Appendix B. Model Guides for Charging Stations

It is recommended that government permitting agencies provide installation guides to the public to help explain the process of installing EV charging infrastructure. The model installation guides included in this appendix are provided in a format that can be revised to meet the needs of a permitting agency.

This appendix includes two installation guides: “Electric Vehicle Charging Station at a Single Family Residence” and “Electric Vehicle Charging at a Commercial or Employee Parking Lot.” At a minimum, the following revisions should be made to each of the installation guides to make it applicable to a specific jurisdiction:

- Insert the appropriate jurisdiction logo into the heading on Page 1.
- Insert the appropriate jurisdiction and department name in the footer on Pages 1-4.
- Insert the appropriate code citation for local EV ordinance on Page [Insert Page #] (Commercial or Employee Parking Lot installation guide only).
- Insert hyperlinks to applicable EV ordinance and electrical code on Page [Insert Page #].
- Insert appropriate contact information for permitting agency on Page [Insert Page #].

Additional revisions can provide more detail on such topics as accessibility, permitting authority, or other topics and code citations of special importance to a jurisdiction. The installation guides present basic information applicable across the state, including references to minimum electrical standards set by the Department of Labor and Industries. Although the installation guides are for informational purposes only, and are not meant as a substitute for adopted codes, it may be appropriate to revise sections of these documents to highlight or reference local electrical, permitting, parking, or other standards. Below are some examples of additional information a local jurisdiction may choose to include in the installation guides.

**Accessibility**

The Commercial or Employee Parking Lot installation guide includes a reference to minimum suggested accessibility standards and guidelines. A jurisdiction may wish to add additional information describing local accessibility requirements as they relate to EV charging stations, including accessible reach and barrier-free routes in parking lots.

**Permitting Authority**

Throughout most of Washington State, the Department of Labor and Industries is the authority having jurisdiction over electrical permitting. However, there are several cities, many of which are in the Puget Sound area, which conduct their own electrical permitting. Government agencies using these model installation guides may wish to add specific information on the permitting authority in their city or county. Such revisions can be added to the final section of the installation guide (Section 4 for “Single Family Residential” and Section 3 for “Commercial or Employee Parking Lot”). The following is a list of cities that have authority over electrical permitting.

- Aberdeen
- Bellingham
- Bellevue
- Burien
- Des Moines
- Eatonville
- Everett
- Federal Way
- Kirkland
- Lacey
- Longview
- Lynnwood
- Marysville
- Mercer Island
- Milton
- Mountlake Terrace
- Normandy Park
- Olympia
- Port Angeles
- Redmond
- Renton
- SeaTac
- Seattle
- Spokane
- Tacoma Power*
- Tukwila
- Vancouver

* The jurisdiction of Tacoma Power includes some areas of unincorporated Pierce County.
**Electrical Safety and At-Home Charging**

Jurisdictions may choose to add additional considerations regarding electrical safety and charging station use. Important additional electrical information includes the following:

When charging an EV, only supply equipment that has been properly tested, and labeled or listed for that purpose, shall be used. This means that all materials, devices, appliances, and equipment be of a type that conforms to applicable standards. Look for labeling such as “For Use with Electric Vehicles” or “Ventilation Not Required” and completely read and understand charging station location requirements from your supplier(s). Electric codes contain special provisions for personnel safety and circuit overload protection. You should consult or hire only licensed electricians and obtain proper permits when having electrical equipment installed for charging your electric vehicle.

Jurisdictions may choose to add additional information on circuit use during at-home Level 1 charging. Such information could include the following:

When charging at Level 1 (120V with a 15- or 20-amp breaker), one should never use an ordinary extension cord. Only the cord set provided by the EV auto dealer should be used. This cord set contains the special connector that mates with the charging inlet on the EV. The connector contains important safety and communications features, such as de-energizing if the cord is strained or inadvertently pulled from the vehicle inlet. The cord is constructed with the proper gauge wire and an internal protection device near the plug that goes into the wall outlet. While a dedicated circuit (a circuit for only one electrical device) for 120V charging is not mandated by the National Electric Code at the time of this writing, it is highly advised that no other electrical loads be placed on the same circuit when charging an EV. Avoiding having any other electrical appliances on this circuit will prevent overloading and tripping a circuit breaker, as well as ensure a consistent charging level over the course of each charge. When charging at Level 2 (240V and a 40- to 100-amp breaker), a dedicated, hard-wired circuit is always required. To avoid tripping or driving over charging equipment, always locate and store charging equipment, cords, and coupler on a wall or other mounting device.
Installation Guide for Charging Stations

Electric Vehicle Charging at a Single-Family Residence

Congratulations on joining the exciting transition to electric vehicles! As a current or future electric vehicle owner, you can look forward to convenient overnight “fueling” by plugging your car in at home. This guide provides important information to help you plan and install necessary charging equipment.

