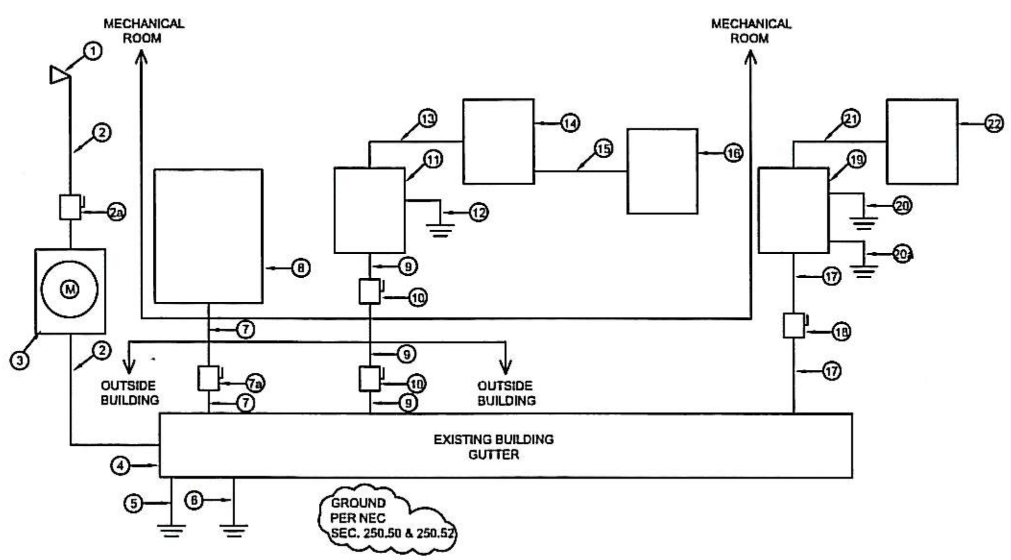
PLAN KEY NOTES: POWER

1. AIR CONDITIONING ROOF TOP UNIT, 480, 3 PHASE, 60 HZ.
2. PROVIDE A GROUND FAULT PROTECTED WEATHERPROOF DUPLEX RECEPTACLE AT ROOF TOP UNIT ON ROOF AS SHOWN AND REQUIRED BY CODE.
3. ALL BREAKERS SHALL BE SPARES UNLESS INDICATED OTHERWISE. ALL SPACES SHALL BE 50 AMPERE SIZE, ONE (1) POLE UNLESS INDICATED OTHERWISE, COMPLETE WITH BUSS CONNECTIONS, READY FOR BREAKER INSTALLATION. ALL BREAKERS SHALL BE CAPABLE OF WITHSTANDING A MINIMUM FAULT CURRENT OF 10,000 AMPERES FOR 250 VOLT OR 18,000 AMPERES FOR 600 VOLT SYSTEMS, RMS SYMMETRICAL. BUT IN NO CASE SHALL BE LESS THAN THE LARGEST BUSS RATING IN THE PANEL BOARD.
4. ALL FEEDER FUSES SHALL BE BUSSMAN TYPE KTN-R OR EQUIVALENT, CURRENT LIMITING TYPE FOR 250 OR 600 VOLT. ALL MOTOR FUSES SHALL BE CURRENT LIMITING DUAL ELEMENT TYPE RATED 250 VOLT OR 600 VOLT FOR THE APPLIED EQUIPMENT.
5. PROVIDE JUNCTION BOX IN WALL AND RUN PULL WIRE FOR TELEPHONE AND/OR DATA LINE OUTLET TO AN ACCESSIBLE LOCATION ABOVE CEILING LINE. PROVIDE 3/4" CONDUIT IN CONCRETE, SLAB OR MASONRY WALL.
6. RUN FROM RECEPTACLE IN CEILING TO 7 DAY TIME SWITCH TO CONTROL LIGHTS. MOUNT RECEPTACLES IN CEILING FOR TENANTS LIGHTS AND SIGNS. TIME SWITCH SHALL BE TORK OR EQUIVALENT.
7. SEALING COMPOUND IN DIFFERENT TEMPERATURE BY 300-7(A).
8. DOORHEATER (HEATTRACE) TO BE REQUIRED GFEP OR GFEPCI AV-427-22
9. WORKING CLEARANCE PER TABLE 110-2(A) MIN. 30" WIDE.
10. ALL CONDUCTS RUN FROM PANEL SHALL BE REQUIRED PER 384-2.



