Hakim Bayyoud
Director

Lonnie Hamilton, III Public Services Building
4045 Bridge View Drive, Room A311
North Charleston, SC 29405-7464

BUILDING CHARLESTON COUNTY SERVICES
SOUTH CAROLINA

Administration
843.202.6940
Fax: 843.202.6954

Inspections and Contractor Licensing
843.202.6930
Fax: 843.202.6936

Residential Electrical Calculation Form

To ensure that the proper service has been provided for this residential construction complete this form and submit it with the plans

Project address _____

NOTE: if appliance is gas / propane insert -0- quantity

Insert number	Per IRC Table E3808.2	Total in watts (Volt/ amps)
	Sq/ft x 3 VA (Watts)	
	Small Appliance @ 1500 VA (each) Minimum of 2	
	Dishwasher/ garbage 1500 VA	
	Laundry Circuit @ 1500 VA	
	Dryer- (default 5,000 VA)	
	Free standing range (default 5,000 VA)	
	Cooktop (default 5,000 VA)	
	Wall oven (default 5,000 VA each)	
	Water heater (default 4,500 VA each)	
	Sub-total	
	First 10,000 VA @ 100%	
	Remaining Balance over 10, 000 VA @ 40%	
	HVAC #1 load (VA) 100%	
	Heat strips #1 @ 65%	
	HVAC # 2 load (VA) 100%	
	Heat strips # 2 @ 65%	
	Pool Pump watts (VA) 100%	
	Total	
	Divide total by 240 volts =	
	Service Size to be installed	

Recommended service sizing per IRC E3603.1.1 & E3603.4

Copper

100 Amp #4 & # 8 grounding
150 amp # 1 & # 6 grounding
200 amp # 2/0 & # 4 grounding

Aluminum

100 Amp #2 & # 6 grounding
150 amp # 2/0 & # 4 grounding
200 amp # 4/0 & # 2 grounding

E3608
Grounding Electrode System

Note: Which will be connected to create 25 ohms or less of resistance (must select one additional method to footing steel below)

☒ footing steel (required)
☐ 2 ground rods
☐ 1 ground rod
☐ metal underground water pipe
☐ other _____

Only one grounding system per building

Completed by

_____

Date _____

EFFECTIVE March 2025

IAS ACCREDITED

Professionally We Serve, Personally We Care!

www.charlestoncounty.org

NFIP/CRS Class 2 Community