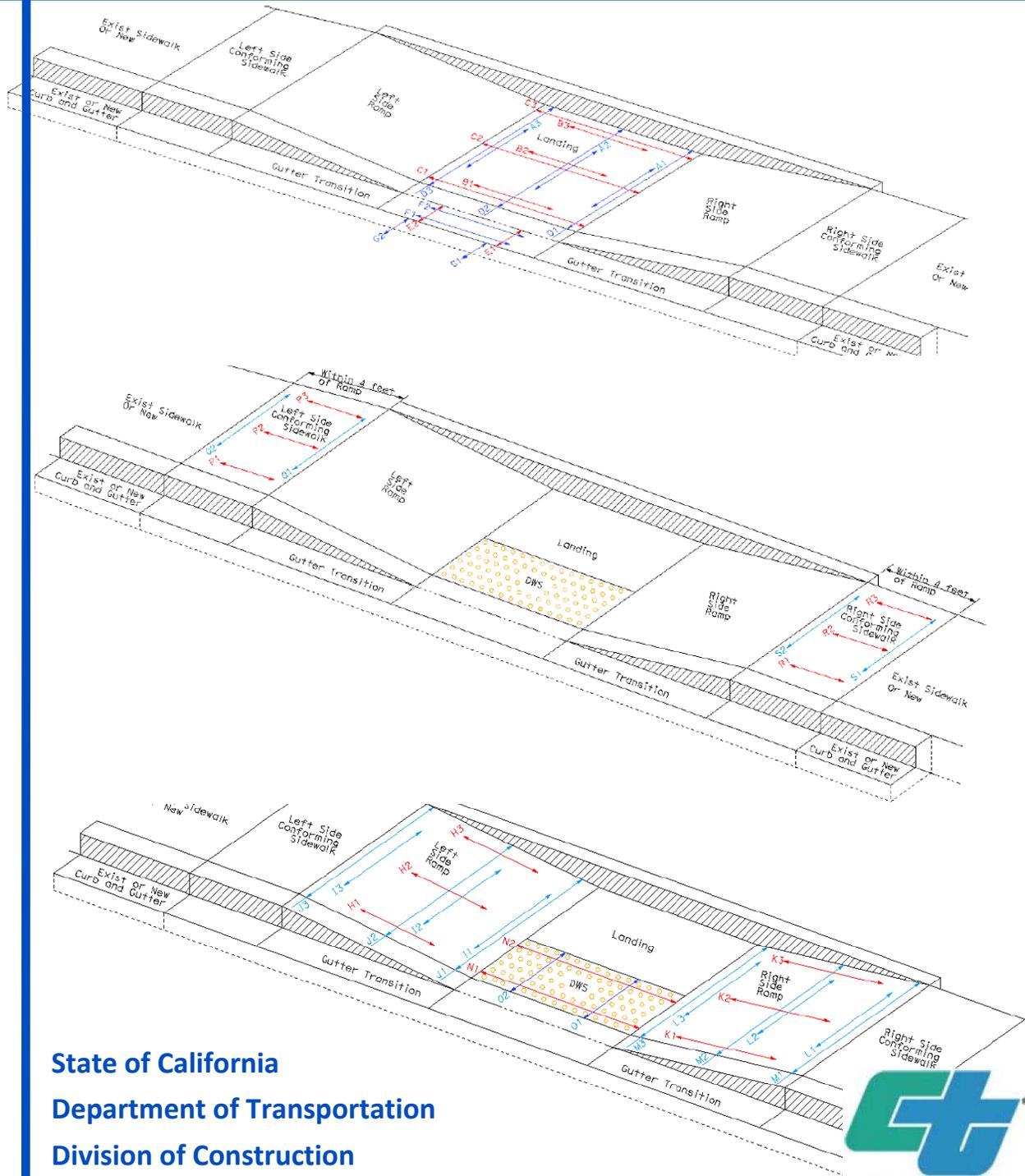


PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK



State of California
Department of Transportation
Division of Construction
March 2018



PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK

State of California Department of Transportation
Division of Construction

Prepared by

Office of Contract Administration

1120 N Street, MS 44

Sacramento, CA 95814

MARCH 2018



Cover images: Curb Ramp Inspection Forms

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**About the
PERMANENT PEDESTRIAN FACILITIES
ADA COMPLIANCE HANDBOOK**

This handbook provides information for inspection of permanent pedestrian facilities for compliance with the Americans with Disabilities Act (ADA) standards based primarily on Design Information Bulletin (DIB) 82-06, "Pedestrian Accessibility Guidelines for Highway Projects," for the California Department of Transportation (Caltrans).

Caltrans Division of Construction will revise and update this manual to keep current with revisions to DIB, other standards and guidance concerning ADA compliance. Employees should forward suggestions for improving this manual, to the office responsible for maintaining this document, which can be found on the Division of Construction website, at:

<http://www.dot.ca.gov/construction/index.html>

Responsible office:

HQ Office of Contract Administration
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1120 N Street, MS 44
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Introduction

The California Department of Transportation (Caltrans) developed this handbook for construction field staff who inspect permanent pedestrian facilities in consideration of American with Disabilities Act (ADA) requirements. Not unlike other facilities on Caltrans projects, staff help ensure the constructed facilities comply with the contractual requirements of the plans and specifications. However, unlike other facilities, there are absolute ADA compliance measurement requirements for permanent pedestrian facility features. Designers are to provide project details for these facilities that comply with ADA requirements pursuant to Design Information Bulletin (DIB) 82-06, “Pedestrian Accessibility Guidelines for Highway Projects,” while accommodating project constraints. While field staff are not expected to be experts in ADA codes and regulations, there is a need to have a basic understanding of ADA compliance when inspecting these facilities. Field conditions or contractor’s construction methods may affect compliant construction of these facilities, and field staff need to be cognizant of how potential changes in these facilities may affect contract compliance, as well as ADA compliance. When questions arise, staff should not hesitate to contact their project engineer to obtain assistance.

Standard Measurement Tools and Practices

For assessing compliance of dimensions of permanent pedestrian facilities, use a measuring tape with minimum 1/8-inch increments. For each facility's dimensional feature (for example, width of curb ramp) take three measurements equally dispersed across the feature in question. Evaluate each measurement individually for compliance; do not average the individual measurements. Due to the accuracy of the instrument, any individual measurement within 1/4-inch of the compliance dimensional value is deemed acceptable.

For assessing compliance of slopes of permanent pedestrian facilities, use a smart level with a minimum sensor accuracy of 0.1 degrees. Calibrate the smart level in accordance with the manufacturer's instructions each day before taking measurements. Slope measurements are to be taken parallel and perpendicular to the pedestrian path of travel. If the pedestrian facility feature will accommodate, use a 4-foot smart level for taking measurements. Where the feature will not accommodate the 4-foot smart level, a 2-foot smart level may be used for taking measurements. If the feature will not accommodate a direct measurement with a 2-foot smart level, uniform blocking may be used. Verify the measured surface is free of grit and other substances prior to placing the smart level. For each facility's slope feature, take three measurements equally dispersed across the feature in question. Evaluate each measurement individually for compliance; do not average the individual measurements. Due to the accuracy of the instrument, any individual measurement within 0.2 percent of the compliance slope value is deemed acceptable.

For example, plans show a maximum slope requirement of 1.5 percent and the maximum ADA compliance value of the slope is known to be 2.0 percent. If all three of the measured slopes are 1.7 percent (1.5 percent + 0.2 percent [tool accuracy]) or less, contract and ADA compliance have been achieved. In the event the measurement falls outside contract compliance but within ADA compliance, no corrective work may be necessary; however, a credit may be due to the State. In the event the measurement falls outside both contract compliance and ADA compliance, corrective work will be required.

Latitude and longitude measurements for each permanent pedestrian facility will be used to identify and differentiate the permanent pedestrian facilities as part of an asset management system. Currently, there are multiple free GPS applications available for smart phones, tablets and desktop computers that will report latitudes and longitudes to a minimum of six decimal degrees. Evaluation of these applications indicate that they provide accurate horizontal positioning to ± 4 feet (approximately 5 decimal degrees) for most unobstructed locations, which is sufficient for differentiation of these assets. Locate these measurements at the center of the constructed permanent pedestrian facility such as the center of the curb ramp or midpoint of a sidewalk segment.

Documentation and Certification

Document inspection of permanent pedestrian facilities using the following forms:

Form Number	Pedestrian Facility
CEM-5773ADE	Curb Ramp (Case A, D or E)
CEM-5773B	Curb Ramp (Case B)
CEM-5773C	Curb Ramp (Case C)
CEM-5773CH	Curb Ramp (Case CH)
CEM-5773CM	Curb Ramp (Case CM)
CEM-5773DW	Sidewalk at Driveway
CEM-5773FG	Curb Ramp (Case F or G)
CEM-5773P	Parking
CEM-5773PW	Passageway
CEM-5773SW	Sidewalk
CEM-5773NSPL	Non-Standard Plan Parallel Curb Ramp
CEM-5773NSPP	Non-Standard Plan Perpendicular Curb Ramp

File the completed forms in Category 57, “Permanent Pedestrian Facilities,” of the project records. Remember to document changes to these pedestrian facilities on as-built plans.

