

NOTES:

1. LABEL BRANCH CIRCUIT FEEDING ANY EMERGENCY LIGHTING WITH (EM) PER NEC 700.12(F).
2. EXISTING LOAD TAKEN FROM PREVIOUSLY PERMITTED DRAWINGS.
3. CONTRACTOR SHALL VERIFY THAT PANELBOARD IS LABELED AS SERIES RATED WITH THE UPSTREAM OVERCURRENT PROTECTION DEVICE AS SHOWN ON THE PANEL SCHEDULE BASED ON THE AVAILABLE FAULT CURRENT AT THE PANEL PER THE FAULT CALCULATION PROVIDED. REFER TO FAULT CALCULATION SHEET, CONTACT DESIGNER/ENGINEER WITH ANY DISCREPANCIES.

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1. THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS TO FULLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BID. NO ADDITIONAL CONSIDERATIONS WILL BE ALLOWED AFTER THE BID.
2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL INDICATED EQUIPMENT TO CODE COMPLIANT CLEARANCES. PROVIDE SUBMITTALS AS INDICATED IN SPECIFICATION TO PROPERLY COORDINATE PHYSICAL LOCATIONS OF NEW AND/OR EXISTING EQUIPMENT.
3. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND COMPLETE CONTRACTUAL OBLIGATIONS.
4. ALL DASHED LINES ARE INDICATING EXISTING EQUIPMENT.
5. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT DIRECTORY OR CIRCUIT IDENTIFICATION FOR PANELBOARDS AND SOURCE OF SUPPLY FOR SWITCHBOARDS AND PANELBOARDS SUPPLIED BY A FEEDER IN OTHER THAN ONE – TWO FAMILY DWELLINGS IN ACCORDANCE WITH NEC 408.4(A)&(B).
6. WHERE A RACEWAY ENTERS A BUILDING OR STRUCTURE FROM AN UNDERGROUND DISTRIBUTION SYSTEM, ELECTRICAL CONTRACTOR SHALL PROVIDE RACEWAY SEALER NEC 220.22.
7. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FOR AND COORDINATE ALL TESTING AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, AND SHALL PROVIDE WRITTEN REPORTS TO THE ENGINEER OF ALL TEST RESULTS AND INSPECTION REPORTS FOR THIS DISCIPLINE.
8. WHERE SPECIAL INSPECTION/OBSERVATION IS REQUIRED, QUALIFIED 3RD PARTY INDIVIDUALS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL WORK WITH THE ENGINEER AND THE CONTRACTOR FOR ALL REQUIRED TESTING & INSPECTION.
9. UPON SUBSTANTIAL COMPLETION, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL ALLOW, AT THE ENGINEERS DISCRETION, FOR THE INSPECTION OF NEW WORK PRIOR TO ENERGIZING.
10. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC-FLASH HAZARD WARNING FIELD LABELING TO ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC 110.16.
11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MAXIMUM AVAILABLE FAULT CURRENT FIELD LABELING TO SERVICE EQUIPMENT INSTALLED IN OTHER THAN DWELLING UNITS IN ACCORDANCE WITH NEC 110.24.
12. GPP MUST BE ON-SITE TESTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE COPY OF MANUFACTURER'S INSTRUCTIONS AND TEST RESULTS TO AUTHORITY HAVING JURISDICTION.
13. ALL EQUIPMENT RATED @ 1000 AMPs OR MORE SHALL BE TESTED IN CONFORMANCE WITH UL STANDARD 869 OR 891 FOR INSULATION BREAKDOWN PRIOR TO ITS BEING INSTALLED. THIS TEST SHALL BE PERFORMED BY A QUALIFIED FIELD PERSONNEL. BUILDING OFFICIAL (SEE SECTION 4.6 OF ELECTRICAL SYSTEM SPECIFICATIONS).
14. ALL UNDERGROUND CONDUITS ENTERING BUILDING/STRUCTURE FROM OUTSIDE SHALL BE SEALED PER NEC 225.27 & 300.5(G).

