

VOLTS 480/277  
 PHASE 3  
 WIRE 3

PANEL HA  
 LOCATION -

MAIN: LUGS ONLY  
 BUS RATING 225A  
 FED FROM: -  
 MOUNTING: FLUSH

DESCRIPTION	DEMAND FACTOR	VOLT-AMPS	LTG	REC	MISC	C.B. AMP/POLE	CIR NO	PHASE Ø	CIR NO	C.B. AMP/POLE	LTG	REC	MISC	VOLT-AMPS	DEMAND FACTOR	DESCRIPTION
SPACE	1.0	0					1	A	2	20/3		X		3870	1.0	#24 INGESSOL RAND T30 AIR COM
SPACE	1.0	0					3	B	4	-		X		3870	1.0	-
SPACE	1.0	0					5	C	6	-		X		3870	1.0	-
SPACE	1.0	0					7	A	8	60/2				11280	1.0	#29 LINCOLN TIF 275 WELDER
SPACE	1.0	0					9	B	10	-				11280	1.0	-
SPACE	1.0	0					11	C	12	60/2				11280	1.0	#30 LINCOLN TIG 275 WELDER
SPACE	1.0	0					13	A	14	-				11280	1.0	-
SPACE	1.0	0					15	B	16	20/3				3050	1.0	#20 CINCINNATI SHEAR
SPACE	1.0	0					17	C	18	-				3050	1.0	-
SPACE	1.0	0					19	A	20	-				3050	1.0	-
SPACE	1.0	0					21	B	22	20/3				2100	1.0	#21 AIRTHERM METAL WORKER
SPACE	1.0	0					23	C	24	-				2100	1.0	-
SPACE	1.0	0					25	A	26	-				2100	1.0	-
SPACE	1.0	0					27	B	28					0	1.0	SPACE
SPACE	1.0	0					29	C	30					0	1.0	SPACE
SPACE	1.0	0					31	A	32					0	1.0	SPACE
SPACE	1.0	0					33	B	34					0	1.0	SPACE
SPACE	1.0	0					35	C	36					0	1.0	SPACE
SPACE	1.0	0					37	A	38					0	1.0	SPACE
SPACE	1.0	0					39	B	40					0	1.0	SPACE
SPACE	1.0	0					41	C	42					0	1.0	SPACE

LOAD	ØA	<u>31580.0</u>	ØB	<u>20300.0</u>	ØC	<u>20300.0</u>
LCL+KITCHEN		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>
TOTAL		<u>31580.0</u>		<u>20300.0</u>		<u>20300.0</u>

PANEL TOTAL 72180.0 VOLT AMPS = 86.9 AMPS

- (1) LCL LOAD, D.F.=1.25
- (2) KITCHEN LOAD, D.F.=0.65
- (3) PROVIDE LOCK-ON DEVICE
- (4) PROVIDE HACR BREAKER

VOLTS 208/120  
 PHASE 3  
 WIRE 4

(E)PANEL A  
 LOCATION -

MAIN: 150A C/B  
 BUS RATING 225A  
 FED FROM: -  
 MOUNTING: FLUSH

DESCRIPTION	DEMAND FACTOR	VOLT-AMPS	LTG	REC	MISC	C.B. AMP/POLE	CIR NO	PHASE Ø	CIR NO	C.B. AMP/POLE	LTG	REC	MISC	VOLT-AMPS	DEMAND FACTOR	DESCRIPTION
RCPT, RM 115,116	1.0	720				20/1	1	A	2	20/1				1200	1.25	LIGHTING, RM 122
RCPT, REST ROOM	1.0	540				20/1	3	B	4	20/1				1200	1.25	LIGHTING, RM 122
SINAGE	1.0	1200				20/1	5	C	6	20/1				960	1.25	LIGHTING, RM 119
RCPT, RM 109,110,111	1.0	900				20/1	7	A	8	20/1				960	1.25	LIGHTING, RM 119
RCPT, RM 109,110,111	1.0	1080				20/1	9	B	10	20/1				885	1.25	LIGHTING, STORAGE 1ST, BATH RM
RCPT, RM 102,103,104	1.0	720				20/1	11	C	12	20/1				840	1.25	LIGHTING, STORAGE 1ST AND 2ND
RCPT, RM 102,103,104	1.0	720				20/1	13	A	14	20/1				1200	1.25	LIGHTING, RM 119
RCPT, RM 107	1.0	720				20/1	15	B	16	20/1				1200	1.25	LIGHTING, RM 119
RCPT, RM 108	1.0	720				20/1	17	C	18	20/1				630	1.25	LIGHTING, RM 104,105
RCPT, RM 105	1.0	360				20/1	19	A	20	20/1				720	1.25	LIGHTING, RM 107~111
RCPT, RM 105	1.0	540				20/1	21	B	22	20/1				0	1.0	EXTERIOR LIGHTS
RCPT, WELDING AREA	1.0	360				20/1	23	C	24					0	1.0	SPACE
RCPT, 2ND STORAGE	1.0	540				20/1	25	A	26					0	1.0	SPACE
SPACE	1.0	0					27	B	28					0	1.0	SPACE
SPACE	1.0	0					29	C	30					0	1.0	SPACE
SPACE	1.0	0					31	A	32					0	1.0	SPACE
SPACE	1.0	0					33	B	34					0	1.0	SPACE
SPACE	1.0	0					35	C	36					0	1.0	SPACE
SPACE	1.0	0					37	A	38					0	1.0	SPACE
SPACE	1.0	0					39	B	40					0	1.0	SPACE
SPACE	1.0	0					41	C	42					0	1.0	SPACE