1. Charging times and specifications. – Charging times vary by battery capacity and voltage.

The time and equipment required to charge an Electric Vehicle (EV) varies based on the capacity of the vehicle’s battery and the level of electric power available. Most future EV drivers will choose to drive one of the two major categories of electric vehicles: a battery electric vehicle or a plug-in hybrid electric vehicle. These two types of EVs are described below. Generally, battery electric vehicles contain batteries with more capacity and require heavier duty charging equipment than plug-in hybrid electric vehicles. See Table 1 on Page 2 for more information on charging levels.

Battery Electric Vehicle (BEV). BEVs are zero-emission vehicles that run exclusively on a powerful, large capacity battery that pulls energy from the electric grid. Because electricity is the only source of energy for BEVs, for normal daily driving you will likely need to install a Level 2 charging station (see Figure 1 and Figure 3). Level 2 is likely to be the best option given the reduced charging times.

Plug-In Hybrid Electric Vehicle (PHEV). PHEVs are vehicles that run on both electricity from the grid and an internal combustion engine. Depending on its design, the internal combustion engine either shares in powering the EV by alternating back and forth with the electric motor, or it is used to recharge the battery once the all-electric range has expired. The latter type is often referred to as an extended-range electric vehicle or “EREV.” The battery in a PHEV generally has less capacity than the battery in a BEV, and depending upon your daily driving needs, a dedicated circuit for a Level 1 charging system will take longer but may be adequate.

A third category of EV, Electric Scooters and Motorcycles, is made up of two-wheeled lightweight vehicles. This category of EVs is similar to BEVs, because they are powered completely by an electric battery. However, their light weight allows for a less powerful battery. Currently, electric scooters and motorcycles only accept Level 1 charging equipment.
Table 1. EV Electrical Requirements and Charging Times

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>ELECTRICAL REQUIREMENTS</th>
<th>TIME*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Requires a standard 15- or 20-amp breaker on a 120-volt circuit with a ground fault interrupter (GFI). To avoid overloading your circuit and breaker when charging, the circuit should not be used for any other purposes. If installing a dedicated circuit, a 20-amp breaker is recommended. This level of charging can provide approximately 3-6 miles of range for 1 hour of charging.</td>
<td>16-32 hrs</td>
</tr>
<tr>
<td></td>
<td>(BEVs)</td>
<td>3-15 hrs</td>
</tr>
<tr>
<td></td>
<td>(PHEVs)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Requires a dedicated 40-amp or higher breaker on a 240-volt circuit with a GFI, such as those required for ovens or dryers. A wall-mounted charging station assembly will be required. EV charging stations are &quot;continuous load&quot; devices as defined by the National Electrical Code. The contact points for typical 240 volt outlets, such as those used for dryers or ovens, are not designed for continuous loads, or for repetitive plugging and unplugging as would be normal with EV charging. Plugging a vehicle directly into a 240-volt outlet is considered hazardous and is not allowed under any circumstances. This level of charging can provide approximately 15-25 miles of range for 1 hour of charging.</td>
<td>4-6 hrs</td>
</tr>
<tr>
<td></td>
<td>(BEVs)</td>
<td>1-2 hrs</td>
</tr>
</tbody>
</table>

* Charging times are approximate and vary widely due to different battery sizes and specifications. The times represent a full charge of your vehicle's battery and are shown for comparison purposes only. To determine which charging level best suits your vehicle and driving needs, consult your EV dealer to understand the approximate mileage range gained per hour of charging.

2. Making your home EV-ready. — Preparations can be easy and inexpensive.

Before purchasing an EV, carefully plan where and when you want to do your charging. Will you charge inside a garage or at an outdoor carport? Will you charge at night when your home’s electrical use is low, or will you need to charge during the day when electrical use is usually higher? To avoid trip hazards, choose a location for your charging station away from doors and walkways. Make sure there is a clear path to and from the car without passing over the charging cord. If you will be charging outside or in a detached garage, consider there may be additional costs associated with bringing electricity to the charging station and to protecting all equipment from the elements.

