACTORS NOTES

HVAC CONTRACTOR

1. THE HVAC CONTRACTOR IS TO FURNISH AND INSTALL THE **HOODS, RTUS,** FANS, NEW DUCTWORK, INSULATION WRAP, DIFFUSERS, SMOKE DETECTORS, AND TEMPERATURE CONTROLS. **SEE KEYED NOTE #1, THIS SHEET.**
2. 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.
3. ALL HVAC EQUIPMENT CURBS ARE TO BE SUPPLIED BY THE HVAC CONTRACTOR.
4. 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.
5. SHIMS ARE TO BE PROVIDED BY HVAC CONTRACTOR BETWEEN THE ROOF DECK AND THE NEW CURBS TO COMPENSATE FOR ROOF PITCH.
6. 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.
7. 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].
8. ALL NEW DUCTWORK IS TO BE INDEPENDENTLY HUNG FROM STRUCTURAL MEMBERS.
9. 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.**
10. UNLESS OTHERWISE NOTED, ALL NEW SUPPLY TAKEOFFS ARE TO HAVE A MANUAL VOLUME CONTROL DAMPER.
11. THE HVAC CONTRACTOR IS TO COORDINATE NEW DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
12. THE HVAC CONTRACTOR IS TO FURNISH A WRITTEN GUARANTEE COVERING A ONE-YEAR PERIOD FOR ALL NEW HVAC EQUIPMENT AND IF THE RTUS ARE REPLACED, PROVIDE AN ADDITIONAL FOUR-YEAR PERIOD FOR THE COMPRESSORS IN THE RTUS. ALL NEW FANS TO BE U.L. LISTED.
13. **UPON COMPLETION OF PROJECT THE HVAC CONTRACTOR IS TO HIRE AN A.A.B.C. OR N.E.B.B. CERTIFIED, INDEPENDENT TEST AND BALANCE COMPANY TO CONDUCT A COMPLETE, CERTIFIED TEST AND BALANCE OF ALL HVAC EQUIPMENT. PROVIDE A WRITTEN REPORT TO NCA CONSULTANTS. ALL CAPACITIES MUST BE SET TO AMOUNTS INDICATED ON THE FLOOR PLANS AND SCHEDULES.**
14. 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

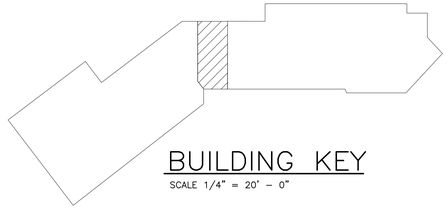
1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO RECEIVE, OFFLOAD, AND STORE ALL HVAC MATERIALS WHICH ARRIVE AT THE JOB SITE. ALL MATERIAL MUST BE STORED INSIDE THE BUILDING. **HOODS MUST BE STORED IN THE KITCHEN.**
2. IT IS VERY IMPORTANT THAT ACCURATE MEASUREMENTS ARE USED WHEN LOCATING EXHAUST FAN ROOF OPENING. COORDINATE ROOF OPENINGS WITH THE KITCHEN EQUIPMENT PLAN AND EXHAUST HOOD PLANS. OBTAIN THE CORRECT PLANS FROM THE KITCHEN EQUIPMENT SUPPLIER.
3. 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.
4. 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.**
5. 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

1. 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. DO NOT PENETRATE BOTTOM OF RTU CURB.
2. THE ELECTRICAL CONTRACTOR IS TO INSTALL LOW-VOLTAGE CONTROL WIRING FOR ALL AIR CONDITIONING CONTROLS.
3. 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 NFPA96 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.
4. 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.
5. 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.

PLUMBING CONTRACTOR

1. THE PLUMBING CONTRACTOR IS TO PROVIDE AND INSTALL CONDENSATE DRAINS/GAS PIPING FOR ALL HVAC EQUIPMENT, AND PITCH POCKETS FOR RTU CONNECTIONS. DO NOT PENETRATE BOTTOM OF RTU CURB.
2. 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.
3. 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.

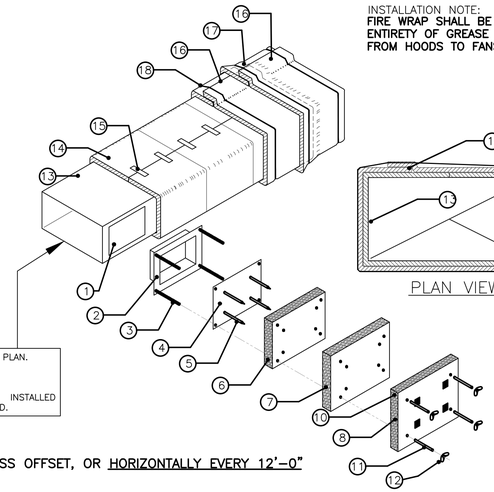


BUILDING KEY

SCALE 1/4" = 20' – 0"

NOTES:
1. 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.
2. 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.
3. HOLD INTERIOR WRAP OF INSULATION USING 1" WIDE FILAMENT TAPE (NO. 898) MANUFACTURED BY 3M COMPANY.
4. 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 BE USED ON ENTIRETY OF GREASE EXHAUST RISERS, FROM HOODS TO FANS – VIF

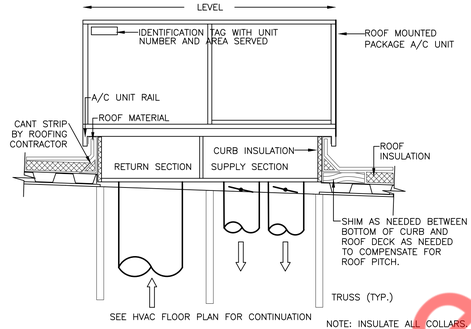
PLAN VIEW

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 AIRE 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



DUCT RISER/LEVELING DETAIL

NOT TO SCALE

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
06–02–21	FOR CONSTRUCTION	KM
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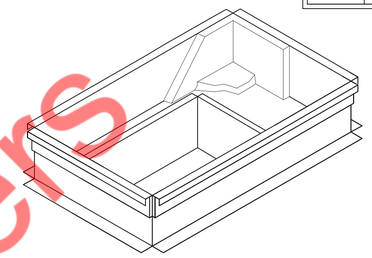
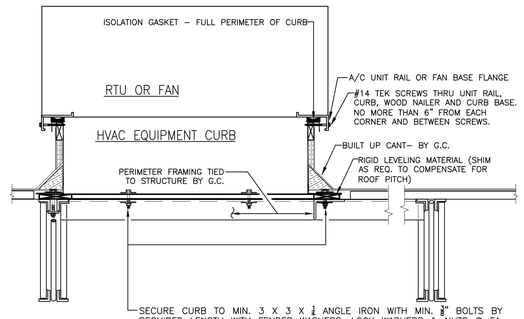
12–09–21	REVISION 3	KM



FACTORY CURB CONVERSION SHALL NOT BE ACCEPTED.

NCA PLENUMIZED AC CURB DETAIL

NOT TO SCALE



ACCEPTABLE FOR 170 MPH ZONE

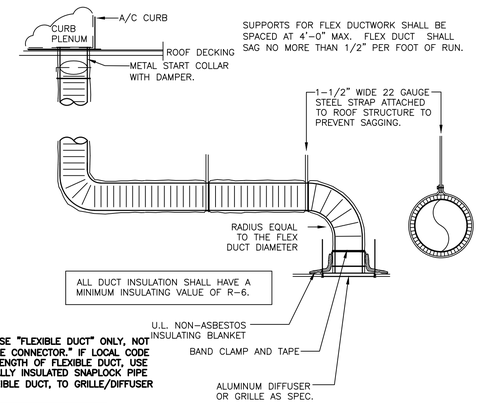
VERIFY ON SITE WITH GENERAL CONTRACTOR

ROOF EQUIP. CURB MOUNTING DETAIL

NOT TO SCALE — ACCEPTABLE FOR 170 MPH WIND ZONE

ROOF PLAN – HVAC

SCALE 1/4" = 1' – 0" WHEN PLOTTED 36" X 24"



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"ø – 8"ø	28
10"ø – 12"ø	26
14"ø – 16"ø	24
18"ø – 20"ø	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 ENCIRCLE 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

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
06-02-21	FOR CONSTRUCTION	KM
06-25-21	UPDATED	KM
07-01-21	UPDATED	KM

HOOD INFORMATION

HOOD NO.	MARK	MODEL	HOOD DIMENSIONS (IN.)			HOOD CONSTR.	COOKING LOAD / DUTY RATING	EXHAUST						SUPPLY		TOTAL WEIGHT LBS.	SECTION LOCATION
			LENGTH	WIDTH	HEIGHT			TOTAL CFM	COLLAR(S)					MUA CFM	AC CFM		
									WIDTH	LENGTH	DIA.	CFM	S.P.				
1	KH-1	XXEW-67-S	67	54	24	430 SS WHERE EXPOSED	HEAVY	1535	10	14		1535	0.731	1127		212.167	LEFT
2	KH-1	XXEW-67-S	67	54	24	430 SS WHERE EXPOSED	HEAVY	1535	10	14		1535	0.731	1329		212.167	RIGHT

HOOD INFORMATION

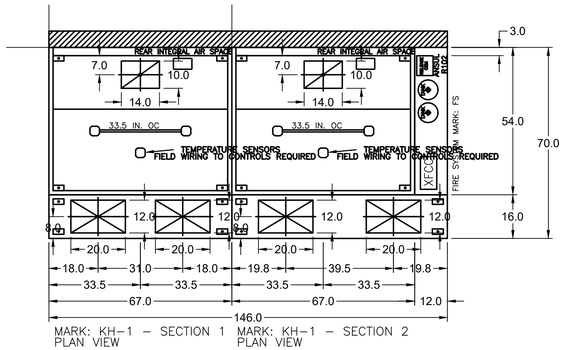
HOOD NO.	MARK	LIGHTING DETAILS			GREASE FILTRATION DETAILS				UTILITY CABINET(S)					
		FIXTURE TYPE BULB / LAMP INFO	QTY	FOOT CANDLES	TYPE / MODEL MATERIAL	QTY	SIZE (IN.)		LOCATION	FIRE SYSTEM		CONTROLS		
							L	H		TYPE	SIZE	MODEL	INTERFACE	
1	KH-1	INCANDESCENT (GLOBE) 100W A19 (BULBS NOT INCL.)	2	39.34	X-TRACTOR STAINLESS STEEL	4	16	20						
						0	20							
2	KH-1	INCANDESCENT (GLOBE) 100W A19 (BULBS NOT INCL.)	2	39.34	X-TRACTOR STAINLESS STEEL	4	16	20						
						0	20		RIGHT	ANSUL R102	6	XFCC	SWITCHES	

SUPPLY PLENUM INFORMATION

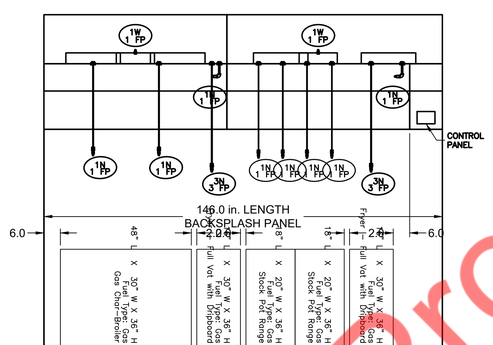
HOOD NO.	MARK	POS.	TYPE	SIZE (IN.)			INSULATED	DAMPER(S)	LED LIGHT(S)		TOTAL CFM	COLLARS								
				L	W	H			SUPPLIED	QTY		TYPE	MOUNTING	QTY	W	L	DIA.	CFM	S.P.	VEL.
1	KH-1	FRONT	ASP	67	16	10	NO	NO	NO		1127	MUA	FACTORY	2	12	20		564	0.19	338
2	KH-1	FRONT	ASP	79	16	10	NO	NO	NO		1329	MUA	FACTORY	2	12	20		665	0.19	399

HOOD OPTIONS

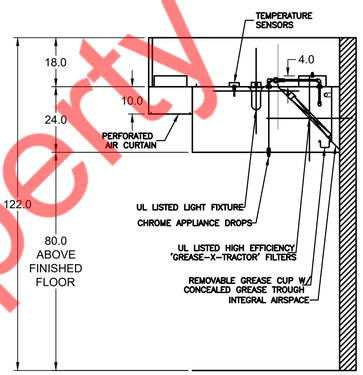
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER – UL #R25625
BACK INTEGRAL AIR SPACE – 3 IN WIDE
18 IN HIGH CEILING ENCLOSURES – FRONT LEFT RIGHT – FIELD INSTALLED
FACTORY MOUNTED EXHAUST COLLAR(S)
BACKSPLASH 80.00 IN HIGH 146.00 IN LONG
PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH



MARK: KH-1 – SECTION 1 PLAN VIEW
MARK: KH-1 – SECTION 2 PLAN VIEW

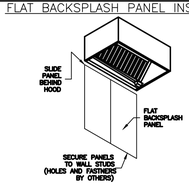


MARK: KH-1 – SECTION 1 ELEVATION VIEW
MARK: KH-1 – SECTION 2 ELEVATION VIEW

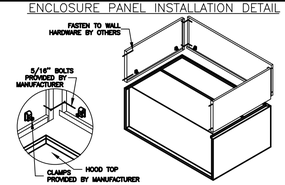


MARK: KH-1 (LAST HOOD IN ROW) SECTION VIEW

FLAT BACKSPLASH PANEL INST. DETAIL



ENCLOSURE PANEL INSTALLATION DETAIL



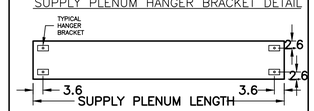
HOOD HANGING HEIGHT FOR FIRE SYSTEMS

VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

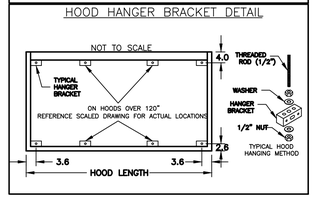
☐ RECOMMENDED HANGING HEIGHT = 80" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.

☐ OTHER HANGING HEIGHT = _____" FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

SUPPLY PLENUM HANGER BRACKET DETAIL



HOOD HANGER BRACKET DETAIL



CALIFORNIA TORTILLA

PROJECT 7/22/2019

MARK KH-1

ACCUREX SOUTH TX
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(512)956-7014

ACCUREX

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
06-02-21	FOR CONSTRUCTION	KM
06-25-21	UPDATED	KM
06-29-21	UPDATED	KM
07-01-21	UPDATED	KM

FIRE SYSTEM INFORMATION

MARK	MODEL	LOCATION	FLOW POINTS HOODS	FLOW POINTS PCU	SUPPLY LINE	DETECTION	MARK(S) PROTECTED BY FIRE SYSTEM
FS	ANSUL R-102 WET CHEMICAL	CABINET – RIGHT END OF KH-1	16 UTILIZED 22 AVAILABLE		CONTINUOUS	FUSIBLE LINK	KH-1 SECTION 1 KH-1 SECTION 2

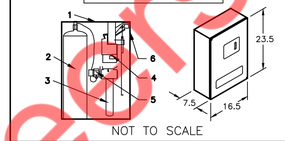
FIRE SYSTEM OPTIONS AND ACCESSORIES

FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS – INCLUDED
METAL BLOW-OFF CAPS – INCLUDED
GAS VALVE – INCLUDED – MECHANICAL SHUTOFF VALVE, 2", (ANSUL) – PART# ANSULMECHSHUTOFFVALVE200
HOOD SUPPRESSION AGENT – INCLUDED – 6 GAL. – [(2) 3.0 TANK(S)]
REMOTE PULL STATION – STANDARD – INSTALLATION AT SINGLE POINT OF EGRESS

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM – MODEL ITSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE
2. AGENT STORAGE TANK
3. EXPELLENT GAS CARTRIDGE
4. MANUAL/AUTOMAN RELEASE
5. REGULATOR
6. KNOCKOUT FOR WIRING, MICROSWITCH



NOT TO SCALE

NOTES:

WET CHEMICAL FIRE PROTECTION SYSTEM TO BE ANSUL R-102, DESIGNED IN COMPLIANCE WITH UL 300 REQUIREMENTS.
-VERIFICATION OF ALL COOKING EQUIPMENT MAKE, MODEL AND LOCATION REQUIRED FOR ALL FIRE PROTECTION SYSTEMS.
-ALL FIRE SYSTEM PIPING IS STANDARDLY TO THE RIGHT END OF THE HOOD UNLESS A WALL IS LOCATED ON THE RIGHT END.
-ANSUL AUTOMAN RELEASE TO BE LOCATED WITHIN 60" OF HOOD.