ELECTRICAL RISER DIAGRAM NOTES

1. NORMAL PAS SUPPLY, 480Y/277V, 3PH, 4W, 60HZ, 400 AMP INITIAL FAULT CURRENT WILL BE CHECKED BY ELECTRICAL CONTRACTOR.
2. CONDUCTORS: 2 SETS OF 4#3/0-2"C (THHN/THWN, CU 600V INS)
2a. 400A FUSED DISC. SW, N-3R, W/400 A FUSES (100KAIC)
3. MTR CABINET, COORDINATE WITH LOCAL ELECTRICAL UTILITY COMPANY FOR THE TERMINATION OF CONDUCTORS AND LOCATION OF MTR CAB.
4. GUTTER, G#1, NEMA-3R, 400 AMP
5. #4 CU GRND TO GRND ROD(3/4"X10')
6. #3/0 CU BOND TO MAIN MTL WTR PIPE LINE BLD'S
7. CONDUCTORS: 4#350 MCM , 1#2(G)-3"C(THHN/THWN, CU 600V,INS)
7a. 400A FUSED DISC. SW, N-3R, W/300 A FUSES (100KAIC)
8. PANEL BOARD-A, 480Y/277V, 3PH, 4W, 300A, MCB 42 CKT SPACE, NEMA-1, SURFACE MOUNTED, 10KAIC
9. CONDUCTORS: 4#3/0, 1#2(G)-2"C (THHN/THWN CU 600V INS)
10. 200A FUSED DISC SW, W/3-200 A FUSES (100 KAIC), N-1
11. TRANSFORMER 75 KVA, 480Y/277V, 3PH, 4W, PR1 N-1, 208Y/120V, 3PH, 4W, SEC
12. #4 CU GROUND TO GROUND ROD (3/4"X10') TO MAIN MTL WTR PIPE LINE, TO BLD'G STRUCTURE
13. CONDUCTORS: 4#4/0, 1#2(G)-2 1/2"C(THHN/THWN, CU 600V INS)
14. PNL BOARD-B 225A MCB, 3P 208Y/120V, 3PH, 4W, 42 CKT SPACE N-1, SURFACE MT'D, 10KAIC
15. CONDUCTORS: 4#3, 1#6(G)-1-1/2"C(THHN/THWN, CU 600V INS)
16. PNL BOARD-C 100A MCB, 3P 208Y/120V, 3PH, 4W, 30 CKT SPACE N-1, SURFACE MT'D, 10KAIC
17. CONDUCTORS: 4#8, 1#10(G)-1 1/2"C (THHN/THWN CU 600V INS)
18. 60A FUSED DISC SW, W/3-60 A FUSES (100 KAIC), N-3R
19. TRANSFORMER 30 KVA, 480Y/277V, 3PH, 4W,60HZ, PR1 N-3R, 208Y/120V, 3PH, 4W, SEC
20. #6 CU GROUND TO GROUND ROD (3/4"X10')
20a. #4 CU GROUND TO GROUND ROD (3/4"X10') TO MAIN MTL WTR PIPE LINE, TO BLD'G STRUCTURE
21. CONDUCTORS: 4#3, 1#6(G)-1 1/2"C(THHN/THWN, CU 600V INS)
22. PNL BOARD-H 100A MCB, 3P 208Y/120V, 3PH, 4W, 30 CKT SPACE N-3R, SURFACE MT'D, 10KAIC

ELECTRICAL ONE-LINE DIAGRAM

PANEL 'A'

VOLT. 480Y/277V FEEDER: SEE RISER DIAGRAM
PHASE: 3
NO. OF WIRES: 4

TYPE: NEMA-1
PHASE: SIZE: 300 AMPS — MCB-3P
300 AMPS BUS
10 KAIC, SERIES RATED — 10 KAIC RATED
BRANH CIRCUIT BREAKERS 10 KAIC

