

# **CIRCULATION PATHS AT VEHICULAR TRAFFIC AREAS**

**A Guidance Document Prepared by the  
CALBO Access Code Committee**

**Based on the  
2022 California Building Code**

## PREFACE

The contents of this guidance document are intended to be informative and not a substitute for the requirements of the California Building Code. Under state law and local ordinances, the enforcement official having jurisdiction interprets the requirements of the building code. As such, the following guidance is not binding on any building official. This document does not constitute legal advice on compliance with federal, state, or local laws and regulations, which are subject to revisions, additions, or deletions, at any time.

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# INTRODUCTION

Amendments to Chapter 11B of the 2019 California Building Code (CBC) added provisions which require a separation between pedestrian circulation paths and vehicular traffic areas. These provisions apply to the design and construction of public buildings, public accommodations, commercial buildings, and public housing for building permit applications filed on or after July 1, 2021. The California Building Officials (CALBO) Access Code Committee has developed this guidance document to help design professionals, contractors, and enforcement personnel understand the intent of these new code provisions and how to apply them.

## DEFINITIONS

Pertinent definitions from the California Building Code:

**BLENDED TRANSITION** - *A raised pedestrian crossing, depressed corner or similar connection that has a grade of 1:20 or less between a circulation path at the level of the sidewalk or walk and the level of a vehicular way.*

**CIRCULATION PATH** - *An exterior or interior way of passage provided for pedestrian travel, including but not limited to, walks, sidewalks, hallways, courtyards, elevators, platform lifts, ramps, stairways, and landings.*

**CURB CUT** - *An interruption of a curb at a pedestrian way, which separates surfaces that are substantially at the same elevation.*

**CURB RAMP** - *A sloping prepared surface, intended for pedestrian traffic, which provides access between a walk or sidewalk and a surface located above or below an adjacent curb face.*

**DETECTABLE WARNING** - *A standardized surface feature built in or applied to walking surfaces or other elements to warn persons with visual impairments of hazards on a circulation path.*

**DRIVE AISLE** - *A vehicular way provided within a parking facility that connects vehicular entrances, parking stalls, electric vehicle charging stations, passenger loading zones, and vehicular exits.*

**DRIVEWAY** - *A vehicular way providing access between a public way and a building, parking facility, or other off-street area. A driveway may provide access to drive aisles in a parking facility.*

**VEHICULAR WAY** - *A route provided for vehicular traffic, such as in a street, driveway, or parking facility.*

**VEHICULAR TRAFFIC** *includes travel through parking facilities, into and out of parking spaces, into and out of electric vehicle charging spaces, and along roadways, driveways and drive aisles.*

## KEY CONCEPTS

**KEY CONCEPT #1:** Circulation paths that are physically separated from vehicular traffic offer improved safety for pedestrians.

Travel through a vehicular traffic area can pose a hazard to persons who have visual impairments, persons moving slowly due to mobility impairments, and persons of short stature.<sup>1</sup>

Physically separated circulation paths provide a safer route for pedestrians when compared to travelling through a roadway, driveway, or drive aisle parallel to the direction of vehicular traffic. Options for separating circulation paths from vehicular traffic areas include, but are not limited to: raised walking surfaces, planters, and continuous railings or walls.

**KEY CONCEPT #2:** Detectable warnings inform persons with visual impairments of potential hazards along circulation paths.

Detectable warnings inform persons with vision impairments that a potential hazard is present beyond the warning surface. One of these hazards is vehicular traffic. Detectable warnings are located on the pedestrian side of the boundary between circulation paths and vehicular traffic areas. They require truncated domes and sufficient contrasting color and resiliency with the adjacent pavement to be detectable by persons with low vision and those who are blind and use a cane.

Detectable warnings lose their warning value and confuse pedestrians when they are located within vehicular traffic areas, such as in driveways, drive aisles, along crossings, or within access aisles for vehicles spaces. At these locations, the pedestrian has already entered the potentially hazardous area.

**KEY CONCEPT #3:** Travel over detectable warnings is painful for some persons with mobility impairments.

Raised surfaces of detectable warnings (truncated domes) are numerous small changes in level along the circulation path. These changes in level can cause significant discomfort to persons in wheelchairs or walkers as they travel across them. The location and length of detectable warnings along the circulation path must be limited to meet the needs of persons with vision impairments and those operating mobility devices. In some cases, sufficient width may be required so that mobility device users can travel alongside but not over detectable warning surfaces.

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<sup>1</sup> ICC Standard A117.1-2017 Standard and Commentary, Accessible and Usable Buildings and Facilities, Pg 5-24

## PROVISIONS AND COMMENTARY

### **11B-250 Circulation Paths**

**11B-250.1 General.** *Circulation paths contiguous to vehicular traffic shall be physically separated from vehicular traffic. Vehicular traffic includes travel through parking facilities, into and out of parking spaces, into and out of electric vehicle charging spaces, and along roadways, driveways and drive aisles. Physical separation shall be provided with circulation paths raised 4 inches (102 mm) minimum above the area where vehicular traffic occurs.*

**Commentary:** This section generally requires a physical separation between circulation paths and contiguous vehicular traffic areas. Circulation paths are not considered contiguous when separated from vehicular traffic areas by planters, railings or walls. Separating elements must be cane detectable by persons with vision impairment, and continuous along the path.

#### **EXCEPTIONS:**

1. *Curb ramps and blended transitions with detectable warnings complying with Section 11B-247 may be used to connect raised circulation paths and pedestrian crossings within areas of vehicular traffic. Blended transitions and cut-through medians with detectable warnings complying with Section 11B-247 may be used to connect circulation paths and pedestrian crossings at similar elevations within areas of vehicular traffic.*

**Commentary:** This exception recognizes that curb ramps and blended transitions are the appropriate locations to place detectable warnings. Blended transitions with detectable warnings are permitted to be at the same elevation as the vehicular traffic area (what is traditionally referred to as a “zero curb” or “flush transition”).

2. *At locations where sidewalks and walks in the public right-of-way cross driveways without yield or stop traffic control, compliance with this section shall not be required.*

**Commentary:** This section exempts driveway crossings in the public right-of-way when the crossing does not have yield or stop traffic control. This section is intended to prevent detectable warnings being placed at every parking lot entrance or driveway along a street. Such over-use would quickly lose any meaning to a person with vision impairment.

Existing state laws provide protection for pedestrians along sidewalks. California Vehicle Code (CVC) Section 21952 requires that vehicles yield to pedestrians when the vehicle is driving over a sidewalk. CVC Section 21970 prohibits vehicles from stopping on or blocking sidewalks. CVC Section 21963 gives blind pedestrians navigating with a cane the right-of-way at all times.

Because this exception applies to circulations paths in the public right-of-way, the term “traffic control” refers only to official traffic control elements

located in the public way or mandated by a public agency. It is the opinion of the CALBO Access Code Committee that unofficial traffic control elements located on private property are not considered “traffic control” in the context of this exception.

3. *At locations where circulation paths cross driveways or drive aisles, circulation paths shall not be required to comply with this section and detectable warnings shall not be permitted. Beyond the crossing where continuation of the circulation path within a parking facility leads immediately to and does not continue beyond only parking spaces complying with Section 11B-502, passenger drop-off and loading zones complying with Section 11B-503 and electric vehicle charging stations complying with Section 11B-812, the circulation path shall not be required to be raised.*

**Commentary:** The first part of this exception applies specifically to the portion of a circulation path which crosses a driveway or drive aisle. At a crossing, the direction of pedestrian travel is typically perpendicular to the direction of vehicular travel. However, the code does not prohibit designs which require pedestrians to cross at an angle to the direction of vehicular traffic. It is the opinion of the CALBO Access Code Committee that a circulation path which crosses a vehicular traffic area may depart by no more than 45 degrees from perpendicular to the direction of vehicular traffic.

