



ELEC. VEHICLE SUPPLY EQUIPMENT (EVSE) NON-RESIDENTIAL PERMITTING CHECKLIST

Planning, Building & Transportation
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Hours: 7:30 a.m.–3:30 p.m., M–Th

NON-RESIDENTIAL Permitting Checklist	
<p>Phase 1 Pre-Work Customer</p>	<p>Pre-Work Customer</p> <ul style="list-style-type: none"> ✓ Visit Alameda Municipal Power website for EV Charger Rebate information and other available state or federal incentive programs; or contact AMP to speak with an EV Advisor: www.alamedamp.com/charger-rebates or EV@ALAMEDAMP.COM ✓ Contact City of Alameda permit office to identify specific requirements, including local fire, environmental, construction, building, concealment and engineering requirements ✓ Contact insurance company to acquire additional insurance or separate coverage as needed ✓ Hire the contractor and verify credentials with all subcontractors; ensure electrical contractor’s license for electrical work is current
<p>Phase 2 Pre-Work Contractor On-Site Evaluation</p>	<p>Pre-Work Contractor</p> <ul style="list-style-type: none"> ✓ Determine the ownership of the site and/or authorization to install equipment at site ✓ Understand intended use of the EVSE (e.g., fleet, employee, customer, public, etc.) ✓ Determine number of vehicles charging and connectors per charging station ✓ Determine source of power and authorization to use source ✓ Determine type of vehicle(s) to be charged at EVSE ✓ Evaluate mounting type options (e.g., bollard, pole-mount, wall-mount, ceiling-mount) ✓ Clarify communication requirements (e.g., Ethernet, cellular, Wi-Fi, none or other) ✓ Determine the NEMA enclosure type ✓ Determine the physical dimensions of the space(s) ✓ Inspect the type of circuit breaker panel board intended for the installation <p>On-Site Evaluation</p> <ul style="list-style-type: none"> ✓ If installing a Level 2 or Level 3 charger, fill out the Alameda Municipal Power <u>Electric Vehicle Supply Equipment (EVSE) Information Form</u> at www.alamedamp.com/charger-rebates and submit to AMP ✓ Verify EVSE meets UL requirements and is listed by UL or another nationally recognized testing laboratory ✓ Verify EVSE has an appropriate NEMA rated enclosure (NEC 110.28) based on environment and customer needs, such as weatherization or greater levels of resistance to water and corrosive agents ✓ Determine the level of charger meets customer’s EV requirements (most vehicles require a maximum of 240V/32A (40A breaker)) ✓ Based on proposed EVSE location, determine if cord length will reach a vehicle’s charging inlet without excessive slack and does not need to be more than 25’ in length (NEC 625.17) ✓ Ensure cord management methodologies have been considered to reduce the risk of tripping hazards and accidental damage to the connector ✓ Ensure mounting type selection based on requirements to meet site guidelines

