PANEL: "A"
MAINS: 200 AMPS
MLO/MCB: MLO

VOLTAGE: 208Y/120 VAC
PHASE: 3
WIRE: 4
AIC: 10,000
MOUNTING: SURFACE

	BRKR	TRIP POLES	DESCRIPTION	LOAD (VA) LIGHTS	RECEPT	HVAC	KITCHEN	PHASE	LOAD(VA) LIGHTS	RECEPT	HVAC	KITCHEN	DESCRIPTION	TRIP POLES	BRKR
	1	20/2	AREA LIGHTS	1,080				A	105				DINING ROOM LIGHTS	20/1	2
	3			1,080				B	313				DINING ROOM LIGHTS	20/1	4
	5	20/2	AREA LIGHTS	1,080				C	850				KITCHEN AREA LIGHTS	20/1	6
	7			1,080				A		720			OCU/CREDIT CARD SWIPE	20/1	8
	9	20/1	PYLON SIGNS	1,200				B		1,200			DIGITAL MENU BOARD	20/1	10
	11	20/1	SECONDARY PYLON SIGN	1,200				C	60		360		RESTROOM LIGHTS / EF-3	20/1	12
	13	20/1	DRIVE-THRU MENU SIGN	720				A	720				DIRECTIONAL SIGNS	20/1	14
	15	20/1	CHANNEL LETTERS / LOGO	1,200				B	200				KITCHEN/SERVICE/OFFICE LTS	20/1	16
	17	20/1	CHANNEL LETTERS / LOGO	1,200				C		360			SMOKE DETECTOR ALARM PNL	20/1	18
	19	20/1	LED LTG BAND	752				A		228			SAFE (70.00)	20/1	20
	21	20/1	OFFICE RECEPTACLE		180			B		720			HVAC PANEL	20/1	22
	23	20/1	HAND DRYER- WOMENS		1,000			C	230				EXT. LIGHTS - WALL PACKS	20/1	24
	25	20/1	HAND DRYER- WOMENS		1,000			A		1,260			TELEPHONE REC	20/1	26
	27	20/1	EXTERIOR BUILDING LIGHTS	440				B		200			GAS WATER HEATER	20/1	28
	29	20/1	COOL/FRZ LTS/DOOR HTR/HE				400	C		540			KITCHEN RECEPTACLES	20/1	30
	31	20/1	ROOF / EXTERIOR RECEPT		900			A	1,080				AREA LIGHTS	20/2	32
	33	20/1	SERVICE COUNTER / CORR		540			B	1,080						34
	35	20/1	D/T SPD/SRV #60C CAMERA		540			C		1,260			OFFICE RECEPTACLES	20/1	36
	37	20/1	ROOF CAMERA		180			A		720			OFFICE RECEPTACLES	20/1	38
	39	20/1	CREW/STORAGE RECEPT		720			B		540			REC - DINING/TV	20/1	40
	41	20/1	REC - DINING		900			C		612			AIR CURTAIN (41.38)	20/1	42

CONNECTED KVA	A	B	C	TOTAL KVA	DEMAND FACTOR	ESTIMATED DEMAND
LIGHTING	5.54	5.51	4.62	15.67	1.00	15.67
RECEPTACLES	5.01	4.10	5.21	14.32	3 x1st 10k+0.5x>10k (Per NEC220.44)	14.32
EQUIP (HVAC/COOLER)	0.00	0.00	0.36	0.36	1.00	0.36
KITCHEN	0.00	0.00	0.40	0.40	0.65 (Per NEC220.56)	0.26
TOTALS	10.55	9.61	10.59	30.75	-	30.61 KVA / 85.03 AMPS

LIGHTING X 25%	3.9175
LG. MOTOR X 25%	0
MINIMUM FEEDER	34.53 KVA / 95.91 AMPS

NOTES: PROVIDE WITH EQUIPMENT GROUND BUS.
\# PROVIDE w/ GROUND FAULT CIRCUIT INT. TYPE BREAKER.