Use Form CEM-5773, “Americans with Disabilities Act (ADA) Project Compliance Certification,” to summarize and certify ADA construction compliance of pedestrian facilities constructed under the contract. Transmit a copy of this form with required attachments to the ADA Infrastructure group at ADA.Compliance.Office@dot.ca.gov and file the original in Category 57 of the project records. This information will assist Caltrans in asset management of these facilities and managing the ADA transition plan.

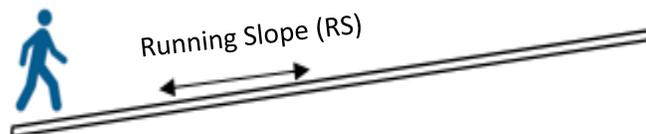
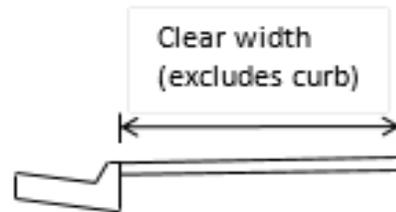
Checklist Usage

The checklists contained herein are based on ADA compliance requirements for permanent pedestrian facilities. The checklists are a tool for personnel to use in determining compliance of pedestrian facility features. Personnel must verify that contract compliance of pedestrian facilities has been obtained. Generally, contractual requirements will be more conservative than the ADA compliance requirements. In the event verification inspection shows noncompliance with contractual requirements, notify the contractor of the noncompliant work in accordance with Section 5-1.30, “Noncompliant and Unauthorized Work,” of the *Standard Specifications*, and determine if the pedestrian facility is ADA compliant. Pedestrian facilities constructed under the contract that are noncompliant with ADA requirements must be corrected. If ADA compliance is achieved, but contractual compliance is not, the pedestrian facilities may remain in place subject to a credit to the Department through an approved change order.

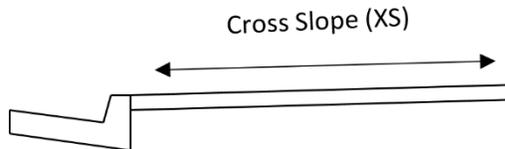
Checklists

General Sidewalk / Path of Travel Checklist

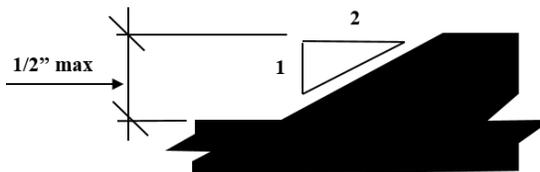
- Firm, stable, and slip resistant – Sidewalks constructed with concrete materials with broom finish applied perpendicular to primary path of travel. [Inspection Report – Field Verify] {DIB 82-06 4.3.1(1)}
- Minimum clear width is 48 inches* exclusive of curb width**. [Inspection Report – Field Measurement] {DIB 82-06 4.3.3(2)}
 - ***Exception** – The clear width may be reduced to 32 inches minimum for a length of 24 inches maximum provided that reduced width segments are separated by segments that are 48 inches long minimum and 48 inches wide minimum. {DIB 82-06 4.3.3(3)}
 - ****Exception** – The clear width measurement may include the curb if constructed monolithically with the sidewalk where there is no joint at the back of curb. Common examples are those placed on bridge structures.
- Maximum running slope for pedestrian access route nonadjacent to roadway, for example, a meandering pathway, is 5.0 percent. [Inspection Report – Field Measurement] {DIB 82-06 4.3.4(2)}



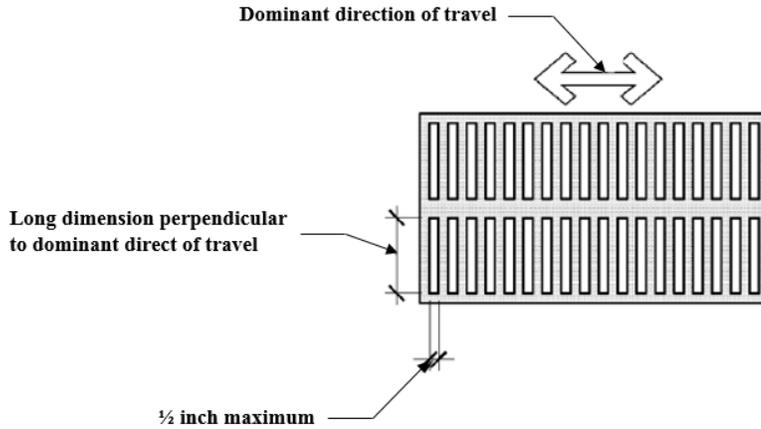
- Maximum running slope for sidewalks adjacent to an existing roadway may not exceed the roadway’s general profile grade. [Inspection Report – Field Measurement] {DIB 82-06 4.3.4(2)}
- Special consideration for maximum running slope of sidewalks at driveways is 8.3 percent. [Inspection Report – Field Measurement {DIB 82-06 4.3.8(1)}] (see Standard Plan A87A)
- Maximum cross slope for sidewalks/pedestrian access routes is 2.0 percent.* [Inspection Report – Field Measurement] {DIB 82-06 4.3.5(1)}



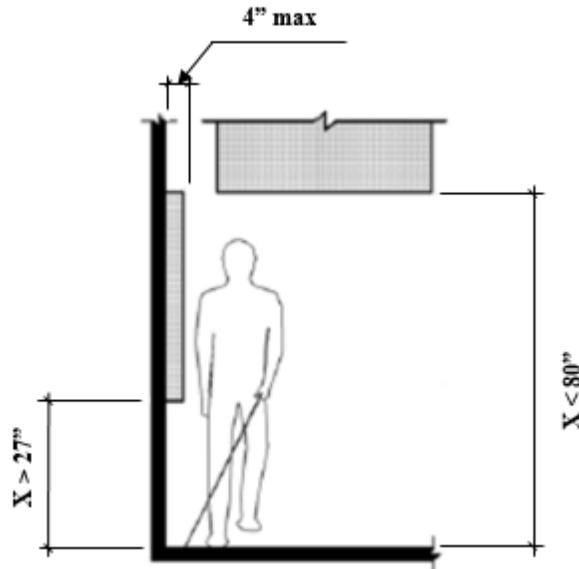
- ***Exceptions** – Pedestrian access routes within pedestrian street crossing and without yield or stop control may have a 5.0 percent maximum cross slope. Pedestrian access routes contained within midblock pedestrian street crossings may have a maximum cross slope equal to the street or highway grade. [Inspection Report – Field Measurement] {DIB 82-06 4.3.5(2) & (3)}
- Changes in surface level may be a maximum of 1/4-inch vertically without edge treatment. Changes in surface level 1/4-inch through 1/2-inch vertically must be beveled with a slope no greater than 1V:2H. Changes in level greater than 1/2-inch must be accomplished by means of a ramp. Note that Section 73-3.03, “Construction,” of the *Standard Specifications*, also contains a maximum 0.02 foot (1/4-inch) allowance from a 10-foot straightedge requirement, so there should be no cases of new pedestrian facility construction work exceeding a 1/4-inch change in level within these paths of travel. [Inspection Report – Field Verify] {DIB 82-06 4.3.1(2), (3) & (4)}



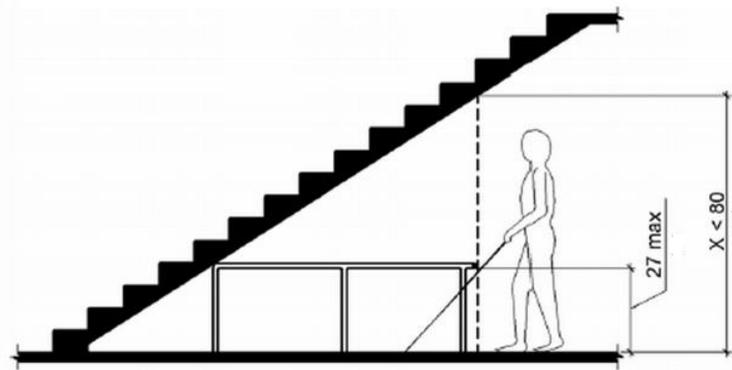
- Where openings or grates are in the path of travel, they shall have spaces no greater than 1/2-inch in one direction. If openings or grates have elongated openings, they shall be placed so the long dimension is perpendicular to the dominant direction of travel.
[Inspection Report – Field Verify] {DIB 82-06 4.3.6(1)}



- Objects with leading edges from 27 inches to 80 inches from the surface can protrude as much as 4 inches horizontally, except for handrails, which may protrude up to 4.5 inches. Protruding objects must not reduce the minimum clear width required for an accessible route. [Inspection Report – Field Verify] {DIB 82-06 4.3.19(1) & (4)}

