## PERMIT APPLICATION AND PLAN REVIEW CHECKLIST FOR ELECTRIC VEHICLE CHARGING STATION (EVCS)

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| --- | --- | --- |
| Check One | Charging Station(s) Proposed | Associated Power Levels  (proposed circuit rating) |
|  | Level 1 | 110/120 volt alternating current (VAC) at 15 or 20 Amps |
|  | Level 2 - 3.3 kilowatt (kW) (low) | 208/240 VAC at 20 or 30 Amps |
|  | Level 2 - 6.6kW (medium) | 208/240 VAC at 40 Amps |
|  | Level 2 - 9.6kW (high) | 208/240 VAC at 50 Amps |
|  | Level 2 - 19.2kW (highest) | 208/240 VAC at 100 Amps |
|  | Other (provide detail) |  |

**INSTRUCTIONS:** This Checklist shall be used during a residential Electric Vehicle Charging Station (EVCS) installation permit application and plan review. If any discrepancies are found on the application and/or supplemental documentation, record the details of needed corrections on this sheet and provide to the applicant.

**COMPLETED PERMIT APPLICATION:**Application must include project address, parcel number, builder/owner name, contractor name, valid contractor license number, phone numbers and any other requirements.

**ELECTRIC VEHICLE CHARGING STATION MANUFACTURER’S SPECIFICATIONS**

**ELECTRIC VEHICLE CHARGING STATION INSTALLATION GUIDELINES**

**COMPLETED ELECTRICAL LOAD CALCULATIONS PER CEC[[1]](#footnote-1) 220**

1. Based on the load calculation worksheet, is a new electrical service panel upgrade required[[2]](#footnote-2)? Yes  No

*If new service or upgrade is required, plans and the utility work order must be included with submittal*.

1. Is the charging circuit appropriately sized for a continuous load (125%)? Yes  No
2. If charging equipment proposed is a Level 2 - 9.6kW station with a circuit rating of 50 amps or higher, is a completed circuit card with electrical calculations included with the single-line diagram? Yes  No  Not Applicable

**SITE PLAN & SINGLE LINE DRAWING**

Site Plan must be fully dimensioned and drawn to scale showing the following:

* 1. Location, size, and use of all structures
  2. Location of electrical panel to charging system
  3. Type of mounting for charging system

1. Is a site plan and electrical plan with a single-line diagram included with the permit application?

Yes  No

1. If mechanical ventilation requirements are triggered for indoor venting requirements (CEC 625.50(B)), is a mechanical plan included with the permit application?

Yes  No  Not Applicable

**COMPLIANCE WITH 2016 CALIFORNIA ELECTRCIAL CODE (TITLE 24, PART 3)**

1. Does the electrical plan identify the amperage and location of existing electrical service panel? Yes  No 
   1. Does the existing panel schedule show room for additional breakers? Yes  No
   2. Are sizes for the conduit and conductor included? Yes  No
2. Is the charging unit rated more than 60 amps or more than 150V to ground? Yes  No 
   1. If rated >60 amps, are disconnecting means provided in a readily accessible location in line of site and within 50’ of EVCS? (CEC 625.42) Yes  No
3. Does the charging equipment have a Nationally Recognized Testing Laboratory (NRTL) approved listing mark? (UL 2202/UL 2200) Yes  No
4. If trenching is required, is the trenching detail called out? Yes  No 
   1. Is the trenching in compliance with electrical feeder requirements from structure to structure? (CEC 225) Yes  No
   2. Is the trenching in compliance of minimum cover requirements for wiring methods or circuits? (18” for direct burial per CEC 300) Yes  No

**COMPLIANCE WITH 2016 California Green Building Standards Code (CALGreen)** **FOR NEW CONSTRUCTION**[[3]](#footnote-3) **(TITLE 24, PART 11)**

1. Is this project considered new construction? Yes  No

*If yes, plans must include installation of a listed raceway, adequate panel capacity and identification as “EV Capable” in compliance with Section 4.106.4.1 &4.106.4.1.1)*

## PERMIT APPLICATION AND PLAN REVIEW CHECKLIST FOR MULTI-UNIT DWELLINGS (MUD) AND COMMERCIAL ELECTRIC VEHICLE CHARGING STATION (EVCS)

**INSTRUCTIONS:** This checklist shall be used during a multi-unit dwelling and commercial Electric Vehicle Charging Station (EVCS) installation permit application and plan review. If any discrepancies are found on the application and/or supplemental documentation, record the details of needed corrections on this sheet and provide to the applicant.

|  |  |  |  |
| --- | --- | --- | --- |
| Check One | Charging Station(s) Proposed | Associated Power Levels  (proposed circuit rating) | Typical Non-Residential Charging Locations |
|  | Level 1 | 110/120 volt alternating current (VAC) at 15 or 20 Amps | * Commercial office building |
|  | Level 2 - 3.3kW (low) | 208/240 VAC at 20 or 30 Amps | * Multi-unit dwellings (MUD) * Commercial office building * Public access |
|  | Level 2 - 6.6kW (medium) | 208/240 VAC at 40 Amps |
|  | Level 2 - 9.6kW (high) | 208/240 VAC at 50 Amps |
|  | Level 2 - 19.2kW (highest) | 208/240 VAC at 100 Amps |
|  | DC Fast Charging | 440 or 480 VAC | * Public access * Large commercial office buildings or parks * Hospitality & recreation |
|  | Other (provide detail) |  |  |

**Check type of Electric Vehicle Charging Station Proposed:**

**MUD EVCS**  **COMMERICAL EVCS**

**COMPLETED PERMIT APPLICATION**

1. Application must include project address, parcel number builder/owner name, contractor name, valid contractor license number phone numbers and any other requirement.