A licensed electrician can help you calculate your home’s electrical capacity and loads. However, you should first check with your auto dealer to see if this electrical calculation may be provided as a free or low-cost service to you. You should also discuss with your utility provider whether special rate structures are available for nighttime charging and whether you will need to have a separate meter track electricity used for EV charging.

The amount of energy flowing to your home is measured as amperage, or amps. If your home’s amperage is not sufficient to supply energy to both your home and your EV charging station, you will need to consult with your utility company to determine the steps required to upgrade your service to higher amperage. There may be an additional cost associated with a service upgrade.

Once you determine that the electrical service to your home is sufficient, your next step is to determine the capacity of your home’s electrical panel. The electrical panel divides the amperage flowing into your home into circuits dedicated for various uses. Each circuit has a fuse or circuit breaker with
a specific amperage, normally 15-20 amps. Each fuse or circuit breaker is connected to one or more outlets, lights, or appliances. A standard household electrical panel has a capacity of around 125 amps, although this could vary based on electric codes, residence size, heating method or other factors. Look to see whether all of your circuits are assigned a use. Charging your EV may require dedicating one or more empty circuits for charging.

The strength of the electrical current flowing out of a circuit is measured as voltage, or volts. A standard household circuit of 120 volts can provide power to several uses, such as lights and small appliances, or one larger use, such as a dishwasher or refrigerator. For larger appliances, such as ovens or clothes dryers, two standard circuits are combined into a 240-volt circuit. This will appear as a double, or two-poled, circuit breaker on your electrical panel.

For Level 1 nighttime charging on a circuit used only for charging and not for any other electrical appliance, charging will be slower but is likely to be possible without electrical service upgrades.

As noted in Table 1, Level 2 charging will significantly reduce charging times. For Level 2 charging, older electrical panels with screw-in fuses and old or new panels with less than 125 amps will need to be upgraded. Amperage is likely displayed somewhere on the panel itself. The panel must have two empty circuits available for installing a new two-pole circuit breaker. Note that even if your panel appears to have empty circuit slots, this does not necessarily mean there is enough available amperage to add new circuits. In some cases, you may need a panel capacity greater than 125 amps for Level 2 charging. This would be the case if you have a large home with high electricity demand or if you need to operate several electrical appliances while charging (e.g. a hot tub or a tankless water heater).

3. Are permits required for EV charging?
   – BEVs – yes, permits are required.

If you will be driving a BEV, or if you want your PHEV to charge faster, you will need Level 2 charging from a 240-volt circuit. As explained in Table 1, for Level 2 charging, you can’t legally plug your car into an open 240-volt outlet; rather, you will need to install a charging station in your garage or parking area (see Figure 1 and Figure 3). Charging stations may be provided as an option with the purchase of your EV or you may choose to purchase one from a separate company. The car will be connected to the charging station by a special electrical cord and connector (see Figure 2). In existing homes, electrical permits will be required to install a charging station.

Charging PHEVs — Generally, no permits are required. If you buy a PHEV and decide to use Level 1 charging, your EV manufacturer will provide a special cord set with the standard three-prong plug on one end and a special car connector on the other end. This cord is specially designed for charging purposes and should always stay with your vehicle. Use this cord only when charging from a Level 1 circuit. If you use an existing electrical circuit, no other electrical loads should occur during charging (i.e., nothing else using that circuit should be running or switched on), otherwise you are likely to trip the circuit breaker.

If you decide to install a dedicated Level 1 or Level 2 circuit solely intended for charging in your garage or outside to a carport, you will need to obtain an electrical permit for this work. See information below regarding permitting. If you decide you need faster charging for your PHEV, see the next section.

Figure 3: A wall-mounted Level 2 home charging station in a carport. Outdoor home charging stations can also be Level 1 and may not require covering. Photo courtesy of Plug In America.
4. How do I get a permit and inspection? –  *Permits can be straightforward and easy to obtain; all work must be inspected.*

Before beginning to install a new dedicated circuit, your Level 2 charging equipment, or conducting any other electrical upgrades or installations, you will need to ensure an electrical work permit is in place.

All electrical work must be inspected and approved by the authority having jurisdiction (AHJ). Labor & Industries inspects electrical permits throughout Washington State, but some jurisdictions do their own inspections. These jurisdictions can be viewed on the Labor and Industries website at:

http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/CityInspectors/default.asp

It is the installer’s responsibility to obtain electrical permits and request inspections. Only property owners or their licensed electrical contractors can buy an electrical permit and perform electrical work. You can find out if you, as a property owner, qualify to perform electrical work on your property, or if you will be required to hire a licensed electrician, by referring to RCW 19.28.261. If a homeowner chooses to perform electrical work on their property, it is their responsibility to ensure that all materials, devices, appliances and equipment are of a type that conforms to applicable standards.