This section specifically prohibits detectable warnings from being placed along a crossing where vehicles will regularly drive over them, causing damage and ultimately rendering them useless.

The second part of this exception recognizes that raised circulation paths are not needed in locations beyond a crossing where the circulation path serves only vehicle access points (parking spaces, EV spaces, and/or passenger drop-off and loading zones). It is reasonable to assume that people with vision impairments will not be drivers, and they will have a sighted person to assist them when using a circulation path that only serves vehicle access points.

4. *In alterations to existing parking facilities, including alterations required by Section 11B-202.4, physical separation may be provided with detectable warnings complying with Sections 11B-247 and 11B-705.1 in lieu of raised circulation paths.*

**Commentary:** Requirements for raised circulation paths are intended for new facilities. This exception allows existing facilities constructed under previous editions of the California Building Code to continue their use of detectable warnings alone to separate pedestrian and vehicular ways. Existing facilities making improvements that are subject to the path of travel provisions of CBC 11B-202.4 are also covered under this exception and are not required to provide raised circulation paths.

5. *Access aisles serving any electric vehicle charging station vehicle spaces complying with Section 11B-812, parking spaces complying with Section 11B-502, or passenger drop-off and loading zones complying with Section 11B-503 shall not be required to comply with this section.*

**Commentary:** Access aisles provide a space for drivers and passengers with disabilities to access their wheelchair or mobility device from the vehicle. Access aisles must be at the same level as the accessible parking space, passenger drop-off and loading zone, or EV space served.

6. At each electric vehicle charging station complying with Section 11B-812 where the charger and its controls are oriented toward the vehicle space it serves and the charger's clear floor spaces for operable parts and point-of-sale devices are at the same elevation as the vehicle space, the accessible route complying with Section 11B-812.5.2 shall not be required to comply with this section.

**Commentary:** This exception recognizes the practical need to have circulation paths between EVCS access aisles and EV chargers at the same elevation for improved wheelchair access and use.

## QUESTIONS AND ANSWERS

The following Q&A section includes responses to questions received by the CALBO Access Code Committee pertaining to circulation paths and detectable warnings.

1. *What is the difference between an accessible route and a circulation path?*

Accessible routes are a type of pedestrian path that can accommodate people with all types of disabilities, including mobility device users. Circulation paths are inclusive of all pedestrian routes, including those with stairs. Vehicular traffic areas, such as parking lots, are not considered circulation paths. There are specific special requirements at crossings, which are used by both vehicles and pedestrians.

2. *When are circulation paths and vehicular traffic areas considered contiguous?*

A circulation path is considered contiguous to vehicular traffic when the boundary between the circulation path and vehicular traffic is not physically separated. A physical separation can be provided by a path raised 4 inches minimum, or by another element such as a planter, railing, or wall which, in the opinion of the enforcing authority, provides an equal or better separation.

3. *Do all circulation paths in parking facilities need to be separated?*

Driveways, drive aisles, parking spaces, EV spaces, and access aisles within parking facilities are not considered circulation paths. Section 11B-250.1, Exception 3 indicates that circulation paths at crossings need not be separated from the adjacent vehicular traffic area.

4. *Are these new provisions for the benefit of persons with vision impairments or mobility impairments or both?*

These new provisions are for the benefit of people with vision impairments and people with mobility impairments. Circulation paths which are separated from vehicular traffic provide a safer and more accessible built environment.

5. *Do circulation paths that cross a drive aisle require identifiable striping?*

No. Chapter 11B does not require marked crossings. Chapter 11A does require marked crossings, but does not provide technical provisions for the marking itself.

6. *Where are detectable warnings required to be installed?*

Detectable warnings are required at all curb ramps, blended transitions, islands, cut-through medians, platform edges, and track crossings. See CBC Sections 11B-250.1, Exception 1, and 11B-247.

7. *How do these requirements apply to on-street accessible parking spaces?*

CBC Chapter 11B applies to sidewalks in the public right-of-way but does not regulate the parking in the street.

8. *Can an accessible route be in a drive aisle?*

A circulation path or accessible route is permitted to cross a drive aisle, but cannot coincide with a drive aisle in the direction of vehicular traffic. The definition of “accessible route” includes “crosswalks” but not the vehicular ways themselves.

9. *When a circulation path crosses a driveway or vehicle aisle, must it cross perpendicular to the flow of traffic or can there be a horizontal component to the crossing?*

Chapter 11B is silent on whether a crossing at a driveway or drive aisle must be perpendicular to the flow of traffic. It is the opinion of the CALBO Access Code Committee that a departure from perpendicular of up to 45 degrees would be considered a crossing in the context of CBC Section 11B-250.1, Exception 3.

10. *Is there a limit to the width of a blended transition or a curb ramp?*

No. CBC Sections 11B-406.3.2, 11B-406.5.2, and 11B-406.5.3 indicate only minimum widths for a curb ramps and blended transitions.

11. *How does this work at the entrance to big box stores? Does everyone exiting the store have to funnel down the curb ramp?*

The types of “flush transitions” or “zero curbs” commonly seen in these locations are still permitted in new construction as “blended transitions.” See CBC Section 11B-250.1, Exception 1. There is no maximum width for a blended transition.

12. *Is there not a concern that this introduces more tripping hazards?*

Compliance with Section 11B-250.1 can be achieved without introducing “tripping hazards.” It is also important to note that Chapter 11B does not regulate “tripping hazards.”

13. *Why are there no alternative methods (of equal or better) to physical separation other than the raised 4" walk?*

Only circulation paths that are "contiguous" to vehicular traffic must be raised 4" minimum. See CBC Section 11B-250.1. Elements such as planters, railings, or walls between circulation paths and vehicular traffic can provide an alternative physical separation.

14. *How do you raise the circulation path 4" above the vehicular traffic at driveways?*

The driveway itself is not permitted to serve as a circulation path (other than at crossings). In either case, the driveway itself would not be required to be raised. See CBC 11B-250.1, Exception 3.

15. *Do wheel stops provide adequate separation from a circulation path such that the circulation path is not adjoining a vehicular way?*

