



INTERIORS SPACE PLANNING
AUGUSTA, GA 30901
706.724.4800 TEL 706.724.4800 FAX



ROOTED COFFEE HOUSE
 3116 WILLIAM FEW PARKWAY
 EVANS, GEORGIA
 Approved by: _____
 Date: 7/19/16

Print Record
7-21-16 REVIEW

Revisions

Sheet Title

ELECTRICAL NOTES & DETAILS
Sheet No.

E-3
Scale:



PANEL L				120/208 3 PHASE MLO 300				MINIMUM AIC EACH BREAKER 10,000				SQUARE D NO OR EQUAL				FLUSH MOUNTED			
LOAD A	LOAD B	LOAD C	Load Served	Wire/ C Size	Size/ Pole	Ckt No.	BUSS	Ckt No.	Size/ Pole	Wire/ C Size	Load Served	LOAD A	LOAD B	LOAD C	LOAD A	LOAD B	LOAD C		
1900			LIGHTS	#12-1/2"	20/1	1		2	20/1	#12-1/2"	ITEM 1 - REFRIG. MERCHANDISER	1000							
	1900		LIGHTS			3		4	15/1		ITEM 8 - COFFEE GRINDER		1000						
		1200	SIGN CIRCUIT			5		6	15/1		ITEM 20 - BAR BLENDER			1000					
1500			CEILING RECPT.			7		8	20/1		ITEM 12 - UC REFRIGERATOR	500							
	1600		GENERAL RECPT.			9		10	15/1		ITEM 14 - COFFEE GRINDER		1500						
		400	ROOF TOP GFI			11		12	20/1		ITEM 18 - DISPENSER STAND			200					
3400			ITEM 22 - COFFEE BREWER	#8-3/4"	40/2"	13		14	20/1		ITEM 19 - TEA BREWER	1700							
	3400		ITEM 2 - DISPLAY CASE	#6-3/4"	50/2"	15		16	15/1		ITEM 20 - BAR BLENDER		100						
3100		3100	ITEM 24 - FREEZER	#6-3/4"	50/2"	17		18	15/1		ITEM 21 - COFFEE GRINDER			1100					
			ITEM 16 - UC 10 HOT WATER BOILER	#10-1/2"	30/2	19		20	15/1		ITEM 24 - FREEZER	800							
	2800	2800	ITEM 30 - UC DISHWASHER	#10-1/2"	30/2	21		22	15/1		ITEM 16 - BAR BLENDER			1100					
			ITEM 33 - MICROWAVE/OVEN	2-1/2"	15/2"	23		24	15/1		ITEM 35 - REFRIGERATOR			600					
2600		2600	ITEM 11 - ESPRESSO MACH.	#6-3/4"	50/2"	25		26	15/1		ITEM 18 - DISPENSER STAND								
		1500	ITEM 26 - ICE CUBER			27		28	15/1		ITEM 33 - MICROWAVE/OVEN	2300							
			ITEM 11 - ESPRESSO MACH.	#6-3/4"	50/2"	29		30	15/1		ITEM 40 - REFRIGERATOR			1400					
1500			GENERAL RECEPTACLES			31		32	20/1		POS STATIONS	500							
	3100	3100	HVAC 3 RTU-EXIST	#6-3/4"	50/2"	33		34	20/1		BATHROOM GFI			600					
			GENERAL RECEPTACLES			35		36	20/1		TELEPHONE BACKBOARD			500					
5100		5100	SPARE			37		38											
	5100		NEW 5 TON GAS RTU			39		40	60/3	EXIST #6-3/4"	HVAC 3 RTU-EXIST	5100							
			SPARE			41		42						5100					
600			SPARE			43		44											
			SPARE			45		46	40/3"	#10- 1/2"				2800					
			SPARE			47		48											
			SPARE			49		50	20/1					2800					
			SPARE			51		52											
			SPARE			53		54											
TOTAL				TOTAL Panel connected VA = 102600				Load current = 227				TOTAL							
VA 19700				VA 20500				VA 17200				VA 14700							
				Total Demand Load per NEC 220.56 = 81585								TOTAL VA 13700							

* ELECTRICAL CONTRACTOR TO VERIFY ALL HVAC & KITCHEN ELECTRICAL EQUIPMENT SPECS PRIOR TO PURCHASE AND INSTALLATION CONTACT ENGINEER IF ELECTRICAL LOADS DIFFERENT THAN SHOWN.
** INSTALL EQUIPMENT GROUND WIRE PER NEC ART. 250 TABLE 122

GENERAL NOTES:

- OUTLET BOXES ON OPPOSITE SIDES OF FIRE RESISTANT WALL OR SHAFT ENCLOSURE SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24" MINIMUM.
- ALL CONVENIENCE OUTLETS INSTALLED TO SERVE A KITCHEN COUNT TOP SHALL BE GFI PROTECTED PER NEC.
- INSTALL SMOKE DETECTORS PER NFPA 72 AND IBC. SEE ELECTRICAL SYMBOLS.
- MAINTAIN CONTINUOUS GROUNDS ON ALL RECEPTACLES.
- USE FIRE RATED MATERIALS IN RATED WALLS. FOR STOP PER NFPA.
- CEILING PENETRATIONS SHALL MEET THE REQUIREMENT OF NEC AND IBC.
- GROUND ELECTRICAL SERVICE PER NEC250-66 AND AS APPROVED BY LOCAL AHJ.
- MAINTAIN 3 FT. MINIMUM CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT PER NEC 110.26 (A)
- CONSULT LOCAL UTILITY AND BUILDING AUTHORITY FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION OF ELECTRICAL EQUIPMENT. VERIFY AVAILABLE FAULT CURRENT IS LESS THAN EQUIPMENT RATING SPECIFIED. INSTALLATION SHALL MEET THE REQUIREMENTS OF NEC 110.9 AND 110.10.
- GAIN APPROVAL FROM LOCAL FIRE MARSHALL ON LIFE SAFETY EQUIPMENT LAYOUT PRIOR TO INSTALLATION AND APPROVAL. FIRE MARSHALL MAY REQUIRE ADDITIONAL EQUIPMENT. (SMOKE DETECTORS, EXIT SIGNS, EGRESS LIGHTS, ETO) GREATER THAN THAT SHOWN. IF ADDITIONAL EQUIPMENT IS REQUESTED OTHER THAN THAT SHOWN, CONTRACTOR SHALL CONSULT ARCHITECT / ENGINEER PRIOR TO CONTINUING. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS FAILURE TO INFORM ENGINEER AND ARCHITECT AND SHALL INCUR ALL COST FOR ADDITIONAL CHANGES WITHOUT PRIOR APPROVAL.
- HOME RUNS FOR ALL 20 AMP BRANCH CIRCUITS LONGER THAN 75 FEET SHALL BE AT LEAST 10 AWG.
- ALL 10,000 AIC RATED BREAKERS MINIMUM