- 1 EXISTING UTILITY PRIMARY CONDUIT AND CONDUCTORS TO REMAIN.
- 2 EXISTING UTILITY PAD MOUNTED TRANSFORMER TO REMAIN.
- 3 EXISTING SECONDARY CONDUIT AND CONDUCTORS TO REMAIN.
- 4 EXISTING GROUNDING AND BONDING TO REMAIN.
- 5 EXISTING 200AMP METER TO REMAIN. TYPICAL OF (5).
- 6 EXISTING 200AMP 3POLE BREAKER TO REMAIN. TYPICAL OF (6).
- 7 EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
- 8 TO AREAS NOT IN SCOPE.
- 9 EXISTING (1) 2 1/2" EMPTY CONDUIT TO REMAIN.
- 10 EXISTING (4) #3/0'S CU., (1) #6 CU. E.G. - 2" C TO REMAIN.

The following calculations are based on the "Point-to-Point" method

Three Phase:	Single Phase:	Three Phase Xfmr:	Single Phase Xfmr:
$f = \frac{\sqrt{3} \times I \times L \times I_{sc}}{C \times V_p}$	$f = \frac{2 \times L \times I_{sc}}{C \times V_p}$	$f = \frac{\sqrt{3} \times I_{sc} \times V_p \times \%}{100,000 \times \text{kVA}}$	$f = \frac{I_{sc} \times V_p \times \%}{100,000 \times \text{kVA}}$
$M = 1/(1+f)$	$M = 1/(1+f)$	$I_{sc} = \frac{V_p \times M \times I_{sc}}{V_s}$	$I_{sc} = \frac{V_p \times M \times I_{sc}}{V_s}$
$I_{sc} = I_{sc} \times M$	$I_{sc} = I_{sc} \times M$		

NOTE: CONDUCTOR LENGTHS SHOWN ARE SHORTEST-PATH FOR USE IN CALCULATIONS ONLY AND ARE NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION. ACTUAL LENGTHS MUST BE MEASURED & VERIFIED BY THE CONTRACTOR, AND **REPORTED TO ENGINEER** IF DESIGN CHANGES ARE REQUIRED.

F#	SOURCE	Isc1	C. (SETS) OF WIRE SIZE	TP.	C' VALUE	Vp/(Vs)	ø	L' feet	Xfmr kVA	Xfmr KZ	Isc2
1	SES	60595	NM (1) OF #3/0's	Cu.	13923	208	3	26	N/A	N/A	31198
2	SES	60595	NM (1) OF #3/0's	Cu.	13923	208	3	38	N/A	N/A	25490

* EXISTING LOAD.....	=	128,139 VA
ADDED LOAD ON PANEL "101".....	=	13,494 VA
ADDED LOAD ON PANEL "102".....	=	10,052 VA
TOTAL LOAD ON S.E.S.....	=	151,685 VA
TOTAL LOAD ON S.E.S. @ 208V 3ø.....	=	421.3A

* EXISTING LOAD TAKEN FROM PREVIOUSLY PERMITTED DRAWINGS.



N.T.S

DESIGN CODES

ELECTRICAL CONTRACTOR SHALL NOTIFY DESIGNER/ENGINEER PRIOR TO ANY DEVIATION FROM THIS SET OF ELECTRICAL DESIGN PLANS. ANY CHANGES TO THE DESIGN, IF APPROVED BY ENGINEER, WILL REQUIRE REVISIONS TO PLANS AND POSSIBLE ADDITIONAL SERVICE FEE.



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 Project # **26102**

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IF DRAWING IS NOT PLOTTED AT 24x36 THEY ARE NOT FULL SIZE

MATTRESS SHOP

PAD 5B - SUITES #1 AT PASEO LINDO SHOPPING CENTER
NEC OF ARIZONA AVE AND OCOTILLO RD.
CHANDLER, AZ

design by: RH
drawn by: MM
checked by: RH

E4.0

project #: 26102.00

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