LOAD	ØA	<u>7320.0</u>	ØB	<u>6165.0</u>	ØC	<u>5430.0</u>
LCL+KITCHEN		<u>1020.0</u>		<u>821.3</u>		<u>607.5</u>
TOTAL		<u>8340.0</u>		<u>6986.3</u>		<u>6037.5</u>

PANEL TOTAL 21363.8 VOLT AMPS = 59.3 AMPS

- (1) LCL LOAD, D.F.=1.25
- (2) KITCHEN LOAD, D.F.=0.65
- (3) PROVIDE LOCK-ON DEVICE
- (4) PROVIDE HACR BREAKER

VOLTS 208/120  
 PHASE 3  
 WIRE 4

(E)PANEL B  
 LOCATION -

MAIN: 225A C/B  
 BUS RATING 225A  
 FED FROM: -  
 MOUNTING: FLUSH

DESCRIPTION	DEMAND FACTOR	VOLT-AMPS	LTG	REC	MISC	C.B. AMP/POLE	CIR NO	PHASE Ø	CIR NO	C.B. AMP/POLE	LTG	REC	MISC	VOLT-AMPS	DEMAND FACTOR	DESCRIPTION
RCPT, RM 119	1.0	540				20/1	1	A	2	20/2				960	1.0	GATE MOTOR
RCPT, RM 119	1.0	720				20/1	3	B	4	-				960	1.0	-
RCPT, RM 119	1.0	540				20/1	5	C	6	20/2				960	1.0	GATE MOTOR
RCPT, RM 119	1.0	540				20/1	7	A	8	-				960	1.0	-
RCPT, RM 119	1.0	540				20/1	9	B	10	20/2				960	1.0	GATE MOTOR
SPACE	1.0	0					11	C	12	-				960	1.0	-
SPACE	1.0	0					13	A	14	45/3				3240	1.0	(E) A/C-6
SPACE	1.0	0					15	B	16	-				3240	1.0	-
SPACE	1.0	0					17	C	18	-				3240	1.0	-
SPACE	1.0	0					19	A	20	25/3				2040	1.0	A/C-3
SPACE	1.0	0					21	B	22	-				2040	1.0	-
SPACE	1.0	0					23	C	24	-				2040	1.0	-
SPACE	1.0	0					25	A	26	20/1				180	1.0	ROOF GFI
SPACE	1.0	0					27	B	28					0	1.0	SPACE
SPACE	1.0	0					29	C	30					0	1.0	SPACE
SPACE	1.0	0					31	A	32					0	1.0	SPACE
SPACE	1.0	0					33	B	34					0	1.0	SPACE
SPACE	1.0	0					35	C	36					0	1.0	SPACE
SPACE	1.0	0					37	A	38					0	1.0	SPACE
SPACE	1.0	0					39	B	40					0	1.0	SPACE
SPACE	1.0	0					41	C	42					0	1.0	SPACE

LOAD            ØA 8460.0    ØB 8460.0    ØC 7740.0  
 LCL+KITCHEN            0.0            0.0            0.0  
 TOTAL                    8460.0            8460.0            7740.0

