



STANDARD DETAILS & SPECIFICATIONS SUBJECT: Protection for Energy Storage Systems Subject to Vehicle Damage.	Spec No	<u> A-7 </u>
	Rev. Date	<u> </u>
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	Approved By	<u> </u>
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SCOPE

This standard applies to Energy Storage Systems (ESS) installed in locations subject to vehicle impact as determined by the Fire Code Official.

Exception: ESS less than 1 kWh (3.6 megajoules) per **[CFC §R327.1]**.

REQUIREMENTS

I. Approved Physical Barriers

Where vehicle impact protection is required, physical barriers shall meet any one of the following conditions:

- A. Guard posts (bollards) complying with all of the following **[CFC §312.3]**.
 1. Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.
 2. Spaced not more than 4 feet (1219 mm) between posts on center.
 3. Set not less than 3 feet (914 mm) deep in a concrete footing of not less than 15-inch (381 mm) diameter.
 4. Set with the top of the posts not less than 3 feet (914 mm) above ground.
 5. Located not less than 3 feet (914 mm) from the projected object.



- B. Other barriers that are designed to resist or deflect vehicular impact commensurate with an anticipated impact scenario shall be permitted where approved. Vehicle barriers for passenger vehicles shall be designed to resist a concentrated load of 6,000 pounds (26.7 kN) in accordance with Section CBC 1607.9 and 4.5.3 of ASCE 7 (American Society of Civil Engineers, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*).

II. Where Required in R-3/U Occupancy - Attached and Detached Garages

Vehicle impact protection for ESS installed in residential accessory garages shall meet the following provisions (see diagram):

A. Back wall ESS installations (opposite the garage door opening):

1. Physical barriers in accordance with Section I of this document are required.
2. Wheel stops/curbs are not allowed as vehicle impact protection.

B. Side wall ESS installations:

1. Installations on a sidewall separating the garage from a dwelling unit require physical barrier protection as outlined in Section I of this document.
2. Installations on a sidewall not separating the garage from dwelling unit shall not require vehicle impact protection if installed with a minimum vertical clearance of 36 inches above finished floor. The garage opening return wall must be 18 inches or greater to consider the sidewall out of the vehicle path of travel (see diagram).

C. Return wall ESS installations:

1. ESS not subject to vehicle impact, physical barriers are not required.



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ESS installed on side wall, within 3 feet of back wall, are subject to impact and require protection per section I.

Requirement Ends In Line With Edge of ESS

ESS in the direct line of a vehicle path must be provided with impact protection

