CITY OF MILPITAS
Office of Building Safety
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RESIDENTIAL ELECTRICAL PANEL (SERVICE OR SUBPANEL)

1. PERMIT INFORMATION:

- ❑ The installation, addition, replacement, or modification of an electrical service or sub-panel panel requires an electrical permit.
- ❑ The new replacement electrical panel must be installed in the same location as the current electrical panel, otherwise plans must be submitted and approved and the permit obtained from the Permit Center.
- ❑ If the new electrical panel exceeds 200 amps, plans must be submitted and approved, and the permit obtained from the Permit Center.
- ❑ A Permit may be issued only to a State of California Licensed Contractor, the property owner, or the property owner designee.

2. INSTALLATION REQUIREMENTS:

- ❑ **Codes:** All work shall comply with the California Electrical Code (CEC), Milpitas Municipal Code (MMC), and other adopted codes as apllicable.
- ❑ Equipment must be installed in accordance with its listing and the manufacturer's installation instructions. (CEC)
- ❑ If a new service panel is being installed the service panel must be upgraded to a minimum 100 amps minimum but no less than required for the calculated load if over 100 amps per the CEC.
- ❑ The service disconnecting means shall be installed at a readily accessible location either outside a building or inside nearest the point of entrance of the service conductors, and each disconnect shall be marked per the CEC 230.85.
- ❑ The building main service disconnect and/or disconnects shall be installed on the first-floor level of the building per the MMC.
- ❑ Panels shall be located where they will not be exposed to physical damage. (CEC)
- ❑ Overcurrent devices/panels shall not be installed in other damp/wet location, such as bathrooms, or in the vicinity of easily ignitable material, such as inside clothes closets (CEC)
- ❑ There shall be a min. 30” wide x 36” deep clear working space in front of residential panels. (CEC)
- ❑ Each circuit overcurrent device in a panel shall be identified on the dead front cover or on a circuit directory that is located on the inside face of the panel door. (CEC)
- ❑ An intersystem bonding termination device with the capacity for the connection of all required bonding conductors but not less than 3 terminations shall be provided, external to enclosures at service or metering equipment or intersystem bonding shall comply with 250.64 of the CEC.
- ❑ A grounding electrode conductor shall be installed consisting of a properly sized continuous unbroken conductor ran from the service panel to a grounding electrode or to and through a grounding electrode system.

- ❑ **Underground water service metal piping used as a grounding electrode shall be verified as meeting minimum requirements per CEC and shall not be used as the sole grounding method; it shall be supplemented with an additional electrode.**

- ❑ Grounding electrodes shall be one of the methods allowed per Article 250.52 of the CEC.

- ❑ Electrodes and grounding electrode systems shall be installed per 250.53 of the CEC.

- ❑ Grounding electrode conductors shall be installed per 250.64 of the CEC.

- ❑ Metal enclosures are permitted to be used as connecting bonding jumpers and/or grounding conductors (CEC 250.109)

- ❑ Connections of conductors to grounding methods shall be accessible excepting encased or buried connections to concrete-encased, driven, or buried electrodes.

- ❑ Bonding of electrical systems shall be per Article 250 part 5.

- ❑ Load side bonding conductors shall be sized per 250.122 of the CEC.

- ❑ Grounding and bonding of service panels shall be completed prior to an Electrical Meter Release inspection.

- ❑ Barriers shall be placed in service equipment, so no uninsulated, ungrounded service busbar or terminal is exposed to inadvertent contact. (CEC 230.62)

- ❑ All services suppling dwelling units shall be provided with a Type 1 or 2 surge-protective device as an integral part of the service equipment or located immediately adjacent thereto. (CEC 230.67)

3. SMOKE ALARMS, CARBON MONOXIDE ALARMS & SPARK ARRESTERS:

- ❑ In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters on all chimneys is required prior to the final inspection. Refer to the *"Smoke Alarm, Carbon Monoxide Alarm and Spark Arrester Certificat*e" handout for detailed information.

4. WATER CONSERVING FIXTURES:

- ❑ When required, prior to final inspection, all non-compliant plumbing fixtures shall be replaced. Refer to the *"Water Conserving Certificate of Compliance"* handout for details of this requirement.

5. INSPECTION PROCEDURES:

- ❑ Two inspections may be required, an electrical meter release and rough electrical if the panel is recessed into construction, which will include any drywall or lath repair for stucco application, and a final.
- ❑ The electrical meter release/rough electrical inspection should be scheduled when the new panel is installed and ready to be connected by PG&E.
- ❑ For each inspection, the Permit Card and the Approved Job Copy of the plans (if any) shall be presented to the inspector.

6. QUESTIONS:

- ❑ If you have any questions regarding your project, please contact the Office of Building Safety at (408) 586-3240.