

RESIDENTIAL CIRCUIT CARD AND LOAD SUMMARY

THIS CARD MUST BE FILLED OUT AND AVAILABLE AT THE SERVICE EQUIPMENT FOR ROUGH INSPECTION.

SUB-PANELS MUST HAVE A SEPARATE COMPLETED CARD.

Owner Name: _____	Permit No.: _____
Property Address: _____	APN No.: _____
Contactor: _____	Area in Sq. Feet: _____
Service Information	Service Ground / Bond
Conduit Size (Above Ground / Underground): _____	Type of Conductor: _____ CU / AL
Feeder Conductor Size: _____	Sizes:
Type of Conductor: _____ CU / AL	⇒ UFFER _____
Old Service Ampacity Size: _____ 100	⇒ Ground Rod _____
New Service Ampacity Size: _____	⇒ Water Pipe Bond _____
Ampere Interrupting Capacity (AIC): _____	⇒ Gas Pipe Bond _____
Main Lug Only (MLO): _____ YES / NO	
Contractor Signature: _____	Date: _____

I certify that all terminations have been torque in accordance with manufacturer's instructions and that the work shown on this circuit card represents the full extent of the work performed under this permit.

LCL	CIRCUIT	Circuit Descriptions CEC 408.4	QUANTITY			SIZE	Show all loads in volt-amperes (Watts)		SIZE	QUANTITY			Circuit Descriptions CEC 408.4	CIRCUIT	LCL
			LTG	REC	MISC	BREAKER AMPERES	Phase A	Phase B	BREAKER AMPERES	MISC	REC	LTG			
	1													2	
	3													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	
	31													32	
	33													34	
	35													36	
	37													38	
	39													40	
	41													42	

SUB-TOTAL (Phase A and Phase B): = Watts

SINGLE FAMILY DWELLING ELECTRICAL SERVICE LOAD CALCULATION

Minimum Number of Branch Circuits Required. [210.11(A)]

1) General Lighting Loads

Dwelling ⇒ _____ sq. ft.	X	<u>3VA</u>	⇒ =	_____ VA
Minimum 2 Small Appliance 20A Circuits [CEC 220.11(C)(1)]	X	_____ Circuits	⇒ =	_____ VA
Laundry Load ⇒ 1,500VA Minimum [CEC 220-1(C)(2)]	X	_____ Circuits	⇒ =	_____ VA
Net Calculated Loads (General Lighting)				= _____ VA
First 3000VA	X	100%	=	<u>3,000</u> VA
3,001 VA thru 120,000 VA	X	35%	=	_____ VA
Greater than 120,000 VA	X	25%	=	_____ VA
Net Calculated Load(s): Sub-Total + First 3000 VA + 35% + 25%				= VA

2) Cooking Equipment Loads (Nameplate Values)

Range (CEC Table 220.19)	⇒	-----	⇒ =	_____ VA
Cooktop(s)	⇒	-----	⇒ =	_____ VA
Oven(s)	⇒	-----	⇒ =	_____ VA
Net Calculated Loads (Cooking Equipment)				= VA

3) Electric Dryer (Nameplate value or 5000VA whichever is the greatest.) [CEC 220.18]

Dryer Load (CEC Table 220.54)	⇒	-----	⇒ =	 VA
Net Calculated Loads: Line 1 + Line 2 + Line 3				= VA

4) Fixed in Place Appliance Loads (Nameplate Value) [CEC 230.30(B3)]

Dishwasher	⇒	-----	⇒ =	_____ VA
Disposal	⇒	-----	⇒ =	_____ VA
Compactor	⇒	-----	⇒ =	_____ VA
Water Heater	⇒	-----	⇒ =	_____ VA
Hydro massage Bathtub	⇒	-----	⇒ =	_____ VA
Microwave Oven	⇒	-----	⇒ =	_____ VA
Built-in Vacuum	⇒	-----	⇒ =	_____ VA
<u>Refrigerator, Frostless</u>	⇒	-----	⇒ =	_____ VA
_____	⇒	-----	⇒ =	_____ VA
_____	⇒	-----	⇒ =	_____ VA
_____	⇒	-----	⇒ =	_____ VA
Net Calculated Load (Fixed Appliance)				= VA

5) **Net Calculated Loads: Line 3 + Line 4** = VA

6) Applying Demand Factors (Line 5 Above) [Table 220.30]