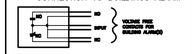
THE BASIC FIRE SYSTEM WILL INCLUDE THE FOLLOWING:
-GAS SHUT-OFF VALVE, IF REQUIRED, TO BE SUPPLIED BY MANUFACTURER (UP TO 2" DIAMETER AS STANDARD), AND INSTALLED BY A LICENSED PLUMBER.
-MICRO SWITCH TO BE SUPPLIED BY MANUFACTURER FOR CONNECTION TO, BUT NOT LIMITED TO, BUILDING ALARM SYSTEM(S), EXHAUST AND SUPPLY FANS AND ELECTRICAL POWER SHUT DOWN. FIELD WIRING AND CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

THE BASIC FIRE SYSTEM DOES NOT INCLUDE THE FOLLOWING:
-FULL DUMP TEST OTHER THAN WHT IS SPECIFIED PER THE INSTALLATION MANUAL, OR TO SATISFY A STATE OR LOCAL CODE. PERMIT AND TESTING FEES ARE NOT INCLUDED UNLESS NOTED UNDER THE EQUIPMENT SCHEDULE FOR THE FIRE SYSTEM.
-MORE THEN TWO TRIPS TO THE JOBSITE OR SPECIAL TRANSPORTATION, OR OVERNIGHT LODGING REQUIREMENTS IN REMOTE AREAS. NORMAL TRAVEL DISTANCE IS FIRST 50 MI. (80.5 KM) FROM OFFICE.
– SPECIAL CLASSES OR ADDITIONAL LABOR FOR ACCESS TO SECURITY SENSITIVE AREAS.
-INSTALLATION OF GAS SHUT-OFF VALVE.
-SPECIAL DRAWINGS REQUIRED TO SATISFY STATE OR LOCAL CODE. PLAN EXAMINATION FEES, PE OR FS APPROVAL STAMP.
-UNION LABOR, GOVERNMENT LABOR, OR PREVAILING WAGES REQUIRED FOR FINAL FIELD HOOK-UP.
-ANY AND ALL ELECTRICAL COMPONENTS/CONNECTIONS REQUIRED TO SHUT DOWN FANS, SHUT OFF DEVICE FOR ELECTRIC COOKING EQUIPMENT (SHUNT TRIP BREAKER), OR ACTIVATE AN ALARM SYSTEM, ETC.
-ANY DISMANTLING OR REASSEMBLY REQUIRED TO GAIN ACCESS TO THE FIRE SUPPRESSION PIPING LOCATED ON THE TOP OF THE HOOD.
-ROUGH-IN HIDDEN CONDUIT FOR REMOTE PULL STATION OR GAS VALVE (FLUSH MOUNTED PULL STATION).
-INSTALLATION OF MORE THAN (1) REMOTE PULL STATIONS OR DISTANCES GREATER THAN 20 FT (6.1M.)
-PARTS OR LABOR REQUIRED TO CORRECT PIPING DUE TO COOKING EQUIPMENT CHANGES OR DEVIATION FROM PLANS. OR ANY CHARGES FOR MISSING OR ADDITIONAL PARTS OTHER THEN THOSE INDICATED ON THE FIRE SUPPRESSION DETAIL.

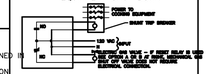
WIRING DIAGRAMS W/DPDT MICRO SWITCH

DPDT SWITCHES PROVIDED BY MANUFACTURER MAY BE WIRED PER TYPICAL EXAMPLES SHOWN. VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.

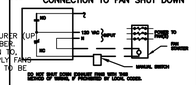
CONNECTION TO BUILDINGS ALARM



CONNECTION TO COOKING EQUIPMENT SHUT DOWN



CONNECTION TO FAN SHUT DOWN



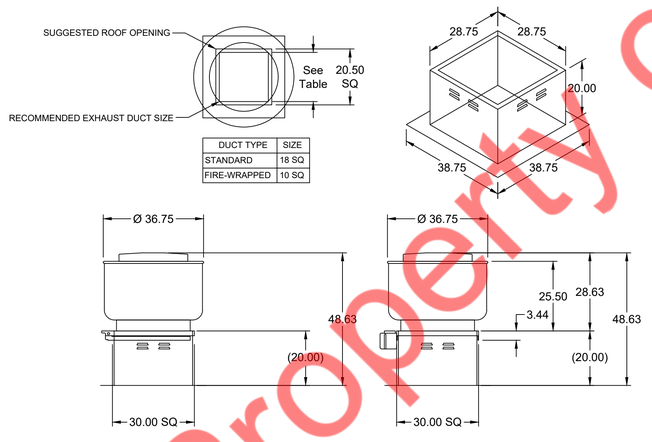
NOTES:
1. —— DENOTES FIELD INSTALLATION.
2. —— DENOTES FACTORY INSTALLATION.
3. DO NOT USE BLACK WIRE ON SNAP-ACTION SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRANEOUS ALARM, LIGHT CIRCUITS, ETC.

Belt Drive Upblast Centrifugal Roof Exhaust Fan

MARK INFORMATION		FAN INFORMATION						MOTOR INFORMATION					
QTY	MARK	MODEL	VOLUME (CFM)	TOTAL EXTERNAL SP (IN WG)	FAN RPM	OPERATING POWER (HP)	WEIGHT (LB.)	SIZE (HP)	V/C/P	ENCLOSURE	MOTOR RPM	WINDINGS	NEC FLA*
1	KEF-1	XRUB-180HP-30	3,070	1.75	1,517	1.6	169	3	480/60/3	OP	1725	1	10.6

*NEC FLA - Based on tables 150 or 148 of National Electrical Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.

KEF-1 : SELECTED OPTIONS AND ACCESSORIES
UL/cUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances"
Switch, NEMA-1, Toggle, Shipped with Unit
Hinged Bracket Kit (PN 878100) (Shipped Loose)
High Temp Curb Seal Rated for Continuous Duty at 2000 F (Attached)
Grease Trap (PN 475538)
Heat Baffle (Attached)
Bearings with Grease Fittings, L10 life of 100,000 hrs (L50 avg. life 500,000 hrs)



DUCT TYPE	SIZE
STANDARD	18 SQ
FIRE-WRAPPED	10 SQ

DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR.

CALIFORNIA TORTILLA

FS

PROJECT 7/22/2019

MARK

ACCUREX SOUTH TX
SOUTHTEXAS@ACCUREX.COM
(512)956-7014

ACCUREX

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
06-02-21	FOR CONSTRUCTION	KM
06-25-21	UPDATED	KM
06-29-21	UPDATED	KM
07-01-21	UPDATED	KM

EQUIPMENT SCHEDULE

Tempered Make-Up Air Unit — Mark: MAU-1

Qty	Accurex Model	Volume	External SP	Total SP	FRPM	Operating Power	Weight
1	XDG-109-H10-5	2,456 CFM	0.7 in. wg	1.821 in. wg	1602	1.85 hp	1,150 lb

Motor Information							
Size	V/C/P	Enclosure	Motor with Shaft Grounding	Motor RPM	Windings	MCA	MOP
3 hp	480/60/3	ODP	No	1725	1	V.I.F.	V.I.F.

Heating										
Type	Gas Type	Temperature: Winter DB	Temperature: Max Δ	Temperature: Max LAT	Energy: Input	Energy: Output	Energy: Efficiency	Connection Gas	Building Gas Pressure	Control Access
Direct Gas	Natural	16.3 F	53.7 F	70.0 F	154.8 MBH	142.4 MBH	92%	3/4"	1/2 PSI	11a

Cooling								
Cooling Type	Coil Model	Rows Deep	Fins Per Inch	Face Velocity	Total Energy	Sensible Energy	Leaving Dry Bulb	Leaving Wet Bulb
Packaged DX	DX38S02S10-30x30	2	10	393 ft/min	67.8 MBH	44.1 MBH	78.0 F	72.2 F

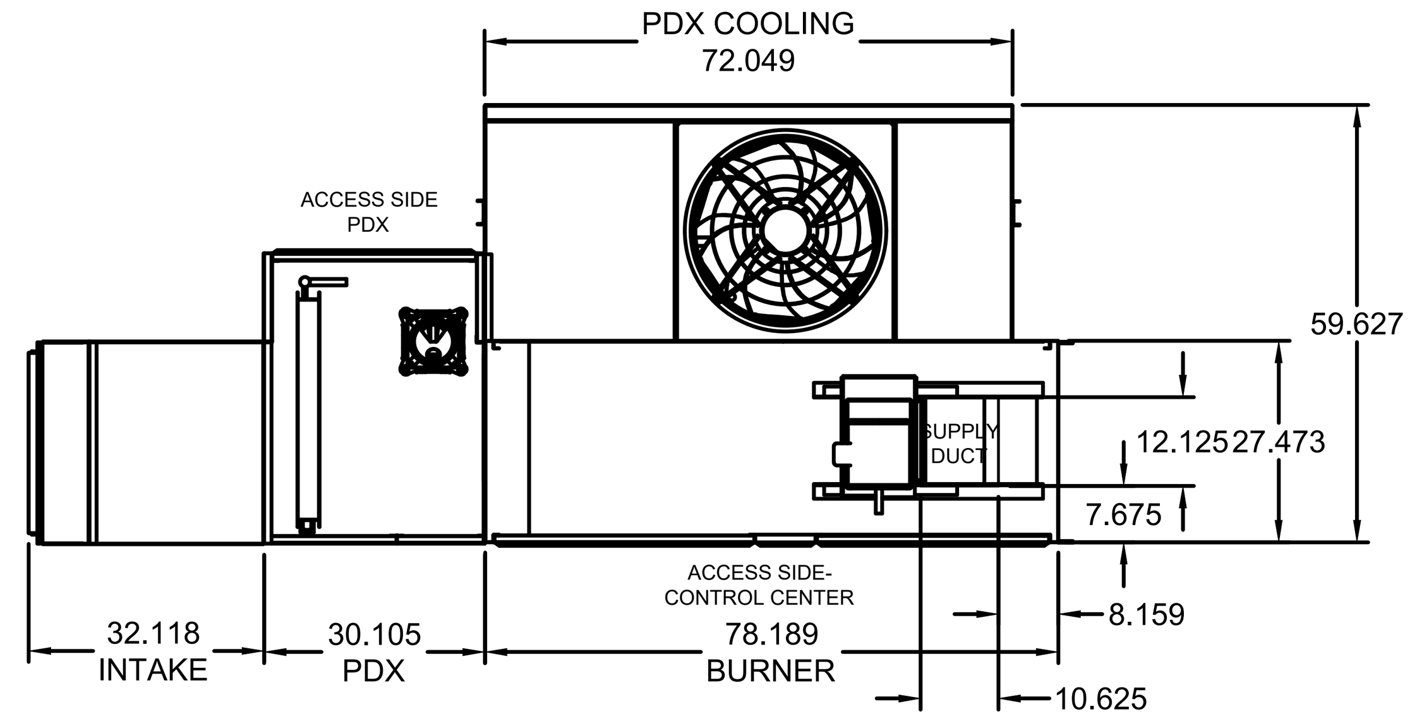
Coil SP	Refrigerant	Suction Temp	Liquid Temp	Super Heat	Code 18/19	Suction Conn Qty / Size	Liquid Conn Qty / Size
NA	R-410a	51.3 F	110 F	8 F	0	NA	NA

Outlet Sound Power By Octave Band										
62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
97.7	95.3	87	80.7	77.8	75.6	75.4	71.6	86.1	75.1	26.2

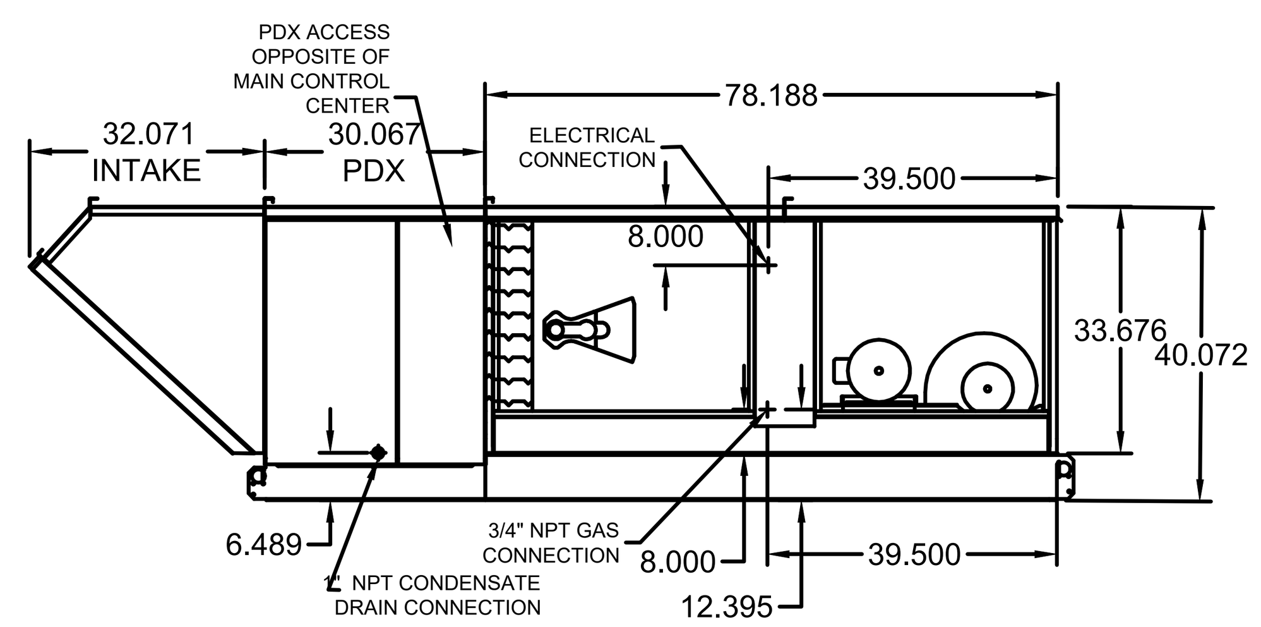
?LwA – A weighted sound power level based on ANSI S1.4
?dBA – A weighted sound pressure level base on 11.f dB attenuation per octabe band at 5.0 ft.
?Noise Criteria (NC) based on an average attenuation of 11.5 dB per octabe band at 5.0 ft.

