CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Planning, Building and Code Enforcement

BULLETIN #260 08/13/2021 SUBJECT TO CHANGE

FOR
● SINGLE-FAMILY AND DUPLEX HOMES

Electrical Service Panel Upgrades

An electrical permit and inspection are required to upgrade the main electrical service panel of homes; no plans are required. Requirements for the upgraded electrical service panel are outlined below:

Load calculations and undergrounding conduit are generally not required	Load calculations and undergrounding the main service entrance conduit are generally not required unless: ▪ Additional load is being added and the inspector requires the calculations. ▪ The existing service entrance is underground or if PG&E, Public Works or the Building Division determine the need to underground the service entrance conductors.
Service panel installation requirements	▪ *PG&E Required meter height* - 48” minimum to 75” maximum above ground. 66” is the prefered height. ▪ *Required clear space in front of service panel* - 30” wide by 36” deep with a minimum headroom clearance of 6’ 6”.
Circuit breakers	▪ The circuit breaker brand must be listed and approved for use as stated on the panel label. ▪ A multi-wire circuit (3-wire, 120/240 volt circuit) requires an identified handle-tie on single pole circuit breakers. This is common where the wiring serves both the garbage disposal and the dishwasher. ▪ Listed combination-type AFCI breakers are required where branch circuit wiring is modified, replaced or extended.
Grounding *Refer to CEC Table 250.66 to size grounding electrode conductors*	▪ If the underground metal water piping system is the sole grounding electrode then a supplemental electrode must be installed. The grounding electrode conductor must be continuous from the main electrical service, and connect to the piping at an accessible location within 5’ of where the water service piping enters the house. ▪ If using only a single ground rod, documentation from the contractor verifying a resistance to earth of 25 ohms or less at the single ground rod is needed prior to final approval. ▪ A minimum 5/8” ground rod must be installed with at least 8 feet of its length in contact with the soil. Locate the ground rod as close as practicable to the electric service.

REFERENCES
- California Electrical Code (CEC)
- PG&E Greenbook Utility Requirements for Service Equipment

HOW TO GET AN ELECTRICAL PERMIT
Either the homeowner or a state-licensed contractor may obtain a permit. Visit the Permit Center or save $48 and obtain an online permit: www.SJPermits.org

GOT QUESTIONS?
For questions regarding permits, codes, inspections or plan review, email InfoInspector@sanjoseca.gov or leave a voicemail at 408-535-7641.

San José Permit Center
San José City Hall
200 E. Santa Clara St.
San José, CA 95113
408-535-3555

www.sanjoseca.gov/permitcenter

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Bonding the water piping system *Refer to CEC Table 250.66 and 250.102(C)(1) to size the conductors*	A metallic water piping system must be bonded as follows: ▪ *If main water service piping to the house is metallic* - The grounding electrode conductor connection installed as described above will provide the required bonding. ▪ *If main water service piping is non-metallic* - The metallic cold water piping system may be bonded at any accessible location. Piping is commonly bonded at the water heater. ▪ The hot and cold water piping systems are effectively bonded together via the brass plumbing mixing valves at tubs and showers, etc. The City accepts a single bond to the cold water piping only; an independent bonding jumper to the hot water piping is not required.
Bonding the gas piping system	The gas piping system must be bonded as follows: ▪ *If gas appliances are available* - The gas piping is bonded via the equipment grounding conductor in the branch circuit to the gas appliances. ▪ *If the electrical system does not contain equipment grounds* - The gas piping system must be bonded externally with a bonding jumper (same as water pipe). ▪ Gas bonding connections are prohibited on the utility side of the gas meter.
Available short circuit current	▪ For service equipment exceeding 225 amps, documentation from the Utility stating the maximum available short circuit current must be provided prior to meter release approval. ▪ Electrical service equipment, including circuit breakers, must have a short circuit current interrupting rating equal to or greater than the maximum available short circuit current provided by the Utility. Series Rated Circuit Breaker combinations must be of the type listed for use as identified on the panel label.

Permits and Inspections
- Help keep your property safe
- Help assure the quality of your investment to improve your property
- Are required by law

Development Services Permit Center
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