PANEL: "M"
MAINS: 800 AMPS
MLO/MCB: 800 AMP MCB ##

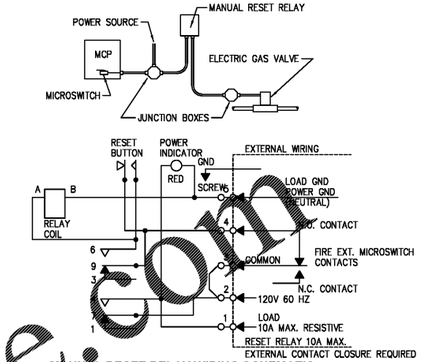
VOLTAGE: 208Y/120 VAC
PHASE: 3
WIRE: 4
AIC: 42,000
MOUNTING: SURFACE

	BRKR	TRIP POLES	DESCRIPTION	LOAD (VA) LIGHTS	RECEPT	HVAC	KITCHEN	PHASE	LOAD(VA) LIGHTS	RECEPT	HVAC	KITCHEN	DESCRIPTION	TRIP POLES	BRKR
	1	200/3	PANEL "A"	5,537	5,008	0	0	A	0	1,500	0	28,228			2
	3			5,513	4,100	0	0	B	0	2,980	0	23,504	PANEL "B"	200/3	4
	5			4,620	5,212	360	400	C	0	3,620	0	24,522			6
	7					3,725		A	0	0	0	6,667			8
#	9	50/3	RTU - 1			3,725		B	0	1,000	0	5,982	PANEL "D" in PREP TABLE (21.95)	125/3	10
	11					3,725		C	0	1,000	0	5,325			12
	13					2,544		A			2,544				14
#	15	40/3	RTU - 3			2,544		B			2,544		RTU - 2	40/3	16 #
	17					2,544		C			2,544				18
	19					3,725		A				1,800			20
#	21	50/3	RTU - 4			3,725		B				1,800	SHAKE & SOFT SERVE M/C (15.10)	20/3	22
	23					3,725		C				1,800			24
	25	15/2	EXHAUST FAN - EF-2 (33.16)			790		A				1,800			26
	27					790		B				1,800	SHAKE & SOFT SERVE M/C (15.10)	20/3	28
	29	15/2	EXHAUST FAN - EF-1 (23.14)			790		C				1,800			30
	31					790		A				1,664	FROZEN COKE		32
#	33	15/2	WALK-IN COOLER-CONDENSER (40.00)			770		B				1,664	MACHINE (14.15)	20/2	34
	35					770		C		1,500			HEAT TAPE	20/1	36
	37	30/3	WALK-IN FREEZER - CONDENSER (40.00)			1,392		A			216		W.I. COOLER-EVAP (40.00)	15/1	38
#	39					1,392		B			187		WALK-IN FREEZER (40.00)	15/2	40
	41					1,392		C			187		BOX-EVAPORATOR (41.38)	20/1	42

CONNECTED KVA	A	B	C	TOTAL KVA	DEMAND FACTOR	ESTIMATED DEMAND
LIGHTING	5.54	5.51	4.62	15.67	1.00	15.67
RECEPTACLES	6.51	8.08	11.23	25.82	1 x1st 10k+0.5x>10k (Per NEC220.44)	25.82
EQUIP (HVAC/COOLER)	15.73	15.68	16.04	47.44	1.00	47.44
KITCHEN	40.16	34.75	33.85	108.76	0.65 (Per NEC220.56)	70.69
TOTALS	67.93	64.02	65.74	197.69	-	159.62 KVA / 443.5 AMPS

LIGHTING X 25%	3.9175
LG. MOTOR X 25%	0
MINIMUM FEEDER	163.54 KVA / 454.7 AMPS

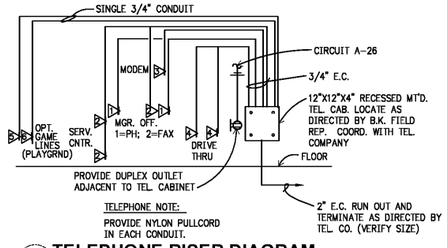
NOTES: PROVIDE WITH EQUIPMENT GROUND BUS.
\# PROVIDE w/ HACR TYPE BREAKER
\## PROVIDE A SHUNT-TRIP UNIT ON BREAKER IF REQUIRED PER NOTE ON RISER DIAGRAM THIS SHEET
\### PROVIDE BREAKER w/ SHUNT-TRIP.