OPTIONS AND ACCESSORIES

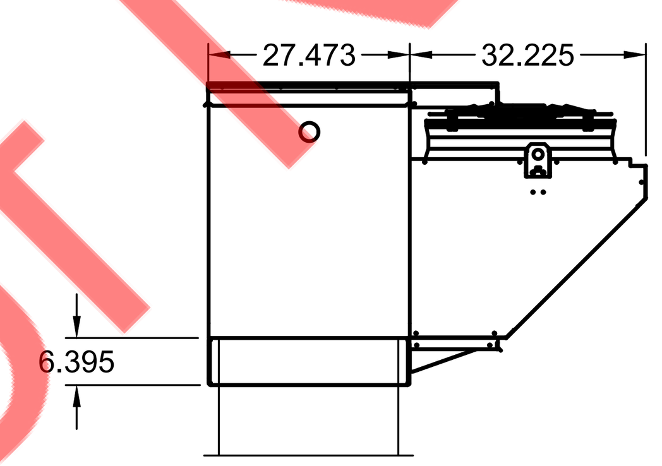
Extended Compressor Warranty: 5 years
Air Flow Arrangement: Outdoor Air Only
Weatherhood: Aluminum Mesh, 20x25x2 - (1), 16x25x2 - (1)
Damper: Inlet
Outdoor Air Intake Position: End
Discharge Position: Bottom
Coating: Galvanized
Cooling Coil Coating - None
Insulation: Double Wall - Heat Source On
Supply Fan Control: VFD
VFD Control: Constant Volume
Access Side: Right-Hand
Control Center
Heat Inlet Air Sensor
Cool Inlet Air Sensor
Unit Controls: Terminal Strip
Temperature Control: Discharge
Direct Gas Options/Accessories
Approvals: ETL and IRI
Flame Sensing: Flame Rod
Ignition Control: Pilot



PLAN VIEW



ELEVATION VIEW



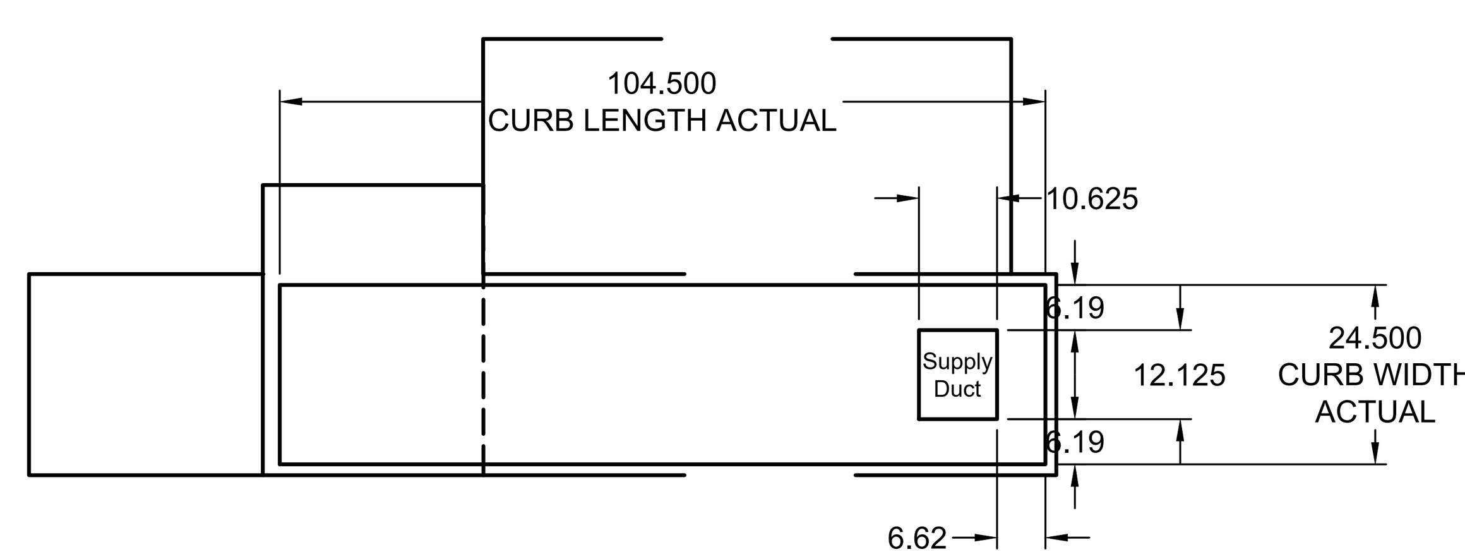
END VIEW

NOTE: Roof Opening Requirements:

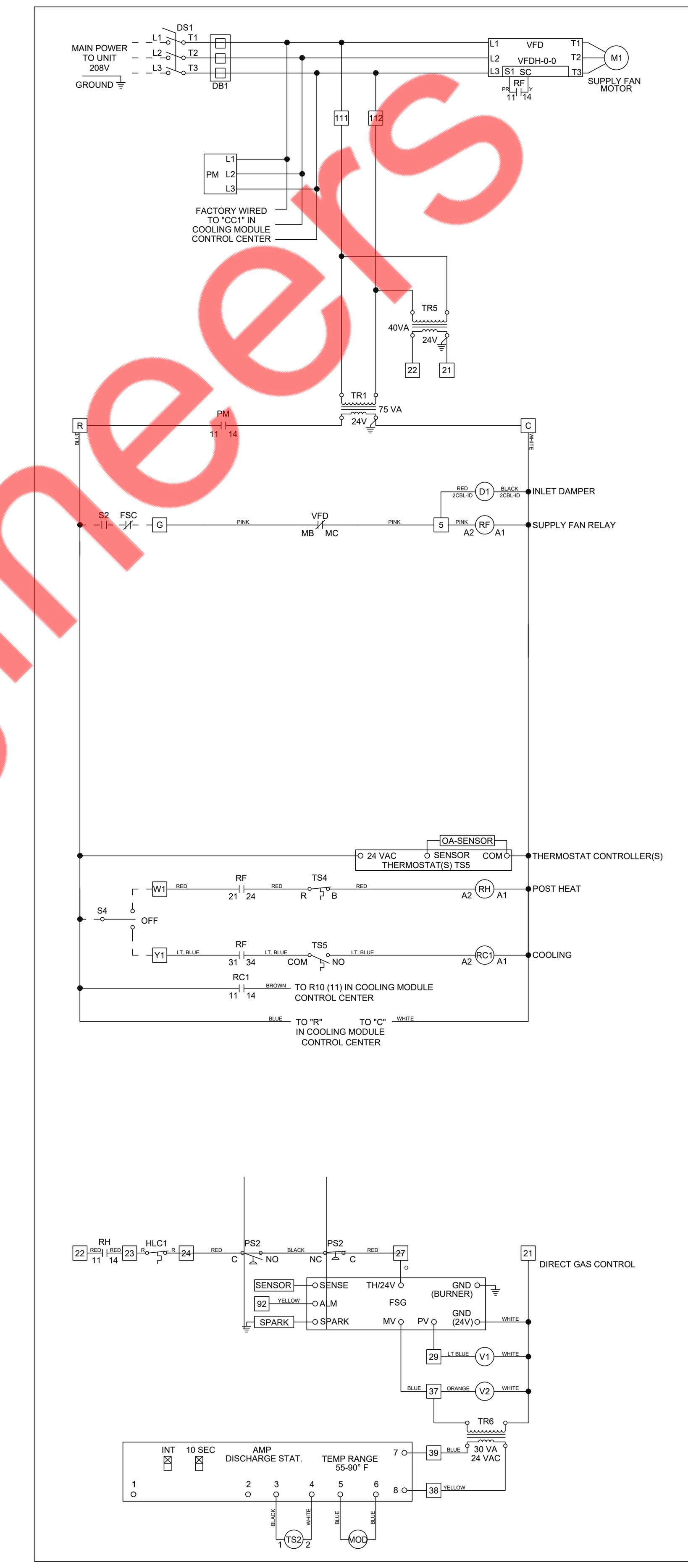
Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides.
For example: If the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.

Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb.
For example: If the roof curb is 75 x 30 in. square, the maximum roof opening is 71.5 x 26.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb.
This is by design, in order to help alleviate water infiltration issues. MUA Unit supports are shipped loose with unit.



FOOTPRINT



ACCUREX

Wiring Diagram Code:
AD61N402B018A30NM20

CAUTION
UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES
USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.
FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.
FIELD WIRED – – – – –
FACTORY SUPPLIED AND WIRED ———

WIRE COLOR CODE

BK	BLACK	BL	BLUE	BR	BROWN
GY	GRAY	LT BL	LIGHT BLUE	O	ORANGE
PK	PINK	PR	PURPLE	R	RED
W	WHITE	Y	YELLOW		

LEGEND
AMP AMPLIFIER
CC# COMPRESSOR CONTACTOR
CF1 CONDENSER FAN CONTACTOR
CH# CRANK CASE HEATER
D1 INLET DAMPER
DB DISTRIBUTION BLOCK
DS1 MAIN DISCONNECT SWITCH
FSC FIRE SYSTEM CONTACT
FSG FLAME SAFE GUARD
FU# FUSE
HLC HIGH LIMIT CONTROL
HPS HIGH PRESSURE SWITCH
LPS LOW PRESSURE SWITCH
M# MOTOR
MOD MODULATING VALVE
PM PHASE MONITOR
PS2 AIR PROVING SWITCH
R10 COMP#1 INTERLOCK RELAY
RC1 COOLING STAGE 1 RELAY
RF SUPPLY FAN RELAY
RF1 FAN ENABLE RELAY
RH HEAT RELAY
S2 FAN SWITCH
S4 HEAT AND COOL SWITCH
SG SPARK GENERATOR
ST# MOTOR STARTER
TR# TRANSFORMER
TS2 DISCHARGE AIR SENSOR
TS4 INLET AIR SENSOR - HEAT
TS4 INLET AIR SENSOR - HEAT
JUMPER = HEAT : DIFFERENTIAL = 2
TS5 INLET AIR SENSOR - COOL
JUMPER = COOL : DIFFERENTIAL = 5
V1 PILOT VALVE
V2 MAIN VALVE
VFD VARIABLE FREQUENCY DRIVE

CALIFORNIA TORTILLA

PROJECT
7/22/2019

MARK
MAU-1

ACCUREX SOUTH TX
SOUTHTEXAS@ACCUREX.COM
(512)956-7014

ACCUREX

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
06-02-21	FOR CONSTRUCTION	KM
06-25-21	UPDATED	KM
06-29-21	UPDATED	KM
07-01-21	UPDATED	KM

CONTROL INFORMATION

MARK	ELECTRICAL CONTROL PACKAGE		USER INTERFACE		FANS CONTROLLED				
	MODEL	LOCATION	TYPE	LOCATION	MARK	TYPE	VOLT	PHASE	HP
CP	XFCC	CABINET ? RIGHT END OF KH-1	SWITCHES	CABINET ? RIGHT END OF KH-1	KEF-1	EXHAUST	480	3	3
					MAU-1	SUPPLY	480	3	3

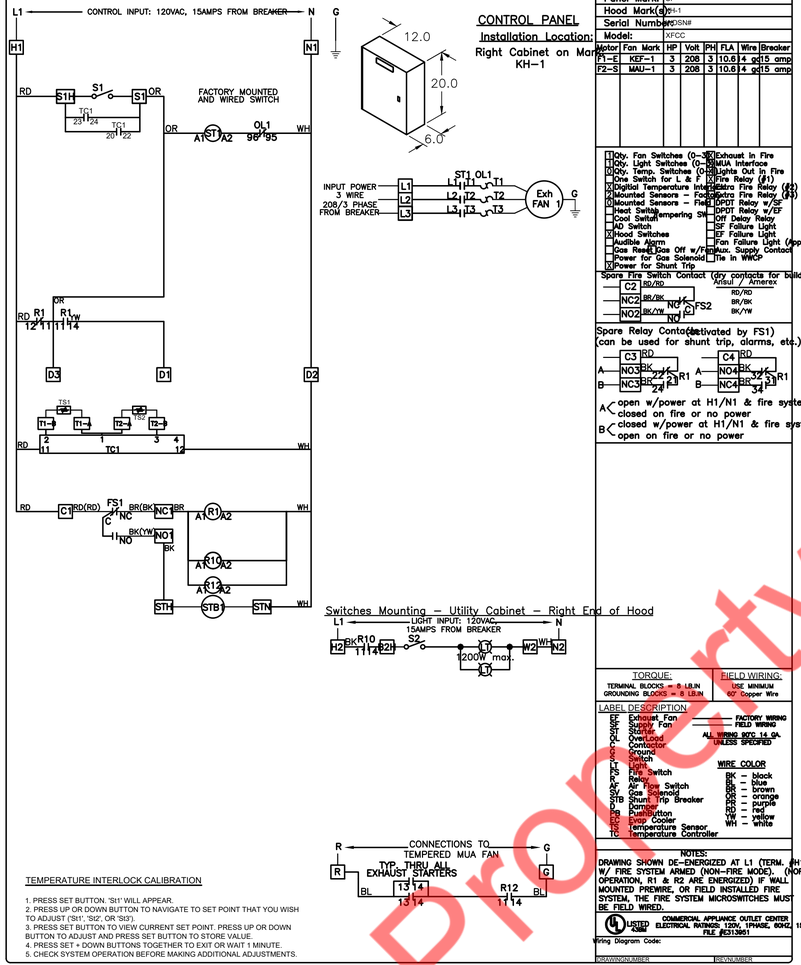
CONTROL FEATURES

STARTERS PROVIDED IN CONTROL PANEL – QTY 1
2 POSITION LIGHT SWITCH – QTY 1
2 POSITION FAN SWITCH – QTY 1
–FACTORY MOUNTED EXHAUST TEMPERATURE SENSORS – QTY 2
TURN ON EXHAUST IN FIRE
LIGHTS OUT IN FIRE
MUA INTERFACE
POWER FOR SHUNT TRIP
THERMAL OVERLOADS IN CABINET

Kitchen Fan Control Center (XFCC)
Electrical Prewire Package
California Tortilla – Wichita, KS

SYSTEM DRAWING NOTE
These drawings shall not be removed from this equipment.
For additional information call ACCUREX at 1-800-371-6858

ACCUREX



CONTROL PANEL
Installation Location:
Right Cabinet on Mark KH-1

Motor	Fan Mark	HP	Volt	PH	FLA	Wire	Breaker
F1-E	KEF-1	3	208	3	10.6	4 awg	15 amp
F2-S	MAU-1	3	208	3	10.6	4 awg	15 amp

Panel Mark: CP
Hood Mark(s): KH-1
Serial Number: ASSIGN#
Model: XFCC

- [ ] Qty. Fan Switches (0-3)
- [ ] Qty. Light Switches (0-3)
- [ ] Qty. Temp. Switches (0-3)
- [ ] One Switch for L & F
- [X] Digital Temperature Interface
- [X] Mounted Sensors – Exhaust
- [X] Mounted Sensors – Filter
- [ ] Heat Switch
- [ ] Cool Switch
- [ ] AD Switch
- [X] Hood Switches
- [ ] Audible Alarm
- [ ] Gas Reset
- [ ] Gas Off w/Fire
- [ ] Power for Gas Solenoid
- [X] Power for Shunt Trip
- [X] Exhaust In Fire
- [X] MUA Interface
- [X] Lights Out in Fire
- [X] Fire Relay (#1)
- [X] Extra Fire Relay (#2)
- [X] Extra Fire Relay (#3)
- [ ] DPDT Relay w/Gas
- [ ] DPDT Relay w/EF
- [ ] Off Delay Relay
- [ ] SF Failure Light
- [ ] EF Failure Light
- [ ] Fan Failure Light (Appl.)
- [ ] Aux. Supply Contact
- [ ] Tie in WHCP

Spare Fire Switch Contact (dry contacts for building alarm)
Arisal // Amerex
C2 RD/RD
NC2 RD/BK
NO2 BK/YW
FS2
RD/RD
RD/BK
BK/YW

Spare Relay Contacts (activated by FS1)
(can be used for shunt trip, alarms, etc.)
C3 RD
A NO3 BK
B NC3 BR
C4 RD
A NO4 BK
B NC4 BR
R1
23
24
33
34
A< open w/power at H1/N1 & fire system armed
closed on fire or no power
B< closed w/power at H1/N1 & fire system armed
open on fire or no power

TORQUE:
TERMINAL BLOCKS = 8 LBJN
GROUNDING BLOCKS = 8 LBJN

FIELD WIRING:
USE MINIMUM
60° Copper Wire

LABEL DESCRIPTION

EF	Exhaust Fan
SF	Supply Fan
CSV	Starter
OL	OverLoad
C	Contactor
G	Ground
S	Switch
FS	Fire Switch
R	Relay
AFS	Air Flow Switch
SV	Gas Solenoid
CTSTB	Shunt Trip Breaker
D	Damper
PB	Pushbutton
EVAP	Evap Cooler
RTD	Temperature Sensor
TC	Temperature Controller

FACTORY WIRING
FIELD WIRING

ALL WIRING #CC 14 GA. UNLESS SPECIFIED

WIRE COLOR

BK	black
BL	blue
BR	brown
OR	orange
PU	purple
RD	red
YW	yellow
WH	white

NOTES:
DRAWING SHOWN DE-ENERGIZED AT L1 (TERM. #H1), W/ FIRE SYSTEM ARMED (NON-FIRE MODE). (NORMAL OPERATION, R1 & R2 ARE ENERGIZED) IF WALL MOUNTED PREWIRE, OR FIELD INSTALLED FIRE SYSTEM, THE FIRE SYSTEM MICROSWITCHES MUST BE FIELD WIRED.