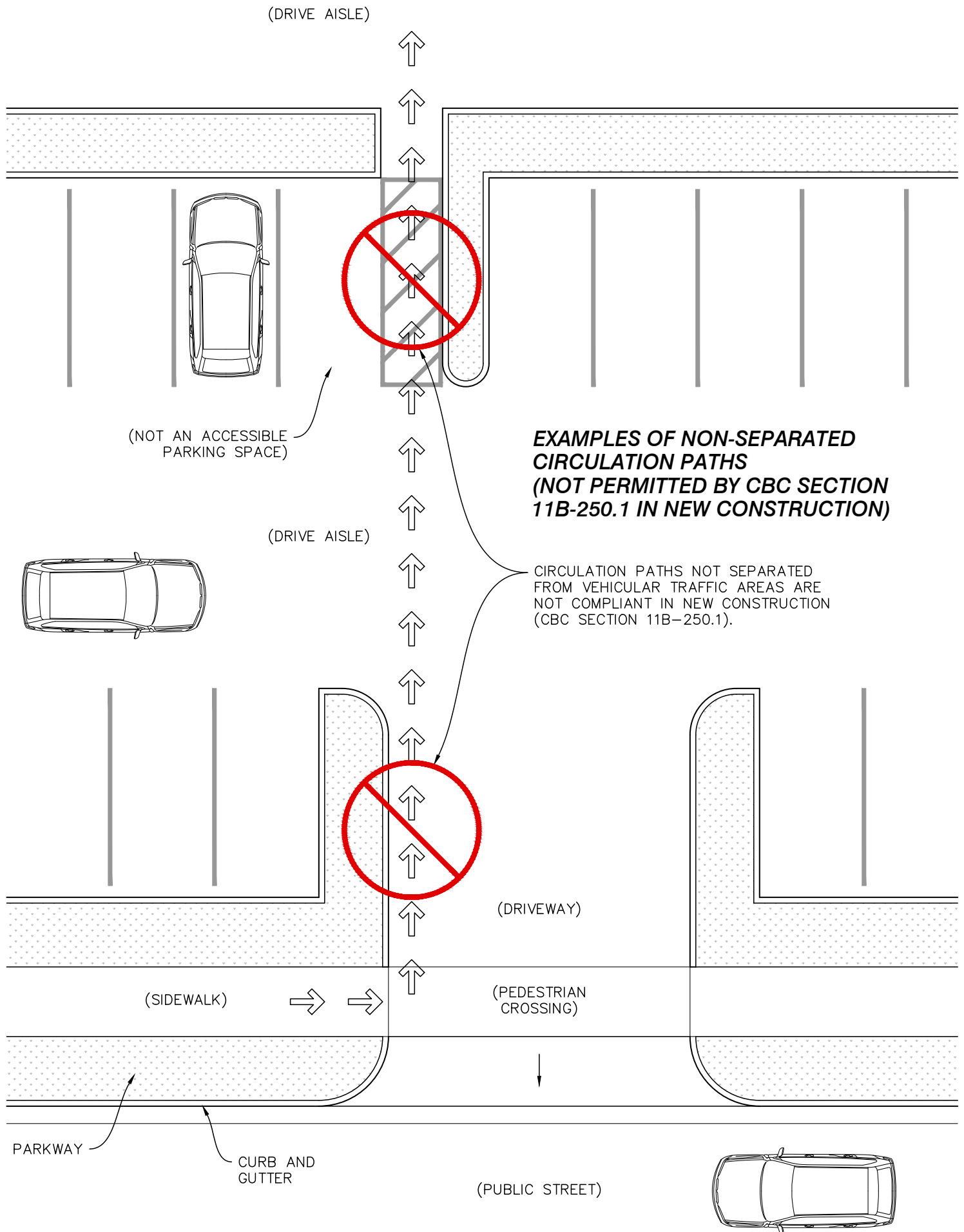
No. Wheel stops occur within the vehicular traffic area and therefore would not provide an adequate physical separation.

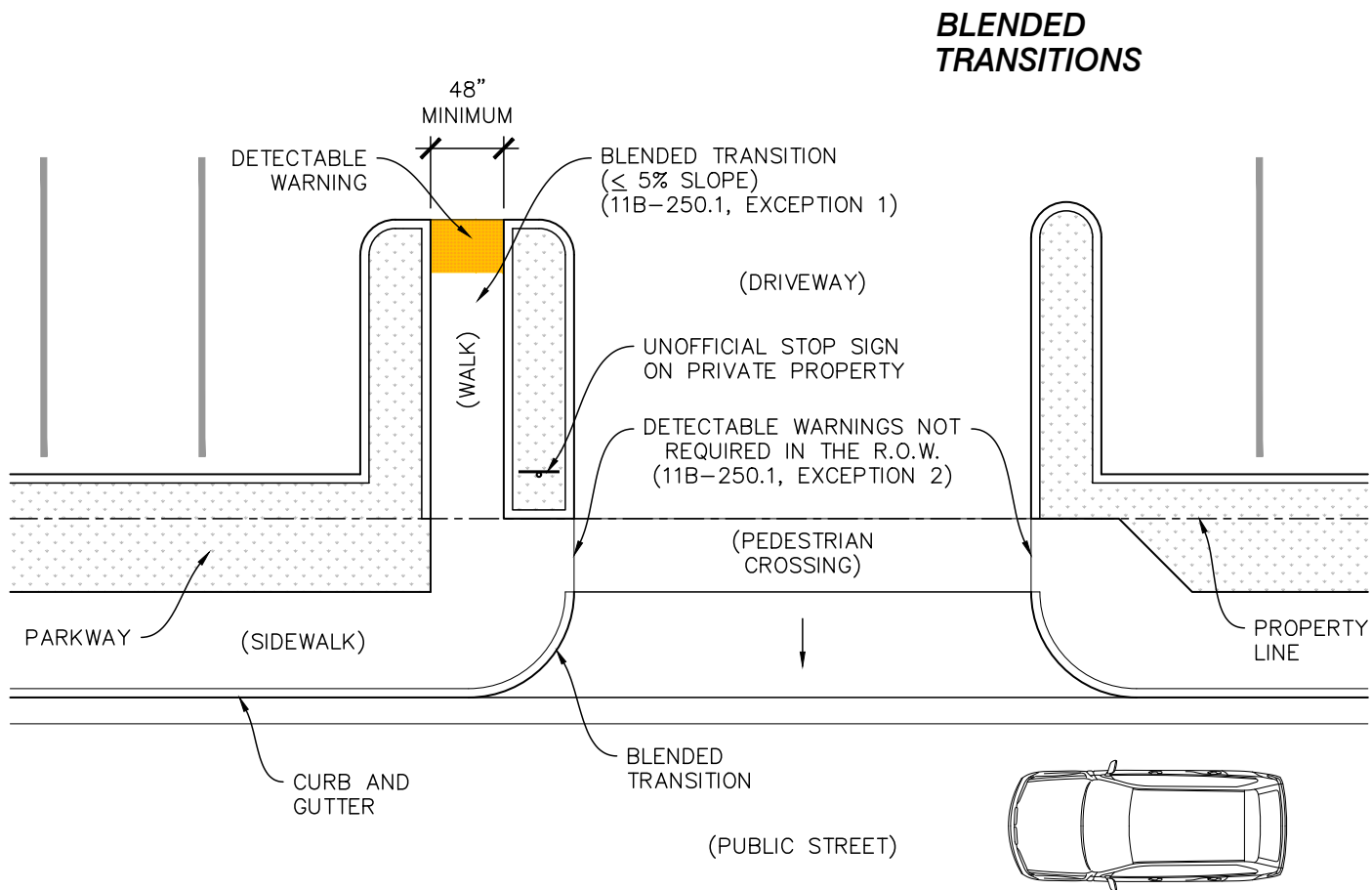
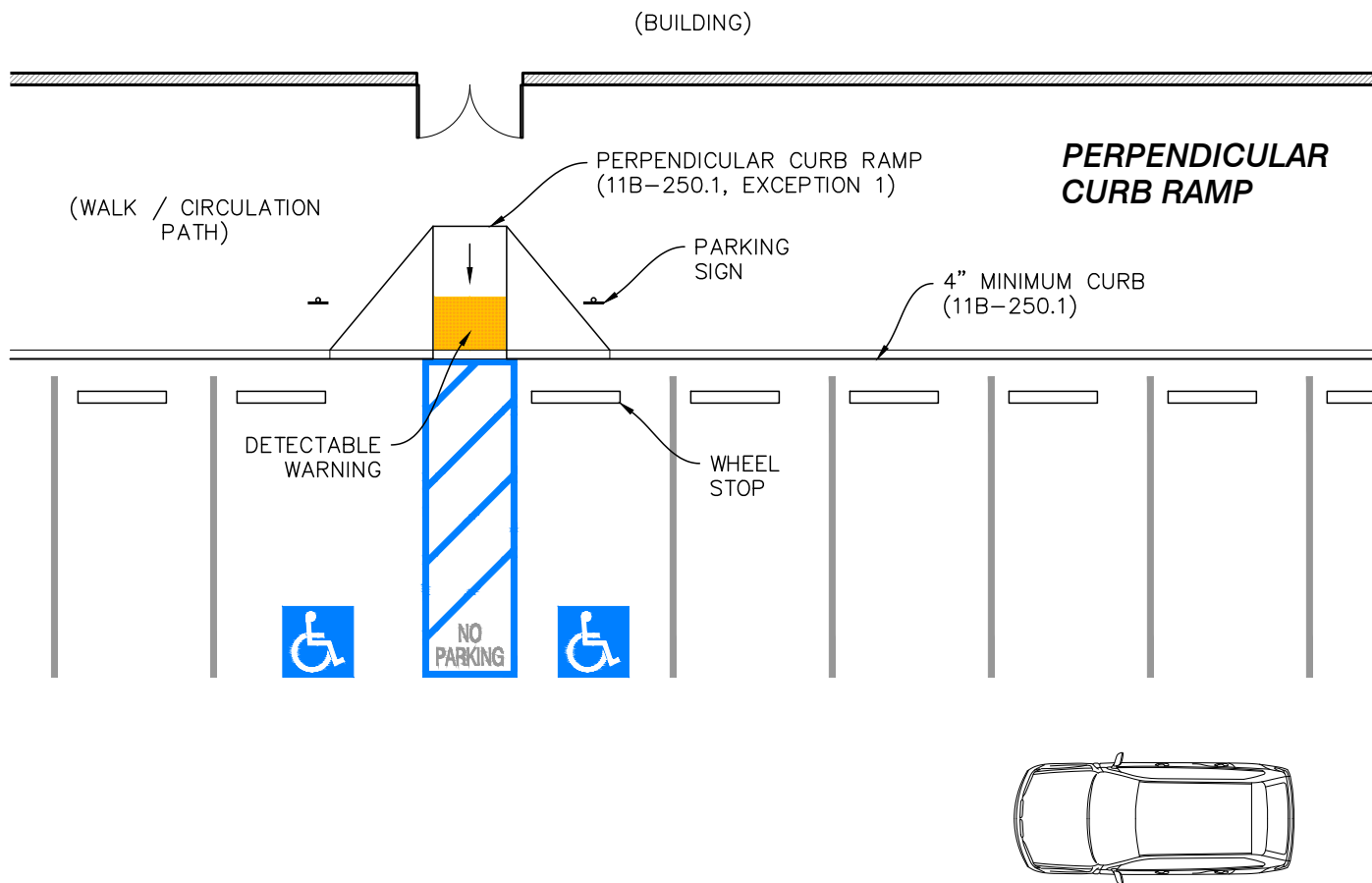
16. *Are all areas used by vehicles considered "vehicular traffic?" Is a raised circulation path required at spaces used only by delivery vehicles, vehicle repair facilities, warehouses, and adjacent to unloading zones in self-storage facilities?*

