Accessible Electric Vehicle Charging Stations

This guide applies to Electric Vehicle Charging Stations (EVCS) that will be installed in existing parking lots.

Photo by the Town of Danville, California

EV drivers with disabilities need to have access to EVCS, but the best way to ensure this access is still evolving. Changes to the 2016 edition of the California Building Code include requirements for accessible EVCS.[1]

As of January 2017, the requirements described in this fact sheet will represent California Building Code requirements regarding the installation of electric vehicle charging stations.

Design

If the EVCS will be available for use by the public, the first station needs to be accessible by EV drivers with disabilities. Code will require the first EVCS to be installed at a "van accessible" space. While this first space is designed to be van accessible, it is available for use by all EV drivers and not placarded for exclusive use by disabled EV drivers.[2]
Installation of an EVCS at an existing ADA parking space will not satisfy this requirement.[3]

- Van accessible requirements as shown in Figure 1:
  - 216 inches long minimum
  - 144 inches wide minimum
  - Adjacent to an access aisle on the passenger's side.
  - The access aisle is at least 60 inches wide.

- The access aisle for the EVCS space can be shared with another accessible parking space.

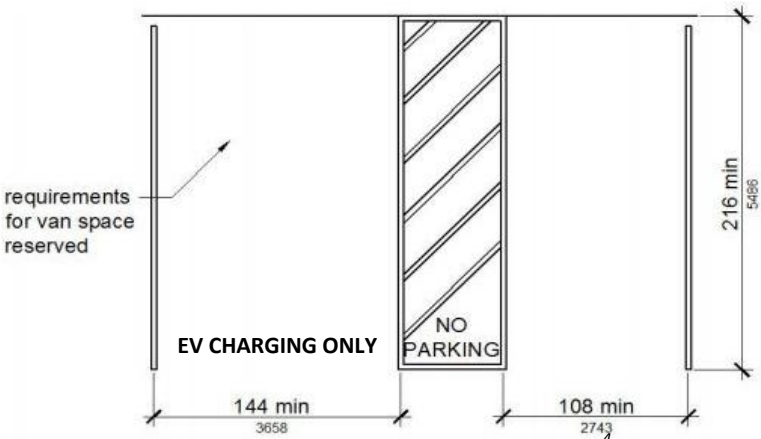

Figure 1, On-site EVCS Spaces Dimensions.[4]

- Access aisles must be on the same level as the EVCS space with no more than a 1:48 slope in any direction.
- An accessible route needs to be provided between the EVCS space and the EV Service Equipment.[5]

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[1] See the 2016 CBC proposed changes at: www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf
[2] When less than five EVCS are installed. When five or more are installed, the van accessible space becomes ADA exclusive. 11B-812.8.2 pg. 76 of the proposed changes to the 2016 CBC, found here: www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf
[3] This is DSA's interpretation of the proposed code as provided by Dennis Corelis, Deputy State Architect: California Department of General Services, Division of the State Architect. Personal email communication, February 4th, 2016.
[4] PEVs: Universal Charging Access, Pg 9. www.opr.ca.gov/docs/PEV_Access_Guidelines.pdf

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EVCS Thresholds

Total Number of EVCS at the Facility	Van Accessible: 144 inches wide	Standard Accessible: 108 inches wide
1 to 4	1	0
5 to 25	1	1

Table 1, EVCS Thresholds[6]

Accessibility requirements vary based on the number of EVCS installed.

The code considers the number of EVCS equivalent to the number of EVs that can charge simultaneously.

As shown in Table 1, if four or fewer stations will be installed, one needs to be van accessible. If between five and 25 stations will be installed, one station needs to be van accessible and one needs to be standard accessible.

Configuration

Installing one accessible EVCS (with two charging heads) will require reconfiguration of three standard parking spaces. The following examples show how to maximize space while accommodating an accessible EVCS.

- In Figure 2, two EVs can be charged simultaneously.
- The first space needs to be van accessible, while the second has no accessibility requirements.
- The access aisle for the van accessible EVCS space can be shared with a standard accessible parking space.