COMMERCIAL APPLIANCE OUTLET CENTER
ELECTRICAL RATINGS: 120V, 1PHASE, 60HZ, 15A
FILE #E313691

Wiring Diagram Code:
DRAWINGNUMBER REVNUMBER

TEMPERATURE INTERLOCK CALIBRATION

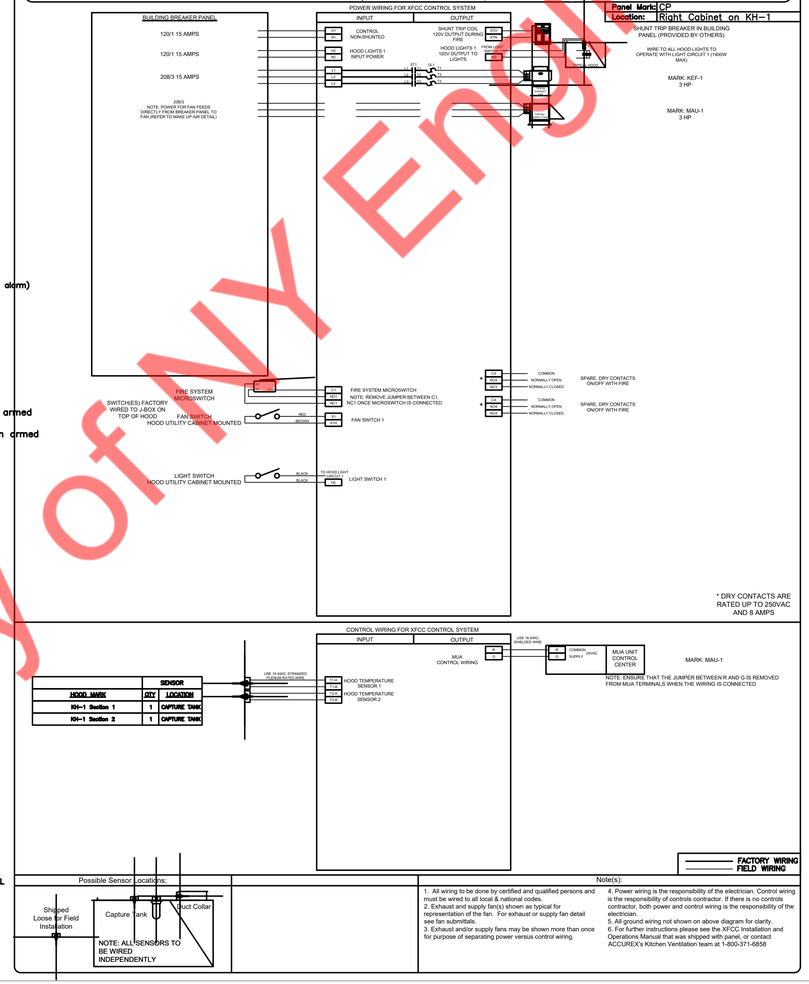
1. PRESS SET BUTTON. 'St1' WILL APPEAR.
2. PRESS UP OR DOWN BUTTON TO NAVIGATE TO SET POINT THAT YOU WISH TO ADJUST ('St1', 'St2', OR 'St3').
3. PRESS SET BUTTON TO VIEW CURRENT SET POINT. PRESS UP OR DOWN BUTTON TO ADJUST AND PRESS SET BUTTON TO STORE VALUE.
4. PRESS SET + DOWN BUTTONS TOGETHER TO EXIT OR WAIT 1 MINUTE.
5. CHECK SYSTEM OPERATION BEFORE MAKING ADDITIONAL ADJUSTMENTS.

Kitchen Fan Control Center (XFCC)
Electrical – Field Wiring Schematic
California Tortilla – Wichita, KS

ACCUREX

Wiring Diagram Codes
DRAWINGNUMBER REVNUMBER

Panel Mark: CP
Location: Right Cabinet on KH-1



HOOD MARK	SENSOR	
	QTY	LOCATION
KH-1 Section 1	1	CAPTURE TANK
KH-1 Section 2	1	CAPTURE TANK

Possible Sensor Locations:
Shipped Loose for Field Installation
Capture Tank
Duct Collar
NOTE: ALL SENSORS TO BE WIRED INDEPENDENTLY

Note(s):
1. All wiring to be done by certified and qualified persons and must be wired to all local & national codes.
2. Exhaust and supply fan(s) shown as typical for representation of the fan. For exhaust or supply fan detail see fan submittals.
3. Exhaust and/or supply fans may be shown more than once for purpose of separating power versus control wiring.
4. Power wiring is the responsibility of the electrician. Control wiring is the responsibility of controls contractor. If there is no controls contractor, both power and control wiring is the responsibility of the electrician.
5. All ground wiring not shown on above diagram for clarity.
6. For further instructions please see the XFCC Installation and Operations Manual that was shipped with panel, or contact ACCUREX's Kitchen Ventilation team at 1-800-371-6858

ALL CONNECTIONS ARE TO BE COMPLETED BY ELECTRICIAN IN FIELD

LINE Voltage

LOW Voltage

ALL CONNECTIONS TO BE COMPLETED BY CONTROLS CONTRACTOR.
IF THERE IS NOT ONE ON SITE, TO BE COMPLETED BY ELECTRICIAN

PROJECT
CALIFORNIA TORTILLA
7/22/2019
MARK
CP

ACCUREX SOUTH TX
SOUTHTEXAS@ACCUREX.COM
(512)956-7014

ACCUREX

ELECTRICAL SPECIFICATIONS

1. 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.

2. 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.

3. 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.

4. ALL WORK TO BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

5. CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE.

6. 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.

7. ALL REQUIRED INSURANCE TO BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OF PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

8. CONTRACTOR TO PAY FOR ALL PERMITS, FEES INSPECTIONS AND TESTINGS.

9. 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.

10. 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.

11. 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, KOPPER 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 EXTERIOR OF BUILDING OR WHERE IT IS EXPOSED AND SUBJECT TO DAMAGE, INSIDE OF BUILDING.

11.1 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.

12. 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.

13. 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.

13.1. 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.

14. 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.

15. 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.

16.1. 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.

16.2. 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.

16.3. 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.

17. LOAD DATA IS BASED ON INFORMATION GIVEN TO ENGINEER AT THE TIME OF DESIGN. VERIFY ALL EQUIPMENT NAMEPLATE RATINGS BEFORE ORDERING.

18. 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.

19. 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.

19.1 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.

20. 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.

21. 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.

21.1. TYPEWRITTEN 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.

21.2. 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.

22. ALL UNDERGROUND PVC CONDUIT RUNS SHALL HAVE RIGID STEEL ELBOWS AND RIGID STEEL SECTIONS AT SLAB PENETRATIONS WHERE SUBJECT TO POSSIBLE DAMAGE.

23. 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.

24. ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY, EMT, IMC, RIGID GALVANIZED CONDUIT OR SCHEDULE 40 P.V.C. TYPE 'MC', 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.

24.1. CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

208V SYSTEM	480V SYSTEM	PHASE SEQUENCE
NEUTRAL - WHITE	NEUTRAL - WHITE	ABC, TOP TO BOTTOM
PHASE A - BLACK	PHASE A - BLACK	LEFT TO RIGHT, FRONT
PHASE B - RED	PHASE B - RED	TO BACK
PHASE C - BLUE	PHASE C - BLUE	
GRD.CON - GREEN	GRD.CON - GREEN	

24.2. WHEN MAIN ELECTRICAL SERVICE HAS A WIREWAY, E.C. SHALL TAP OFF OF ALL SERVICE ENTRANCE FEEDERS (PARALLEL CONDUCTORS) FOR TOTAL AMPACITY & BALANCING.

25. 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.

26. 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.

27. 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 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.

28. 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 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.

29. 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.

30. 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.

ELECTRICAL LEGEND

- A — FLUORESCENT LIGHT FIXTURE, LETTER INDICATES TYPE
- B — RECESSED LIGHT FIXTURE, LETTER INDICATES TYPE
- C — WALL BRACKET LIGHT FIXTURE, LETTER INDICATES TYPE
- D — POLE WITH ARM MOUNTED FIXTURE, LETTER INDICATES TYPE
- LIGHT FIXTURE ON EMERGENCY POWER OR WITH BATTERY PACK
- x — EXIT LIGHT (ARROW INDICATES DIRECTION, SHADING INDICATES FACE)
- BATTERY POWERED EMERGENCY LIGHT
- TRACK LIGHTING
- S^a — SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHT CONTROLLED, MOUNT 48" AFF UON
- S^2 — DOUBLE POLE SWITCH, MOUNT 48" AFF UON
- S^3 — THREE-WAY SWITCH, MOUNT 48" AFF UON
- S^4 — FOUR-WAY SWITCH, MOUNT 48" AFF UON
- D^6 — DIMMER SWITCH, WATTS AS NOTED, (6= 600W, 10= 1000W) MOUNT 48" AFF UON
- S^P — SINGLE POLE SWITCH WITH PILOT LIGHT, MOUNT 48" AFF UON
- S^F — FAN CONTROLLER, MOUNT 48" AFF UON
- S^M — MOTOR RATED SWITCH
- S^{MC} — MOMENTARY CONTACT SWITCH, MOUNT 48" AFF UON
- S^K — KEY OPERATED SINGLE POLE SWITCH, MOUNT 48" AFF UON
- S^O — OCCUPANCY SENSOR SWITCH, MOUNT 48" AFF UON
- OS — OCCUPANCY SENSOR SWITCH, CEILING MOUNT
- SINGLE RECEPTACLE, 125V, 20A MOUNT 18" AFF UON
- DUPLEX RECEPTACLE, MOUNT 18" AFF UON
- DUPLEX RECEPTACLE, FLUSH CEILING MOUNT
- DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT UON
- QUADRAPLEX RECEPTACLE, MOUNT 18" AFF UON
- QUADRAPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT UON
- DUPLEX RECEPTACLE, HORIZONTAL MOUNT
- 1/2 SWITCHED DUPLEX RECEPTACLE, MOUNT 18" AFF UON
- 30A — 1ø, 250V. RECEPTACLE, AMPS AS NOTED, MOUNT 18" AFF UON
- SPECIAL RECEPTACLE AS NOTED
- FLOOR MOUNTED DUPLEX RECEPTACLE
- PLUGMOLD (SIZE AND LENGTH AS NOTED)
- J — JUNCTION BOX (FLUSH MOUNT IN FINISHED AREAS UON)
- DISCONNECT SWITCH, NEMA/SIZE/POLE/FUSES (250V., NEMA 1 UON)
- MAGNETIC MOTOR STARTER
- COMBINATION MAGNETIC MOTOR STARTER/DISCONNECT SWITCH
- LIGHTING OR POWER PANELBOARD
- 277/480V, PANELBOARD
- T — DRY TYPE TRANSFORMER

- CONDUIT CONCEALED IN WALL OR ABOVE CEILING WITH 2 #12, 1 #12 EG CONDUCTORS IN 1/2" CONDUIT MIN UON
- CONDUIT CONCEALED BELOW FLOOR SLAB OR FINISHED GRADE WITH 2 #12, 1 #12 EG CONDUCTORS IN 3/4" CONDUIT MIN UON
- CONDUIT EXPOSED ON WALL OR CEILING WITH 2 #12, 1 #12 EG CONDUCTORS IN 1/2" CONDUIT MIN UON
- PHASE, NEUTRAL, ISOLATED GROUND CONDUCTORS
- FLEXIBLE CONDUIT NOT TO EXCEED 6 FEET IN LENGTH
- TV — TELEVISION SYSTEM EMPTY CONDUIT WITH PULL WIRE
- LOW VOLTAGE WIRING
- CONDUIT SEAL-OFF FITTING FOR COOLER/FREEZER CIRCUITS
- CONDUIT STUB
- DRIVEN GROUND ROD
- CONDUIT UP
- CONDUIT DOWN
- JUNCTION BOX FOR PADDLE FAN, FLUSH MOUNTED PER THE N.E.C.
- T — 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)
- MOTOR PERMANENTLY CONNECTED WITH FLEXIBLE CONDUIT
- ELECTRIC DUCT HEATER
- S — SPEAKER
- T.V. CAMERA
- 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
- REFER TO LIKE NUMBERED NOTES/EQUIPMENT DESIGNATIONS
- 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
- 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
- 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
- FLOOR MOUNTED TELEPHONE OUTLET
- TELEPHONE BACKBOARD (SIZE AS NOTED) #6 GROUNDING CONDUCTOR TO SERVICE GROUND.
- 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
- 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
- PP — TELEPHONE/DATA-POWER POLE
- PB — PUSHBUTTON, MOUNT 48" AFF UON
- DOOR CHIME WITH TRANSFORMER
- DEVICE AS NOTED

- CONTACTOR (AS NOTED)
- T_C — TIME CLOCK
- P_C — PHOTOCELL
- MANUAL FIRE ALARM PULL STATION 48" AFF
- DUCT SMOKE DETECTOR
- R_T — REMOTE TEST/LED SWITCH
- R — RELAY
- MM — MODULE
- M — MINI HORN
- SMOKE DETECTOR, PHOTOELECTRIC
- HEAT DETECTOR
- FLOW SWITCH
- TAMPER SWITCH
- B — SYSTEM BELL
- WATER GONG
- FIRE ALARM COMBINATION HORN/STROBE (75 CANDELLA UON) MOUNTED PER NFPA 72
- FIRE ALARM STROBE (75 CANDELA UON) MOUNTED PER NFPA 72
- FACP — FIRE ALARM CONTROL PANEL
- FAAP — FIRE ALARM ANNUNCIATOR PANEL

ABBREVIATIONS

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

LEGEND NOTES:
1. MOUNTING HEIGHTS SHOWN ARE MAXIMUM/MINIMUM HANDICAPPED ACCESSIBILITY STANDARDS - THEY SHALL NOT BE ALTERED WITHOUT WRITTEN AUTHORIZATION
2. ALL MOUNTING HEIGHTS ARE TO CENTERLINE UON.
3. ALL SYMBOLS MAY NOT BE USED

PROJECT COORDINATION NOTES

1. 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.
2. 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.