CK.	TRIP	NO OF POLES	WIRE SIZE	WATTS	DESCRIPTION	A	B	C	DESCRIPTION	WATTS	WIRE SIZE	NO OF POLES	TRIP	CK.
1	100	3	3	5000	RTU#1	6200			LTG	1200	12	1	20	2
3							6000		LTG	1000				4
5								6200	LTG	1200				6
7	80	3	4	3500	RTU#2	4140			LTG	640				8
9							3950		LTG	450				10
11								4748	LTG	1248				12
13	80	3	4	3500	RTU#3	4460			LTG	960				14
15							5500		WALK-IN COOLER	2000	8	3	40	16
17								5500						18
19	100	3	3	5000	RTU#4	7000								20
21							7000		WALK-IN FREEZER	2000	8	3	40	22
23								7000						24
25	40	3	8	2000	HOOD #1 - SHUNT TRIP	4000								26
27							4000		HOOD #2 - SHUNT TRIP	2000	8	3	40	28
29								4000						30
31	20	1	12	1000	EXIT/EMERGENCY LIGHT	3000								32
33	20	1	12	1000	EXIT/EMERGENCY LIGHT		1600		EXIT/EMERGENCY LIGHT	600	12	1	20	34
35	20	1	12	1000	EXIT/EMERGENCY LIGHT			1640	LTG	640				36
37	20	1	12	800	EXIT/EMERGENCY LIGHT	2184			LTG	1384				38
39														40
41														42
					PHASE	A	B	C	N					
PHASE A TOTAL:						30984								
PHASE B TOTAL:							28050							
PHASE C TOTAL:								29068						
TOTAL CONNECTED LOAD IN VA:					88,122 / 480 = 184 AMPS									

PANEL 'B'

VOLT. 208/120V FEEDER: SEE RISER DIAGRAM
PHASE: 3
NO. OF WIRES: 4

TYPE: NEMA-1
PHASE: SIZE: 225 AMPS — MCB-3P
225 AMPS BUS
KAIC, SERIES RATED — 10 KAIC RATED
BRANH CIRCUIT BREAKERS 10 KAIC

CK.	TRIP	NO OF POLES	WIRE SIZE	WATTS	DESCRIPTION	A	B	C	DESCRIPTION	WATTS	WIRE SIZE	NO OF POLES	TRIP	CK.
1	40	2	8	2000	DISC. SW. - WH 1	3000			FREEZER V.C	1000	10	2	30	2
3							3000				12	1	20	4
5	40	2	8	2000	DISC. SW. - WH 2			2400	PIZZA PREP	400	12	1	20	6
7						2840			FOOD WARMER	640	10	1	30	8
9	20	1	12	1500	RECEPTACLES		2340		FOOD WARMER	640	10	1	30	10
11	20	1	12	1500	RECEPTACLES			2300	FRIDGE REACH	800	10	1	30	12
13	30	1	10	1200	FRIDGE	3000			HEAT LAMP ROO	1800	10	1	30	14
15	30	1	10	1200	FRIDGE		2200		DISHWASHING MACH.	1000	12	1	20	16
17	30	1	10	1800	PROOFER			3300	ICE MAKER	1500	10	2	30	18
19	30	2	16	1800	MIXER	3300								20
21							3400		NACHO CHIP WARM	1600	10	1	30	22
23	30	1	10	1000	MICROWAVE			2000	BOTTLE COOLER	1000	12	1	20	24
25	30	1	10	1000	MICROWAVE	2800			FROZEN DRINK MACH.	1800	10	1	30	26
27	20	1	12	2000	FRIDGE		3800		FROZEN DRINK MACH.	1800	10	1	30	28
29	20	1	12	800	SODA DISPENSOR			1500	RECEPTACLES	700	12	1	20	30
31	30	1	10	840	HOTWELL	2340			RECEPTACLES	1500	12	1	20	32
33	20	1	12	900	RECEPTACLES		2400		RECEPTACLES	1500	12	1	20	34
35	20	1	12	900	RECEPTACLES			8900	100 MAIN	6000	3	3	100	36
37	20	1	12	700	RECEPTACLES	8700								38
39	20	1	12	700	RECEPTACLES		8700							40
41														42
					PHASE	A	B	C	N					
PHASE A TOTAL:						25980								
PHASE B TOTAL:							25840							
PHASE C TOTAL:								20400						
TOTAL CONNECTED LOAD IN VA:					72,220 / 360 = 201 AMPS									