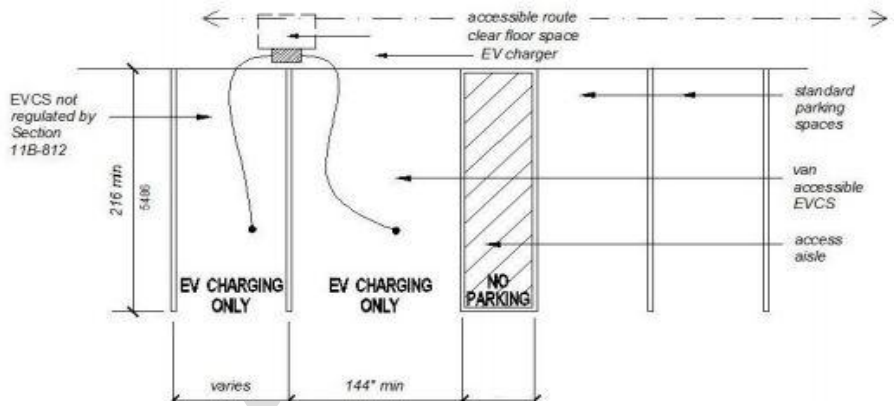

Figure 2, Configuration with two EVCS[7]

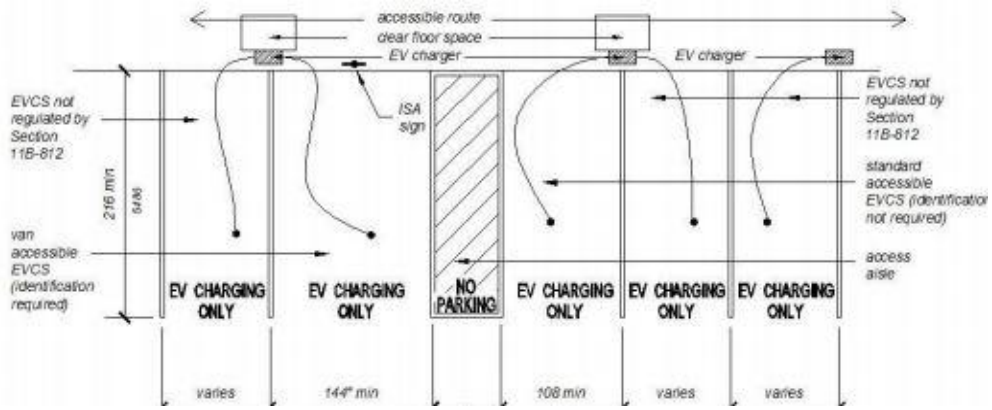

Figure 3, Configuration with five EVCS[8]

- In Figure 3, five EVs can be charged simultaneously.
- One space needs to be van accessible and one needs to be standard accessible.
- The van accessible space is now reserved for ***exclusive use*** by EV drivers with disabilities.

[5] For full specifications, see pg. 13 of ADA-TA, www.ada.gov/adata1.pdf
[6] TABLE 11B-228.3.2.1 Electric Vehicle Charging Stations for Public and Common Use, Pg. 81, www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf
[7] Access California, presentation by Dennis Corelis, DSA. Slide 18. www.pevcollaborative.org/webinars
[8] Access California, presentation by Dennis Corelis, DSA. Slide 21. www.pevcollaborative.org/webinars

Signage

Two signs need to be displayed at the accessible space:

- A standard EV charging sign
- A sign stating the space is "Van Accessible"
- **Even though the first space is designed for disabled access, it is available for use by the general public when less than five stations are installed.**[9]

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Accessible route illustration[11]

Location

Unlike regular accessible parking, accessible EVCS spaces are not required to be on the shortest accessible route to a facility. While they must be on an accessible route and should be as close as possible to the facility, other factors such as the location of electric infrastructure and terrain features may determine their final placement.

An accessible path of travel is defined as a "continuous, unobstructed way of pedestrian passage"[10] from the EVCS to the facility.