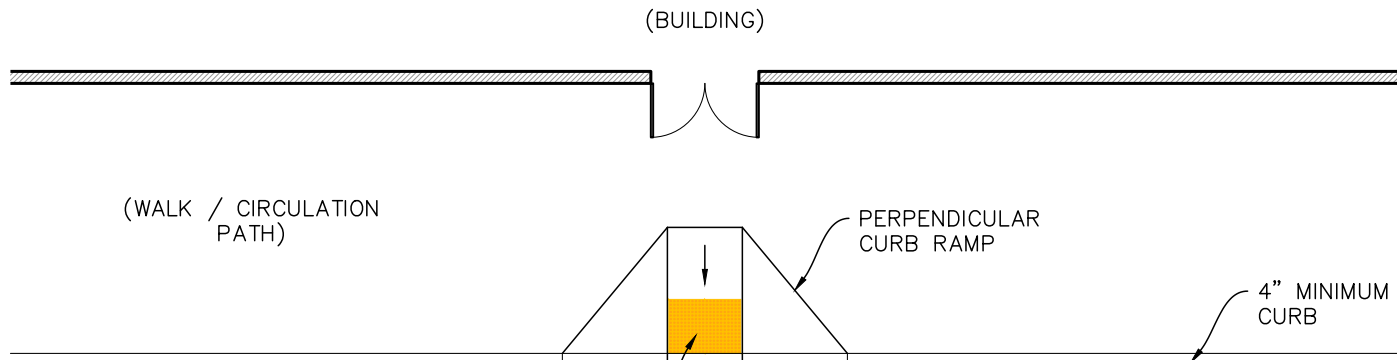
CBC Section 11B-250.1 states "Vehicular traffic includes travel through parking facilities, into and out of parking spaces, into and out of electric vehicle charging spaces, and along roadways, driveways and drive aisles." A vehicular way used only by delivery vehicles may not be considered vehicular traffic in this context, and could therefore be exempt from compliance with Section CBC 11B-250.1. For the other types of facilities mentioned, the provisions of CBC Section 104.11 (alternate design) and 11B-103 (equivalent facilitation) could be applied for designs that meet the intent of the regulations.

17. *Are dedicated circulation paths from non-accessible parking spaces required? Can these circulation paths pass behind other parked cars?*

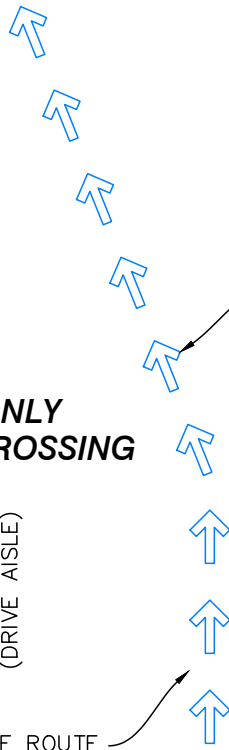
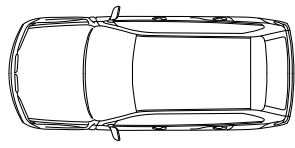
Parking spaces, EV spaces, and passenger drop-off and loading zones (including those which are non-accessible) are considered vehicular traffic areas, not circulation paths. The provisions of CBC Section 11B-250.1 only apply to circulation paths contiguous to vehicular traffic and those that cross driveways or drive aisles.







(DRIVE AISLE)

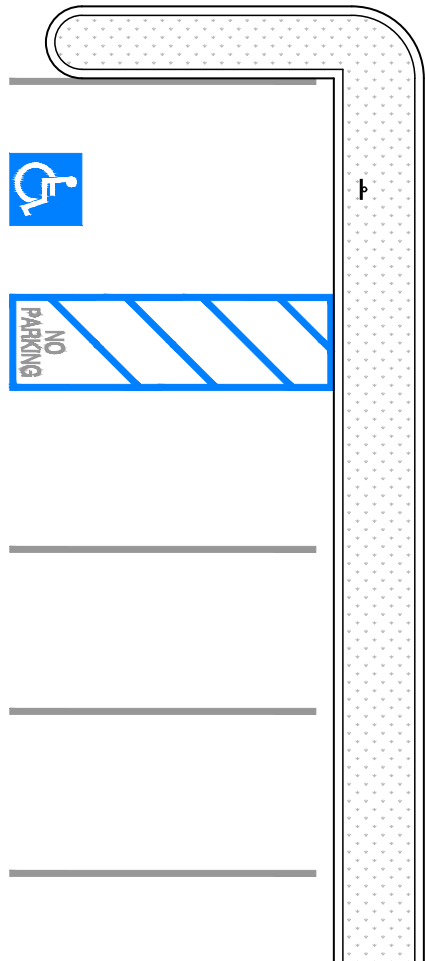
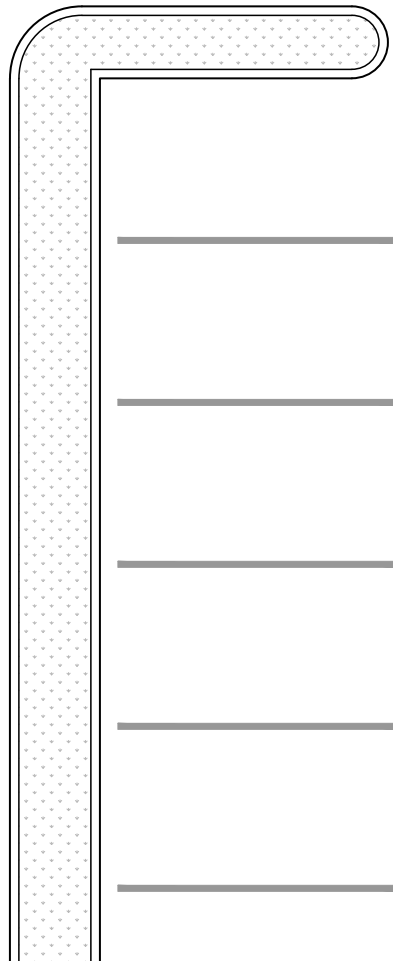


(ARROWS INDICATE THE ACCESSIBLE ROUTE, NOT REQUIRED MARKINGS.)