PANEL TOTAL 24660.0 VOLT AMPS = 68.5 AMPS

- (1) LCL LOAD, D.F.=1.25
- (2) KITCHEN LOAD, D.F.=0.65
- (3) PROVIDE LOCK-ON DEVICE
- (4) PROVIDE HACR BREAKER

VOLTS 240V  
 PHASE 3  
 WIRE 3

PANEL C  
 LOCATION -

MAIN: 400A  
 BUS RATING: 400A  
 AIC RATING: -  
 MOUNTING: FLUSH

DESCRIPTION	DEMAND FACTOR	VOLT-AMPS	LTG	REC	MISC	C.B. AMP/POLE	CIR NO	PHASE Ø	CIR NO	C.B. AMP/POLE	LTG	REC	MISC	VOLT-AMPS	DEMAND FACTOR	DESCRIPTION
#19 SODICK A320D	1.0	2150				25/3	1	A	2	20/3				1270	1.0	#7 ACRA MILL
-	1.0	2150				-	3	B	4	-				1270	1.0	-
-	1.0	2150				-	5	C	6	-				1270	1.0	-
#25 DAYTON AIR COMPRESSOR	1.0	2010				30/3	7	A	8	20/3				1270	1.0	#6 ACRA MILL
-	1.0	2010				-	9	B	10	-				1270	1.0	-
-	1.0	2010				-	11	C	12	-				1270	1.0	-
#23 KALAMAZOO CHOP SAW	1.0	2010				30/3	13	A	14	20/3				1270	1.0	#5 SHARP MILL
-	1.0	2010				-	15	B	16	-				1270	1.0	-
-	1.0	2010				-	17	C	18	-				1270	1.0	-
#15 VICTOR 2040E LATHE	1.0	3710				50/3	19	A	20	20/3				1270	1.0	#4 SHARP MILL
-	1.0	3710				-	21	B	22	-				1270	1.0	-
-	1.0	3710				-	23	C	24	-				1270	1.0	-
#14 VICTOR 1630B LATHE	1.0	2010				30/3	25	A	26	20/3				1270	1.0	#3 SHARP MILL
-	1.0	2010				-	27	B	28	-				1270	1.0	-
-	1.0	2010				-	29	C	30	-				1270	1.0	-
SPACE	1.0	0					31	A	32	20/3				1270	1.0	#1 KENT MILL
SPACE	1.0	0					33	B	34	-				1270	1.0	-
SPACE	1.0	0					35	C	36	-				1270	1.0	-
PANEL "D"	1.0	14110				200/3	37	A	38	20/3				1270	1.0	#2 SHARP MILL
-	1.0	14110				-	39	B	40	-				1270	1.0	-
-	1.0	11700				-	41	C	42	-				1270	1.0	-

LOAD	ØA	<u>34890.0</u>	ØB	<u>34890.0</u>	ØC	<u>32480.0</u>
LCL+KITCHEN		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>
TOTAL		<u>34890.0</u>		<u>34890.0</u>		<u>32480.0</u>

PANEL TOTAL 102260.0 VOLT AMPS = 245.8 AMPS

- (1) LCL LOAD, D.F.=1.25
- (2) KITCHEN LOAD, D.F.=0.65
- (3) PROVIDE LOCK-ON DEVICE
- (4) PROVIDE HACR BREAKER

VOLTS 240V  
 PHASE 3  
 WIRE 3

PANEL D  
 LOCATION -

MAIN: LUGS ONLY  
 BUS RATING: 225A  
 AIC RATING: -  
 MOUNTING: FLUSH

DESCRIPTION	DEMAND FACTOR	VOLT-AMPS	LTG	REC	MISC	C.B. AMP/POLE	CIR NO	PHASE Ø	CIR NO	C.B. AMP/POLE	LTG	REC	MISC	VOLT-AMPS	DEMAND FACTOR	DESCRIPTION
#18 CHEVALIER SURFACE GRINDER	1.0	900				20/3	1	A	2	20/3				1140	1.0	#10 FEELER LATHE
-	1.0	900				-	3	B	4	-				1140	1.0	-
-	1.0	900				-	5	C	6	-				1140	1.0	-
#22 10 IN DSIC SANDER	1.0	550				20/3	7	A	8	20/3				1140	1.0	#11 FEELER LATHE
-	1.0	550				-	9	B	10	-				1140	1.0	-
-	1.0	550				-	11	C	12	-				1140	1.0	-
#27 MILLER PLASMA CUTTER 2050	1.0	2410				30/2	13	A	14	20/3				1140	1.0	#12 KENT LATHE
-	1.0	2410				-	15	B	16	-				1140	1.0	-
#8 ACRA MILL	1.0	1270				20/3	17	C	18	-				1140	1.0	-
-	1.0	1270				-	19	A	20	20/3				1270	1.0	#13 VIXTOR 1618 LATHE
-	1.0	1270				-	21	B	22	-				1270	1.0	-
SPACE	1.0	0					23	C	24	-				1270	1.0	-
SPACE	1.0	0					25	A	26	20/3				1140	1.0	#9 FEELER LATHE
SPACE	1.0	0					27	B	28	-				1140	1.0	-
SPACE	1.0	0					29	C	30	-				1140	1.0	-
SPACE	1.0	0					31	A	32	20/3				1140	1.0	#16 BAND CUT OFF SAW
SPACE	1.0	0					33	B	34	-				1140	1.0	-
SPACE	1.0	0					35	C	36	-				1140	1.0	-
SPACE	1.0	0					37	A	38	30/3				2010	1.0	#17 KENT SURFACE GRINDER
SPACE	1.0	0					39	B	40	-				2010	1.0	-
SPACE	1.0	0					41	C	42	-				2010	1.0	-