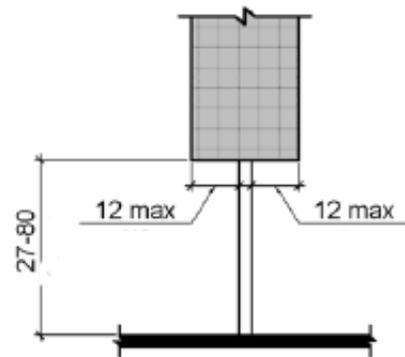


□ Provide guardrails or other barriers if vertical clearance is less than 80 inches. Guardrail or barrier must be a maximum of 27 inches above the finished surface. For example, if a guy wire is parallel to the sidewalk, it may not encroach upon the minimum clear width, and while it may be cane detectable in one direction

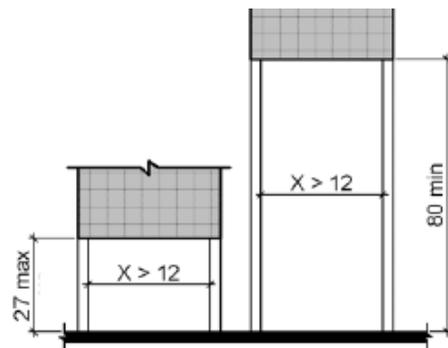


(obtuse angle approach), it is not cane detectable in the opposite direction (acute angle approach) and needs a barrier such as a guy brace, sidewalk guy or similar device for protection from an overhanging obstruction. Discuss these types of situations with your designer. [Inspection Report – Field Verify] {DIB 82-06 4.3.19(2)}

□ Free-standing objects mounted on single posts or pylons may overhang circulation paths a maximum of 12 inches when located from 27 to 80 inches from the surface. [Inspection Report – Field Verify] {DIB 82-06 4.3.19(3)}



□ If a sign or other obstruction is mounted between posts or pylons and the clear distance between posts or pylons is greater than 12 inches, the lowest edge of such sign or obstruction shall be either 27 inches or less or 80 inches or more from the surface. [Inspection Report – Field Verify] {DIB 82-06 4.3.19(3)}

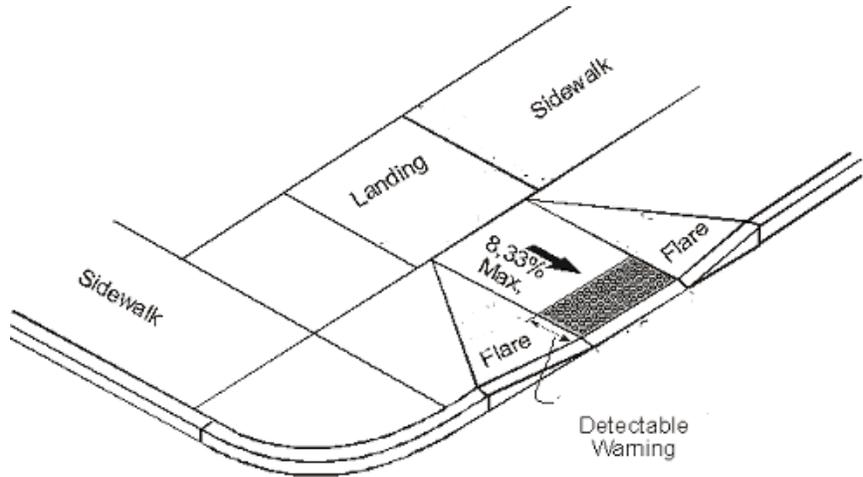


□ Backfill against sidewalk to prevent a falling hazard. Areas with more than a 4 inch drop-off will require correction or a preventive barrier. [Inspection Report – Field Verify] {DIB 82-06 4.3.11}

Curb Ramp Checklist

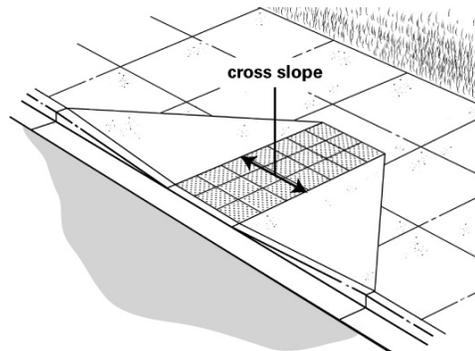
- Ramp running slope not to exceed 8.3 percent.* [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(1)}

- ***Exceptions** – Where ramp length would need to be longer than 15 feet to meet running slope requirement, the 8.3 percent maximum may be exceeded. At blended transitions, the running slope may not exceed 5.0 percent. Discuss these situations with your designer. {DIB 82-06 4.3.8(1)}

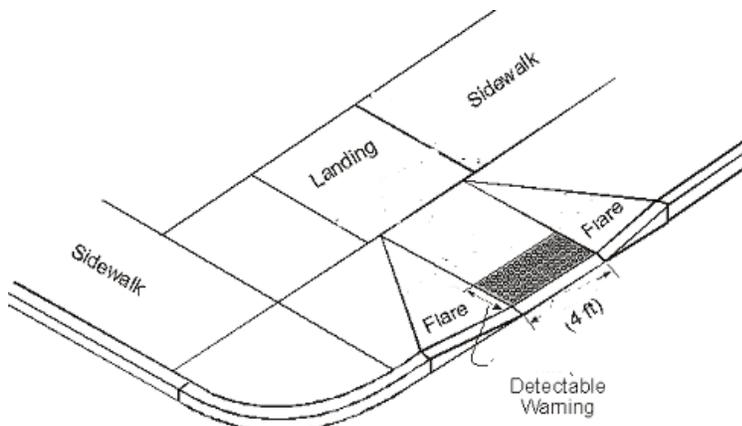


- Ramp cross slope not to exceed 2.0 percent.* [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(8)}

- ***Exception** - where the curb ramp is at an intersection without yield or stop control and at midblock pedestrian street crossings, the cross slope may not exceed the general street or highway grade or 2.0 percent, whichever is greater. {DIB 82-06 4.3.8(8)}



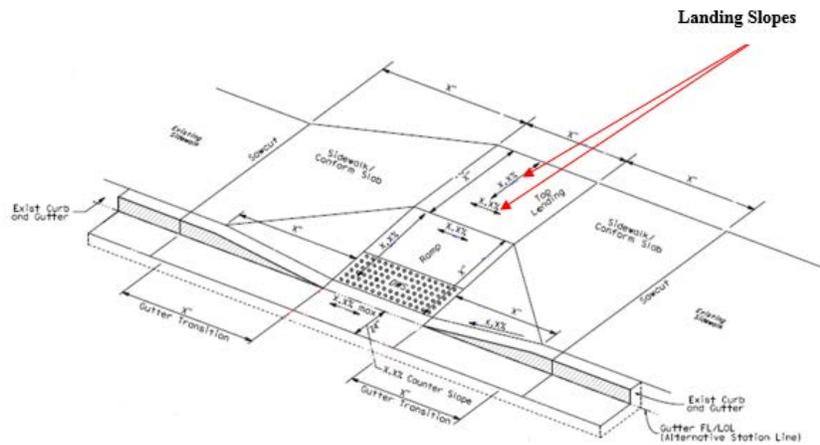
- Ramp clear width not less than 48 inches.* [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(2)}



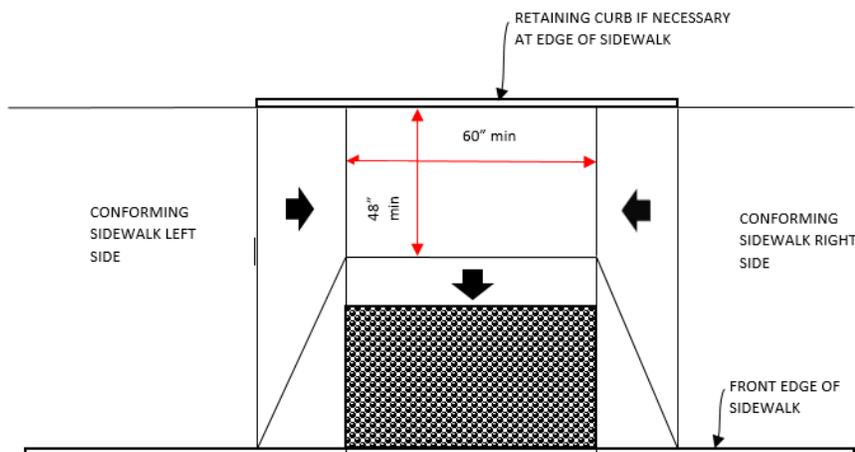
- ***Exception** – Case B and Case C curb ramps require a wider ramp clear width (60 inches minimum) as these widths are based on landing requirements. [Inspection Report – Field Measurement] (see Standard Plan A88A)

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- Landing/turning space slopes (see below) not to exceed 2.0 percent* [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(8)}
 - ***Exception** - where the curb ramp is at an intersection without yield or stop control and at midblock pedestrian street crossings, the cross slope may not exceed the general street or highway grade or 2.0 percent, whichever is greater. {DIB 82-06 4.3.8(8)}