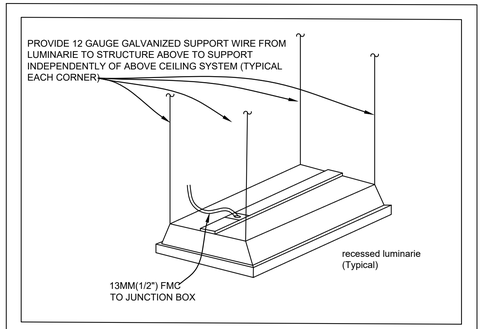
LIGHTING FIXTURE SCHEDULE

CODE	DESCRIPTION / MOUNTING HEIGHT	MANUFACTURER	MODEL	REMARKS
L1	WALL SCONCE LIGHT	HI-LITE	H-18110-CC-BM2026-30/93-INTERIOR/B-1-91	LAMP = GREEN CREATIVE 16180 - COLOR MATCH SHADE (BM 2026-30)
L2	STEM MOUNT CEILING LIGHT	HI-LITE	H-15112-CC-BM2026-30/93-INTERIOR/FHDSMC-91	LAMP = GREEN CREATIVE 16180 - COLOR MATCH SHADE (BM 2026-30)
L3	HANGING PENDANT LIGHT @ 7'-0" A.F.F.	HI-LITE	H-15116-CC-BM2026-30/93-INTERIOR/CB8-91	LAMP = GREEN CREATIVE 57857 - COLOR MATCH SHADE (BM 2026-30)
L4	3 LIGHT FIXTURE @ 7'-0" A.F.F.	HI-LITE	H-15010-CC-BM2026-30/93-INTERIOR/3S26-91/36"ST-HSC-91	LAMP = GREEN CREATIVE 57857 - COLOR MATCH SHADE (BM 2026-30)
L5	HANGING PENDANT LIGHT @ 7'-0" A.F.F.	HI-LITE	H-759516116-CC-BM2026-30/91-BODY/93-INTERIOR/D6"/CB8-91	LAMP = GREEN CREATIVE 57857 - COLOR MATCH SHADE (BM 2026-30)
AA	2X4 FLAT PANEL	LSI	SFP24LED-50-UE-DIM-35	2X4 LED FLAT PANEL FOR BACK OF HOUSE - 5000 LUMENS 0-10V
BB	2X2 FLAT PANEL	LSI	SFP22-LED-30-UE-DIM-35	2X2 LED FLAT PANEL FOR BACK OF HOUSE - 3000 LUMENS 0-10V
C	3" DOWNLIGHT - RECESSED	SOLAIS	XR3NC-A-XM20-2530K-1250-WH/WH-010	ADJUSTABEL RECESS DOWNLIGHT FIXTURE- WHITE/WHITE
F	6" DOWNLIGHT - RECESSED	CREE	HOUSING = RC6-GU24, MODULE = LR6-18L-35K-GU24	1,800 LUMENS, 20 WATTS - TRIM (BLK) = LT6BB-DR, TRIM (WHT) = LT6A-DR
GB	TRACK HEAD (BLACK) @ 10'-0" A.F.F.	SOLAIS	XD20-25-30K-900-BK-H	4' TRACK SECTION = COOPER L651MB, TRACK CONNECTOR = COOPER L901MB
GW	TRACK HEAD (WHITE) @ 10'-0" A.F.F.	SOLAIS	XD20-25-30K-900-WH-H	4' TRACK SECTION = COOPER L651WH, TRACK CONNECTOR = COOPER L901WH
H	FLEXIBLE LED eSTRIP LIGHT	NSL	TRE24L96DC W/ COOL LIGHT	BACKLIGHTING ON INTERIOR OF SERVICE LINE CHASE WALL
N	6" CYLINDER DOWNLIGHT @ 11'-6" A.F.F.	CREE	H=SC6-CM-BL-GU24, M=CR6T-1100L-30K-12-E26-TRMBKBB-1	11000 LUMENS, 16 WATTS, 3000K COLOR TEMPERATURE
EM	EMERGENCY HEADS	EXITRONIX	LED-90	EMERGENCY EXIT-WHITE
EC	EXIT EMERGENCY COMBO	EXITRONIX	VLED-U-WH-EL90-R	EXIT/EMEREGENCY COMBO WITH REMOTE -WHITE
RH	REMOTE EMERGENCY HEADS	EXITRONIX	MLED2-G-WP	DOUBLE REMOTE HEADS
EX	EXIT SIGN	EXITRONIX	VEX-U-BP-WB-WH	THERMOPLASTIC EXIT-WHITE

LIGHTING VENDOR: VILLA LIGHTING SUPPLY - 2929 CHOUTEAU AVE. P.O. BOX 15224 - ST. LOUIS, MO 63103 - TELEPHONE: (314) 531-2600 - WWW.VILLALIGHTING.COM

LIGHTING PLAN GENERAL NOTES

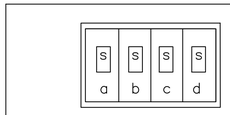
1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
2. VERIFY ALL LIGHT FIXTURE MOUNTING HEIGHTS PRIOR TO ORDERING SUSPENSION SYSTEM/CORD LENGTHS.
3. ALL EMERGENCY/EXIT LIGHTING FIXTURES SHALL BE CONNECTED AHEAD OF SWITCHED LIGHTING CIRCUITS.



LUMINAIRE SUPPORT DETIAL

N.T.S

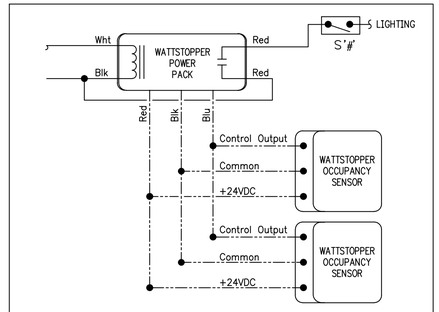
INDICATES PANEL NAME — B:a — INDICATES CIRCUIT NO.



SWITCHBANK DETAIL

FLOOR PLAN - LIGHTING KEYED WORK NOTES

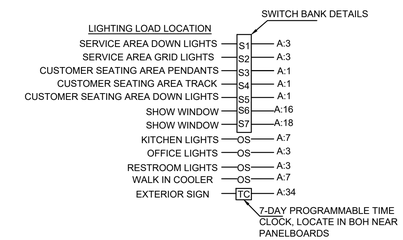
1. DIMMER SWITCH BANK COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. DIMMER SWITCHES SHALL BE RATED FOR TOTAL LOAD OF SWITCHED CIRCUIT AND LAMP TYPE AS REQUIRED. DIMMERS SHALL BE PROVIDED WITH AN ON/OFF SWITCH. SEE DETAIL ON THIS SHEET
2. WALL MOUNTED OCCUPANCY SENSOR EQUAL TO WATTSTOPPER WS-250.SET OFF TIME TO 15 MINUTES FOR RESTROOM,OFFICE APPLICATIONS, SET DIP SWITCH TO AUTOMATIC ON.
3. LIGHTING FIXTURES FURNISHED BY WALK-IN BOX VENDOR. ELECTRICAL CONTRACTOR TO INSTALL AND CONNECT FIXTURES.
4. LINE VOLTAGE LOW TEMP WALK-IN OCC SENSOR EQUAL TO WATTSTOPPER CB-100. LINE VOLTAGE LOW TEMP WALK-IN OCC SENSOR EQUAL TO WATTSTOPPER CB-100. PROVIDE UNSWITCHED POWER TO SENSOR
5. WIRE ALL EMERGENCY EXIT AND NIGHT LIGHT AHEAD OF SWITCHING FOR CONTINUOUS OPERATIONS .
6. EXHAUST FANS SHALL BE INTEGRATED WITH ALONG WITH LIGHT FIXTURES IN THE RESTROOMS.
7. LOW VOLTAGE OCCUPANCY SENSOR EQUAL TO WATTSTOPPER DT-305. PROVIDE LOW VOLTAGE OCCUPANCY SENSOR EQUAL TO WATTSTOPPER DT-305. PROVIDE WATTSTOPPER BZ POWER PACK(S) AS REQUIRED. INTERCONNECT OCCUPANCY SENSORS SO THAT ANY SENSOR WILL TRIGGER ALL LIGHTS. SET OFF TIME FOR 20 MINUTES.
8. HOOD LIGHTS PROVIDED BY HOOD MANUFACTURER.
9. TERMINATE SPEAKER WIRE AT OFFICE VOLUME CONTROLS.
10. E.C. SHALL COORDINATE EXACT LOCATION OF TIME CLOCK WITH ARCHITECT/ OWNER.

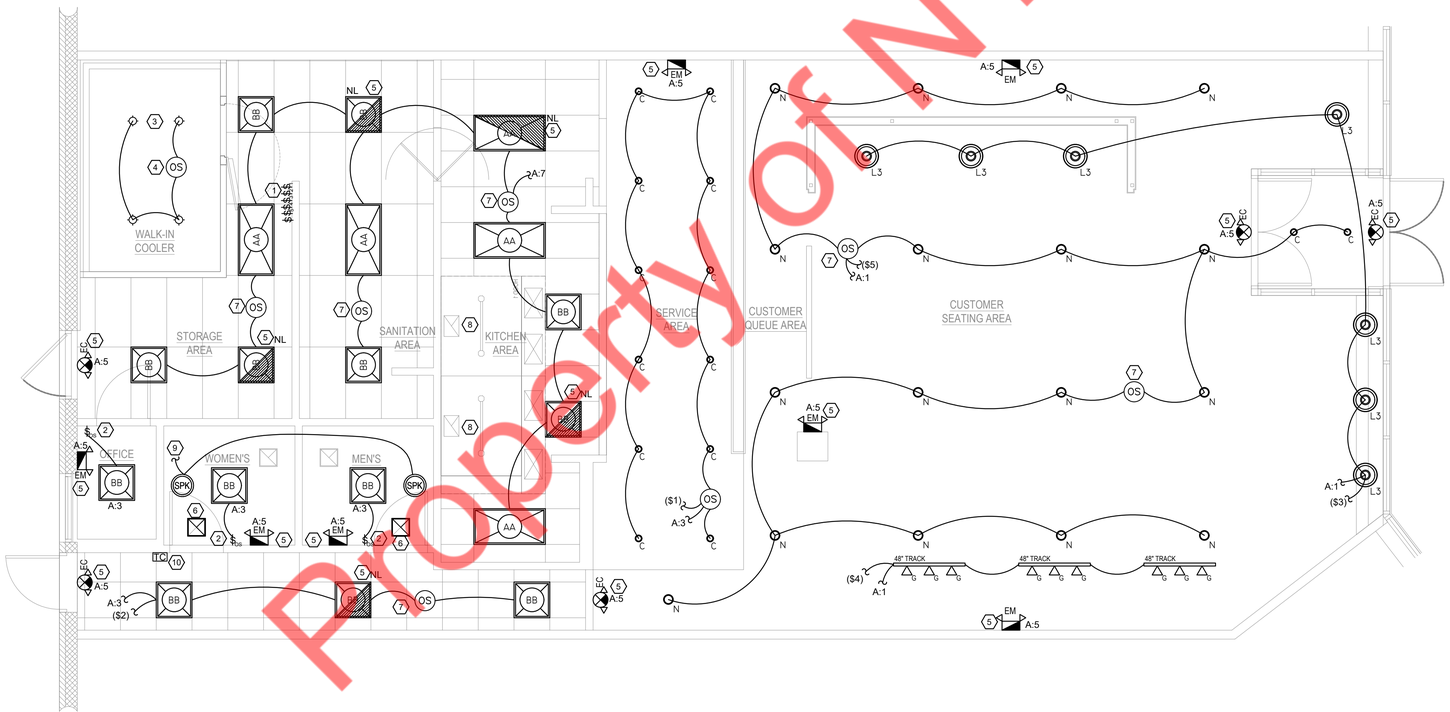


OCCUPANCY SENSOR DETAIL

N.T.S.

LIGHTING CONTROL DIAGRAM





A1 LIGHTING PLAN

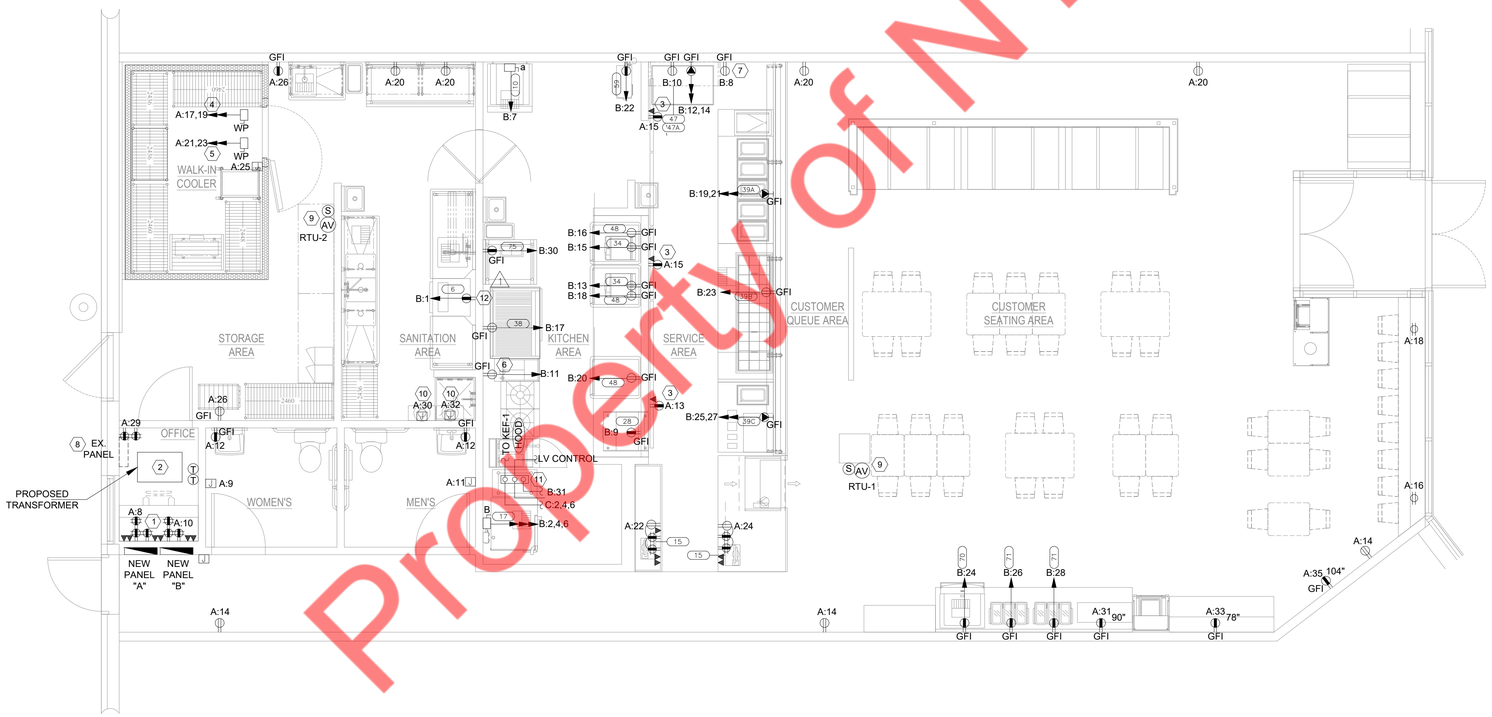
SCALE: 1/4" = 1'-0"

	FLOOR PLAN - POWER KEYED WORK NOTES

1. COORDINATE FINAL PLACEMENT OF ALL DEVICES WITH ARCHITECT.
2. 75KVA,3-PHASE TRANSFORMER WITH PRIMARY 480/277V AND SECONDARY 120/208V. MODEL NUMBER EE75T3H, (H-37",W-30", L-20") OR APPROVED EQUAL. TRANSFORMER SHALL BE MOUNTED OVER THE OFFICE ON THE PLATFORM. E.C. SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS FOR PLATFORM DETAILS & EXACT LOCATION OF TRANSFORMER.
3. ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT OF MENU BOARD WITH WITH MANUFACTURER AND MAKE PROVISION ACCORDINGLY PRIOR TO ROUGH-IN.
4. 40A/2P DISCONNECT SWITCH FOR WALK-IN COOLER CONDENSER. E.C SHALL COORDINATE EXACT LOCATION WITH EQUIPMENT MANUFACTURER.
5. 20A/2P DISCONNECT SWITCH FOR WALK-IN COOLER EVAPORATOR . E.C SHALL COORDINATE EXACT LOCATION WITH EQUIPMENT MANUFACTURER.
6. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION OF UNDER COUNTER REFRIGERATOR WITH ARCHITECT/OWNER.
7. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION OF WORK TOP REFRIGERATOR WITH ARCHITECT/OWNER.
8. EXISTING 225A, 480/277V, 3-PHASE ELECTRICAL PANEL SHALL REMAIN. E.C. SHALL VERIFY EXACT LOCATION WITH ARCHITECT/OWNER. RELOCATE IF REQUIRED.
9. THERMOSTAT & AUDIO VISUAL ANNUNCIATOR. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
10. PROVIDE 20 AMP DUPLEX RECEPTACLE IN WEATHER PROOF JUNCTION BOX FOR CONNECTION TO GAS WATER HEATER. MOUNT AT 66" AFF. MAKE FINAL CONNECTION TO UNIT WITH CORD AND PLUG.
11. HOOD CONTROL PANEL. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS INCLUDING EXHAUST/SUPPLY FANS, LIGHTS, CONTROLS, FIRE SUPPRESSION SYSTEM AND INTERCONNECTION WITH FIRE ALARM SYSTEM, IF PRESENT. COORDINATE WITH HVAC CONTRACTOR AND HOOD SUPPLIER FOR ADDITIONAL REQUIREMENTS. SEE MECHANICAL DRAWINGS FOR HOOD/EXHAUST FAN DETAILS. (1)
12. RECEPTACLE FOR THE DISHMACHINE. E.C. SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR EXACT POWER PROVISION PRIOR TO ROUGH-IN.