PANEL 'C'

VOLT. 208/120V FEEDER: SEE RISER DIAGRAM
PHASE: 3
NO. OF WIRES: 4

TYPE: NEMA-1
PHASE: SIZE: 100 AMPS — MCB-3P
100 AMPS BUS
KAIC, SERIES RATED — 10 KAIC RATED
BRANH CIRCUIT BREAKERS 10 KAIC

CK.	TRIP	NO OF POLES	WIRE SIZE	WATTS	DESCRIPTION	A	B	C	DESCRIPTION	WATTS	WIRE SIZE	NO OF POLES	TRIP	CK.
1	30	2	10	1800	PIZZA OVEN (SHUNT)	3300			RECEPTACLES	1500	12	1	20	2
3	30	2	10	1800			2500		RECEPTACLES	700	12	1	20	4
5	30	1	10	300	RECEPTACLE (SHUNT)			1500	RECEPTACLES	1200	12	1	20	6
7	20	1	12	300	RECEPTACLE (SHUNT)	1800			SIGN	1500	10	1	30	8
9	20	1	12	700	RECEPTACLE (SHUNT)		2200		SIGN	1500	10	1	30	10
11	30	1	10	800	SOUP WELL			2300	SIGN	1500	10	1	30	12
13	20	1	12	700	RECEPTACLES	1400			RECEPTACLES	700	12	1	20	14
15	20	1	12	1500	RECEPTACLES		1500							16
17														18
19														20
21														22
23														24
25														26
27														28
29														30
					PHASE	A	B	C	N					
PHASE A TOTAL:						6500								
PHASE B TOTAL:							6200							
PHASE C TOTAL:								3800						
TOTAL CONNECTED LOAD IN VA:					16,500 / 360 = 46 AMPS									

PANEL 'H'

VOLT. 208/120V FEEDER: SEE RISER DIAGRAM
PHASE: 3
NO. OF WIRES: 4

TYPE: NEMA-1
PHASE: SIZE: 100 AMPS — MCB-3P
100 AMPS BUS
KAIC, SERIES RATED — 10 KAIC RATED
BRANH CIRCUIT BREAKERS 10 KAIC

CK.	TRIP	NO OF POLES	WIRE SIZE	WATTS	DESCRIPTION	A	B	C	DESCRIPTION	WATTS	WIRE SIZE	NO OF POLES	TRIP	CK.
1	20	1	12	800	LIGHTS	1400			RECEPTACLES	600	12	1	20	2
3	20	1	12	800	LIGHTS		1400		RECEPTACLES	600	12	1	20	4
5														6
7														8
9														10
11														12
13														14
15														16
17														18
19														20
21														22
23														24
25														26
27														28
29														30
					PHASE	A	B	C	N					
PHASE A TOTAL:						1400								
PHASE B TOTAL:							1400							
PHASE C TOTAL:								0						
TOTAL CONNECTED LOAD IN VA:					2,800 / 360 = 8 AMPS									