<p>Phase 3 On-Site Survey</p>	<p>On-Site Survey</p> <ul style="list-style-type: none"> ✓ Ensure space(s) is visible to drivers and pedestrians ✓ Determine proximity to building entrance (could be considered an incentive for EV use) ✓ Select spaces proximate to existing transformer or panel with sufficient electrical capacity ✓ Ensure EVSE installation maintains a minimum parking space length to comply with local zoning requirements ✓ If available, use wider spaces to reduce the risk of cord damage and minimize the intersection of cords with walking paths ✓ Ensure sufficient lighting at proposed space(s) to reduce the risk of tripping and damage to charging station from vehicle impact or vandalism; light levels above two foot-candles are recommended ✓ Address accessibility requirements (refer to the Plug-In Electric Vehicle Infrastructure and Equipment Accessibility section of the Zero-Emission Vehicles in California: Community Readiness Guidebook for more information) ✓ Determine availability of space for informative signing ✓ EVSE with multiple cords should be placed to avoid crossing other parking spaces ✓ All available charging station mounting options should be considered and optimized for the space ✓ Determine if hazardous materials were located at the site <p>PARKING DECKS</p> <ul style="list-style-type: none"> ✓ Place EVSE towards the interior of a parking deck to avoid weather-related impacts on equipment <p>PARKING LOTS</p> <ul style="list-style-type: none"> ✓ Avoid existing infrastructure and landscaping to mitigate costs, potential hazards and other negative impacts <p>ON-STREET</p> <ul style="list-style-type: none"> ✓ Install on streets with high foot and vehicle traffic to mitigate vandalism ✓ Avoid existing infrastructure to mitigate costs, potential hazards and other negative impacts ✓ Address accessibility requirements (refer to the Plug-In Electric Vehicle Infrastructure and Equipment Accessibility section of the Guidebook for more information) ✓ For pull-in spaces, EVSE should be placed in front of the space and centered on the space or placed between two spaces (if two connectors are available); EVSE with more than two connectors should not be used in on-street applications ✓ For parallel parking locations, the charging station should be installed at the front third of the parked vehicle based on the direction of traffic flow; EVSE with a single connector is recommended to reduce potential trip hazards ✓ Mount the connector at a height between 36" and 48" from the ground (NEC 625.29) unless otherwise indicated by the manufacturer ✓ Install wall or pole-mount stations and enclosures at a height between 36" and 48" ✓ Ensure sufficient space exists around electrical equipment for safe operation and maintenance (NEC 110.26); recommended space is 30" wide, 3' deep and 6'6" high ✓ Minimize tripping hazards and utilize cord management technologies when possible ✓ Equipment operating above 50 volts must be protected against physical damage (NEC 110.27); ensure the vehicle is out of the line of vehicle travel and use wheel stops or other protective measures ✓ EVSE must be located such that ADA routes maintain a pathway of 36" at all times
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<p>Phase 4 Contractor Installation Preparation</p>	<p>Contractor Installation Preparation</p> <ul style="list-style-type: none"> ✓ Submit price quote to customer and approved including utility upgrades ✓ Order equipment ✓ Provide stamped engineering calculations as needed ✓ Provide site plan modification with diagrams as necessary ✓ Complete all necessary service upgrades and/or new service assessments ✓ Complete permit applications as required by City of Alameda ✓ Ensure permit is approved and collected ✓ Schedule all necessary contract work (e.g., boring, concrete and/or paving restoration) and utility work (e.g., utility marking, service upgrade, new service and/or meter pull) ✓ If underground work is required, call 811 before you dig to have identification and labeling of underground infrastructure
<p>Phase 5 Installation</p>	<p>Installation</p> <ul style="list-style-type: none"> ✓ Run conduit from power source to station location ✓ For EVSE greater than 60 amperes, a separate disconnect is required (NEC 625.23) and should be installed concurrently with conduit and visible from the EVSE ✓ Post permit at site in visible location ✓ Remove material to run conduit and/or wiring (e.g., drywall, insulation, pavers, concrete, pavement, earth, etc. ✓ Examine requirements for installation sites and types of wiring in Chapter 3 of the NEC ✓ Pull wiring; charging stations require a neutral line and a ground line and equipment is considered to be a continuous load ✓ Size conductors to support 125% of the rated equipment load (NEC 625.21) ✓ Prepare mounting surface and install per equipment manufacturer instructions <ul style="list-style-type: none"> • Floor-mount: typically requires a concrete foundation with J-bolts on station base; place with space to allow conductors to enter through the base • Wall/pole/ceiling-mount: install brackets for mounting of the equipment ✓ Install bollard(s) and/or wheel stop(s) as needed ✓ Install informative signage to identify the EVSE and potential trip hazards ✓ Install additional electrical panels or subpanels as needed ✓ Install service upgrades, new service and/or new meter as needed; utility may also pull a meter to allow for charging station wires to be connected to a panel
<p>Phase 6 Inspection</p>	<p>Inspection</p> <ul style="list-style-type: none"> ✓ An initial electrical inspection by applicable building, fire. authorities should occur after conduit has been run and prior to connecting equipment and running wires; if necessary, contractor should correct any issues and schedule a second rough inspection ✓ If required, the inspector will perform a final inspection to ensure compliance with NEC and other codes adopted within the jurisdiction by inspecting wiring, connections, mounting and finish work ✓ Contractor should verify EVSE functionality
<p>Phase 7 Alameda Municipal Power Rebate for Level 2 Chargers</p>	<p>Alameda Municipal Power Rebate</p> <ul style="list-style-type: none"> ✓ Complete final application for Alameda Municipal Power (AMP) EV charger rebate (level 2 chargers only) ✓ Consult AMP website for application guidelines: www.alamedamp.com/charger-rebates

Additional Resources	Additional Resources <ul style="list-style-type: none">✓ National Codes and Standards✓ American National Standards Institute (ANSI)✓ National Fire Protection Association (NFPA)✓ Underwriters Laboratories, Inc. (UL)✓ International Association of Electrical Inspectors (IAEI)✓ International Code Council (ICC)✓ NECA-NEIS Standards✓ NECA and NFPA Webinars✓ Electrical Vehicle Infrastructure Training Program (EVITP) Installer Training Course/Certification
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