POWER PLAN GENERAL NOTES

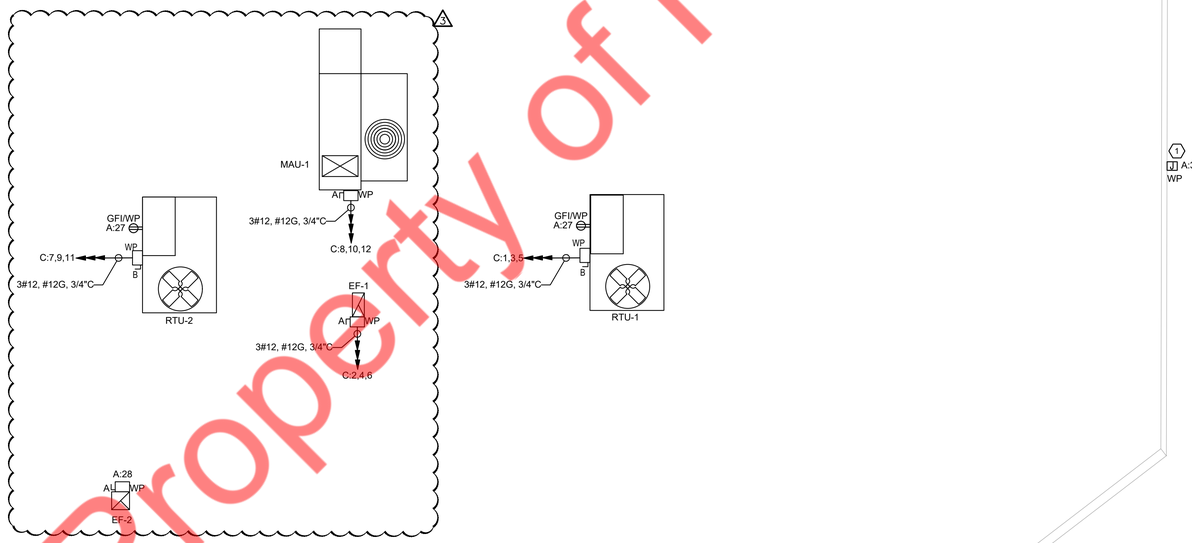
1. ALL CONDUIT PENETRATIONS THOUGHT COOLER WALLS AND CEILINGS SHALL BE SEALED OFF BY ELECTRICAL CONTRACTOR. PROVIDE AND INSTALL SEAL-OFF FITTINGS AS REQUIRED. PENETRATIONS THROUGH COOLER FLOOR PANELS ARE NOT PERMITTED.
2. ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL LOAD DATA WITH ACTUAL NAMEPLATE RATING OF ALL TENANT FURNISHED EQUIPMENTS. WHERE CONFLICTS OCCUR, N0TIFY ARCHITECT.
3. MATCH RECEPTACLE TYPE AND MOUNTING HEIGHTS TO MANUFACTURER'S EQUIPMENT CONNECTION REQUIREMENTS. REFER TO FOOD SERVICE DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING DIMENSIONS, DETAIL, ROUGH-IN NOTES ETC.
4. ALL RECEPTACLES INSTALLED IN KITCHENS, BATHROOMS, AND LOCATED WITHIN 6 FEET OF A SINK SHALL BE GFCI PROTECTED IN ACCORDANCE WITH NEC ARTICLE 210.8(B). GFCI RECEPTACLES, ONCE INSTALLED, SHALL BE READILY ACCESSIBLE. WHERE RECEPTACLE IS NOT READILY ACCESSIBLE, GFCI CIRCUIT BREAKER SHALL BE USED.



A1 POWER PLAN

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

	FLOOR PLAN - ROOF POWER KEYED WORK NOTES
1.	JUNCTION BOX WITH TOGGLE DISCONNECT PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY EXACT LOCATION AND CONNECT TO SIGN PER MANUFACTURE'S INSTRUCTION.



1
A:34
WP

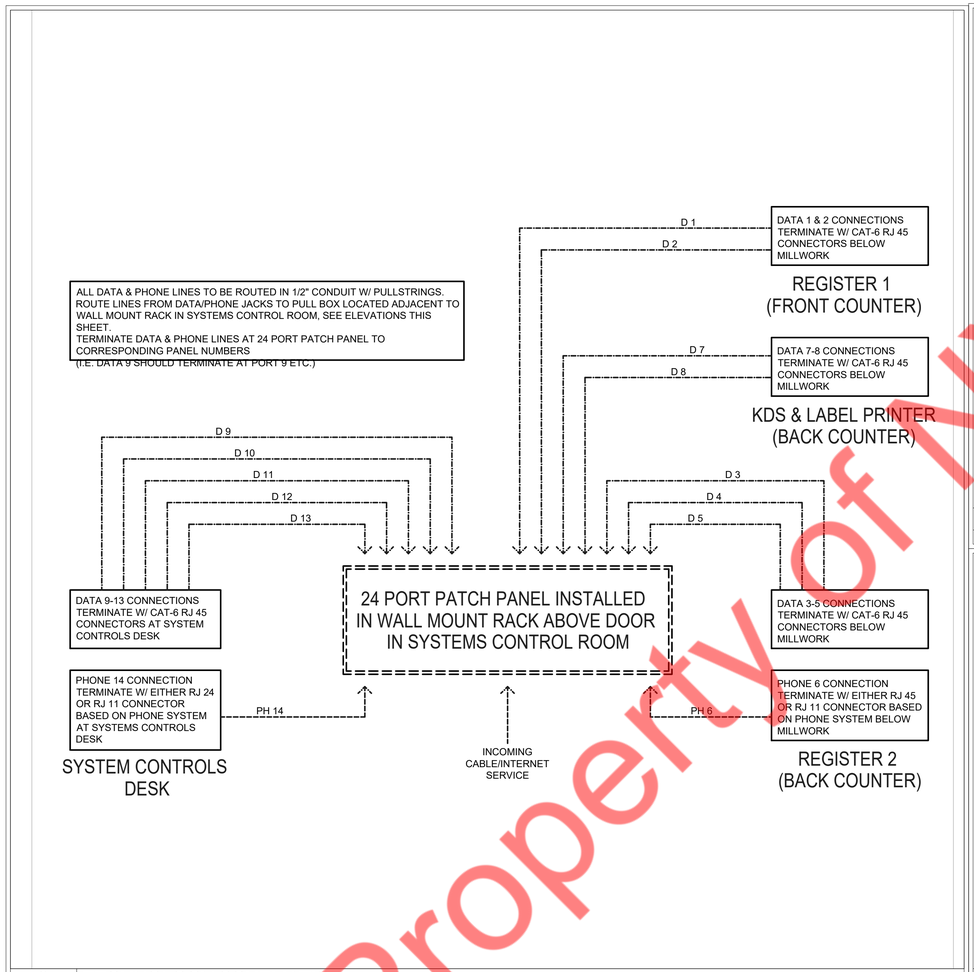
A1 ROOF POWER PLAN

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

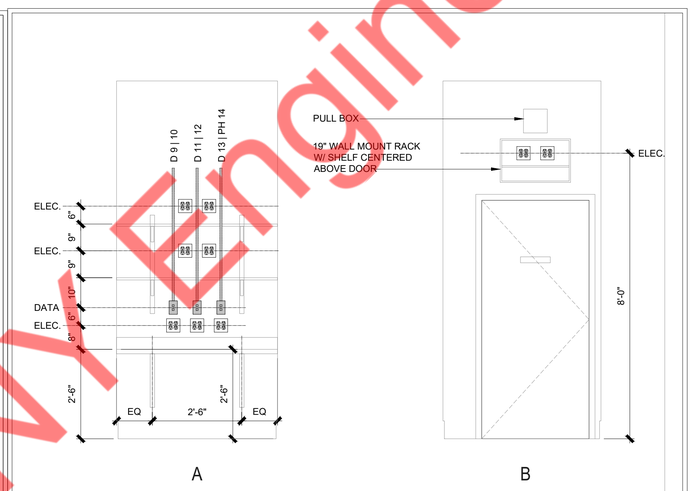
	FLOOR PLAN - POWER KEYED WORK NOTES
1.	19" WALL MOUNT RACK WITH SHELF CENTERED ABOVE DOOR. REFER SHEET E-3A/FS-2 FOR ELEVATION.

A1 POS SYSTEM PLAN

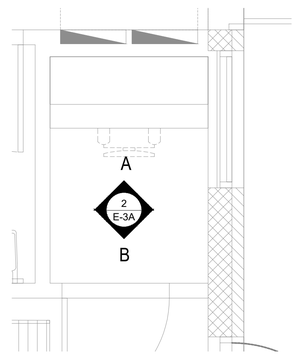
SCALE: 1/4" = 1'-0"



3 TECHNOLOGY SCHEMATIC
1/4"=1'-0"



2 OFFICE ELEVATION
1/2"=1'-0"



1 OFFICE PLAN
1/2"=1'-0"

PANEL:	EX PANEL-C					LOCATION:		KITCHEN AREA						MOUNTING:	SURFACE		
480Y/277	VOLTS,		**3**	PHASE,		**4**		WIRE									
MAIN CB		**MLO**	**225A**	BUS	**225A**	MIN,											

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			M	4.48		5.248				0.77	M			2
3	20/3P	RTU-1	M	4.48	3#12, #12G, 3/4"C		5.248		3#12, #12G, 3/4"C	0.77	M	EF-1	20/3P	4
5			M	4.48				5.248		0.77	M			6
7			M	8.60		9.368				0.77	M			8
9	20/3P	RTU-2	M	8.60	3#12, #12G, 3/4"C		9.368		3#12, #12G, 3/4"C	0.77	M	MAU-1	20/3P	10
11			M	8.60				9.368		0.77	M			12
13		SPACE				0						SPACE		14
15		SPACE					0					SPACE		16
17		SPACE						0				SPACE		18
19		SPACE				0						SPACE		20
21		SPACE					0					SPACE		22
23		SPACE						0				SPACE		24
25	20	SPARE				0						SPACE		26
27	20	SPARE					0					SPACE		28
29	20	SPARE						0				SPACE		30
31	20	SPARE				0						SPARE	40/3P	32
33	20	SPARE					0							34
35	20	SPARE						0						36
37	125/3P	TRANSFORMER (1)	E	25.00	4#1, #6G, 1 1/4"C	25						SPARE	40/3P	38
39			E	25.00			25							40
41			E	25.00				25						42
		TOTAL LOAD (KVA)				39.62	39.62	39.62						

PANEL:	A (NEW)					LOCATION:		KITCHEN AREA						MOUNTING:	SURFACE		
208Y/120	VOLTS,		**3**	PHASE,		**4**		WIRE									
MAIN CB	**250A**			BUS	**400A**	MIN,											

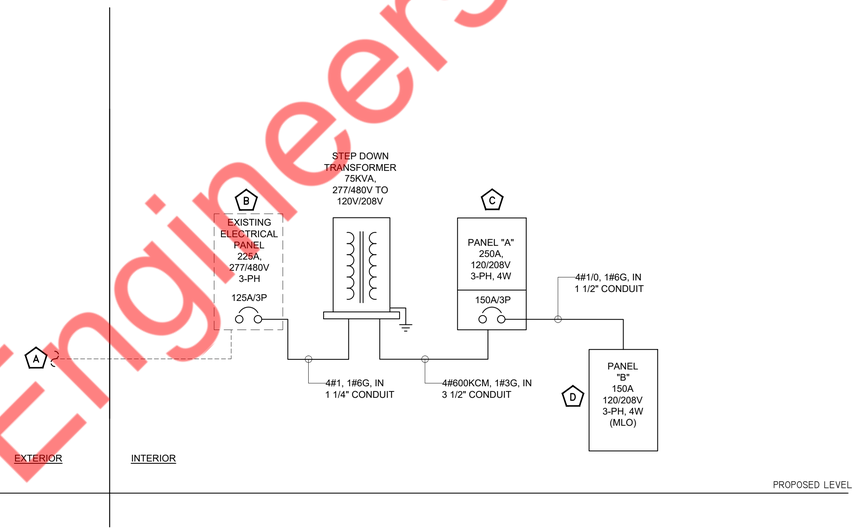
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	LIGHTING - CUSTOMER AREA	L	0.68	2#12, #12G, 3/4"C	21.788				21.11	E			2
3	20	LIGHTING - SERVICE, RR, OFFICE	L	0.52	2#12, #12G, 3/4"C		21.276		4#1/0, #6G, 1 1/2"C	20.76	E	PANEL-B	150/3P	4
5	20	EMERGENCY LIGHITNG	L	0.10	2#12, #12G, 3/4"C			17.28		17.18	E			6
7	20	LIGHTING - KITCHEN AREA	L	0.41	2#12, #12G, 3/4"C	1.486			2#12, #12G, 3/4"C	1.08	R	OFFICE RECEPTACLE	20	8
9	20	HAND DRYER	M	0.95	2#12, #12G, 3/4"C		2.03		2#12, #12G, 3/4"C	1.08	R	OFFICE RECEPTACLE	20	10
11	20	HAND DRYER	M	0.95	2#12, #12G, 3/4"C			1.31	2#12, #12G, 3/4"C	0.36	R	TOILET GFI RECEPTACLE	20*	12
13	20	MENU BOARD	R	1.20	2#12, #12G, 3/4"C	1.74			2#12, #12G, 3/4"C	0.54	R	RECEPTACLE	20	14
15	20	MENU BOARD	R	1.20	2#12, #12G, 3/4"C		2.58		2#12, #12G, 3/4"C	1.38	R	SHOW WINDOW RECEPTACLE	20	16
17	40/2P	WALK IN FREEZER CONDENSER	M	3.32	2#8, #10G, 3/4"C			4.7	2#12, #12G, 3/4"C	1.38	R	SHOW WINDOW RECEPTACLE	20	18
19			M	3.32		3.68			2#12, #12G, 3/4"C	0.36	R	RECEPTACLE CONVENIENCE	20	20
21	20/2P	WALK IN FREEZER EVAPORATOR	M	1.66	2#12, #12G, 3/4"C		2.56		2#12, #12G, 3/4"C	0.90	R	P.O.S.	20	22
23			M	1.66				2.56	2#12, #12G, 3/4"C	0.90	R	P.O.S.	20	24
25	20	WALK IN MISCELLANEOUS	M	0.10	2#12, #12G, 3/4"C	0.46			2#12, #12G, 3/4"C	0.36	R	GFI RECEPTACLE	20	26
27	20*	ROOF GFI RECEPTACLE	R	0.36	2#12, #12G, 3/4"C		0.46		2#12, #12G, 3/4"C	0.10	M	EF-1	20	28
29	20	RECEPTACLE NETWORK RACK	R	0.72	2#12, #12G, 3/4"C			0.82	2#12, #12G, 3/4"C	0.10	M	GAS WATER HEATER	20	30
31	20	RECEPTACLE AVOCADO LED SIGN	R	0.18	2#12, #12G, 3/4"C	0.28			2#12, #12G, 3/4"C	0.10	M	GAS WATER HEATER	20	32
33	20	RECEPTACLE CONVENIENCE	R	0.18	2#12, #12G, 3/4"C		1.38		2#12, #12G, 3/4"C	1.20	L	EXTERIOR SIGNAGE	20	34
35	20	RECEPTACLE CALIFORNIA TORTILLA SIGN	R	0.18	2#12, #12G, 3/4"C			0.18				SPARE	20	36
37	20	SPARE				0						SPARE	20	38
39	20	SPARE					0					SPARE	20	40
41	20	SPARE						0				SPARE	20	42
		TOTAL LOAD (KVA)				29.43	30.29	26.85						

PANEL:	B (NEW)					LOCATION:		KITCHEN AREA						MOUNTING:	SURFACE		
208Y/120	VOLTS,		**3**	PHASE,		**4**		WIRE									
MAIN CB		**MLO**	**150A**	BUS	**400A**	MIN,											