If you feel unsure or are not qualified to do your own electrical work, you should hire a licensed electrical contractor. You can ensure electrical contractors are properly licensed and are using certified electricians by checking their status at:

http://www.lni.wa.gov/TradesLicensing/Contractors/HireCon/default.asp

Prior to concealing any portion of the electrical installation, the installer must request an electrical inspection from the AHJ. Any corrections written during the inspection will need to be repaired and a re-inspection will be required. You must receive final approval from the electrical inspector before energizing your EV charging system.

Permitting requirements vary among inspection authorities. As mentioned above, check to make sure you know which electrical permitting jurisdiction covers your property before preparing your permit application.

- [Insert Hyperlink to applicable EV ordinance]
- [Insert Hyperlink to Electrical Code]

To purchase a Labor and Industries electrical permit or call for an electrical inspection visit:

http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/PermitInspect/Default.asp

5. Charging an EV away from home. –  *You can also charge your EV at a public charging station.*

Some EV drivers may want to take advantage of charging opportunities at their workplace or at various public locations, such as shopping centers and public parking lots, and downtown areas. Also, if you are planning a trip that will be a longer distance than your EV’s range, it is important to know about charging opportunities along your route.

The U.S. Department of Energy has funded a number of electric vehicle infrastructure projects in the central Puget Sound region. With these investments, over 1,500 Level 2 charging stations will be available in public locations throughout the central Puget Sound and Olympia area. As EV use becomes more widespread, additional privately funded charging stations will be installed at commercial or employee parking lots. Your EV dealer may be able to help you determine the location of public charging stations near your home. In the future, it may also be possible to access information regarding the location and availability of public charging stations through GPS mapping applications.

See the Installation Guide for Charging Stations: Electric Vehicle Charging at a Commercial or Employee Parking Lot, for information on and considerations for installing publicly available charging stations.

**CONTACT INFORMATION:**

Insert information for permit authority:

- Name
- Phone numbers — is there a question hotline?
- Address
- Hours and days of services
- Additional information
Installation Guide for Charging Stations

1. Charging times and specifications. —

Charging times vary by battery capacity and voltage.

Future EV drivers will likely be driving either a battery electric vehicle or a plug-in hybrid electric vehicle. These two types of EVs are described below. Generally, battery electric vehicles contain batteries with more capacity and require heavier-duty charging equipment than plug-in hybrid electric vehicles (see Table 1 on Page 2 for information on electrical requirements and charging times).

Battery Electric Vehicle (BEV). BEVs are zero-emission vehicles that run exclusively on a powerful, large capacity battery that pulls energy from the electric grid. Because electricity is the only source of energy for BEVs, normal daily driving will likely require a Level 2 charging station (see Figure 1).

Plug-In Hybrid Electric Vehicle (PHEV). PHEVs are vehicles that run on both electricity from the grid and an internal combustion engine. Depending on its design, the internal combustion engine either shares in powering the EV by alternating back and forth with the electric motor, or it is used to recharge the battery once the all-electric range has expired. The latter type is often referred to as an extended-range electric vehicle or “EREV.” The battery in a PHEV generally has less capacity than the battery in a BEV, and depending upon the daily driving needs of the EV driver, a Level 1 charging system may be adequate.

A third category of EV, Electric Scooters and Motorcycles, is made up of two-wheeled lightweight vehicles. This category of EVs is similar to BEVs, because they are powered completely by an electric battery. However, their light weight results in a less powerful battery. Currently, electric scooters and motorcycles accept only Level 1 charging equipment.

Charging Levels and Length of Stay. Before you decide to install a Level 1 or 2 charging station (or a combination of both), it is important to understand how the electric vehicle industry is evolving. Battery capacities will continue to increase and heavier-duty chargers will become more common.

If your typical customer will need charging for medium length stays (2-4 hours), such as visits to shopping malls, movie theaters, or sports venues, then Level 2 charging would be advised. Level 2 charging may offer the most efficient and cost-effective level of charging, because it can efficiently charge BEVs and PHEVs using a 240-volt circuit and can also provide 120-volt Level 1 slow charging.