ELECTRICAL GENERAL NOTES

1. THE CONTRACTOR SHALL EXECUTE THE WORK IN STRICT ACCORDANCE WITH LOCAL, STATE AND NATIONAL CODES AND APPLICABLE REGULATIONS AND ORDIANCES
2. WHERE THE WORD "PROVIDE" IS USED, IT SHALL MEAN TO FURNISH AND INSTALL AN ITEM OR SYSTEM, INCLUDING MATERIALS AND LABOR REQUIRED FOR A COMPLETE SYSTEM.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY FOR ALL SUCH PERMITS REQUIRED FOR WORK UNDER THIS CONTRACT.
4. THE CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL SYSTEM AS DESCRIBED ON THE DRAWINGS AND SPECIFICATIONS AND ALL OTHER MEANS ON COMMUNICATION BY OWNER'S REPRESENTATIVE. PROVIDE THE OWNER WITH ONE (1) YEAR WRITTEN WARRANTY ON THE COMPLETE INSTALLED SYSTEM. PROVIDE THE OWNER WITH ALL EXTENDED WARRANTIES ON ALL ITEMS THAT HAVE SUCH WARRANTIES.
5. ELECTRICAL DESIGN FOR THIS INSTALLATION IS BASED ON FIELD INSPECTIONS OF THE SITE. ELECTRICAL CONTRACTOR IS TO FIELD VERIFY CONDITIONS PRIOR TO BIDDING. ALLOWANCES ARE TO BE INCLUDED FOR UNFORSEEN CONDITIONS THAT MAY EFFECT THE CONTRACTOR'S SCOPE OF WORK. MINOR DEVIATIONS REQUIRED FOR ACCOMPLISHING THE INTENT OF THIS DESIGN, ARE TO BE INCLUDED IN THAT ALLOWANCE.
6. ELECTRICAL DESIGN HAS BEEN BASED ON THE INSTALLATION OF 75°C CONDUCTORS CONNECTED TO TERMINAL LUGS AND EQUIPMENT, U.L. LISTED FOR A MINIMUM 75°C. CONDUCTORS TERMINATED ON EQUIPMENT WITH A LOWER RATING (60°C) OR NO RATING SHOWN, TO HAVE CONDUCTOR SIZE INCREASED TO CONFORM TO N.E.C. TABLE 310-16 AND U.L. NO. 489 REQUIREMENTS.
7. ALL CONDUIT INSTALLED INDOORS TO BE ELECTRICAL METALLIC TUBING (EMT), MINIMUM 1/2" OR AS NOTED OTHERWISE. CONDUIT UNDERGROUND AND IN SLAB SHALL SCHEDULE 40 PVC AS MINIMUM, OR HOT DIPPED RIGID GALVANIZED STEEL. CONDUIT EXPOSED OUTDOORS SHALL BE HOT DIPPED RIGID GALVANIZED STEEL. CONTRACTOR MAY USED BX CABLE INDOORS FOR TWO (2) AND THREE (3) WIRE CIRCUITE AS APPROVED BY NEC AND CITY CODE.
8. ALL WORK SHALL BE DONE IN A NEAT AND PROFESSIONAL MANNER BY COMPETENT AND EXPERIENCED WORKMEN IN THEIR TRADE.
9. ALL MATERIALS AND EQUIPMENT USED UNDER THIS CONTRACT SHALL BE NEW AND IN GOOD WORKING ORDER AND BE U.L. APPROVED.
10. ELECTRICAL CONTRACTOR TO VERIFY ALL RECEPTACLE AND JUNCTION BOX MOUNTING HEIGHTS AND STUB-UPS WITH KITCHEN EQUIPMENT CONSULTANT. ELECTRICAL CONTRACTOR TO MAKE ALL FINAL CONNECTIONS FROM JUNCTION BOX OR DISCONNECT SWITCH WITH LIQUID-TITE FLEXIBLE CONDUIT.
11. ALL BUILDING WIRING REQUIRED FOR THIS PROJECT SHALL BE BASED ON SOFT DRAWN COPPER, CONDUCTIVITY OF NOT LESS THAN THAT OF 600 VOLT INSULATION, #12 MINIMUM. ALL WIRE SHALL STRANDED, THHN TYPE.