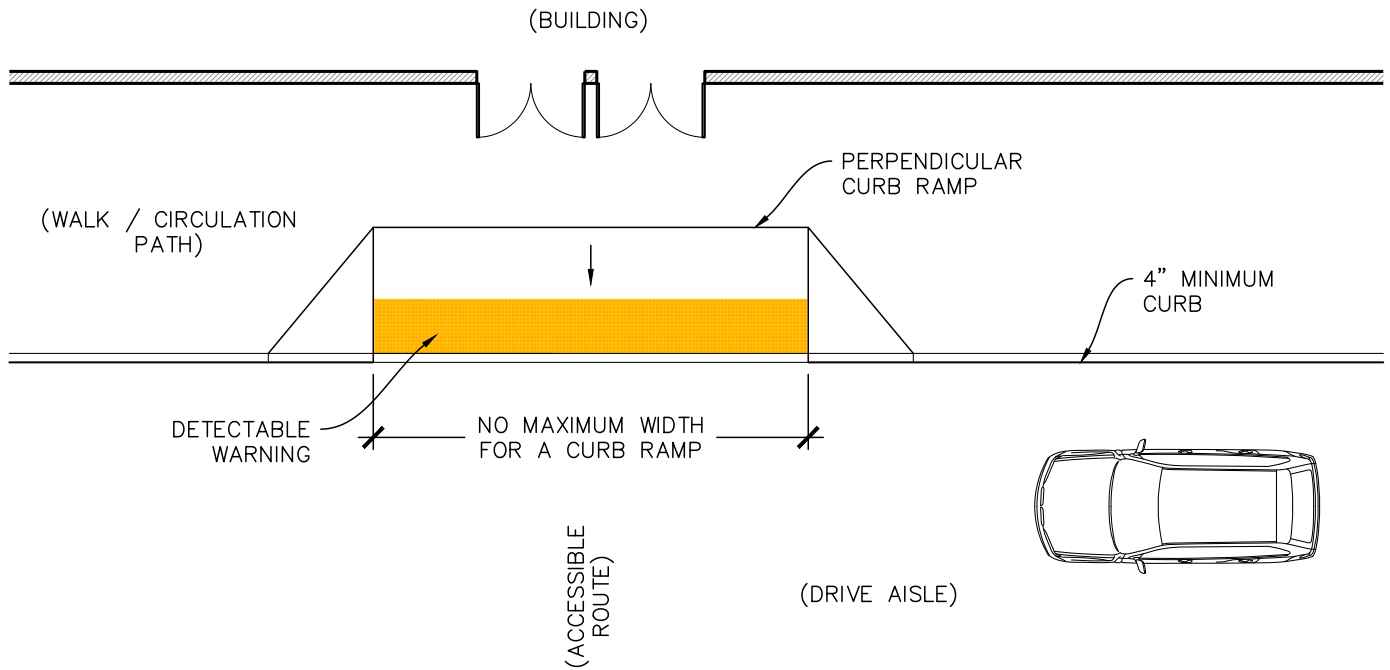
**PARKING ONLY  
BEYOND CROSSING**

(DRIVE AISLE)

THE ACCESSIBLE ROUTE  
MAY PASS BEHIND THE  
PARKING SPACE IN WHICH  
A PERSON WITH A  
DISABILITY HAS PARKED.  
(11B-502.7.1)