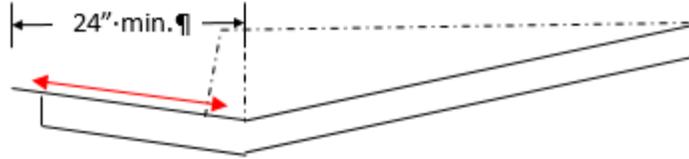


- Top landing/turning space clear length and width not less than 48 inches. Note that parallel curb ramps such as a Case C do not require a top landing. [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(3)}
- Case C or Case B (Standard Plan A88A) bottom or intermediate landing/turning space minimum clear length (60 inches) and minimum clear width (48 inches), Case B shown below. [Inspection Report – Field Measurement {DIB 82-06 4.3.13}] (see Standard Plan A88A)



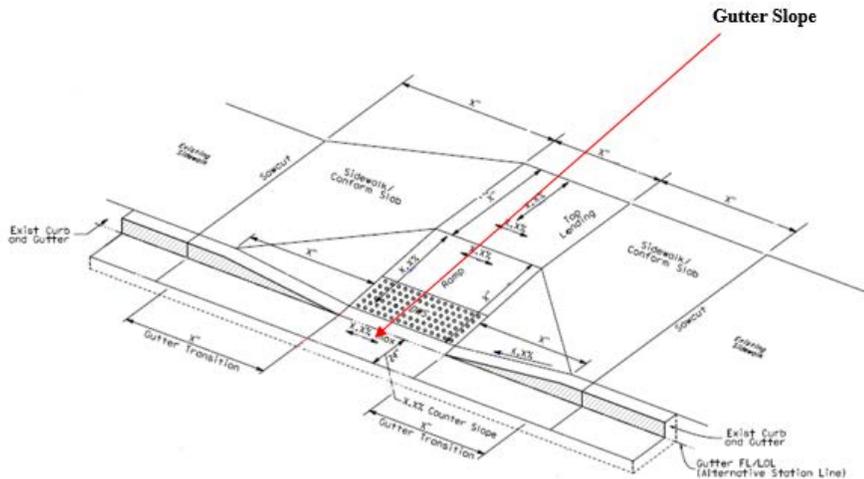
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□ Gutter/roadway counter slopes (parallel with predominate pedestrian travel) within 24 inches of the curb ramp not to exceed 5.0 percent (see below). [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(4)}



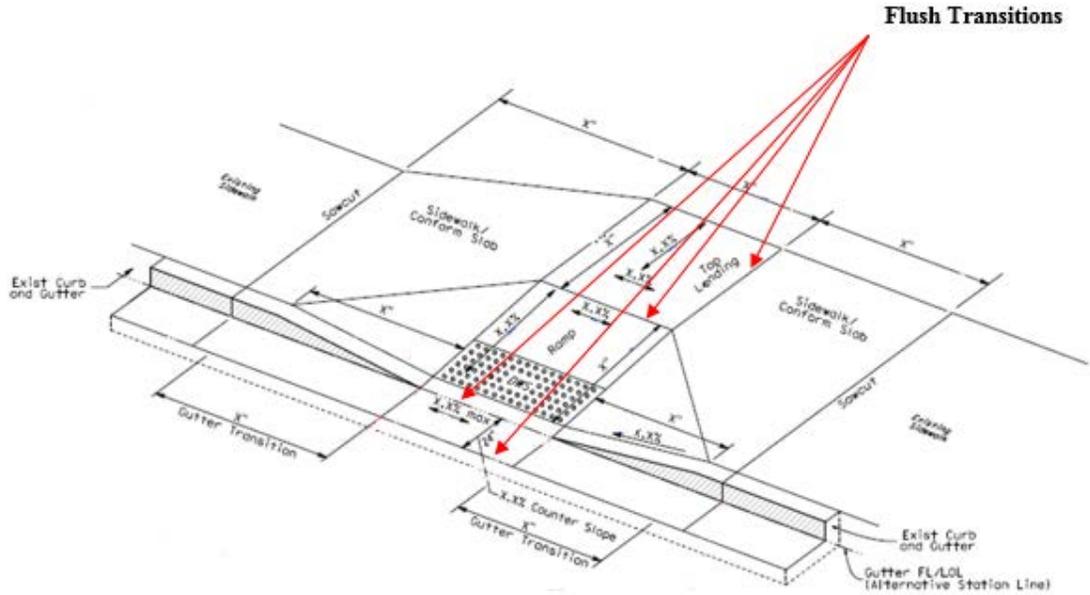
□ Gutter slope (flow line slope – see below) over the width of curb ramp, not to exceed those for the curb ramp cross slopes, generally a maximum of 2.0 percent.* Note that generally this will require the warping of the gutter pan in transition areas on both sides of the gutter segment immediately adjacent to the curb ramp. RSP A88A identifies these 3-foot transition areas in the “Gutter Pan Transition” detail. [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(8)}

□ ***Exception** - for an intersection without yield or stop control and at midblock pedestrian street crossings, the gutter slope may not exceed the general street or highway grade or 2.0 percent, whichever is greater.

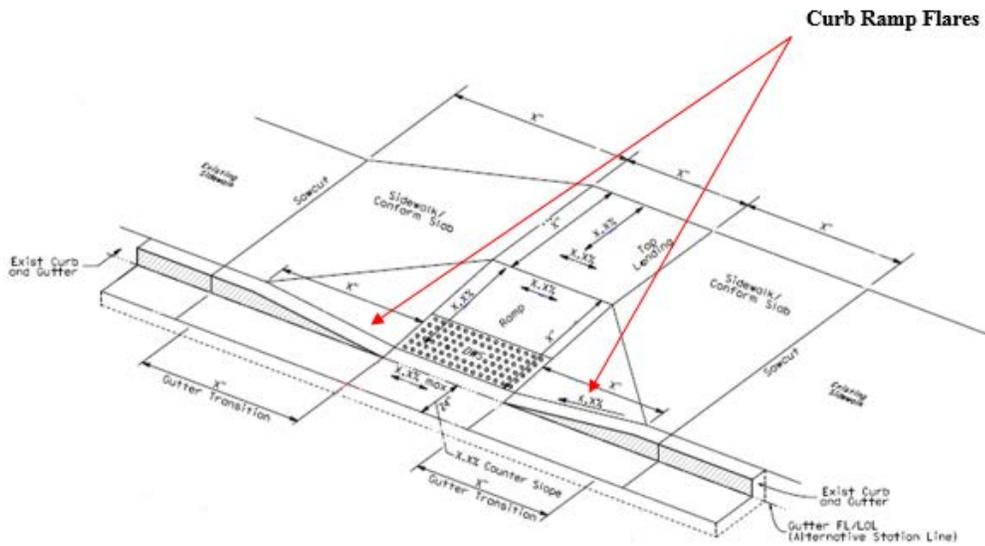


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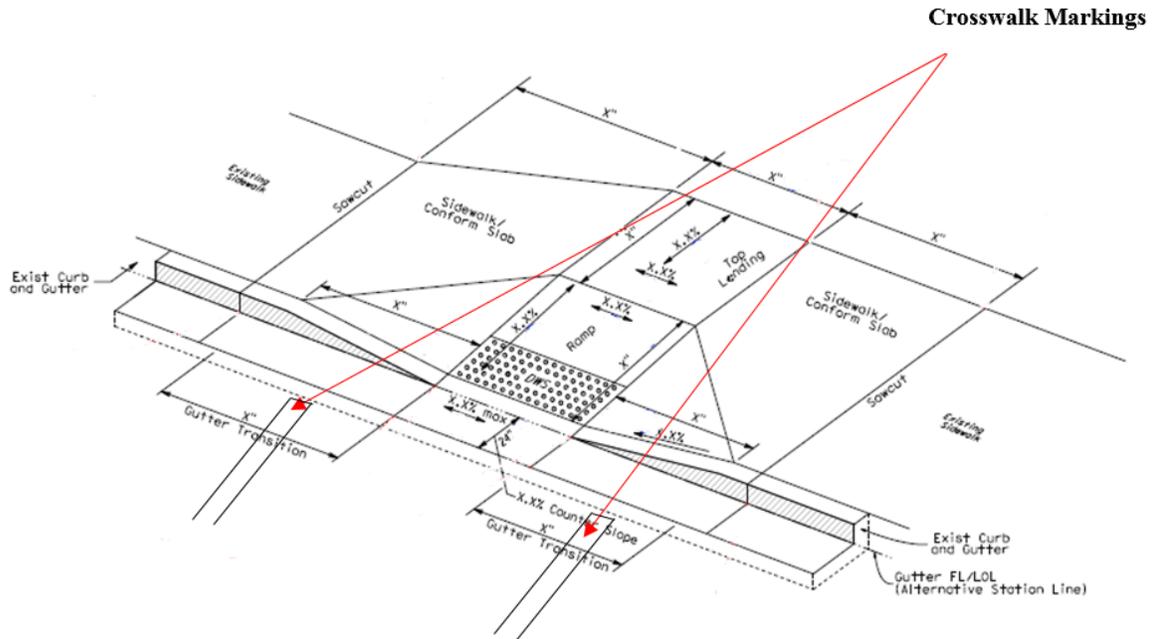
- Flush transitions at curb ramps to walks, gutters and streets are required (see below). No lips are allowed (1/4-inch change in surface level allowance does not apply here). [Inspection Report – Field Verify] {DIB 82-06 4.3.1& 4.3.8(4)}