MANUAL RESET RELAY WIRING SCHEMATIC

AMEREX AUTOMATIC FIRE CONTROL SYSTEM

3 SCALE: NONE



TELEPHONE RISER DIAGRAM

2 SCALE: NONE

PANEL: "B"
MAINS: 200 AMPS
MLO/MCB: MLO

VOLTAGE: 208Y/120 VAC
PHASE: 3
WIRE: 4
AIC: 10,000
MOUNTING: SURFACE

	BRKR	TRIP POLES	DESCRIPTION	LOAD (VA) LIGHTS	RECEPT	HVAC	KITCHEN	PHASE	LOAD(VA) LIGHTS	RECEPT	HVAC	KITCHEN	DESCRIPTION	TRIP POLES	BRKR
#	1	20/1	10 & 12 V SODA w/ICE (10.02&.09)				1,044	A				1,440	CUBER (500LB) (16.75)	20/1	2 #
#	3	20/1	CUBER (500LB) (16.58)				1,440	B		540			DRIVE THRU WORK STATION	20/1	4 #
##	5	20/1	P.O.S. RECEPTS. GFCI		1,200			C		600			P.O.S. RECEPTS. GFCI	20/1	6 ##
##	7	20/1	P.O.S. RECEPTS. GFCI		1,509			A				264	UC REFRIGERATOR (53.13)	20/1	8 #
	9	20/1	REAR DOOR BUZZER		720			B		1,000			FRY HOOD CTL/ANSUL (33.16)	20/1	10
###	11	20/1	DOOR ALARM		720			C				1,320	FRYER & FRY FREEZER (32.05)	20/1	12 ####
#	13	20/1	SMOOTHIE BLEND (59C.02)				1,032	A				1,920	COMBI - OVEN STEAMER (36.02)	20/3	14
#	15	20/1	SERVICE CTR/D.T. RECEPT.		720			B				1,920			16 ####
#	17	20/1	REFRIG (25.26)				528	C				1,920			18
#	19	20/1	CARBONATOR (2) (11.03)				1,728	A				1,086	CUBER (393LB) (16.76)	20/1	20 #
#	21	20/1	CARBONATOR (1) (11.03)				864	B				240	GAS BROILER (24.02)	20/1	22 ####
	23	20/2	TEA BREWER-DT (17.00)				1,352	C				5,760			24
	25						1,352	A				5,760	ELECTRIC FRYER (31.35)	60/3	26 ####
####	27	20/2	FRY DUMP STATION - (30.16)				1,040	B				5,760			28
	29						1,040	C				1,082	PHU- 2 x4 (51.08)	20/2	30 ####
	31						5,760	A				1,082			32
####	33	60/3	ELECTRIC FRYER (31.35)				5,760	B				720	44" MEAT FREEZER (26.09)	20/1	34 ####
	35						5,760	C							36
	37						5,760	A					SPARE	50/3	38
####	39	60/3	ELECTRIC FRYER (31.35)				5,760	B							40
	41						5,760	C		1,000			BROIL HD CTL/ANSUL (23.14)	20/1	42