ELECTRICAL MATERIALS

- FURNISH ALL NECESSARY MATERIALS, TOOLS AND LABOR, AND INSTALL A COMPLETE AND FULLY OPERABLE SYSTEM AS SHOWN OR REASONABLY IMPLIED. ALL OUTLETS SHALL BE LEFT READY FOR USE. ALL MATERIALS SHALL BE NEW FREE OF DEFECTS AND BE UL LISTED.
- ALL WORK SHALL BE IN ACCORDANCE WITH NEC, LATEST EDITION, LOCAL CODES AND ORDINANCES AND THE REQUIREMENTS OF THE UTILITY COMPANY. LOCAL CODES SHALL GOVERN IN THE EVENT OF A CONFLICT.
- APPLY AND PAY FOR ALL REQUIRED PERMITS, INSPECTIONS, ETC.
- UNLESS OTHERWISE NOTED, ALL WIRING SHALL BE RUN CONCEALED AND OUTLETS SHALL BE FLUSH MOUNTED IN WALLS, CEILINGS OR FLOORS.
- OUTLET BOXES SHALL BE SIZED AND INSTALLED PER NEC AND MEET ALL LOCAL CODES.
- PANELS SHALL HAVE INSULATED NEUTRAL BUSES AND SEPARATE EQUIPMENT GROUNDING BUSES. PER CIRCUIT INDEX CARDS.
- LIGHTING FIXTURES SHALL BE COMPLETE WITH LAMPS, BALLASTS (IF APPLICABLE) AND MOUNTING ACCESSORIES ASS REQUIRED. GROUND FIXTURES PER NEC ARTICLE 410-20.
- ALL POWER WIRING AND CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE PROVIDED BY CONTRACTOR.
- SEAL ALL PENETRATIONS IN FIRE RATED ASSEMBLIES WITH 3-M. OR OTHER FIRE STOPPING MATERIAL. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- AT THE COMPLETION OF THIS WORK, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS CAUSED BY HIS WORK AND SHALL THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT.
- GROUND SYSTEMS PER NEC ARTICLE 250 AND LOCAL CODES.
- THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND LABOR FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OR FIRST BENEFICIAL USE BY THE OWNER, WHICHEVER COMES FIRST. THE ENTIRE SYSTEM SHALL BE FREE OF SHORTS AND GROUNDS. CORRECTIONS TO THE WIRING SYSTEM, DUE TO DEFECTIVE MATERIALS AND WORKMANSHIP, WITHIN THE GUARANTEE PERIOD, SHALL BE MADE BY THE CONTRACTOR AT HIS OWN COST TO THE OWNER.
- ALL HEATING, VENTILATION, AND AIR BREAKERS SHALL BE HACR TYPE PER MANUFACTURER'S SPECIFICATIONS.
- CONDUCTORS SHALL BE STRANDED COPPER. 10 AWG & SMALLER SHALL BE SOLID. 8 AWG AND LARGER SHALL BE STRANDED. COLOR CODES SHALL BE AS FOLLOWS: 120/208 3Ø 4W: ØA - BLACK, ØB - RED, ØC - BLUE, NEUTRAL - WHITE, EQUIPMENT GROUND - GREEN. 120/240 3Ø 4W: ØA - BROWN, ØB - ORANGE, ØC - YELLOW, NEUTRAL - GRAY, EQUIPMENT GROUND - GREEN. USE OF #14 AWG IS ALLOWED WHERE PERMITTED BY NEC AND AUTHORITY HAVING JURISDICTION (AHJ).
- USE OF NM, NMC AND NMCS CABLE NOT ALLOWED ON THIS PROJECT
- CONDUITS CONCEALED IN WALLS AND ABOVE CEILING SHALL BE EMT. UNDERGROUND CONDUITS SHALL BE PVC PER NEC ARTICLE 40. EXPOSED CONDUITS SHALL BE RIGID STEEL. CONDUITS SHALL BE RUN AT RIGHT ANGLES TO BUILT UP WALLS.
- DEVICES AND DEVICE BOXES SHALL BE INSTALLED LEVEL AND PLUMB. DUPLEX RECEPTACLES SHALL BE INSTALLED SO THAT GROUNDS ARE AT BOTTOM. SINGLE POLE TOGGLE SWITCHES SHALL BE INSTALLED SO THAT OFF POSITION IS DOWN.
- DEVICE AND DEVICE PLATE MATERIALS AND COLORS SHALL BE AS SPECIFIED BY OWNER / ARCHITECT.
- ALL FUSES SHALL BE CLASS RK1 OR RKS FUSES OR EQUAL WITH CURRENT LIMITING CHARACTERISTICS.
- VERIFY WITH LOCAL UTILITY THE SHORT CIRCUIT KIA RATING AT SERVICE ENTRANCE IS LESS THAN 30 KIA.
- LABEL ALL PANELS AND DISCONNECTS PER NEC ARC FLASH PROTECTION REQUIREMENTS.
- AFFIX MAXIMUM FAULT CURRENT TO MAIN CIRCUIT PANEL OR DISCONNECT AT FACILITY PER NEC 110.16 AND 24.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT OR FEEDER CONDUIT CONCEALED IN WALLS OR ABOVE CEILING WITH GROUND. ARROW DENOTES HOME RUN TO PANEL. CROSS HATCHES DENOTE NUMBER OF CONDUCTORS IF OTHER THAN TWO, BUT DO NOT INCLUDE SWITCH LEGS OR THE EQUIPMENT GROUND WIRE. NUMBER 12 MINIMUM SIZE. SEE PANEL SCHEDULE FOR WIRE SIZE.