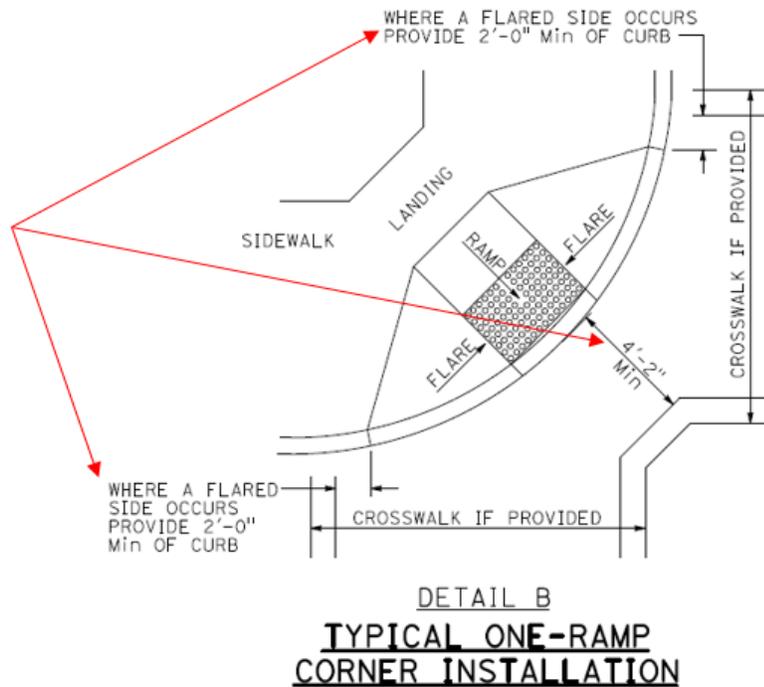
- Curb ramp flare slope not to exceed 10.0 percent, measured at back of curb (see below). [Inspection Report – Field Measurement] {DIB 82-06 4.3.8(5)}



- Curb ramps without flares (for example, Case C curb ramps) at marked crossings are to be wholly contained within the markings, as shown below. Curb ramps with flares (for example, Case A curb ramps) at marked crossings must be contained within the same markings. [Inspection Report – Field Verify] (see Standard Plan A88A)

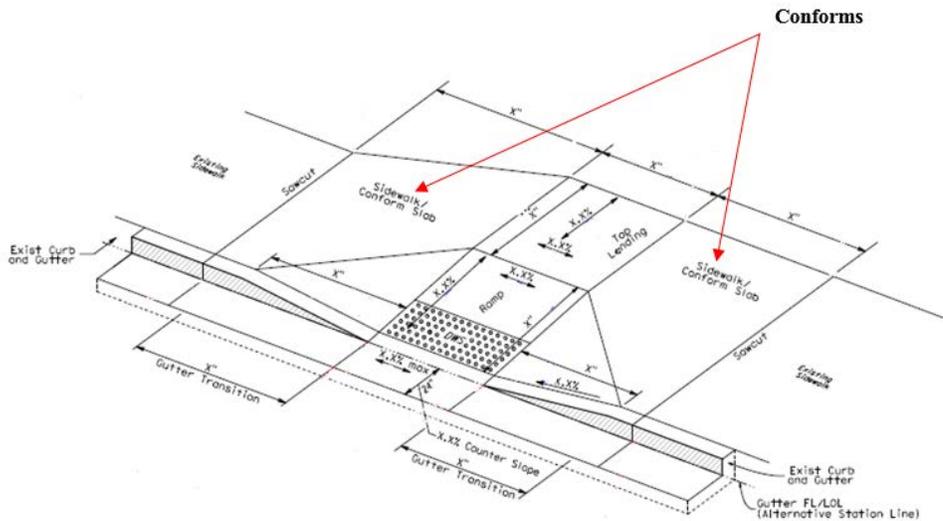


- Diagonal curb ramps with flared sides such as those shown on RSP A88A – Detail B “Typical One-Ramp Corner Installation” must provide a minimum of 2 feet of curb on each side of curb ramp within the limits of crosswalk if provided. Diagonal curb ramps must also provide a 48 inch minimum clear space within the markings of a marked crossing. Note that the standard plan shows a conservative 50 inch dimension (see next page). [Inspection Report – Field Verify] {DIB 82-06 4.3.8(6) & (7)}



- Retaining curb placed as shown on applicable Standard Plan A88A details. [Inspection Report – Field Verify] {DIB 82-06 4.3.11(1)}
- Surfaces of utility pull boxes, manholes or vaults within the curb ramp must be flush with the curb ramp surface. [Inspection Report – Field Verify] (see Revised Standard Plan A88A – Note 12)
- Sign posts, lighting standards, power/telephone poles or mailboxes should be outside the boundary for curb ramp construction. [Inspection Report – Field Verify] (see Revised Standard Plan A88A – Note 12)

□ Conforms used to transition from new compliant curb ramps to existing sidewalks should be ADA compliant; however, this is not an absolute. Project plans/construction details for transitions should be provided where new curb ramps are to be tied into existing sidewalk locations. If details were not provided, discuss with your designer (see below). [Inspection Report – Field Measurement] {DIB 82-06 Appendix – 1}



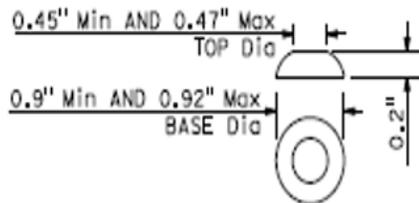
- Suitable roadway surface within the pedestrian street crossing a Caltrans right-of-way. If not, discuss with your project engineer and determine corrective action, for example a change order, transition plan, or maintenance work. [Inspection Report – Field Verify]
- Suitable existing sidewalk condition within a Caltrans right-of-way. If not, discuss with your project engineer and determine corrective action, for example a change order, transition plan, or maintenance work. [Inspection Report – Field Verify]

Detectable Warning Surface Checklist

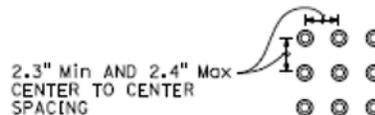
□ Detectable warning surface (DWS) products must be on the Authorized Material List (AML) in accordance with Section 73-1.02B, “Detectable Warning Surfaces,” of the *Standard Specifications*. The following link provides access to the AML for DWS products [Inspection Report – Field Verify] {DIB 82-06 4.3.14}:

<http://www.dot.ca.gov/aml>

- DWS locations will be shown on the plans.
- DWSs must be yellow color no. 33538 of FED-STD-595 unless the special provisions have identified another color for aesthetics. Designers will have had to go through a nonstandard special provision exception approval process to use an alternate color that provides a minimum 70 percent color contrast. [Inspection Report – Field Verify] {DIB 82-06 4.3.14}
- DWS Authorized Material List products were included based on meeting numerous requirements, including raised truncated dome heights (0.18 inches minimum and 0.22 inches maximum), diameters (top – 0.45 inches through 0.47 inches, base – 0.90 inches through 0.92 inches) and center to center spacing (2.3 inches through 2.4 inches). These acceptable physical parameters are shown on Revised Standard Plan RSP A88A and can be spot-checked for compliance in the field. [Inspection Report – Field Verify]