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	15*	DISHMACHINE (#6)	F	1.38	2#12, #12G, 3/4"C	4.38				3.00	F			2
3	20	SPARE					3		3#6, #8G, 3/4"C	3.00	F	COMBI OVEN/STEAMER (#17)	60/3P	4
5	20	SPARE						3		3.00	F			6
7	20*	ICE MAKER (#10)	F	1.78	2#12, #12G, 3/4"C	2.665			2#12, #12G, 3/4"C	0.89	F	WORK TOP FREEZER (#45)	20*	8
9	20*	CHIP WARMER (#28)	F	1.50	2#12, #12G, 3/4"C		2.184		2#12, #12G, 3/4"C	0.68	F	CRIDDLE STAND REFRIGERATOR (#47)	20*	10
11	20*	UNDERCOUNTER REFRIGERATOR (#31)	F	0.72	2#12, #12G, 3/4"C			2.324	2#12, #12G, 3/4"C	1.60	F	TORTILLA WARMER (#47A)	20*/2P	12
13	20*	SANDWICH / PANNI GRILL (#34)	F	1.50	2#12, #12G, 3/4"C	3.1				1.60	F			14
15	20*	SANDWICH / PANNI GRILL (#34)	F	1.50	2#12, #12G, 3/4"C		3		2#12, #12G, 3/4"C	1.50	F	MOBILE CABINET (#48)	20*	16
17	20*	WORK TOP REFRIGERATOR (#38)	F	0.68	2#12, #12G, 3/4"C			2.184	2#12, #12G, 3/4"C	1.50	F	MOBILE CABINET (#48)	20*	18
19	30/2P	MAKE COUNTER (HOT FOOD TABLE)(#39A)	F	0.60	2#10, #10G, 3/4"C	2.103			2#12, #12G, 3/4"C	1.50	F	MOBILE CABINET (#48)	20*	20
21			F	0.60			2.331		2#12, #12G, 3/4"C	1.73	F	ICED TEA BREWER (#59)	20*	22
23	20	MAKE COUNTER (#39B)	F	1.68	2#12, #12G, 3/4"C			2.4	2#12, #12G, 3/4"C	0.72	F	BEVERAGE DISPENSER (#70)	20*	24
25	30/2P	MAKE COUNTER (#39C)	F	2.39	2#10, #10G, 3/4"C	3.47			2#12, #12G, 3/4"C	1.08	F	TRIPPLE BOWL CLASSIC BUBBLER (#71)	20*	26
27			F	2.39			3.47		2#12, #12G, 3/4"C	1.08	F	TRIPPLE BOWL CLASSIC BUBBLER (#71)	20*	28
29	20	RECEPTACLE CONVENIENCE	R	0.36	2#12, #12G, 3/4"C			0.864	2#12, #12G, 3/4"C	0.50	F	FOOD PAN WARMER(#75)	20*	30
31	20	HOOD CONTROL / LIGHT	M	0.18	2#12, #12G, 3/4"C	0.18						SPARE	20	32
33	20	SPARE					0					SPARE	20	34
35	20	SPARE						0				SPARE	20	36
37	20	SPARE				0						SPARE	20	38
39	20	SPARE					0					SPARE	20	40
41	20	SPARE						0				SPARE	20	42
		TOTAL LOAD (KVA)				15.90	13.99	10.77						

B1 PANEL SCHEDULES

SCALE: N.T.S.



ELECTRICAL RISER SYMBOLS:

- NEW
- EXISTING ITEM/FEEDER TO REMAIN
- EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVEDD

RISER DIAGRAM KEYED WORK NOTES

A. EXISTING 277/480V, 3-PHASE, 4 WIRE ELECTRICAL SERVICE TO REMAIN. E.C. TO COORDINATE FOR EXACT POWER DISTRIBUTION & OPERABLE CONDITION ON FIELD.

B. EXISTING 277/480V, 3-PHASE ELECTRICAL PANEL SHALL REMAIN. E.C SHALL COORDINATE EXACT LOCATION, SIZE & OPERABLE CONDITION ON FIELD.

C. NEW 250A, 120/208V, 3-PHASE ELECTRICAL PANEL "A". E.C SHALL COORDINATE EXACT SIZE & SIZE WITH ARCHITECT/OWNER ON FIELD.

D. NEW 150A, 120/208V, 3-PHASE ELECTRICAL PANEL "B". E.C SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER ON FIELD

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.

PANEL SCHEDULE KEY NOTE

1. EXISTING 70A/3P BREAKER SHALL BE REPLACED WITH 125A BREAKER FOR THE TRANSFORMER. E.C. VERIFY EXACT NAME & OPERABLE CONDITION OF PANEL ON FIELD.

NOTE:

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

J1 POWER RISER DIAGRAM

SCALE: N.T.S.

EQUIPMENT SCHEDULE

TAG	GENERAL EQUIPMENT INFORMATION		PLUMBING		
	QTY.	DESCRIPTION	WASTE DIR.	WASTE IND.	REMARKS
5	1	3 COMPARTMENT SINK – JOHN BOOS (3B16204–2D24–X)	–	1 1/2"	DRAIN TO FLOOR SINK
6	1	DISH MACHINE – ECOLAB (XL–2000) (1)	–	2"	DRAIN TO FLOOR SINK
6.2	1	DISH TABLE PRO–BOWL – JOHN BOOS (JDTS–20–60R–X)	–	1 1/2"	DRAIN TO FLOOR SINK
9	1	ICE BIN – HOSHIZAKI AMERICA (B–500SF)	–	3/4"	DRAIN TO HUB DRAIN
10	1	ICE MAKER – HOSHIZAKI AMERICA (KM–660MAJ)	–	3/4"	DRAIN TO HUB DRAIN
12	1	MOP SINK – JOHN BOOS (PBMS2424–12–CT)	3 1/2"	–	–
17	1	COMBI OVEN/STEAMER – CONVOTHERM (C4 ET 6.10ES)	–	3/4"	DRAIN TO FLOOR SINK
22	1	1 COMPARTMENT SINK – JOHN BOOS (1BA6204–1D18R–2)	–	1 1/2"	DRAIN TO FLOOR SINK
24	3	HAND SINK – JOHN BOOS (PBHS–W–1410–P–SSLR–X)	1 1/2"	–	–
39A	1	MAKE COUNTER – LA ROSA – HOOT FOOD TABLE	–	3/4"	–
39C	1	MAKE COUNTER – LA ROSA – HOOT FOOD TABLE	–	3/4"	– (1)
70	1	BEVERAGE DISPENSER – LANCER (85–4541N–111)	–	3/4"	COORDINATE W/DETAILS & VENDOR FOR SODA CONDUIT ROUTING

GREASE TRAP SIZING CALCULATION

FIXTURE	QUANTITY	DIMENSIONS			VOLUME		PERCENTAGE USAGE(%)	ACTUAL USAGE (GALLONS)	FLOW RATE(GPM)	
		LENGTH(IN)	WIDTH(IN)	DEPTH(IN)	CUBIC INCHES	GALLONS			1 MIN.	2 MIN.
5 -3 COMP. SINK	1	16	20	14	13440	58.2	0.75	43.6	43.6	21.8
12 - MOP SINK	1	24	24	12	6912	29.9	0.75	22.4	22.4	11.2
6 - DISHMACHINE	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	5
6.2 - PRE-RINSE SINK	1	20	20	8	3200	13.9	0.75	10.4	10.4	5.2
								TOTAL:	86.5	43.23
								PROPOSED GREASE TRAP:	SCHIER GB-75	
AN APPROPRIATE FLOW CONTROL DEVICE MUST BE INSTALLED TO PROVIDE THE DRAIN TIME AS SPECIFIED.										

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 FORSEEN HAD AND EXAMINATION AND CODE/REQUIREMENTS REVIEW BEEN MADE, WILL NOT BE ALLOWED.

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. ALL ROOF PENETRATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE. COORDINATE WITH OWNER'S ROOFING CONTRACTOR SO AS NOT TO VOID ANY EXISTING ROOF WARRANTIES.

G. 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.

H. 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.

I. 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).

J. ALL PIPING TO BE CONCEALED IN HUNG CEILINGS, CHASES AND FURRED SPACES.

K. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT SPECIFICATIONS FOR EXACT LOCATIONS OF PLUMBING CONNECTIONS.

L. THE CONTRACTOR SHALL VERIFY DEPTH, SIZE, LOCATION OF ALL EXISTING UTILITIES IN FIELD PRIOR TO STARTING WORK.

M. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE HANGERS, AND SUPPORTS IN ACCORDANCE WITH THE LOCAL APPLICABLE CODES.

N. THE CONTRACTOR TO PROVIDE TRAP PRIMERS, DEEP SEAL TRAP OR TRAP SEAL ON ALL FLOOR DRAINS AS PER APPLICABLE CODE.

O. ALL PENETRATIONS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING THROUGH ANY WALL SHALL BE PROPERLY SEALED OFF TO MAINTAIN THE INTEGRITY OF THE STRUCTURE.

P. ALL SHUT OFF AND ISOLATION VALVES SHALL BE BALL TYPE. ALL VALVES SERVING TOILETS AND SINKS SHALL BE ANGLE STOP TYPE.

Q. PROVIDE AN INDIVIDUAL BALL VALVE AND BACK CHECK VALVE TO EACH INDIVIDUAL PIECE OF EQUIPMENT.

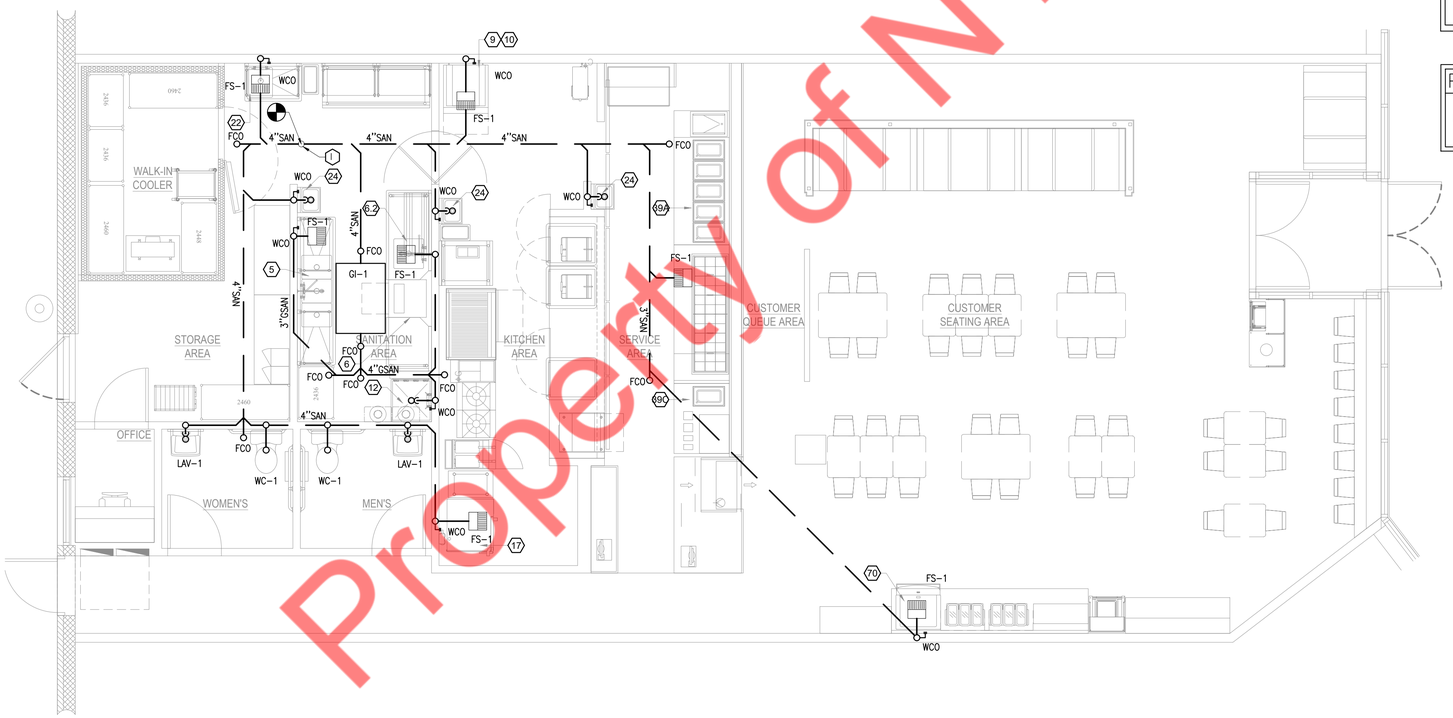
R. PROVIDE ASSE1022 BACKFLOW PREVENTER AT ALL COFFEE MAKERS, BAGEL OVEN, DIPPING WELLS, ICE MAKER AND ALL OTHER EQUIPMENT AS REQUIRED BY CODE.

S. PROVIDE AERATORS ON ALL HAND SINKS AND LAVATORIES THROUGHOUT THE FACILITY.

T. PROVIDE KAY CHEMICAL DISPENSER (SEE NATIONAL ACCOUNTS) AT MOP SINK AND THREE COMP SINK. MOUNT BOTTLE AND DISPENSER ABOVE SINK AS REQUIRED BY CHEMICAL SUPPLIER.

PLUMBING KEYED NOTES:

(1) CONNECT NEW 4" SANITARY PIPING TO EXISTING CAPPED SANITARY PIPING. CONTRACTOR SHALL VERIFY EXACT LOCATION.



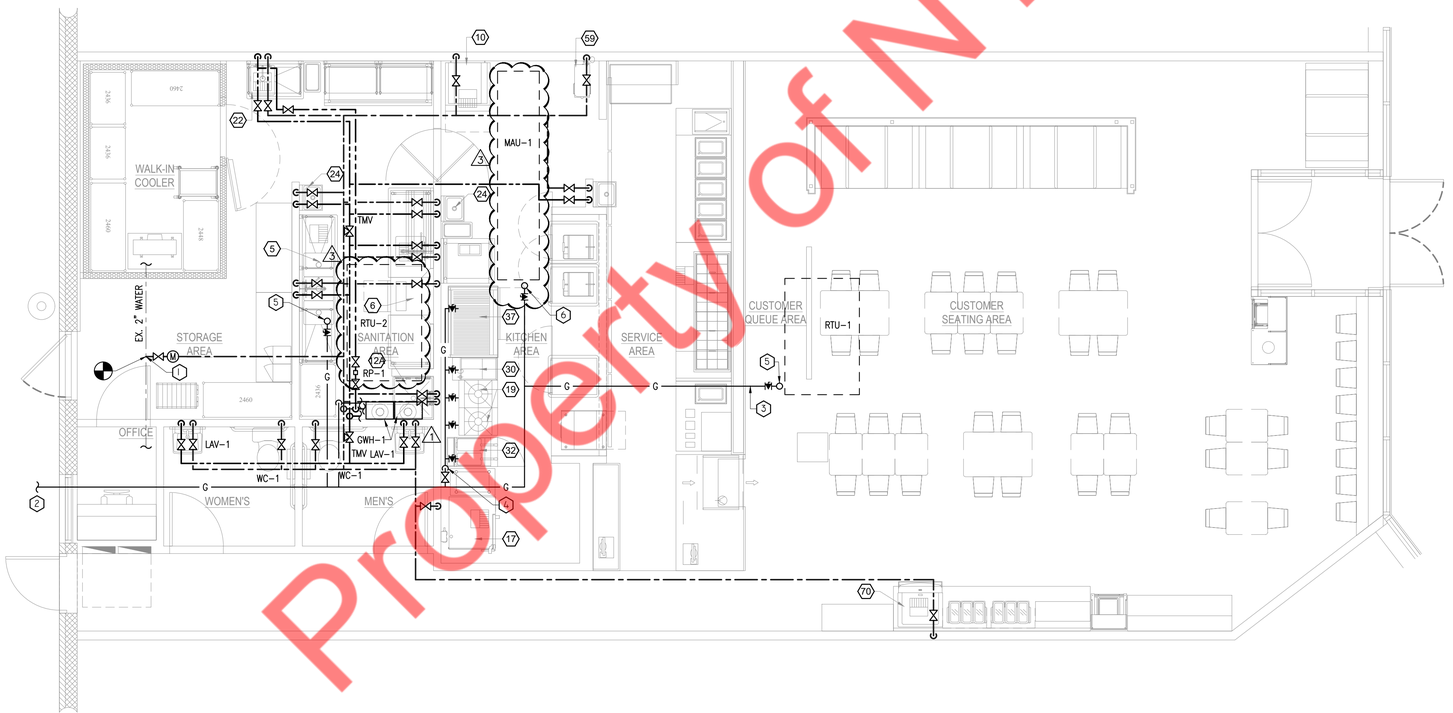
A1 FLOOR PLAN - SANITARY

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

EQUIPMENT SCHEDULE

TAG	GENERAL EQUIPMENT INFORMATION		PLUMBING		
	QTY.	DESCRIPTION	WATER H.W.	WATER C.W.	REMARKS
5	1	3 COMPARTMENT SINK – JOHN BOOS (3B16204–2D24–X)	1/2"	1/2"	–
6	1	DISH MACHINE – ECOLAB (XL–2000) 1	1/2"	1/2"	–
6.2	1	DISH TABLE PRO–BOWL – JOHN BOOS (JDTS–20–60R–X)	1/2"	1/2"	–
10	1	ICE MAKER – HOSHIZAKI AMERICA (KM–660MAJ)	–	1/2"	–
12A	1	MOP SERVICE FAUCET – JOHN BOOS (PBF–SS–6–CT)	1/2"	1/2"	–
17	1	COMBI OVEN/STEAMER – CONVOTHERM (C4 ET 6.10ES)	–	1/2"	–
19	2	STOCKPOT RANGE – VULCAN–HART (VSP 100)	–	–	3/4" GAS, 110 MBTUH
22	1	1 COMPARTMENT SINK – JOHN BOOS (1BA6204–1D18R–2)	1/2"	1/2"	–
24	3	HAND SINK – JOHN BOOS (PBHS–W–1410–P–SSLR–X)	1/2"	1/2"	–
30	1	FRYER – PITCO (SG18–S)	–	–	3/4" GAS, 140 MBTUH
32	1	FRYER – PITCO (35C+S)	–	–	3/4" GAS, 90 MBTUH
37	1	CHARBROILER – VULCAN (VACB47)	–	–	3/4" GAS, 136 MBTUH
59	1	ICED TEA BREWER – BUNN (52000.0100)	–	1/4"	–
70	1	BEVERAGE DISPENSER – LANCER (85–4541N–111)	–	1/2"	COORDINATE W/DETAILS & VENDOR FOR SODA CONDUIT ROUTING