CONNECTED KVA	A	B	C	TOTAL KVA	DEMAND FACTOR	ESTIMATED DEMAND
LIGHTING	0.00	0.00	0.00	0.00	1.00	0.00
RECEPTACLES	1.50	2.98	3.52	8.00	1 x1st 10k+0.5x>10k (Per NEC220.44)	8.00
EQUIP (HVAC/COOLER)	0.00	0.00	0.00	0.00	1.00	0.00
KITCHEN	28.23	23.50	24.52	76.25	0.65 (Per NEC220.56)	49.56
TOTALS	29.73	26.48	28.04	84.25	-	57.56 KVA / 159.90 AMPS

LIGHTING X 25%	0
LG. MOTOR X 25%	0
MINIMUM FEEDER	57.56 KVA / 159.90 AMPS

NOTES: PROVIDE WITH SOLID ISOLATED & EQUIPMENT GROUND BUS.
\# PROVIDE w/ GROUND FAULT CIRCUIT INT. TYPE BREAKER.
\## PROVIDE w/ GFCI TYPE BREAKER w/ CIRCUIT BREAKER LOCK.
\### PROVIDE w/ CIRCUIT BREAKER LOCK.
\#### FEED THRU HOOD CONTROLS FOR ANSUL SYSTEM SHUTDOWN.

PANEL: "D" *(FURNISHED w/ PREP TABLE 21.95)*
MAINS: 125 AMPS
MLO/MCB: MLO

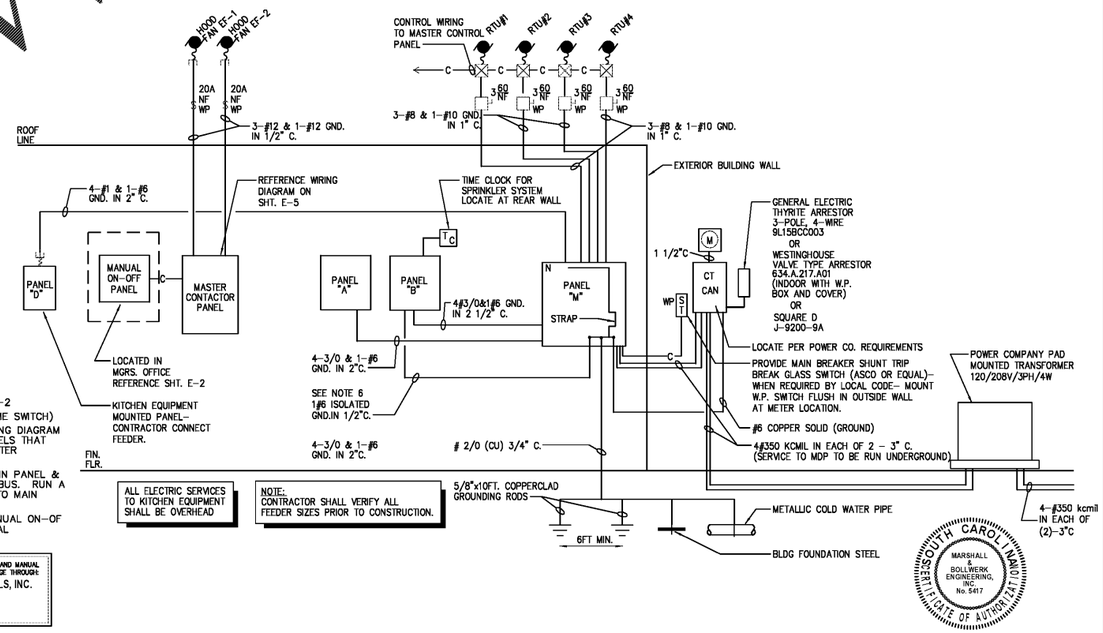
VOLTAGE: 208Y/120 VAC
PHASE: 3
WIRE: 4
AIC: 10,000
MOUNTING: w/ EQUIP.