RAISED TRUNCATED DOME

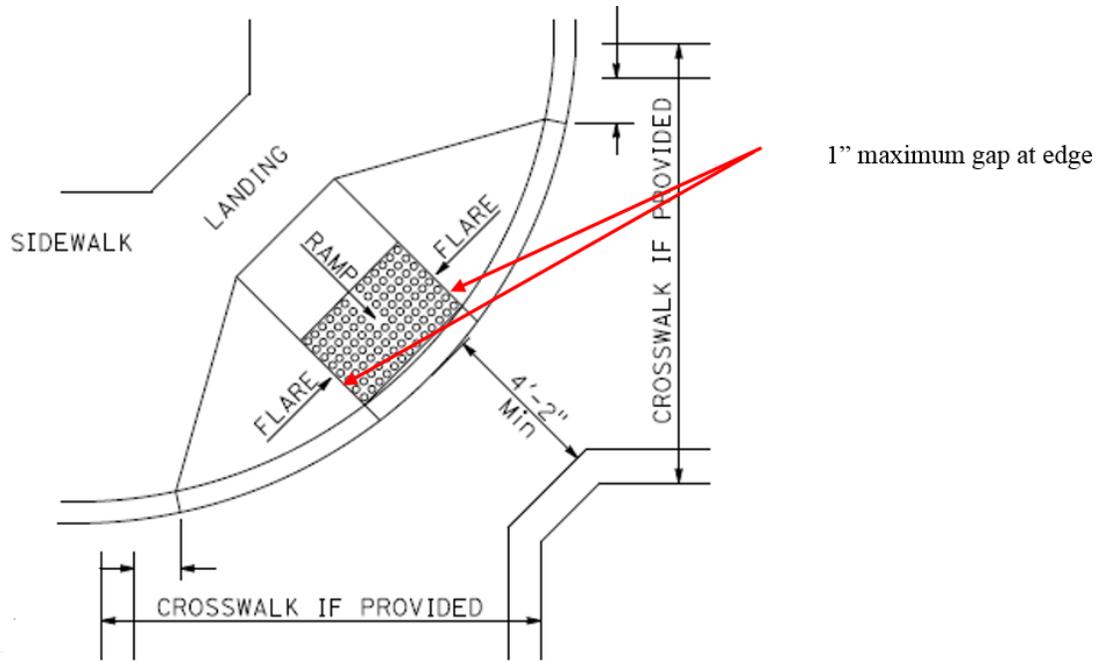


RAISED TRUNCATED DOME PATTERN (IN-LINE)
DETECTABLE WARNING SURFACE

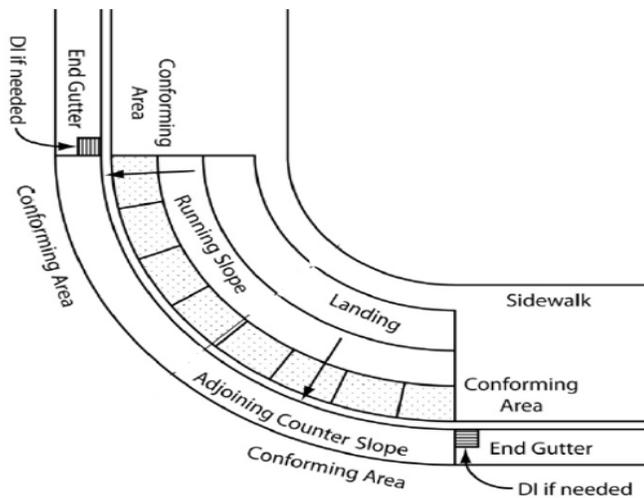
□ DWSs must be 36 inches in depth (along the curb ramp slope) for most applications*. See note 10 on Revised Standard Plan RSP A88A. [Inspection Report – Field Measurement] {DIB 82-06 4.3.14(1)}

□ ***Exception** – For passageway applications, such as those shown on Revised Standard Plan RSP A88B, alternate DWS depths are required based on passageway lengths. Note that for passageway lengths less than 6 feet at street level, a DWS is not required.

- DWSs must be the “full” width of the curb ramp or passageway. DWS products generally come in full foot widths. Placement of a 4-foot width DWS on a 4-foot, 2-inch curb ramp width meets the “full” width intent. This same guideline is to be used for other curb ramp widths, allowing a maximum gap of 1 inch on each side of the DWS. This requirement may necessitate cutting the DWS. Discuss with your designer if you encounter this situation. [Inspection Report – Field Measurement] {DIB 82-06 4.3.14}

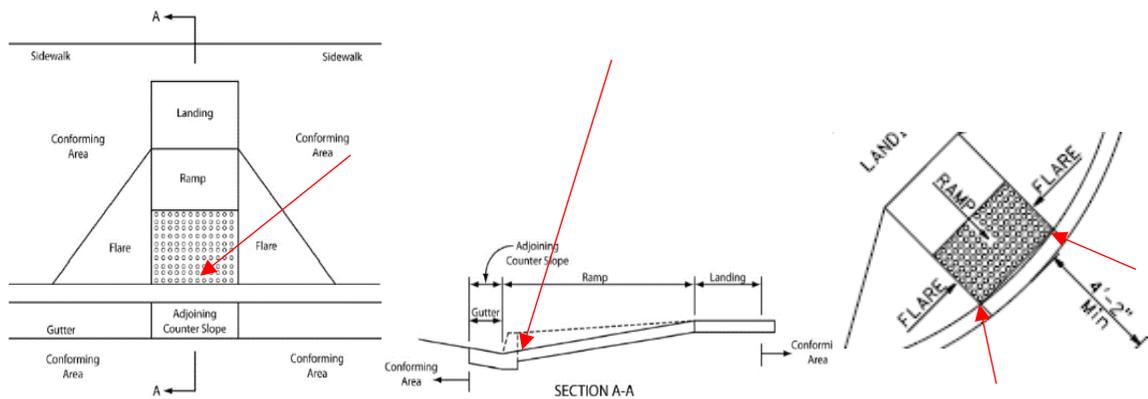


- Placement of DWS on radial curb ramps such as a blended transition should be addressed with a construction detail in the project plans. If not provided, discuss with your designer.

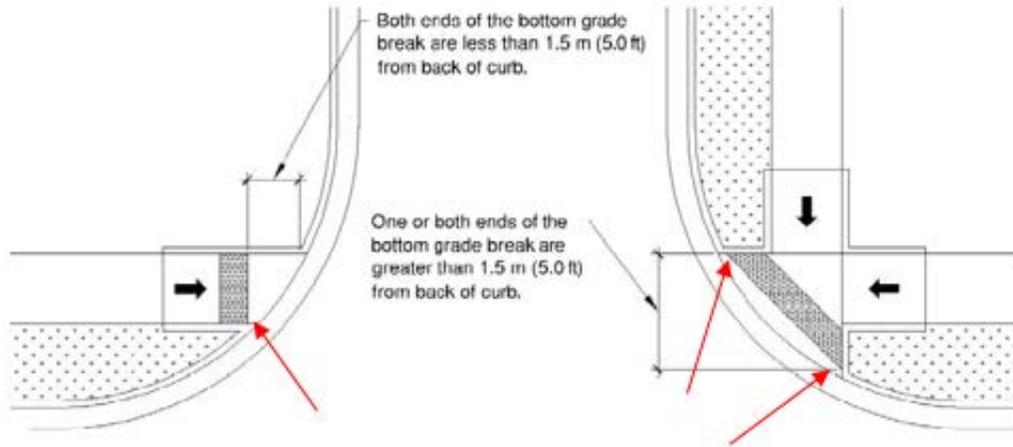


□ DWS are typically* placed at the projection of the back of curb line in standard curb ramp applications as shown below and on Revised Standard Plan RSP A88A. For diagonal or corner applications, the front corners of the DWS should generally be placed at the radially projected back of curb line. The project plans/construction details may show other acceptable DWS configurations for nonstandard applications. [Inspection Report – Field Verify] {DIB 82-06 4.3.14(3a)}

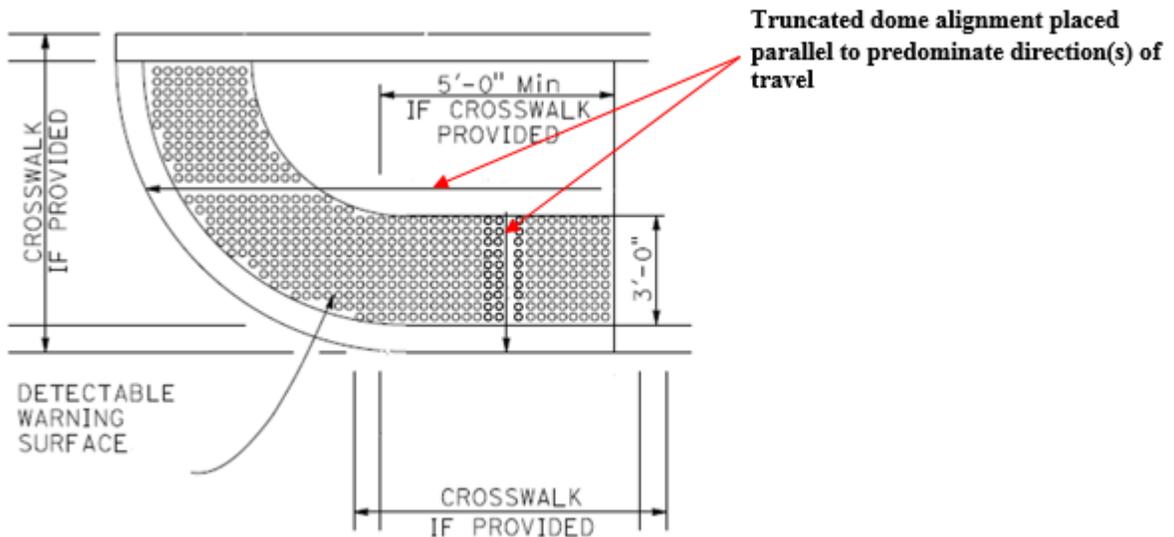
□ ***Exception** – Note that projects using Standard Plans/Revised Standard Plans A88A sheets dated March 21, 2014, or earlier included a note requiring that “the edge of the detectable warning surface nearest the street shall be from 6 inches to 8 inches from the gutter flowline.” Where practical, these projects should revise the note by change order to make sure the front edge/corners of the DWS will be placed at the projected back of curb line. Projects with A88A sheets dated after March 21, 2014, do not include the note; the details show the front edge/corners at the projected back of curb line, and no change order is necessary to ensure proper placement.



