

2022 Checklist for Installing Non-Residential Electric Vehicle Charging Station (EVCS) at Existing Facilities

Check One	Type of Charging Station(s) Proposed	Power Levels (Proposed circuit rating)	Typical NON-RES Charging Locations
<input type="checkbox"/>	Level 1	110/120 volt AC (15 or 20 Amps)	· Commercial
<input type="checkbox"/>	Level 2 – 3.3 kilowatt (low)	208/240 VAC (20 or 30 Amps)	· Commercial Office Bldg · Public Access
<input type="checkbox"/>	Level 2 – 6.6 kilowatt (medium)	208/240 VAC (40 Amps)	
<input type="checkbox"/>	Level 2 – 9.6 kilowatt (high)	208/240 VAC (50 Amps)	
<input type="checkbox"/>	Level 2 – 19.2 kilowatt (highest)	208/240 VAC (100 Amps)	
<input type="checkbox"/>	DC Fast Charging	440 or 480 VAC	· Public Access · Large Commercial Office Bldgs or park · Hospitality & Recreation
<input type="checkbox"/>	Other (provide detail)		

Section 1: PERMIT DESCRIPTION

1. Submittal requirements:
 - a. Checklist
 - b. Electrical load calculation
 - c. Electrical permit application
 - d. Site plan
 - e. Single-line diagram
 - f. Manufacturer specifications
2. Does the scope of work on the plans match the electrical permit application description?
 Yes No

Section 2: ELECTRICAL LOAD CALCULATION

1. Electrical load calculation is required, is it included in submittal? (CEC¹ 220) Yes No
2. Based on the load calculation, is a new electrical service panel upgrade required²? Yes No
 - a. If yes, do plans include the electrical service panel upgrade? Yes No
 - b. If yes, has a separate permit been pulled for the panel upgrade? Yes No
3. Is the charging circuit appropriately sized for a continuous load (125%)? Yes No
4. Is the charging equipment proposed a Level 2 – 9.6kW station with a circuit rating of 50 amps or higher? Yes No
 - a. If yes, is a panel schedule showing phase loading with electrical calculations included with the single-line diagram? Yes No Not Applicable

¹ 2022 California Electrical Code. Article 220 Branch-Circuit, Feeder, and Service Calculations.

² 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**.

Section 3: SITE PLAN & SINGLE LINE DRAWING

1. If yes to section 2 Q2, is the required single-line diagram submitted for the proposed project? Yes No
 - a. Are mechanical ventilation requirements triggered for indoor venting requirements per (CEC 625.52)? Yes No
 - i. If yes, is a mechanical plan included with the permit application? Yes No
2. Is the site plan fully dimensioned and drawn to scale? Yes No
 - a. Showing location, size and use of all structures? Yes No
 - b. Showing location of electrical panel AND charging system? Yes No
 - c. Showing accessible route AND parking stall location? Yes No
 - d. Showing type of charging system and mounting? Yes No
 - e. Is the type of mounting for charging system included if the charging system is not wall-mounted? Yes No Not Applicable

*****EVCS spaces will be required to follow 2022 CBC Chapter 11B Accessible Parking requirements *****

Section 4: COMPLIANCE WITH 2022 CALIFORNIA ELECTRICAL CODE (TITLE 24, PART 3)

1. Does the plan include EVCS manufacturer's specs and installation guidelines? Yes No
2. Does the site plan identify the amperage and location of existing electrical service panel? Yes No
 - a. If yes, does existing panel schedule have room for additional breakers?
 Yes No
 - b. Are sizes for the conduit and conductor included? Yes No
 - c. Is each EV charging breaker Ground-fault protected? (CEC 625.54)
 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
 - a. Is the trenching in compliance with electrical feeder requirements from structure to structure? (CEC 225) Yes No
 - b. Is the trenching in compliance of minimum cover requirements for wiring methods or circuits? (18" for direct burial per CEC 300.5) Yes No

Section 5: COMPLIANCE WITH 2022 CALGREEN MANDATORY MEASURES FOR NEW CONSTRUCTION AND 2022 CBC CHAPTER 11B ACCESSIBILITY REQUIREMENTS

2022 CALGreen Mandatory EVCS requirements for New Construction³

1. **Note:** CALGreen requirements for non-residential apply to the following projects: Only new construction is required to provide designated parking for any combination of low-emitting, fuel efficient and carpool vehicles conforming to CALGreen Table 5.106.5.3.1.

Table 5.106.5.3.1		
Total number of parking spaces	Number of required EV capable spaces	Number of EVSE capable EV spaces
0-9	0	0
10-25	1	0
26-50	3	2
51-75	6	3
76-100	8	4
101-150	11	6
151-200	16	9
201 and over	At least 20% of total	25% of EV capable spaces

2.