	BRKR	TRIP POLES	DESCRIPTION	LOAD (VA) LIGHTS	RECEPT	HVAC	KITCHEN	PHASE	LOAD(VA) LIGHTS	RECEPT	HVAC	KITCHEN	DESCRIPTION	TRIP POLES	BRKR
	1	20/2	MICROWAVE- "A" (50.00)				1,591	A				1,591	MICROWAVE- "B" (50.00)	20/2	2
	3						1,591	B				1,591			4
	5	20/2	PHU - 3X4 "A" (51.07)				1,622	C				1,622	PHU - 3X4 "B" (51.07)	20/2	6
	7						1,622	A				1,622			8
	9	20/2	VERT TOASTER "A" (55.03)				1,040	B				1,040	VERT TOASTER "B" (55.03)	20/2	10
	11						1,040	C				1,040			12
#	13	20/1	BEVERAGE REF. (21C.36)				240	A					SPARE	20/1	14 #
#	15	20/1	BK EXPEDITER (21C.35)				720	B					SPACE	1/P	16
	17	1/P	SPACE					C					SPACE	1/P	18
	19	1/P	SPACE					A					SPACE	1/P	20
#	21	20/1	GEN RECEPTACLE		1,000			B					SPACE	1/P	22
#	23	20/1	GEN RECEPTACLE		1,000			C					SPACE	1/P	24

CONNECTED KVA	A	B	C	TOTAL KVA	DEMAND FACTOR	ESTIMATED DEMAND
LIGHTING	0.00	0.00	0.00	0.00	1.00	0.00
RECEPTACLES	0.00	1.00	1.00	2.00	1 x1st 10k+0.5x>10k (Per NEC220.44)	2.00
EQUIP (HVAC/COOLER)	0.00	0.00	0.00	0.00	1.00	0.00
KITCHEN	6.67	5.98	5.32	17.97	0.65 (Per NEC220.56)	11.68
TOTALS	6.67	6.98	6.32	19.97	-	13.68 KVA / 38.01 AMPS

LIGHTING X 25%	0
LG. MOTOR X 25%	0
MINIMUM FEEDER	13.68 KVA / 38.01 AMPS

NOTES: PROVIDE WITH EQUIPMENT GROUND BUS.
\# PROVIDE w/ GROUND FAULT CIRCUIT INT. TYPE BREAKER.



RISER NOTES:

1. ALL FUSED DISCONNECT SWITCHES TO BE PROVIDED BY CONTRACTOR.
2. REFER TO PANEL NOTES.
3. REFER TO GENERAL NOTES, SHEET E-2
4. "T.C." INDICATES TIME CLOCK (OR TIME SWITCH)
5. SEE MASTER CONTACTOR PANEL WIRING DIAGRAM FOR ADDITIONAL CIRCUITS FROM PANELS THAT ARE CONTROLLED THROUGH THE MASTER CONTACTOR PANEL
6. PROVIDE AN ISOLATED GROUND BUS IN PANEL & RUN CIRCUIT GROUND WIRE TO THIS BUS. RUN A #6 GREEN GROUND FROM THIS BUS TO MAIN SERVICE GROUND POINT.
7. MASTER CONTACTOR PANEL AND MANUAL ON-OF PANEL TO BE INCLUDED IN ELECTRICAL CONTRACTORS SCOPE OF WORK.

ELECTRICAL DISTRIBUTION PANELS, MASTER CONTACTOR PANEL AND MANUAL ON/OFF PANEL MAY BE PURCHASED AS A LOOSE GEAR PACKAGE THROUGH:
SUNCOAST ENVIRONMENTAL CONTROLS, INC.
8566 115TH AVENUE NORTH
LARGO, FLORIDA 34643
PHONE (877) 544-6679

MARSHALL & BOLLWERK ENGINEERING, INC.
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Woodstock, Ga. 30189
p: (678) 795-0333, f: (678) 325-4559
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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 27586 MICHAEL JONES 8/26/19

SC HWY. S-781 & SC HWY. 125
BEECH ISLAND, SC 29842

PROJECT: B1931
DATE: 07/22/2019

BURGER KING RESTAURANT

#026-20-03-003

ELECTRICAL PANELS AND RISERS

E-3