Figure 1. A typical pedestal-style charging station in a surface parking lot. Photo courtesy of ECOtality.
<table>
<thead>
<tr>
<th>LEVEL</th>
<th>ELECTRICAL REQUIREMENTS (FOR ONE STATION)</th>
<th>TIME*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Requires a standard 15- or 20-amp breaker on a 120-volt circuit with a ground fault interrupter (GFI). To avoid overloading your circuit and breaker when charging, the circuit should not be used for any other purposes. If installing a dedicated circuit, a 20-amp breaker is recommended.</td>
<td>16-32 hrs (BEVs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-15 hrs (PHEVs)</td>
</tr>
<tr>
<td>2</td>
<td>Requires a dedicated 40-amp or higher breaker on a 240-volt circuit with a GFI. A charging station is typically installed on a pedestal or wall. (EV charging stations are “continuous load” devices as defined by the National Electrical Code. The contact points for typical 240-volt outlets, such as those used for dryers or ovens, are not designed for continuous loads or for repetitive plugging and unplugging as would be normal with EV charging. Plugging a vehicle directly into a 240-volt outlet is considered hazardous and is not allowed under any circumstances.)</td>
<td>4-6 hrs (BEVs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-2 hrs (PHEVs)</td>
</tr>
<tr>
<td>3</td>
<td>Requires a 60-amp or higher dedicated breaker on a 480-volt circuit with special grounding equipment. (National standards are still under development and will not be available until 2011-2012.)</td>
<td>25-40 min (BEVs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 min (PHEVs)</td>
</tr>
</tbody>
</table>

* Charging times are approximate and vary widely due to different battery sizes and specifications. The times represent a full charge of a vehicle’s range and are shown for comparison purposes only. To determine which charging level is most appropriate for your commercial or employee lot, consult an EV dealer to understand the mileage range gained per hour of charging among various vehicles.

If your typical customer will need charging for very long stays (over 8 hours), such as all-day employee parking or long-term airport parking, then a Level 1 charging station may be adequate. If you choose Level 1, however, you should plan ahead now to be able to easily upgrade to Level 2. Be aware also that installing a standard Level 1 charging outlet in a commercial or employee lot may inadvertently invite use by non-EV individuals, such as recreational vehicles, construction equipment, or outdoor appliances. It is recommended that property owners offering Level 1 charging install adequate signage and monitor their charging spaces to ensure intended use.

A third type of charging station, referred to as “Level 3,” is also available. This type of charging system is more powerful than Level 1 and Level 2 charging but is also more expensive. Level 3 charging provides direct current to EV batteries and a full charge in 20 to 40 minutes. The speed at which Level 3 charging replenishes an EV can extend the functionality of an electric vehicle to allow people to travel beyond their normal driving needs. An EV dealer or charging station vendor can provide you with more information on Level 3 charging stations.

### 2. Making your parking lot EV-ready.

**Utility Coordination.** A licensed electrician can assist in determining your electrical capacity and loads. However, you may want to first check with charging station vendors to see if these electrical calculations may be provided as a free or low-cost service to you. It may be useful to contact your utility to discuss establishing a dedicated meter for EV charging stations to help you track the energy cost associated with charging. The direct sale of electricity by owners and operators of electric vehicle infrastructure could trigger the jurisdiction of the Utilities and Transportation Commission and additional regulatory hurdles. However, you may
be able to recover some of your investment cost by charging a flat fee based upon the hours of use of an EV charging space.

**Charging Station Location and Design.** There are several important considerations when choosing the location and design of your charging station. For example, the location should be easy to find and conveniently accessed. In a very large parking lot, such as at a shopping mall, it may be more beneficial to place a few charging stations at several locations, rather than all the charging stations in one place. Consider directional signage to guide your customers or employees to the charging stations. Locating existing utilities, excavating trenches, and installing electrical equipment and replacing asphalt can be expensive, so it is important to understand the approximate costs for this type of work early in your planning.

Certain design elements can enhance the quality of the user’s experience, such as clear signage and good lighting. Lighting can help customers read instructions and information about the charging station, while also improving safety and helping prevent vandalism. Refer to the Electric Vehicle Charging Station Installation Checklist for other design considerations [insert hyperlink to Checklist].

Installing wheelstops will help protect the charging equipment while positioning the EV in the best place for charging (see Figure 3). Locating a car close to the charging station reduces the likelihood of a trip hazard caused by an outstretched charging cord. See [insert local EV code citation] for installation details for parking lot EV charging stations.