HOTEL/MOTEL: Is your project a new hotel or motel? Yes No

- a. Should be identified during plan review (4.106.4.2)

Sections 4.106.4.2			
Total number of units	Percentage of proposed EV capable parking	Percentage of EV ready required	Required EV spaces
Less than 20 units	10%	25%	0
20 or more sleeping units	10%	25%	5%

2022 CBC Chapter 11B Proposed EVCS Requirements (Common use/ public)

Total Number Of EVCS At Facility	Minimum Number (by type) Of EVCS Required		
	Van Accessible	Standard Accessible	Ambulatory
1-4	1	0	0
5-25	1	1	0
26-50	1	1	1
>50	See CBC Table 11B-228.3.2.1		

1. If installing between 1 and 4 EVCS parking stalls, does at least 1 EVCS parking stall meet Chapter 11B accessibility dimension requirements for a van accessible parking space (144" wide with adjacent access aisle) and access aisle (60" minimum width)(CBC Table 11B-228.3.2.1, 11B-402, 11B-812.5 & 11B-812.6.1)? Yes No
2. If installing between 5 and 25 EVCS, is there at least 1 EVCS parking stall that meets Chapter 11B accessibility dimension requirements for a van accessible parking space (144" wide with an adjacent access aisle) and 1 EVCS parking stall that meets the standard accessible parking space (108" wide with an adjacent access aisle) (CBC Table 11B-228.3.2.1, 11B-812.6.1 & 812.6.2)? Yes No

³ 2022 California Green Buildings Standards Code. Title 24, Part 11, Section 5.106.5. *Nonresidential Mandatory measures.*

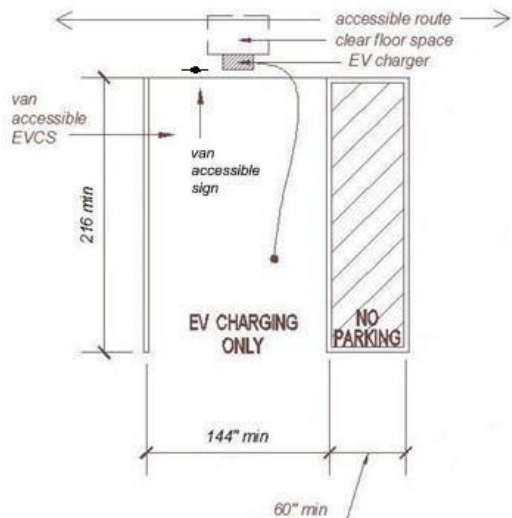
3. If installing 26 or more EVCS, please refer to Section 11B-812 for minimum accessible parking space requirements for van, standard and ambulatory stalls.
4. Is there proper signage and markings for the EVCS parking stall(s) (CBC 11B-812.8)? Yes No
5. Have the requirements for clear floor and operable parts been met with called out dimensions on the plans? Yes No
6. Are the required markings for the access aisle provided (CBC 11B-812.7.2 & 812.7.3)?
 Yes No

CORRECTION(S) SUMMARY:

EVCS INSTALLATION EXAMPLE #1:

One to Four EVCS Spaces

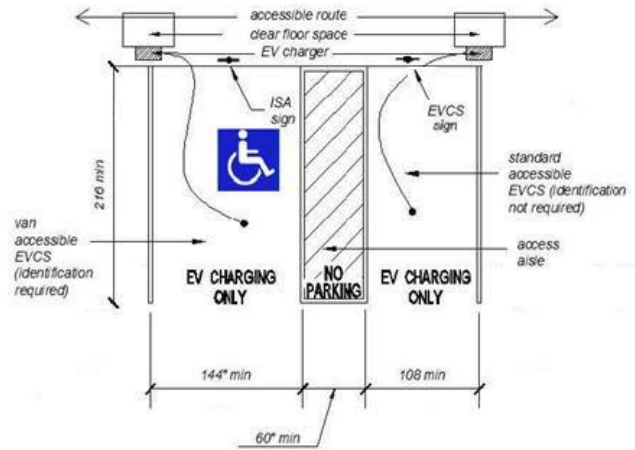
*One required van accessible space



EVCS INSTALLATION EXAMPLE #2:

Five to Twenty Five EVCS Spaces

*One required van accessible space and one required standard accessible space



Floor and ground surfaces (CBC 11B-812.3): Access aisles shall be at the same level as the vehicle space they serve. Slope not to exceed 1:48.

Clear floor or ground space (CBC 11B-309.2 & 305.3): The clear floor or ground space shall be 30 inches minimum by 48 inches minimum.

Access aisle- Markings (CBC 11B-812.7.2): The color of the borderlines, hatched lines, and letters shall contrast with that of the surface of the access aisle. The blue color required for identification of access aisles for accessible parking shall not be used.

Accessible Route (CBC 11B-202.4 Exception 10): Alterations solely for the purpose of installing EVCS at facilities where vehicle fueling, recharging, parking or storage is not a primary function shall not be required to comply with section 11B-202.4 Path of Travel Requirements.

Surface Markings (CBC 11B-812.9): EVCS vehicle spaces shall provide surface marking stating "EV CHARGING ONLY" in letters 12" high minimum.

Identification signs – Location (CBC 11B-812.8.7): Signs shall be permanently posted either immediately adjacent to the vehicle space or within the projected vehicle space width at the head end of the vehicle space. Signs identifying van accessible vehicle spaces shall contain the designation "van accessible."

- Minimum 60" above finish floor or ground surface
 - Located within accessible route: Minimum 80" ground surface
 - Identification signs shall be reflectorized with a minimum area of 70 square inches.
- (CBC 11B-812.8.6)

Identification signs- Five to twenty five (CBC 11B-812.8.3): One van accessible EVCS shall be identified by an ISA complying with section 11B-703.7.2.1. The required standard accessible EVCS shall not be required to be identified with an ISA.

Operable parts (CBC 11B-812.10.2 & 308): Reach ranges shall comply with forward reach or side reach requirements per section 11B-308.