LOAD      ØA    14110.0    ØB    14110.0    ØC    11700.0  
 LCL+KITCHEN      0.0      0.0      0.0  
 TOTAL              14110.0      14110.0      11700.0

PANEL TOTAL 39920.0 VOLT AMPS = 96.0 AMPS

- (1) LCL LOAD, D.F.=1.25
- (2) KITCHEN LOAD, D.F.=0.65
- (3) PROVIDE LOCK-ON DEVICE
- (4) PROVIDE HACR BREAKER



6 5 4 3 2 1

**LIGHTING PLAN GENERAL NOTES**

EXIT SIGNS AND EMERGENCY LIGHTING FIXTURES (EQUIPPED WITH 90 MIN. BATTERY PACK) SHALL BE PROVIDED WITH 90 MINUTES EMERGENCY BATTERY PACK. AN UNSWITCHED HOT CIRCUIT IS REQUIRED FOR EMER. BATTERY PACK AND A LOCK-ON DEVICE IS REQUIRED FOR THE CIRCUIT BREAKER.

ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS IN FIELD BEFORE BIDDING AND INSTALLATION WORK.

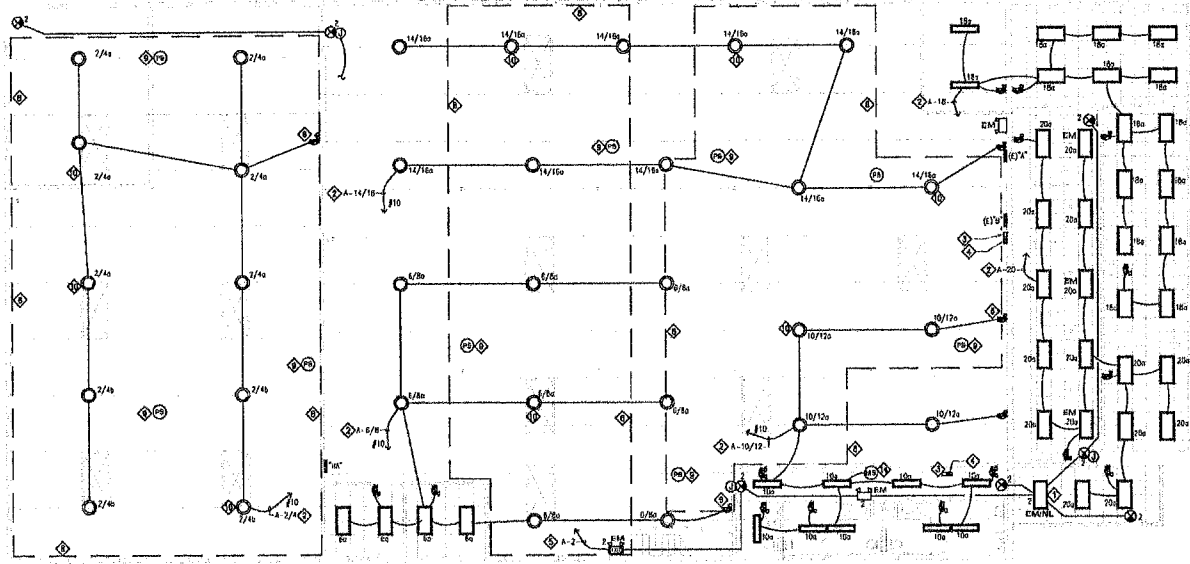
CONTRACTOR TO RELOCATE OR ADD ADDITIONAL EXIT SIGNS PER INSPECTOR'S REQUIREMENTS.