Primary Function

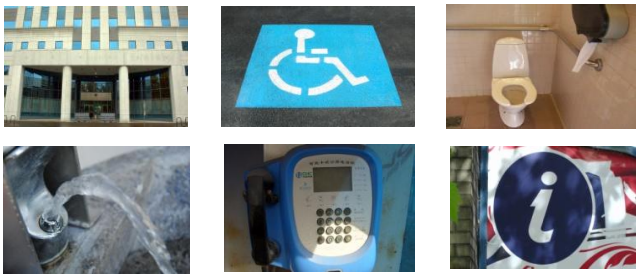
Beyond accessibility to the EVCS, requirements for additional accessibility upgrades differ based on the facility's "primary function". The primary function is a major activity for which the facility is intended.

If the facility's primary function is not vehicle fueling, recharging, parking or storage and the installation does not affect access to the facility, no other ADA upgrades are required.[12]

If the facility's primary function is vehicle fueling, recharging, parking or storage:

Path of travel upgrades are required when installing an EVCS. Path of travel elements include services offered by the facility to the public. If not already in compliance, these elements need to be upgraded[13]:

- The facility's primary entrance
- The route to the EVCS
- Toilet and bathing facilities
- Drinking fountains
- Public telephones
- Signage



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[9] 11B-812.8.2 Where five to twenty-five total EVCS are provided, one van accessible EVCS shall be identified by an ISA. pg. 76 www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf
[10] See 49 CFR § 37.43 (2013)
[11] See ADA Checklist for Polling Places. www.ada.gov/votingck.htm
[12] Federal 2010 ADA standards require "path of travel" upgrades for alterations, but make an exception for projects that do not affect the usability or accessibility of the facility. See chapter 11B-202.4 of the California Building Code.
[13] See Item 11B.51.03, pg. 79 www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf

For facilities with pull-through fueling, an accessible route must be provided to all path of travel elements present at the location. If none of these elements are present, an accessible route should be provided to a pedestrian walkway if some of these elements can be found nearby (i.e. a coffee shop located a few blocks away).[14]

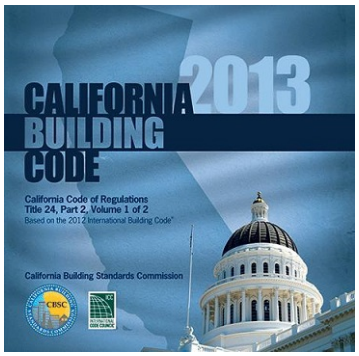
To reduce the financial burden on site hosts, for projects with costs below the "valuation threshold" (currently $150,244) the code **limits the cost of accessibility upgrades to 20% of the total project cost.** For example:

Project Cost	Maximum Cost of Upgrades
$10,000	$2,000
$100,000	$20,000

If all of the path of travel elements cannot be upgraded within the 20% budget, the preceding list is in order of priority. For projects with costs above the valuation threshold, a single code compliant path of travel serving the area of alteration is required. If the cost of full compliance would make the project financially infeasible, the code allows the enforcing agency to make a finding of "unreasonable hardship" on a case-by-case basis to limit the cost of upgrades, with 20% of the project cost as a minimum.[16]

Safe Harbor

- If any path of travel elements were in compliance with the immediately preceding edition of the California Building Code, they do not need to be upgraded.[15]
- For example, if the bathroom facilities are in compliance with the 2013 California Building Code, and an EVCS is installed, no upgrades are required.



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For general information about electric vehicle charging in the North Coast region, please contact:

REDWOOD COAST EnergyAuthority

(707) 269-1700
www.redwoodenergy.org
info@redwoodenergy.org

For more information about accessible EVCS, please consult:

The Proposed Changes to the 2016 California Building Code, Title 24, Part 2.
http://www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf

A presentation by the Division of the State Architect on the proposed changes:
http://www.pevcollaborative.org/sites/all/themes/pev/files/DSA_EVCS%20Webinar%2009%20Sep%202015.pdf

[14] In response to a proposed unmanned fueling station scenario, explained by Dennis Corelis, Deputy State Architect: California Department of General Services, Division of the State Architect. Personal email communication, January 22nd, 2016.
[15] For more information on the safe harbor exception, see section (b)(4)(ii)(c) of 28 CFR 35.151 found in the 2010 ADA Standards for Accessible Design: www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm
[16] For more information on unreasonable hardship, see pg. 27 of the proposed changes to the 2016 CBC, found here: www.documents.dgs.ca.gov/dsa/access/2016-Pt2_Final-Express-Terms_12-22-15.pdf