First 10,000 VA	X	100%	⇒	-----	⇒ =	<u>10,000</u> VA
Remaining Balance	X	40%	⇒	-----	⇒ =	_____ VA
Net Calculated Load (Applied Demand Factors)						= _____ VA

7) Heating or AC Unit Loads (Apply the larger of the two.) [CEC Table 220.20]

Net Calculated Load (Heating or AC Unit) = VA

8) Swimming Pool and Fountain Pump Loads ⇒ ----- ⇒ = _____ VA

Grand Total (Net Calculated Loads): Line 7 + Line 8 + Line 9 = VA

Actual Ampacity Calculated (Grand Total VA ÷ 240) = _____ AMP

9) Minimum Service Size [CEC 230.79(C)] ⇒ ----- ⇒ = AMP

SAMPLE FORM ----- SAMPLE FORM

SINGLE FAMILY DWELLING ELECTRICAL SERVICE LOAD CALCULATION

Minimum Number of Branch Circuits Required. [210.11(A)]

1) General Lighting Loads

Dwelling ⇒ <u>2,500</u> sq. ft.	X	<u>3VA</u>	⇒ =	<u>7,500</u> VA
Minimum 2 Small Appliance 20A Circuits [CEC 220.11(C)(1)]	X	<u>2</u> Circuits	⇒ =	<u>3,000</u> VA
Laundry Load ⇒ 1,500VA Minimum [CEC 220-1(C)(2)]	X	<u>1</u> Circuits	⇒ =	<u>1,500</u> VA
Net Calculated Loads (General Lighting)				= <u>12,000</u> VA
First 3000VA	X	100%	=	<u>3,000</u> VA
3,001 VA thru 120,000 VA	X	35%	=	<u>3,150</u> VA
Greater than 120,000 VA	X	25%	=	NA
Net Calculated Load(s): Sub-Total + First 3000 VA + 35% + 25%				= 6,150 VA

2) Cooking Equipment Loads (Nameplate Values)

Range (CEC Table 220.19)	⇒		⇒ =	<u>8,000</u> VA
Cooktop(s)	⇒		⇒ =	<u>1,700</u> VA
Oven(s)	⇒		⇒ =	<u>1,500</u> VA
Net Calculated Loads (Cooking Equipment)				= 11,200 VA

3) Electric Dryer (Nameplate value or 5000VA whichever is the greatest.) [CEC 220.18]

Dryer Load (CEC Table 220.54)	⇒		⇒ =	<u>5,500</u> VA
Net Calculated Loads: Line 1 + Line 2 + Line 3				= 22,850 VA

4) Fixed in Place Appliance Loads (Nameplate Value) [CEC 230.30(B3)]

Dishwasher	⇒		⇒ =	<u>600</u> VA
Disposal	⇒		⇒ =	<u>800</u> VA
Compactor	⇒		⇒ =	<u>500</u> VA
Water Heater	⇒		⇒ =	<u>3,000</u> VA
Hydro massage Bathtub	⇒		⇒ =	<u>80</u> VA
Microwave Oven	⇒		⇒ =	<u>1,200</u> VA
Built-in Vacuum	⇒		⇒ =	<u>1,200</u> VA
<u>Refrigerator, Frostless</u>	⇒		⇒ =	<u>1,200</u> VA
	⇒		⇒ =	VA
	⇒		⇒ =	VA
	⇒		⇒ =	VA
Net Calculated Load (Fixed Appliance)				= 8,580 VA

5) **Net Calculated Loads: Line 3 + Line 4 = 31,430 VA**

6) Applying Demand Factors (Line 5 Above) [Table 220.30]

First 10,000 VA	X	100%	⇒		⇒ =	<u>10,000</u> VA
Remaining Balance	X	40%	⇒		⇒ =	<u>8,572</u> VA
Net Calculated Load (Applied Demand Factors)						= <u>18,572</u> VA

7) Heating or AC Unit Loads (Apply the larger of the two.) [CEC Table 220.20] = 6,000 VA

Net Calculated Load (Heating or AC Unit) = 24,572 VA

8) Swimming Pool and Fountain Pump Loads ⇒ ⇒ = 102 VA

Grand Total (Net Calculated Loads): Line 7 + Line 8 + Line 9 = 24,674 VA

Actual Ampacity Calculated (Grand Total VA ÷ 240) = 103 AMP

9) Minimum Service Size [CEC 230.79(C)] ⇒ ⇒ = 125 AMP

Panel Sizes

- 100
- 125
- 150
- 175
- 200
- 300
- 400

100