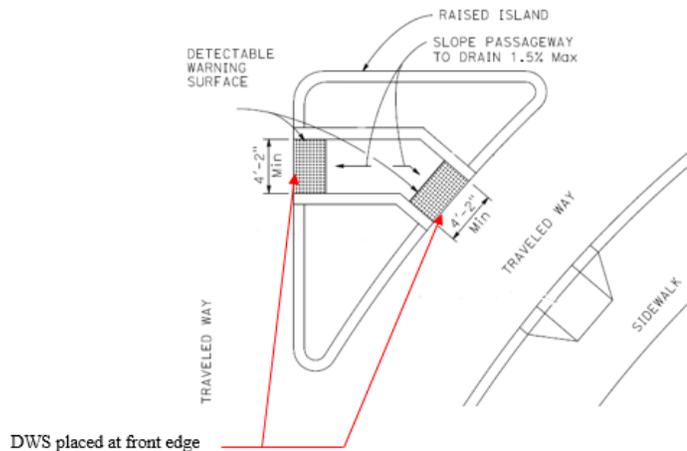
□ Special construction details may be in the project plans that provide alternative DWS placement such as those shown on the next page. If the ends of the bottom curb ramp grade break are in front of the back of curb projection, DWS shall be placed at the back of the curb projection. Where the ends of the bottom grade break are behind the back of curb projection and the distance from either end of the bottom grade break to back of curb projection is 60 inches or less, DWS shall be placed on the ramp run within one dome spacing of the bottom grade break. Where the ends of the bottom grade break are behind the back of curb projection and the distance from either end of the bottom grade break to the back of curb projection is more than 60 inches, DWS shall be placed on the lower landing at the back of curb projection. Bottom grade break line is to be perpendicular to the pedestrian path of travel and area between the grade break and projected curb line should be level. These situations should be accompanied by project details in the project plans and can be discussed with the project engineer. [Inspection Report – Field Verify] {DIB 82-06 4.3.14(3b) & (3c)}



□ For nonrectangular DWS locations such as case CM curb ramps, rectangular sheets will need to be cut to the required shape and placed with the alignment of the truncated domes parallel to the predominate direction(s) of pedestrian travel while maintaining the required 2.3- to 2.4-inch spacing (see below). Contractors should not cut through the truncated dome as it may create an abrupt vertical difference in height from the top of truncated dome to the surrounding surface that exceeds the ¼-inch maximum allowance. Note that some DWS manufacturers may have products that anticipate placement of truncated domes on a radial alignment. It is unlikely that these products meet the required 2.3- to 2.4-inch spacing requirement and therefore cannot be used.



- DWS at island passageways are typically placed at front of curb face or raised island as shown on Revised Standard Plan RSP A88B (Type A, B and C Passageways). [Inspection Report – Field Verify] {DIB 82-06 4.3.9}



- DWS may be cut and reapplied to allow removal of utility covers while maintaining full width and depth requirements (see note 12 on Revised Standard Plan RSP A88A).
- Obtain the prefabricated DWS 5-year manufacturer’s replacement warranty from the contractor. This warranty starts at contract acceptance and should be provided to Maintenance as part of the project closeout procedures. [Inspection Report – Field Verify] {Section 73-3.01D(2), “Warranties,” of the *Standard Specifications*.}

Ramps, Stairs, Handrails, and Guards Checklist

Ramps:

- Ramp maximum running slope is 8.3 percent. {DIB 82-06 4.3.7(2)}
- Ramp maximum cross slope is 2.0 percent. {DIB 82-06 4.3.7(3)}



- There are special allowances for ramp running slopes at a historic property/historical resource with an approved design exception. Discuss these cases with your designer. {DIB 82-06 4.3.7(4)}
- Curved ramps must conform to the same running and cross slope requirements as straight ramps. Alternative methods to smart levels must be used for verification of running slopes on such features. {DIB 82-06 4.3.7}



□ Ramps with greater than 5.0 percent running slope and a minimum of 30-inch rise must have landings at the top and bottom of each ramp run (see schematic below).* {DIB 82-06 4.3.7(1)}

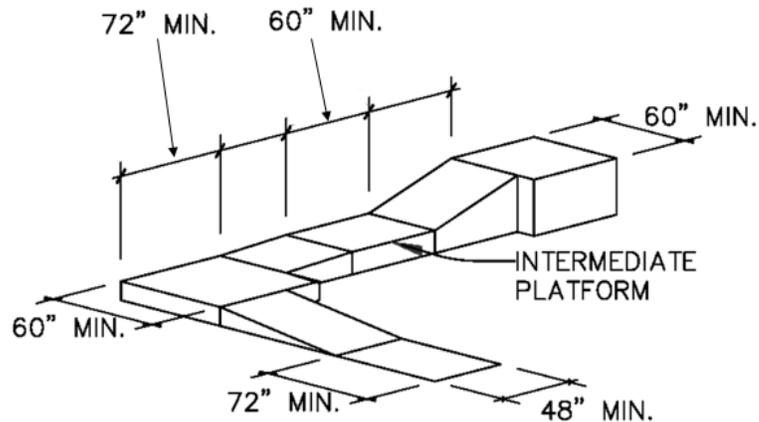
□ ***Exception** – Landings are not required when the ramp is within a sidewalk which is adjacent to existing street or roadway.

□ Ramp landings must not exceed a maximum 2.0 percent slope in either direction (see schematic below). {DIB 82-06 4.3.13}

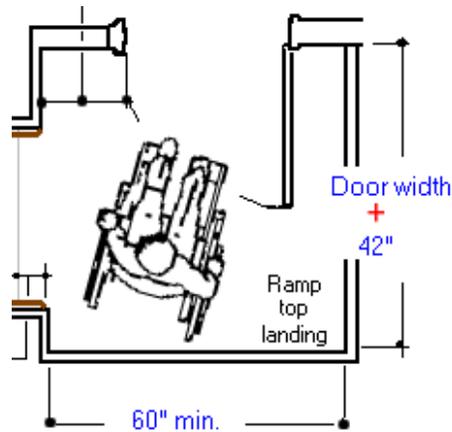
□ Ramp landing width must be at least as wide as the widest ramp leading to the landing. Ramp's top landing width must be a minimum of 60 inches (see schematic below). {DIB 82-06 4.3.13(2) & (4)}

□ Ramp landing clear length must be a minimum of 60 inches in general. Ramp's bottom landing clear length must be a minimum of 72 inches (see schematic below). {DIB 82-06 4.3.13(3)}

□ Changes in direction ramp landings shall be a minimum of 60 inches by 72 inches with the longer dimension oriented parallel to the top ramp run (see schematic below). {DIB 82-06 4.3.13(5)}



- If a door swings onto a ramp landing, the landing depth must be a minimum of the door width plus 42 inches.



- A 2 inch minimum curb or barrier is required along the ramp length.* {DIB 82-06 4.3.12}



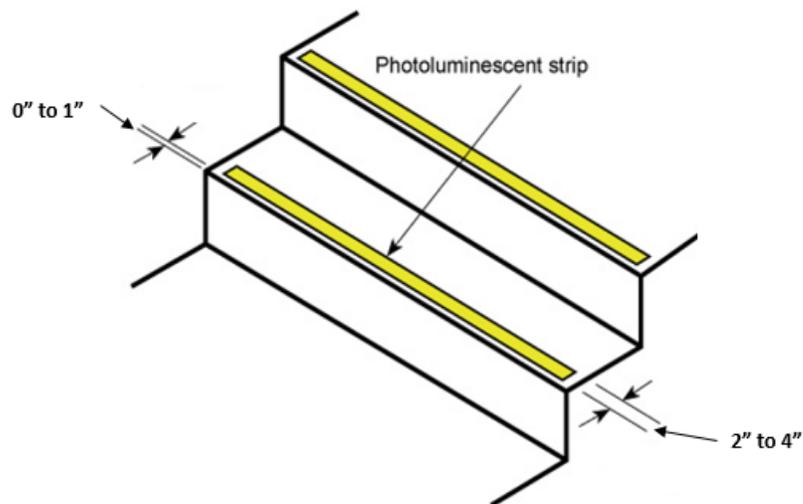
- ***Exception** – A curb or barrier is not required where a guard or handrail is provided with a guide rail centered 2 inches minimum and 4 inches maximum above the surface of the ramp.

Stairs:

- Stair steps should have uniform riser height and tread depth. Risers should be 4 to 7 inches in height. Treads should be a minimum of 11 inches deep. Open risers should not be used.



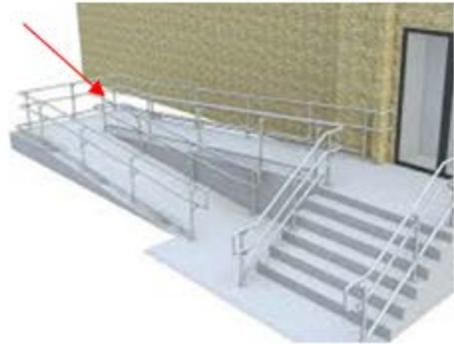
- Visual contrast strips should be placed on stair treads. Strip to be 2 to 4 inches in depth and be placed no more than 1 inch from nosing. Strip to be full width of the step. Exterior locations require strips on all stair treads. Interior locations require strips on the lowest tread and the edge of the upper approach.