12. ELECTRICAL CONTRACTOR TO PROVIDE TEMPORARY ELECTRICAL POWER AS REQUIRED FOR JOB HIRING TRAILER AT SITE.
13. CONTRACT SHALL PROVIDE A SERVICE FEEDER FROM THE TENANTS POWER LOAD CENTER TO THE MAINDISCONNECT OR METER, WIRE WAY OR WEATHERED. VERIFY AT JOB SITE THE EXACT CONDITIONS AND REQUIREMENTS REQUIRED. SEE ONE LINE DIAGRAM.
14. ALL PANEL BOARDS SHALL HAVE A TYPE WRITTEN SCHEDULE OF EQUIPMENT LOADED ON EACH CIRCUIT. ALL LIGHTS IN GENERAL WILL BE LOCALLY SWITCHED WITH WALL TOGGLE SWITCHED. IN WAREHOUSE AREAS LIGHTING WILL BE PANEL SWITCHED AS INDICATED.
15. PROVIDE COPPER GROUND WIRE TO ALL RECEPTACLES, EQUIPMENT AND LIGHTING. PROVIDE A WIRE GROUND IN ALL FEEDER AND SUB-FEEDERS AS SHOWN, BUT NOT IN NO CASE SHALL BE SMALLER THAN CODE REQUIREMENT.
16. AT THE CONCLUSION OF THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND UPDATED TYPEWRITTEN DIRECTORY INSIDE EACH PANELBOARD, PROPERLY IDENTIFYING EACH CIRCUIT USED AND THE SPECIFIC LOAD SERVED FOR EACH PANEL EFFECTED BY THIS PROJECT.
17. COORDINATE ALL ELECTRICAL POWER AND TELEPHONE SERVICE REQUIREMENTS WITH LOCAL POWER AND TELEPHONE COMPANIES.
18. TELEPHONE CABLE TO BE FURNISHED AND INSTALLED BY OTHERS. ALL CABLING TO BE PLENUM.
19. PROVIDE EMPTY CONDUIT FOR TELEPHONE AND COMPUTER CABLE SYSTEM AS INDICATED ON DRAWING. PROVIDE A JUNCTION BOX IN WALL AND PULL WIRE TO AN ACCESSIBLE LOCATION ABOVE CEILING. PROVIDE CONDUIT WITH PULL WIRE TO AN ACCESSIBLE LOCATION ABOVE CEILING THAT ARE NOT ACCESSIBLE TO A LOCATION THAT IS ACCESSIBLE. PROVIDE CONDUIT FROM ALL FLOOR BOXES TO ALL POWER, TELEPHONE AND DATA LINES INDICATED.
20. MOUNT ALL RECEPTACLES AND POWER OUTLETS 18" ABOVE FINISHED FLOOR UNLESS NOTED OR INDICATED OTHERWISE. COORDINATE THE MOUNTING OF ALL OUTLETS THAT ARE MOUNTED IN COUNTERS WITH OWNER'S REPRESENTATIVE.
21. MOUNT TELEPHONE, DATA AND MODEM OUTLETS 18" ABOVE FLOOR UNLESS NOTED OT INDICATED OTHERWISE.
22. ANY BORING OR SAW CUTTING OF WALL OR CONCRETE FLOORS OF THE BUILDING SHALL BR DONE AFTER HOURS AND PRIOR ARRANGEMENT WITH THE LANDLORD
23. ANY CUTTING OFF OF ELECTRICAL SERVICE TO THE BUILDING SHALL BE DONE AFTER HOURS AND PRIOR ARRANGEMENT WITH THE LANDLORD.
24. ALL ELECTRICAL HOME RUNS SHALL BE RUN THROUGH THE BUILDING JOIST WE AND/OR AS CLOSE TO THE STRUCTURE AS POSSIBLE.

STATE OF TEXAS
SANTOSH K. MUKERJI
61393
REGISTERED
PROFESSIONAL ENGINEER

12/14/10

STRATEM DESIGNS
1500 N. POST OAK, SUITE 160
HOUSTON, TEXAS 77055
PHONE: (832) 434-7547
FAX: 1-(866) 486-1256
DESIGNER: NICHOLAS NGUYEN

Don Julio's mexican restaurant

9009 SIENNA
RETAIL BUILDING B
MISSOURI, TEXAS 77459

ELECTRICAL
PLAN
RISER & NOTES

Sheet Number:
E-1.2