TANKLESS WATER HEATER CALCULATIONS				
SR.No	FIXTURE	QUANTITY	FLOW RATE GPM	FLOW RATE GPM
1	3-COMP. SINK	1	2	2
2	MOP SINK	1	1	1
3	HAND SINK	3	0.5	1.5
4	1 COMP. SINK	1	1	1
5	PREP SINK	1	1	1
6	DISHWASHER	1	3	3
7	LAVATORY	2	0.5	1
Total GPM				10.5



A1 FLOOR PLAN - WATER AND GAS

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

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 FORSEEN HAD AND EXAMINATION AND CODE/REQUIREMENTS REVIEW BEEN MADE, WILL NOT BE ALLOWED.

ENERGY CONSERVATION NOTES:

1. 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.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU·IN./(H·FT2·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
141–200	0.25–0.29	125	1.5	1.5	2	2	2
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

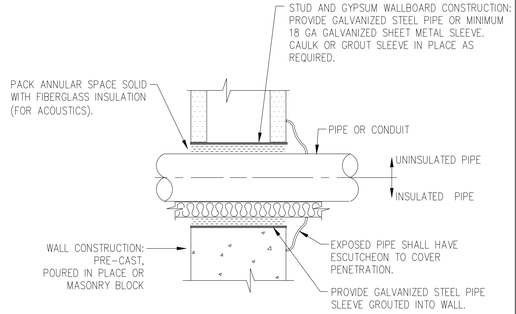
2. HOT WATER SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.5. THE HOT WATER VOLUME FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER MAXIMUM PIPING LENGTH TABLE.
3. AS PER 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.
4. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
   A. 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.
   B. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD–WATER PIPING TO 104°F (40°C).
5. 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.

PLUMBING LEGEND

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

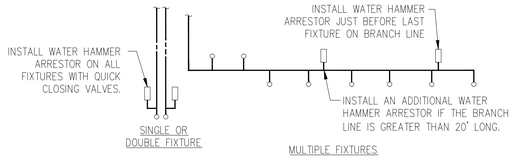
PLUMBING KEYED NOTES:

1. CONNECT NEW 1–1/4"WATER PIPING TO EXISTING 2" WATER PIPING. REPLACE EXISTING 3/4" WATER SERVICE/METER WITH 1–1/4". CONTRACTOR SHALL VERIFY EXACT LOCATION. CONTRACTOR TO CONFIRM BACKFLOW PREVENTER REQUIREMENT WITH LANDLORD PRIOR TO BID.
2. CONNECT NEW 3" GAS PIPING TO EXISTING GAS METER. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE. UPGRADE EXISTING GAS METER IF REQUIRED.
3. GAS PIPING IN JOIST SPACE. CONTRACTOR SHALL VERIFY EXACT LOCATION.
4. ROUTE GAS PIPING DOWN TIGHT TO WALL, TURN AND ROUTE AT 12" AFF. CONTRACTOR SHALL VERIFY EXACT LOCATION.
5. ROUTE GAS PIPING UP THRU ROOF CURB TO ROOF TOP UNIT. CONTRACTOR SHALL VERIFY EXACT LOCATION.
6. ROUTE GAS PIPING UP THRU ROOF TO KITCHEN SUPPLY FAN ON ROOF. CONTRACTOR SHALL VERIFY EXACT LOCATION.



COMMENTS:
1. CENTER PIPE ALONG WITH THE INSULATION IN SLEEVE. CONTINUE THE INSULATION THRU THE SLEEVE.

1	PIPE PENETRATION DETAIL
N.T.S.	

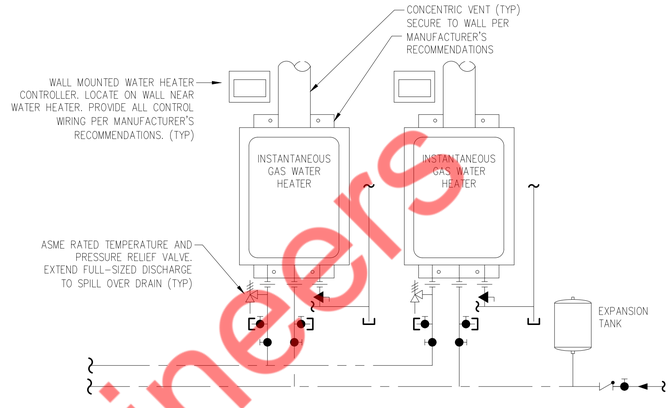


PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

WATER SUPPLY FIXTURE UNIT (WSFU)		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	5	--
URINAL	4	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3

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.

2	WATER HAMMER ARRESTER DETAIL
N.T.S.	



3	GAS FIRED TANKLESS WATER HEATER DETAIL
N.T.S.	

4	FLOOR CLEAN OUT DETAIL
N.T.S.	

5	WALL CLEAN OUT DETAIL
N.T.S.	

6	FLOOR SINK DETAIL
N.T.S.	

6	FLOOR DRAIN DETAIL
N.T.S.	

PLUMBING FIXTURE SCHEDULE:

WC-HC: WATER CLOSET – ADA – AMERICAN STANDARD NO.2467.016 RIGHT HEIGHT ELONGATED CADET PRESSURE ASSISTED. PROVIDE EVERCLEAN, OPEN FRONT SEAT NO. 5284.016

LAV-HC: LAVATORY – ADA – AMERICAN STANDARD LUCERNE NO. 0355.016. CONCEALED ARMS NO. 700-E BY J.R. SMITH CO. WITH ZURN NO. 7740FAUCET WITH GRID DRAIN. OPTIONAL – HANDS FREE SLOAN – OPTIMA #ETF-600 WITH TRANSFORMER #EL-154 AND AREATOR #ETEF1024-A

FS-1: FLOOR SINK – ZURN Z-1901 SANI-FLOR RECEPTOR, 12X12X8" DEEO CAST IRON BODY, ACID RESISTANT ENAMEL INTERIOR, ALUMINIUM BOTTOM DOME STAINER. COORDINATE WITH EQUIPMENT FOR GRATE SELECTION. PROVIDE DEEP SEAL TRAP. SIZE TO PIPE SIZE.

FD: FLOOR DRAIN – ZURN Z-415-P WITH "TYPE B" ADJUSTABLE STRAINER TOP WITH SQUARE HEELPROOF OPENING AND SECURED GRATE. DURA COATED IRON BODY WITH TRAP PRIMER CONNECTION. SIZE TO PIPE SIZE.

TPP: TRAP PRIMER – ZURN Z-1022 SANI-GUARD OR EQUAL. CONNECT TO CW W/VALVE, EXTEND TPP TO FLOOR DRAIN AS REQUIRED. 1/2" CW.

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. ⚠1

GWH-1: TANKLESS GAS WATER HEATER – QTY 2 NOS, WALL MOUNTED TANKLESS GAS FIRED WATER HEATER, RINNAI CU199i, INPUT: 15000-199000 BTUH CAPACITY PROVIDE 4.8 GPM @ 80°F TEMPERATURE RISE. THERMAL EFFICIENCY 97%. GAS TYPE-NATURAL GAS OR PROPANE. PROVIDE DIRECT VENT FOR INTERIOR MOUNTING AS PER MANUFACTURE'S RECOMMENDATION. CONDENSATE TO BE NEUTRALIZED AND DRAINED AS PER LOCAL CODES.

TMV: THERMOSTATIC MIXING VALVE – WATTS MODEL LFMMV-M1-UT, SET AT 110 F. ASSE 1070.

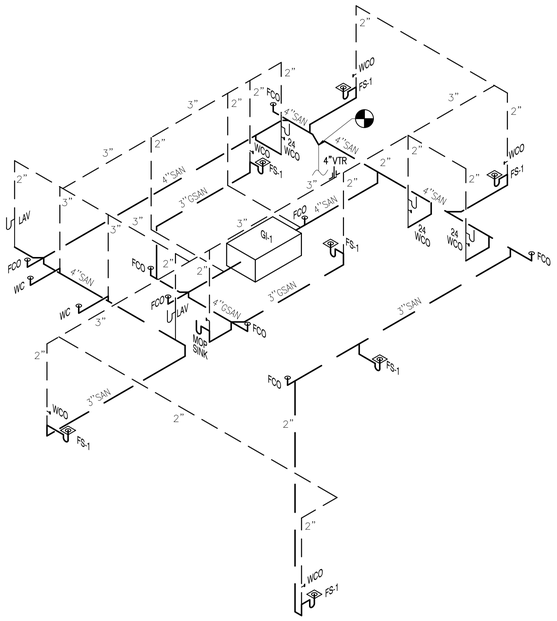
RP: RECIRCULATION PUMP -BELL & GOSSETT NO. NBF-22 INLINE PUMP. BRONZE BODY, 115V, 0.80 F.L. AMPS, PROVIDE AQUASTAT EQUAL TO HONEYWELL L6006. 8A @120VAC. 7 DAY TIMELOCK INTERMATIC MODEL ET1705C (GRAINER 3FXA1) WITH BACK UP BATTERY, 4 POLE, 120 VOLT.

BFP: BACKFLOW PREVENTION DEVICE – WATTS MODEL SD-3 DUAL CHECK VALVES AT EACH FOOD SERVICE EQUIPMENT WITH DOMESTIC WATER SUPPLIES AS REQUIRED.

GREASE INTERCEPTOR: SCHIER GB-75 INDOOR/OUTDOOR GREASE INTERCEPTOR. FLOW RATE 75 GPM, LIQUID CAPACITY 125 GAL.

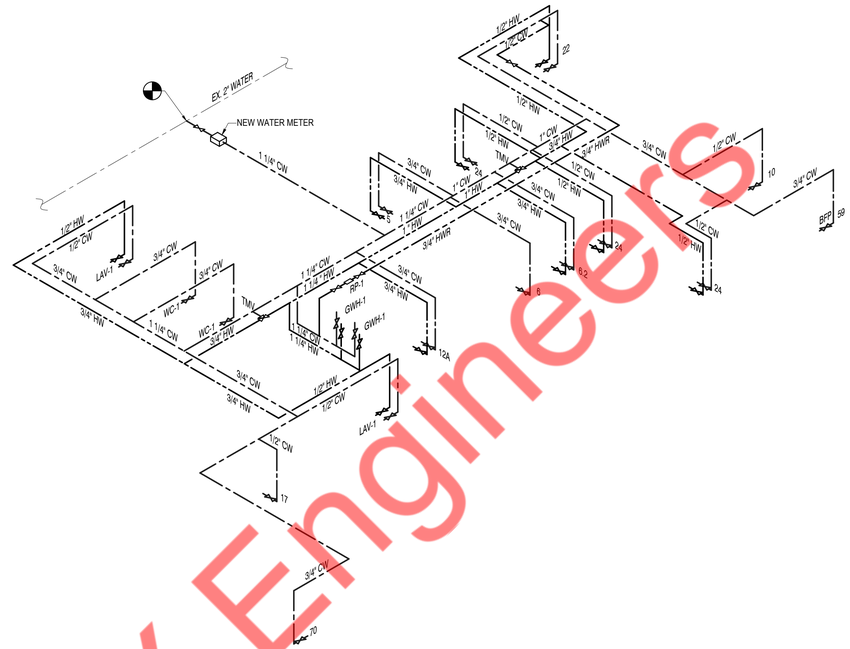
MATERIAL SPECIFICATIONS:

1. DOMESTIC WATER PIPING SHALL BE TYPE L COPPER. PROVIDE 12 GA. TRACER WIRE ABOVE PIPE BELOW SLAB. 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 ¾ 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 SEE ARCH SHEET K1A FOR TYPICAL DETAIL.



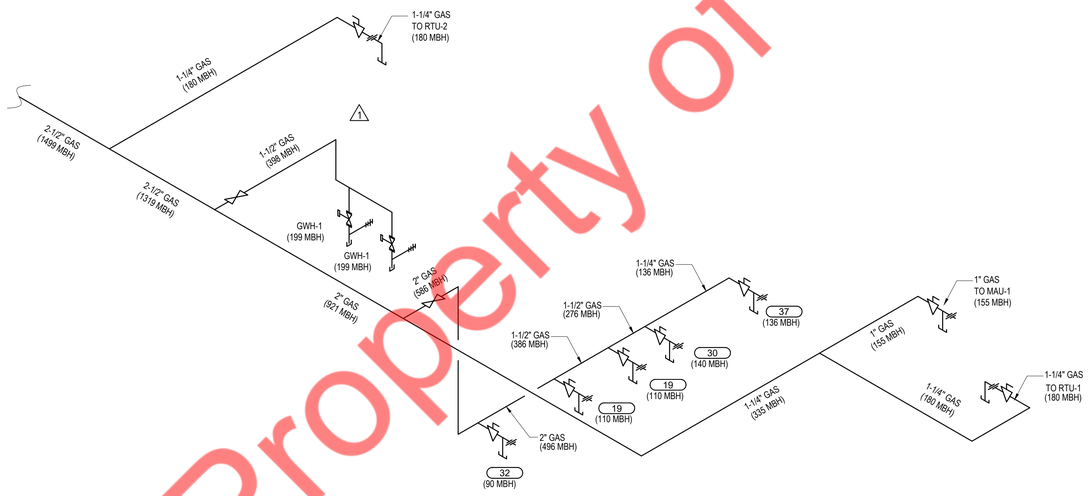
1 SANITARY ISOMETRIC DIAGRAM

SCALE: NTS



2 WATER ISOMETRIC DIAGRAM

SCALE: NTS



3 GAS ISOMETRIC DIAGRAM

SCALE: NTS

GAS EQUIPMENT LIST

STOCKPOT RANGE (2 @ 110 MBH)	=	220 MBH
FRYER	=	140 MBH
FRYER	=	90 MBH
CHARBROILER	=	136 MBH
WATER HEATERS (2 @ 199 MBH) 1	=	398 MBH 1
RTU-1	=	180 MBH
RTU-2	=	180 MBH
MAU-1	=	155 MBH
TOTAL CONNECTED LOAD	=	1499MBH 1

NOTE:
NATURAL GAS PIPE SIZING AT < 2.0 PSI, 0.5" W.C. PRESSURE DROP, 125' DEVELOPED LENGTH PER IFGC TABLE 402.4(2).

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

CONTRACTOR SHALL PROVIDE REGULATORS AT ALL GAS FIRED APPLIANCES.