



## RESIDENTIAL GUIDELINE FOR ELECTRICAL VEHICLE (EV) CHARGER INSTALLATION

The purpose of this guideline is to assist homeowners and contractors in streamlining the permitting and installation process for residential EV Charging Stations

### Introduction:

There are 2 basic types of EV chargers for home use (Level 1 and Level 2). Level 1 chargers are smaller units that plug directly into a standard 120-volt receptacle outlet. These types of chargers typically require a longer period of time to recharge the vehicle. As long as the receptacle outlet being used to plug in the Level 1 charger already exists, there is no requirement to secure a permit from the Building Division. On the other hand, if you will be installing a new 120-volt receptacle outlet for the charger, you will need to obtain a permit – but you will not need to provide any plans or electrical load calculations as would be required for the more powerful Level 2 type charging systems.

A Level 2 EV charging system requires 240 volts and charges the vehicle much faster than a Level 1 charger. Level 2 charger installations require a permit from the Town. In order to obtain the permit, you will need to provide the Town with some basic information, and demonstrate that your existing electrical service can handle the added load. If a service upgrade is necessary, that additional scope can be added to the electrical permit for your EV charger.

**When installing your EV Charger**, be sure to use a licensed Electrical Contactor whose license is current. The Contactor shall follow the guidelines of the manufacturer and all necessary Code requirements.

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| <b>AC Level 1 slow charging</b> (120 volts, 15/20amp) Standard wall outlet charging, typically comes with the car; slowest but simplest charging. | <b>AC Level 2 medium charging</b> (208 – 240 volts, max 80amps) Level 2 requires a dedicated circuit and may require an electrical panel upgrade. |
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### Information that is needed by the Town, in order to obtain the permit:

The Town of Ross has developed this “EV” Charger Installation Guideline” in order to streamline the permit and installation process. In most cases, you or your contractor merely need to fill-in the blanks on these documents, provide a site plan and/or floor plan, **attach the manufacturer’s installation instructions and Charger specifications**, and submit it to the Building Division for an expedited review and permit issuance. Or you may complete the application online and submit it electronically. If all of the required information is provided, and the proposal complies with the applicable codes, the review and approval process will be very brief.

Once the permit is issued, the installation may begin. During the installation, inspection(s) will need to be scheduled in order for the Town inspector to approve the work performed. The inspection request will need to be scheduled through the Ross Building Division’s inspection line and should be scheduled by the customer or their electrician. Inspections are typically performed on the next regular work day following your request

for inspection. Please keep in mind that someone will need to be present during the inspection so that the Building Inspector can access the location of the EV Charger, which is typically located in the garage. Panels and service outlets will need to be open for inspection.

**Contact your electric utility provider:**

PG&E can help determine the best meter & rate options for you PEV. Several options are available:

- **Keep your existing PG&E billing plan** and pay your existing rate for the PEV electricity that you consume on you existing bill.
- **Choose a whole house rate for a shared EV-A meter** with time-of use (TOU) billing rate for both the house and the PEV. TOU charging offers a lower rate for charging at night compared to the day. Requires a SmartMeter.
- **Choose a separate EV-B meter** to install a dedicated time-of-use (TOU) meter just for your PEV. TOU charging offers a lower rate for charging at night compared to the day. *Note: Property owners are required to record a “Notice of Limitation on Use of Property” with the Marin County Clerk-Recorder for submittal with the electrical permit application.*

## Plug-In Electric Vehicle Permit Guide

### Initial Steps:

1. **Research car** & get the charging specifications from the manufacturer.
2. **Verify that the car will fit completely on your property** while charging. Must be clear of sidewalk.
3. **Have your electrical system assessed by a licensed electrician** for capacity and to determine if up-grades are needed. *For safety reasons, it may be required to have a dedicated circuit for Type 1 PEV charging. If service size is too small, a service upgrade may be required.*
4. **Contact PG&E to apply for service changes** and for help on charging levels & rate options. Call 1-877-743-7782.
5. **Apply for permits with the Town of Ross.** An electrical permit is required for all residential PEV charging systems when electrical work is needed. A zoning permit (Zoning Certificate) may be required for outdoor installations.
6. **Obtain a Rough-in & final inspection from Town of Ross Building Division** as permitted work proceeds. Call 415-453-1453 ext. 170 to schedule.

### Permitting Requirements for Residential PEV Charging Systems:

An electrical permit is required for single family residential PEV charging systems when electrical work is needed to install the equipment. A mechanical permit will be required if the manufacture’s installation guidelines require mechanical ventilation. When attached to the side of a building, the charging system must be at least 3’ from the property line. Approval of PEV charging system location does not change the required legal off-street parking requirements.

A Zoning Certificate is required for outdoor PEV charging systems installations that are not attached to a building, and may be required for other outdoor locations if the space where a car will charge is less than 8’ x 18’. A charging car or charger component cannot be in the public right of way (i.e. over a sidewalk or at a curb) unless an encroachment agreement is granted by the town.

**Permit Application Submittal Requirements:** Applicants must submit four (3) sets of legible plans (minimum 11"x17"), drawn to scale, and fully dimensioned, with the following information:

- Application form with project address, owner name, address, phone, and a brief description of project;
- Site plan with property lines, garage or parking space dimensions & clearances of proposed charging system location including location of additional meter, if applicable;
- Floor plan and electrical plan for garage or carport where charger will be located;
- Size (height, width and depth) of charging system, with a single line electrical plan;
- Type of charging system: Level 1/Level 2, with approved product listing agency (i.e., UL) number;
- Manufacturer's specifications, installation guidelines, and , if applicable, ventilation requirements;
- For all Level 2 Chargers - existing panel rating, proposed charging load & whole house load calculations;
- If installing an EV-B meter, meter must be labeled as "PEV Charging only"

**Application Submittal:**

You may submit your application in person at the Building Division counter M-Th, 8:30 to 12:00.  
The Ross building division is located behind Town Hall, at 31 Sir Francis Drake Blvd.

OR

You can submit your application via email to the following email account: [breher@townofross.org](mailto:breher@townofross.org)

**Permit Fees:**

PEV charging systems for single family homes require only a basic electrical permit (minimum fee) and are subject to hourly plan check fees. In other than single family homes, an outdoor installation will require a building permit fees, plan review fees, and may involve necessary parking space striping and signage, and also be subject to a standard Zoning Certificate review and fee.

**Inspection:**

For single family home installations, only a final inspection is required; however a qualified person must be present to remove panel covers or expose wiring if needed.

For commercial installations, other types of inspections may be required based on the scope of work, such as trench inspection or rough electrical inspection. If you have questions about this, call our main number (415) 453-1453 x 106

**Resources & Incentives:**

- PG&E Information: [www.pge.com/electricvehicles](http://www.pge.com/electricvehicles)
- PG&E Bill & Meter Rate Calculator: [www.pge.com/pevcalculator](http://www.pge.com/pevcalculator)
- Tax Incentives: [www.fueleconomy.gov/feg/taxcenter.shtml](http://www.fueleconomy.gov/feg/taxcenter.shtml)

For more information, see: [www.townofross.org/building](http://www.townofross.org/building) or call 415-453-1453 x 106