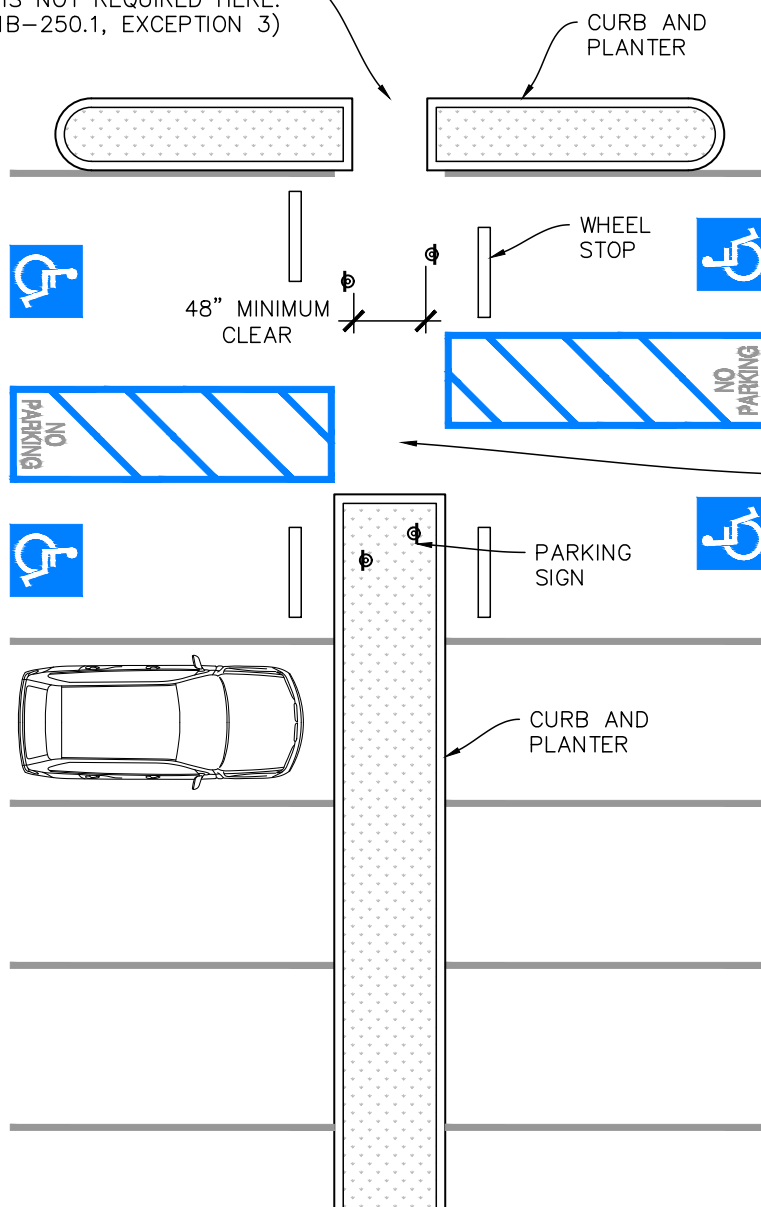




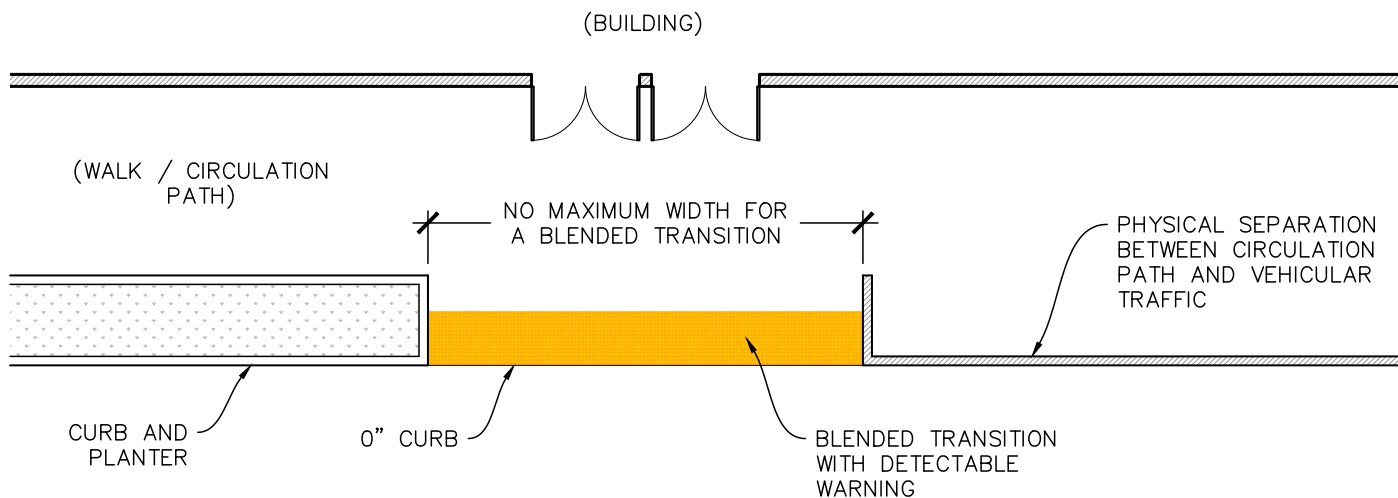


A DETECTABLE WARNING IS NOT REQUIRED HERE.  
(11B-250.1, EXCEPTION 3)