**Signage.** Directional signage helps direct drivers to a charging station stall and can inform drivers of any parking restrictions. When deciding how to regulate parking at an EV charging stall, it is important to consider overall impacts to parking supply. Property owners will need to install signage indicating that a space is only for charging EVs and not for general parking.

**Accessibility.** When siting one or multiple EV charging stations, you must provide for accessibility for disabled persons. Your local permitting agency can assist you in determining accessibility requirements, including locating the charging equipment within accessible reach. Your first station should be located and designed to meet clearance and route requirements for barrier-free access to the charging station equipment (see Figure 3). It is not necessary to designate the space exclusively for the use of disabled persons. Locating the first station adjacent to a designated space for the disabled is a good option.

**Cost Recovery.** Each property owner may choose whether to offer charging as a complementary service or to charge a flat fee for use of the parking space. If you wish to charge a fee, the vendor providing the charging system can also assist with the development of a fee collection plan. Options for fee collection may include: credit/debit card readers; pay-to-park kiosks; radio-frequency identification cards linked to a subscription service, and standard parking meters.

**Data Collection and Communications.** When installing a new charging station, certain types of data collection will be required and some will be optional. The state and your electric utility company will require some data to be collected, such as location, amount and time of energy consumed, and possibly who used it. As a business owner, it may be useful to include internet access to your station, to assist potential customers to locate and determine the charging levels you offer and availability of the equipment. You might also want to discuss with charging station vendors the option of allowing users to track the progress of their charge through their cell phone. Researching all required
and optional data and communications options will help you and your users get the most benefit from your charging station investment.

**Maintenance Plan.** A maintenance plan should be created for each parking lot containing charging stations. At minimum, each charging station should clearly display contact information for the station manager in case of charger malfunction or damage. If a charging station includes a card reader or pay-to-park kiosk, regular maintenance of these systems will ensure the security of financial information.

**Contractor Assistance.** The previous sections discuss important design considerations when planning an EV charging station. The design phase will likely require assistance from one or more trades-people. For example, a licensed electrician should prepare electrical load calculations, recommend electrical system upgrades, and help prepare plans for permitting, and an engineer may also be required to design trenching, parking lot striping, signage plans, lighting, shelter, and other components.

### 3. How to obtain a permit and inspection. — Permits can be straightforward and easy to obtain; all work must be inspected.

Before beginning to install your charging equipment or conducting any other electrical upgrades or installations, you will need to ensure that an electrical work permit is in place.

All electrical work must be inspected and approved by the authority having jurisdiction (AHJ). Labor & Industries inspects electrical permits throughout Washington State, but some jurisdictions do their own inspections. These jurisdictions can be viewed on the Labor and Industries website at: [http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/CityInspectors/default.asp](http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/CityInspectors/default.asp)

It is the installer’s responsibility to obtain electrical permits and request inspections. Only property owners or their electrical contractors can buy an electrical permit and perform electrical work. You can find out if you, as a property owner, or your employee qualify to perform electrical work on your property, or if you will be required to hire an electrical contractor, by referring to RCW 19.28.261.

If a property owner chooses to perform electrical work on their property, it is their responsibility to ensure that all materials, devices, appliances and equipment are of a type that conforms to applicable standards.

If you feel unsure or are not qualified to do your own electrical work, you should hire a licensed electrical contractor. You can ensure electrical contractors are properly licensed and are using certified electricians by checking their status and violation history at: [http://www.lni.wa.gov/TradesLicensing/Contractors/HireCon/default.asp](http://www.lni.wa.gov/TradesLicensing/Contractors/HireCon/default.asp)

Prior to concealing any portion of the electrical installation, the installer must request an electrical inspection from the AHJ. Any corrections written during the inspection will need to be repaired and a re-inspection will be required. You must receive final approval from the electrical inspector before energizing your EV charging system.

Permitting requirements vary between inspection authorities. As mentioned above, check to make sure you know which electrical permitting jurisdiction covers your property before preparing your permit application.

- [Insert Hyperlink to applicable EV ordinance]
- [Insert Hyperlink to Electrical Code]

To purchase a Labor and Industries electrical permit or call for an electrical inspection visit: [http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/PermitInspect/Default.asp](http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/PermitInspect/Default.asp)

**CONTACT INFORMATION:**

Insert information for permit authority:

- Name
- Phone numbers — is there a question hotline?
- Address
- Hours and days of services
- Additional information