**ELECTRIC VEHICLE CHARGING STATION MANUFACTURER’S SPECS & INSTALLATION GUIDELINES**

**COMPLETED ELECTRICAL LOAD CALCULATIONS PER CEC[[4]](#footnote-4) 220**

1. Based on the load calculation worksheet, is a new electrical service panel upgrade required[[5]](#footnote-5)? Yes  No

*If new service or upgrade is required, plans and the utility work order must be included with submittal.*

1. Is the charging circuit appropriately sized for a continuous load (125%)? Yes  No
2. If charging equipment proposed is a DC Fast Charging station or a Level 2 - 9.6kW station with a circuit rating of 50 amps or higher, is a completed circuit card with electrical calculations included with the single-line diagram? Yes  No  Not Applicable

**SITE PLAN & SINGLE LINE DRAWING**

1. If mechanical ventilation requirements are triggered for indoor venting requirements (CEC 625.50(B)), is a mechanical plan included with the permit application?

Yes  No  Not Applicable

1. Site Plan must be fully dimensioned and drawn to scale showing the following:
   1. Location, size, and use of all structures
   2. Location of electrical panel to charging system
   3. Type of mounting for charging system
   4. Parking and circulation areas

**PLAN COMPLIANCE WITH 2016 CALIFORNIA ELECTRCIAL CODE (TITLE 24, PART 3)**

1. Does the electrical plan identify the amperage and location of existing electrical service panel? Yes  No 
   1. If yes to Q2, does the existing panel schedule show room for additional breakers? Yes  No
   2. Are sizes for the conduit and conductor included? Yes  No
2. Is the charging unit rated more than 60 amps or more than 150V to ground? Yes  No 
   1. If yes to Q3, are disconnecting means provided in a readily accessible location in line of site and within 50’ of EVCS? (CEC 625.23) Yes  No
3. Does the charging equipment have a Nationally Recognized Testing Laboratory (NRTL) approved listing mark? (UL 2202/UL 2200) Yes  No
4. If trenching is required, is the trenching detail called out? Yes  No 
   1. Is the trenching in compliance with electrical feeder requirements from structure to structure? (CEC 225) Yes  No
   2. Is the trenching in compliance of minimum cover requirements for wiring methods or circuits? (18” for direct burial per CEC 300) Yes  No

**PLAN COMPLIANCE WITH 2016 MANDATORY CALGREEN CODE FOR NEW CONSTRUCTION AND CHAPTER 11B ACCESSIBILITY REQUIREMENTS**

2016 CALGreen Mandatory EVCS Requirements for New Construction[[6]](#footnote-6)

1. For **MUD EVCS,** do CALGreen EV Readiness installation requirements apply? Yes  No 
   1. Do the plans demonstrate conformance with mandatory measures for 3% of total parking spaces, but no less than one, for new multifamily dwellings with 17+ units that must be EV capable per Section 4.106.4.2? Yes  No
2. For **Commercial EVCS**, do CALGreen EV Readiness installation requirements apply to this project? Yes  No 
   1. Do the plans demonstrate conformance with mandatory measures of 3% of parking spaces in lots with 51+ spaces being EV capable per Section 5.106.5.3? Yes  No

**2016 Chapter 11B Accessibility Requirements for Public and Common Use EVCS[[7]](#footnote-7)**

1. Is there at least 1 EVCS parking stall out of 4 EVCS parking stalls that meet Chapter 11B accessibility dimension requirements for a van accessible parking space (144 inches wide with an adjacent access aisle)? Yes  No

*Access aisles shall comply with Section 11B-302.*

1. For parking stalls with 5 to 25 EVCS, is there 1 EVCS parking stalls that meets Chapter 11B accessibility dimension requirements for a van accessible parking space (144 inches wide with an adjacent access aisle) and 1 EVCS parking stall that meets the standard accessible parking space (108 inches wide with an adjacent access aisle)? Yes  No
2. Is the path of travel to the EVCS from the accessible parking stall demonstrated to be unobstructed? Yes  No
3. Is the accessible path of travel from the EVCS parking stall demonstrated to be with 200 feet of a main building entrance? Yes  No

1. 2016 California Electrical Code. Article 220 Branch-Circuit, Feeder, and Service Calculations [↑](#footnote-ref-1)
2. **Load Calculation Worksheet review instructions:** The size of the existing service MUST be equal to or larger than the Minimum Required Size of main service breaker. If the existing service panel is **smaller** than the minimum required size of existing electrical services, then **a new upgraded electrical service panel must be installed** in order to handle the added electrical load from the proposed EVCS. [↑](#footnote-ref-2)
3. 2016 California Green Buildings Standards Code. Title 24, Part 11, Section 4.106.4.1 &4.106.4.1.1 *One-and two family dwellings* [↑](#footnote-ref-3)
4. 2013 California Electrical Code. Article 220 Branch-Circuit, Feeder, and Service Calculations [↑](#footnote-ref-4)
5. **Load Calculation Worksheet review instructions:** The size of the existing service MUST be equal to or larger than the Minimum Required Size of main service breaker. If the existing service panel is **smaller** than the minimum required size of existing electrical services, then **a new upgraded electrical service panel must be installed** in order to handle the added electrical load from the proposed EVCS. [↑](#footnote-ref-5)
6. 2016 California Green Buildings Standards Code. Title 24, Part 11, Section 4.106.4.2 *Multi-family dwellings and* Section 5.106.5.3 *Electric Vehicle (EV) Charging* [↑](#footnote-ref-6)
7. 2016 California Building Code. Title 24, Part 2, Chapter 11B *Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Publicly Funded Housing*, Section 228.3 *Electric Vehicle Chargers* [↑](#footnote-ref-7)