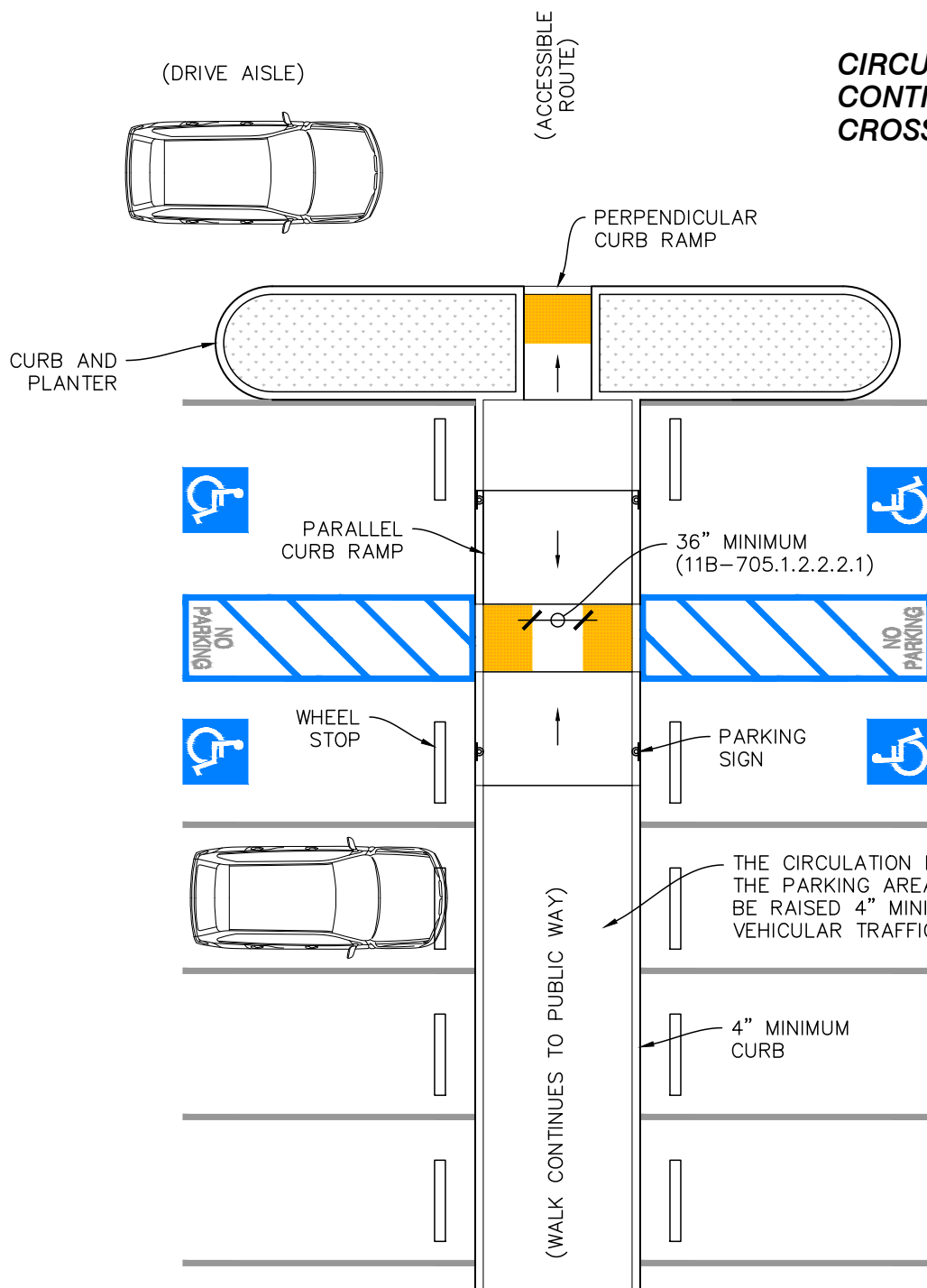
**PARKING ONLY  
BEYOND CROSSING**

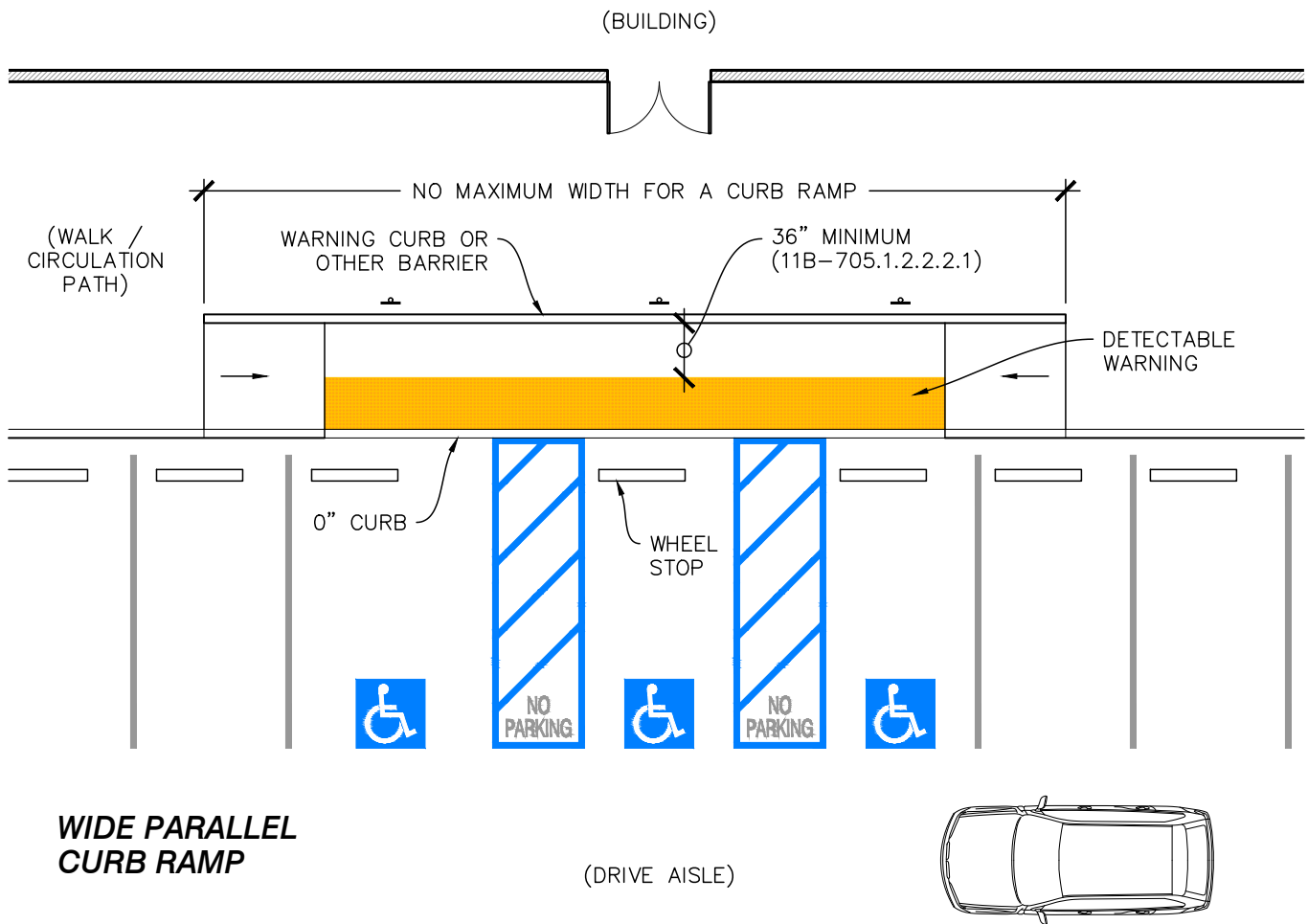


THIS CIRCULATION PATH DOES NOT CONTINUE BEYOND THE PARKING AREA. THEREFORE, IT DOES NOT NEED TO BE RAISED.  
(11B-250.1, EXCEPTION 3)



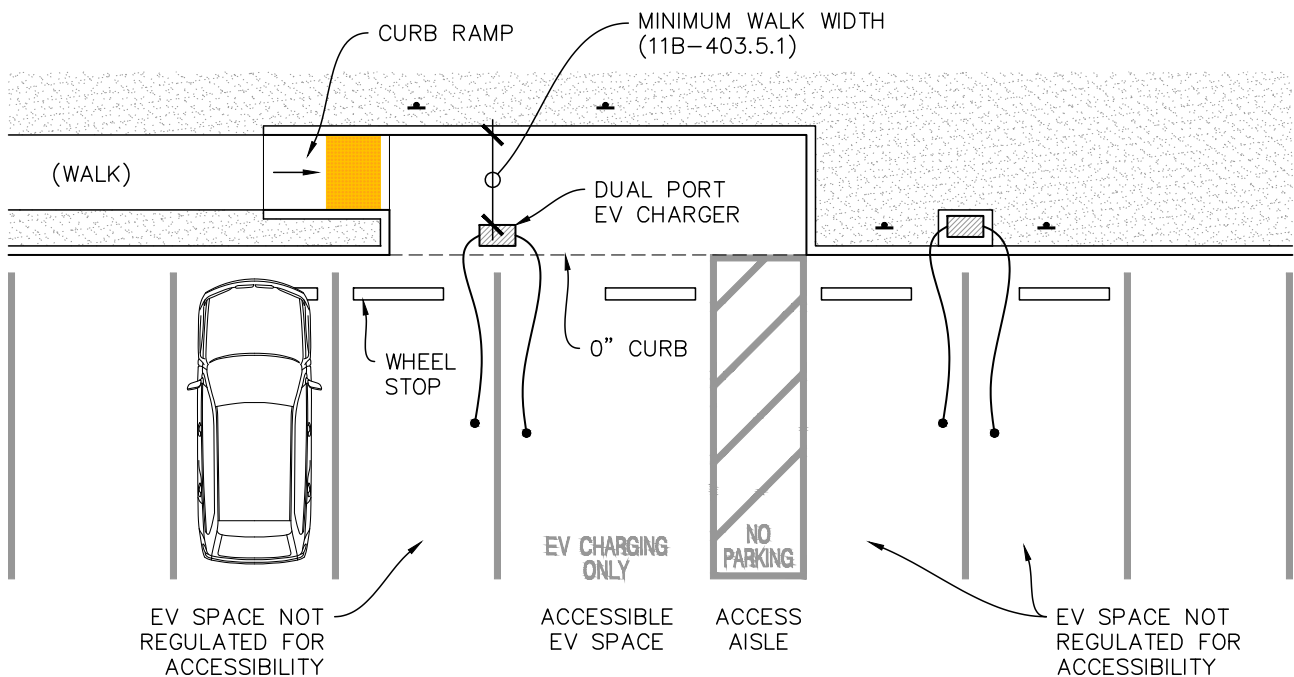
**CIRCULATION PATH CONTINUES BEYOND CROSSING**