S	120-277V/20A SINGLE POLE LIGHTING SWITCH, MOUNT AT 48" ABOVE FINISHED FLOOR
S _o	120-277V/20A SINGLE POLE OCCUPANCY SENSOR/ LIGHTING SWITCH, MOUNT AT 48" A.F.
S ₃	120-277V/20A 3-WAY SWITCH, #-DESIGNATES 3-WAY CONNECTORS MOUNT 48" AFF
S ₄	120-277V/20A 3-WAY SWITCH, #-DESIGNATES 4-WAY CONNECTORS MOUNT 48" AFF
	WALL MOUNTED TELEPHONE JACK, 18" AFF OR AS INDICATED. INSTALL 3" WIRE WAY TO ABOVE DROP CEILING. RUN PULL STRING TO TO TEL CABINET LOCATION.
	ENCLOSED DISCONNECT SWITCH, NEMA-3R FOR OUTDOOR, NEMA 1 R FOR INDOOR, MOUNTED 30" AFF TO BUILDING, EXCEPT AS NOTED ON PRINTS. SIZE DISCONNECT AND FUSE TO MEET HVAC MFRS SPECIFICATIONS.
J	WALL OR CEILING MOUNTED JUNCTION BOX, OR EQUIPMENT JUNCTION BOX WHEN FURNISHED WITH COVER. MINIMUM SIZE 4" x 4" x 1-1/2". SIZE PER NEC.
	20A 120VOLT DUPLEX CONVENIENCE OUTLET, CENTERED VERTICALLY 18" AFF UNLESS OTHERWISE NOTED.
	15/20A 120VOLT GFI DUPLEX CONVENIENCE OUTLET, CENTERED VERTICALLY 18" AFF UNLESS OTHERWISE NOTED. IF LOCATED OUTSIDE (20A), RECEPTACLE WILL HAVE INTEGRAL GROUND FAULT INTERRUPTER AND WEATHERPROOF COVER. "GFI" DENOTES INTEGRAL GROUND FAULT INTERRUPTER. MOUNT GFIS IN BATHROOMS (20A) OR SINKS, 6" ABOVE COUNTER TOPS. IF SHOWN IN COMMERCIAL KIT SIZE (15 OR 20A) MOUNT PER KIT SUPPLIER/MANUFACTURER SPECS
	20 AMP DOUBLE DUPLEX RECEPTACLE SAME AS ABOVE
	SAME AS EXCEPT FLUSH MOUNT IN FLOOR OR CEILING.
	SAME AS EXCEPT MOUNTED AT 6" ABOVE COUNTER TOP
	EXHAUST FAN, FURNISH, INSTALL, AND CONNECT ELECTRICALLY COMPLETE. SEE MECHANICAL SPECIFICATIONS FOR MAKE AND MODEL.
	ELECTRICAL PANELBOARD (RECESSED OR FLUSH MOUNTED). SEE RISER AND PANEL SCHEDULE FOR RATINGS
	CEILING MOUNTED LIGHTING OUTLET WITH FIXTURE, LAMP(S) AND BALLAST (IF APPLICABLE). TO BE SELECTED BY OWNER UNLESS INDICATED OTHERWISE. SEE LIGHT FIXTURE SCHEDULE.
	WALL MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE
	EMERGENCY EXIT LIGHT WITH FACES AND ARROWS AS INDICATED. SHADED AREA DENOTES FACES. SEE LIGHT FIXTURE SCHEDULE. CONNECT TO CONTINUOUS (UNSWITCHED) POWER SUPPLY SERVING LIGHTING IN THE PARTICULAR SPACE. MOUNTED 9'-0" AFF.
	EMERGENCY BATTERY LIGHTS, SURFACE MOUNTED WITH UNIT MOUNTED LIGHTING HEADS. SEE LIGHT FIXTURE SCHEDULE. CONNECT TO CONTINUOUS (UNSWITCHED) POWER SERVING LIGHTING IN THE PARTICULAR SPACE. MOUNTED 8'-0" AFF.
	WALL MOUNTED LIGHT FOR OUTDOOR APPLICATION TYPICALLY
	TELEPHONE CABINET BACKBOARD SHALL BE 3/4" PLYWOOD
	UNDERGROUND OR UNDER STRUCTURE RIGID METAL CONDUIT. BURY AT A DEPTH OF 24" BELOW GRADE.
	EQUIPMENT CONNECT (EXACT LOCATION TO BE DETERMINED BY KITCHEN/other equipment MFR SPECIFICATIONS)
	WRAP AROUND FIXTURE OR DROP IN TROFFER 120V A = FIXTURE TYPE (SEE LIGHTING SCHEDULE) # = DENOTES CIRCUIT CONNECTION a = DESIGNATES 3 WAY SWITCH CONNECTIONS
	(1) DUPLEX RECEPTACLE FOR T.V. EXACT HEIGHT AND LOCATION SELECTED BY OWNER/ARCHITECT
	SAME AS EXCEPT MOUNTED @ 6" ABOVE COUNTER
	JUNCTION BOX SUITED FOR TYPICAL 5 BLADE FAN INSTALLATION. EXACT LOCATION OF JUNCTION BOX AND SELECTION OF FAN BY OWNER/ARCHITECT.
	TYPICAL 5" OR 6" APERTURE CAN CEILING FIXTURE. SEE LIGHTING SCHEDULE
	120V, 600 WATT DIMMER SWITCH, SLIDE CONTROL W/ ON-OFF FEATURE, 0-10 VOLT OR LINE CONTROL DEPENDING ON FINAL FIXTURE SELECTION BY OWNER
	RTU GAS OR HEAT PUMP UNIT. #INDICATES SPECIFIC UNIT (SEE MECHANICAL SCHEDULE FOR CORRECT UNIT)

Order Plans ONLINE