PER CBC 10554, EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE MIN. ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOT-CANDLE (1 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOT-CANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECREASE TO 0.5 FOOT-CANDLE (0.5 LUX) AND A MINIMUM AT ANY POINT OF 0.05 FOOT-CANDLE (0.5 LUX) AT THE END OF THE EMERGENCY LIGHTING TRACED QUARTERS IN MANUALLY OPERATED ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.

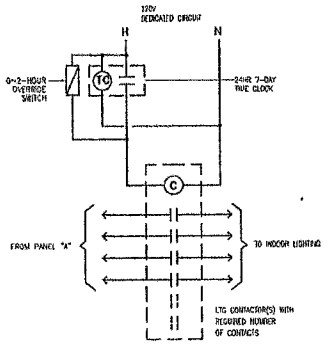
**LIGHTING PLAN KEY NOTES**

- 24-HOUR ON NIGHT LIGHT.
- ROU
- 0-2 HOURS OVERDRIVE SWITCH FOR LIGHTING 440VAF

- ◇ VENTILATE
- ◇ LIGHTING SWITCH (DAY/NIGHT ZONE) SHALL BE CONTROLLED BY DAYLIGHT PHOTO CELL, TYPICAL.
- ◇ LINE OF PRIMARY DAY/NIGHT ZONE.
- ◇ LIGHTING SWITCH (DAY/NIGHT ZONE) SHALL BE CONTROLLED BY DAYLIGHT PHOTO CELL, TYPICAL.
- ◇ UNSWITCHED CIRCUIT (1A-2 FROM LOWER LEVEL)
- ◇ PROVIDE CEILING MOUNTED OCCUPANCY SENSOR



**LIGHTING PLAN - 1ST FLOOR**  
SCALE: 1/8"=1'-0"

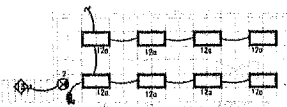


**INDOOR LTG. CONTROL DIAG.**  
NTS

LIGHTING FIXTURE SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	MODEL NO.	LAMP TYPE/WATT	REMARKS
	A	8' x 4' LED TRAY/RECESS DOWNING	CREE 50K-35K-10V	45W LED	120V
	B	1' x 4' LED LIGHT SURFACE DOWNING	CREE CR-EE-40L-35K-10V	40W LED	120V
	C	18" LED HIGH BAY PENDANT DOWNING	CREE CRB-A-18C	240W LED	208V
	D	EMERGENCY/EXIT COMBINATION 25W 90 MINUTES EMERGENCY BATTERY PACK	SELECTED BY OWNER / ARCH	12W LED	120V
	E	EXIT SIGN WITH 90 MINUTES EMERGENCY BATTERY PACK	SELECTED BY OWNER / ARCH	12W LED	120V
	F	EXIT SIGN WITH 90 MINUTES EMERGENCY BATTERY PACK	SELECTED BY OWNER / ARCH	5W LED	120V
	SA	LED WALL SCONCE WITH 15' MT	SELECTED BY OWNER / ARCH	30W LED	120V

NOTE: EXIT SIGNS AND LIGHTING FIXTURES DENOTED WITH 'TM' SHALL BE PROVIDED WITH 90 MIN BATTERY PACK. AN UNSWITCHED HOT WIRE SHALL BE PROVIDED FOR BATTERY CHARGING. A LOCK-ON DEVICE IS REQUIRED FOR THE EMERGENCY LIGHTING CIRCUIT BREAKER.

ALL LIGHTING FIXTURE SHALL BE APPROVED BY THE OWNER/ARCHITECT.



**LIGHTING PLAN - 2nd FLOOR**  
SCALE: 1/8"=1'-0"

Rev. Date Description

**MARROQUIN INDUSTRIES, CORP.**  
2323 W. EL SEGUNDO BLVD., HAWTHORNE, CA 90250  
LIGHTING PLAN

PROFESSIONAL SEAL  
No. 618501  
Exp. 12/31/15  
KEUN ARCHITECTURE, INC.  
17000 S. Vermont Ave., Suite A, Gardena, CA 90247  
P: 310.341.5622 F: 310.341.5622

Job No. A15002  
Date 7/1/15  
Drawn BF  
Checked BF  
Scale AS SHOWN

**E-3**

**EK CONSULTING ENGINEERS INC.**  
5216 Free Street Montclair, CA 91763  
Tel: 909.562.1700 Fax: 909.562.1700