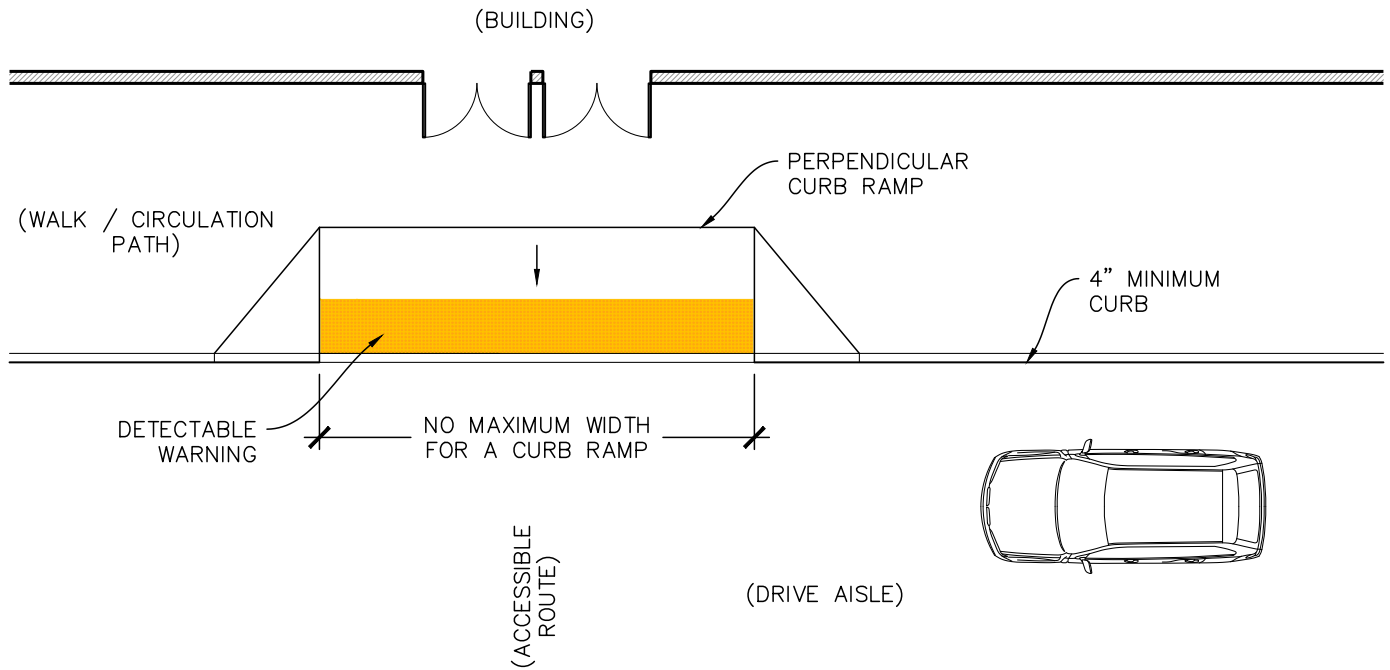




## EV CHARGER AT SAME ELEVATION AS EV SPACE

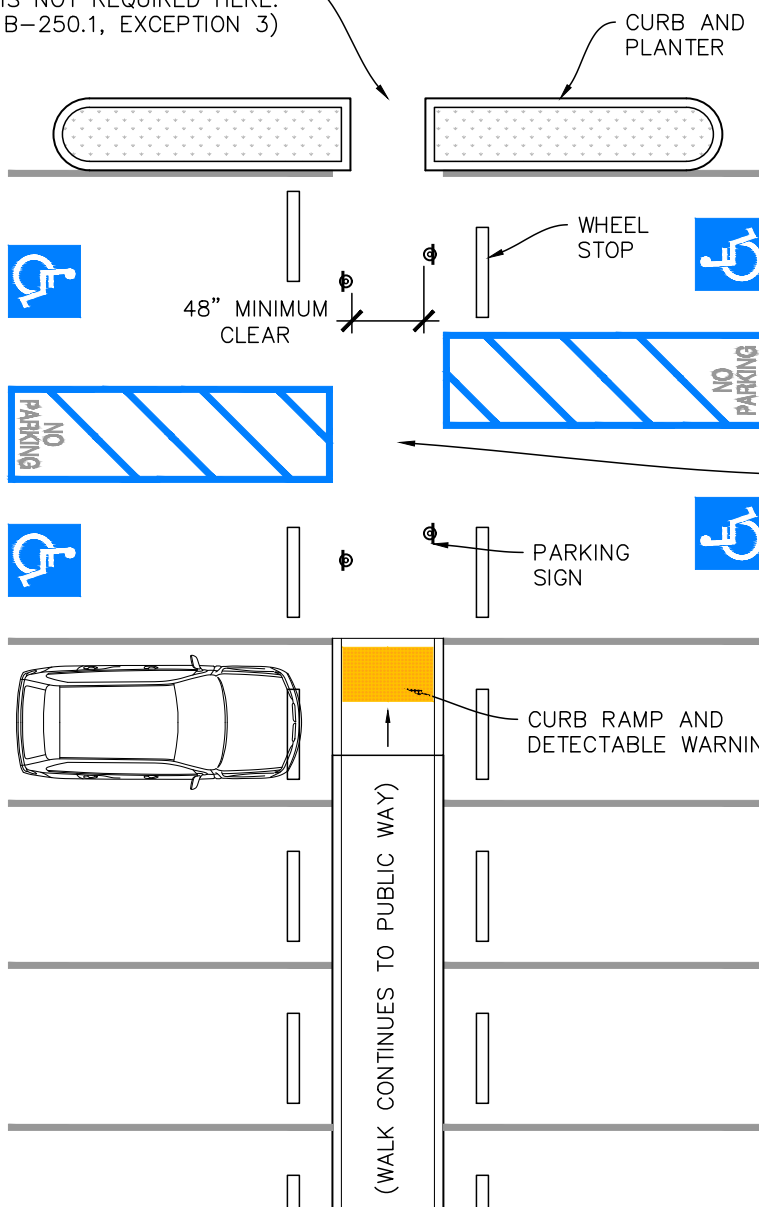
WHERE THE EV CHARGER AND ITS CONTROLS ARE ORIENTED TOWARD THE VEHICLE SPACE IT SERVES AND THE CLEAR FLOOR SPACE IS AT THE SAME ELEVATION AS THE CHARGING SPACE, A RAISED CIRCULATION PATH IS NOT REQUIRED. (11B-250.1, EXCEPTION 6)



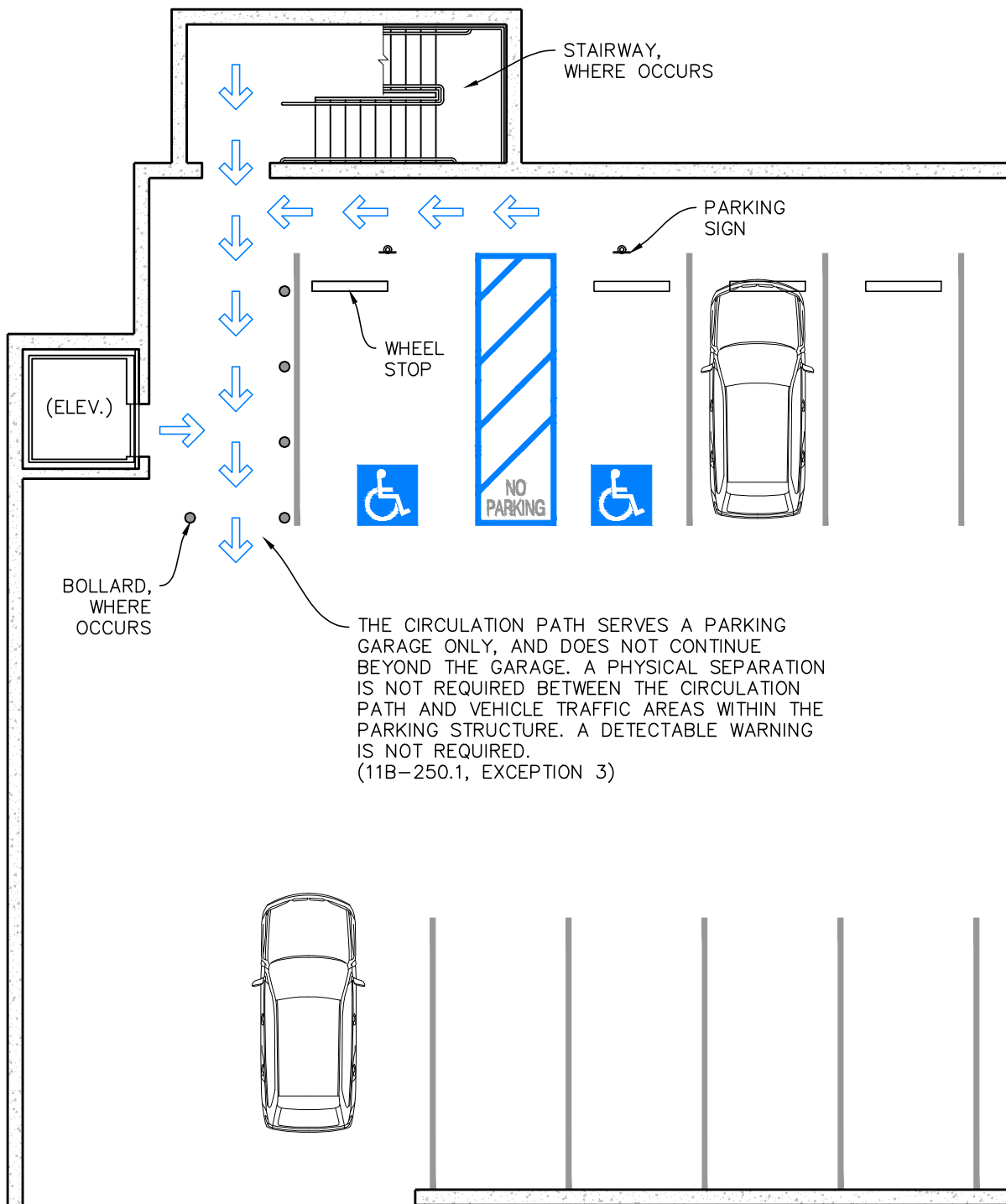


**ALTERATION TO EXISTING PARKING FACILITY:  
CIRCULATION PATH CONTINUES BEYOND PARKING**

A DETECTABLE WARNING IS NOT REQUIRED HERE.  
(11B-250.1, EXCEPTION 3)



THE CIRCULATION PATH CONTINUES BEYOND THE PARKING AREA. HOWEVER, IN EXISTING FACILITIES THE CIRCULATION PATH NEED NOT BE RAISED, AND DETECTABLE WARNINGS CAN SERVE AS THE REQUIRED SEPARATION.  
(11B-250.1, EXCEPTION 4)



**MULTISTORY PARKING STRUCTURE**