



**ELECTRICAL SERVICE LOAD CALCULATIONS  
 FOR A SINGLE-FAMILY RESIDENCE**

Address:	Sq. Footage of House:
Calculations Prepared By:	Date:
Permit #:	

LOAD ITEM	QUANTITY		VOLT-AMPS OR WATTS	TOTAL
<b>A. General Load Circuits:</b>				
General Lighting Circuits (sq. ft)		x	3	
Small Appliance Circuits (2 min.)		x	1,500	
Laundry Circuits		x	1,500	
Electric Dryer		x	5,000	
Fixed Appliance Circuits:				
Electric Range		x	8,000	
Electric Counter Cooking Unit		x	8,500	
Electric Oven		x	8,000	
Refrigerator		x	1,200	
Built-In Microwave		x	1,600	
Dishwasher		x	1,200	
Garbage Disposal		x	1,000	
Trash Compactor		x	1,200	
Furnace		x	550	
Electric Water Heater		x	5,000	
Central Vacuum		x	1,800	
Whole House/Attic Fan		x	1,600	
Vent Fan		x	240	
Garage Door Opener		x	800	
Pool Light		x		
Other Loads		x		
			Subtotal	
			Minus	-10,000
<b>Total General Load Circuits</b>				

LOAD ITEM	QUANTITY		VOLT-AMPS OR WATTS	TOTAL
<b>B. Full-Load Equipment Circuits:</b>				
Mechanical Circuits: (Use only largest load)				
Electric Heater or Heat Pump		X		
Air Conditioner*		X		
Hydro Massage Bathtub**		X		
Electric Vehicle Charger		X		
Pool Equipment:				
Pump Motor (Filter)**		X		
Pump Motor (Booster)**		X		
Pump Motor (Other)**		X		
Pool/Spa Aerator **		X		
Pool Sweep**		X		
<b>Total Full-Load Equipment Circuits</b>				
<b>C. Electrical Load Calculations:</b>				
10,000 Watts at 100%				
Total, Section A x 40% (General Load Circuits x 40%)				
Total, Section B (Full-Load Equipment Circuits)				
Total Watts				
Total Amps (Total Watts divided by 240 Volts)				
Size of Existing Electrical Service Equipment (Amps)				
Proposed Size of New Electrical Service Equipment (Amps)				

\*Air Conditioner (FLA x 240 Volts = Watts) FLA = Full-Load Amps

\*\*Pump Motor, Aerator and Pool Sweep (Amps x 240 Volts = Watts)

Full-Load Currents in Amperes Single-Phase Alternating-Current Motors		
HP	115V	230V
1/6	4.4	2.2
1/4	5.8	2.9
1/3	7.2	3.6
1/2	9.8	4.9
1/4	13.8	6.9
1	16.0	8.0
1 1/2	20.0	10.0
2	24.0	12.0

**NOTES:**

- 1) 240 Volts x Amps = **Watts** (VA) Watts / 240 Volts = **Amps**
- 2) This schedule is based on the National Electrical Code (a.k.a. the California Electric Code) and is intended as a guide for preparing electrical load calculations. However, due to various conditions that exist on individual projects, this format may not meet code requirements for your project. If you have any questions regarding the use of this form, or electrical load calculations, the Building Division Senior Electrical Inspector can provide assistance upon request.