Handrails:

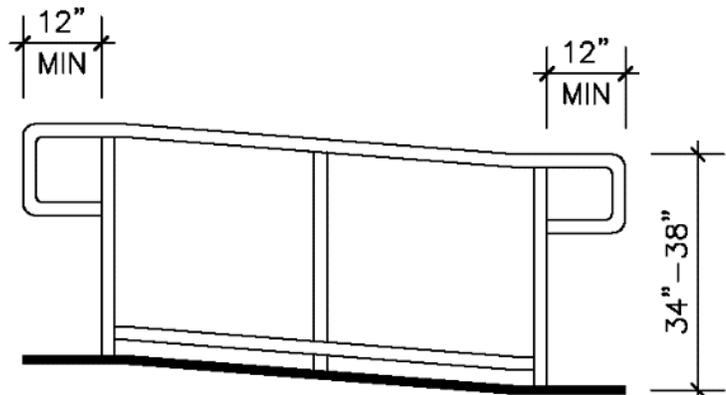
□ Handrails are required at ramp runs and stairs with rises greater than 6 inches. Handrails are not required on curb ramps or along sidewalks. {DIB 82-06 4.3.10(1)}

□ Handrails must be continuous and the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights and runs. {DIB 82-06 4.3.10(2)}



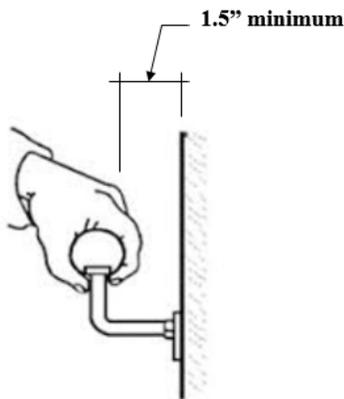
□ Handrails must extend a minimum of 12 inches beyond the ramp run or stairs. {DIB 82-06 4.3.10(8)}

□ Top of handrail gripping surface shall be mounted 34 inches through 38 inches above the ramp, stair or walking surface. {DIB 82-06 4.3.10(5)}



□ Handrail gripping surface shall be continuous. {DIB 82-06 4.3.10(4)}

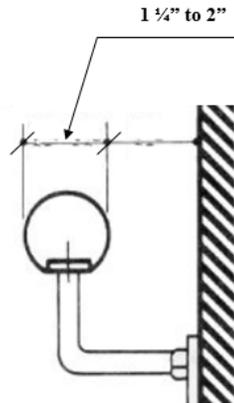
□ Clearance between handrail gripping surfaces and adjacent surfaces shall be a minimum of 1.5 inches. {DIB 82-06 4.3.10(3)}



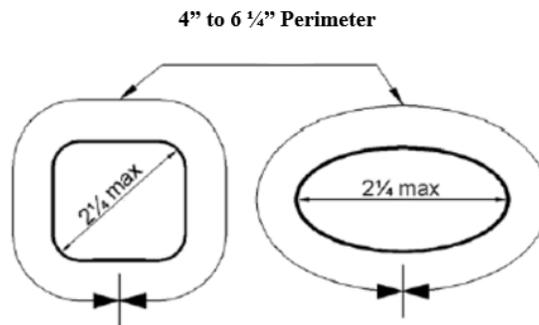
□ Handrails shall not rotate within their fittings. {DIB 82-06 4.3.10(6)}

PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK

- Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1.25 inches minimum and 2.0 inches maximum. {DIB 82-06 4.3.10(7)}

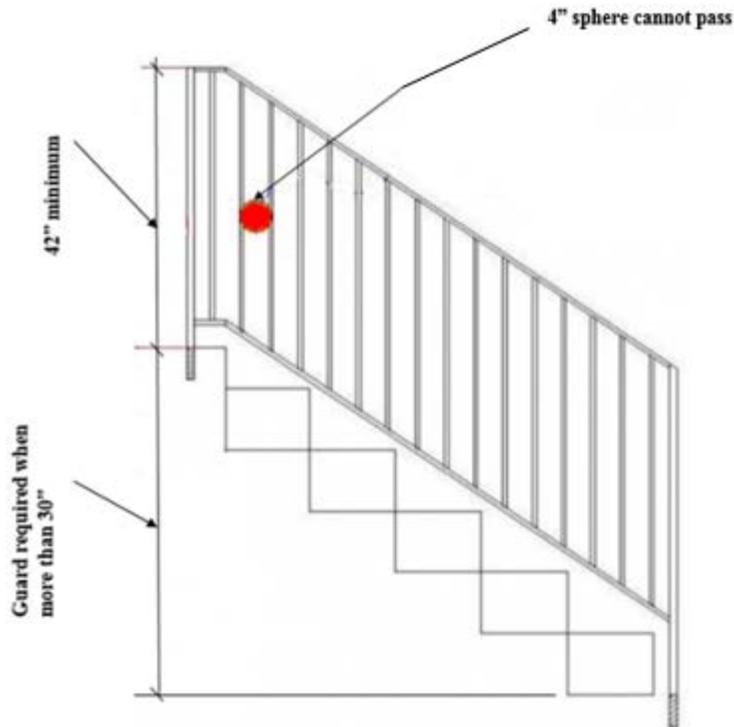


- Handrail gripping surfaces with a non-circular section shall have perimeter dimensional constraints of 4.0 inches minimum and 6.25 inches maximum, as well as a maximum cross-section dimension of 2.25 inches. {DIB 82-06 4.3.10(7)}



Guards:

- Guards are required along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps and landings that are more than 30 inches vertically from the floor or grade and within 36 inches horizontally to the edge of the open side. {DIB 82-06 4.3.11(3)}
- Guard height is a minimum of 42 inches measured from the walking or ramp surface (on stairs measured from the leading edges of the tread nosing). {DIB 82-06 4.3.11(4)}
- Guards shall not have openings that allow passage of a 4-inch diameter sphere from bottom to the top of the guard. {DIB 82-06 4.3.11(5)}



Pedestrian Push Buttons and Accessible Pedestrian Signals Checklist

□ Pedestrian push button (PPB) should be unobstructed and adjacent to a level (2.0 percent maximum)*, all-weather surface to provide access from a wheelchair. [Inspection Report – Field Verify] {*California Manual on Uniform Traffic Control Devices* [CA-MUTCD] – Section 4E.08 04-A}

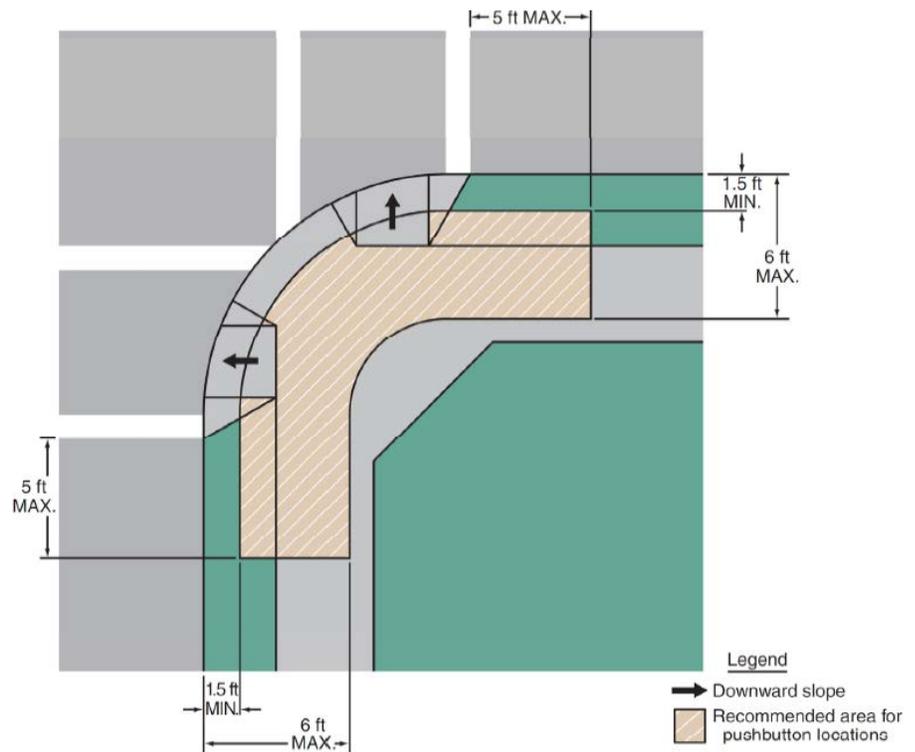
□ ***Exception** – If impractical to place the PPB adjacent to a level all-weather surface, the surface should be as level as feasible. {*CA-MUTCD* – Section 4E.08 05}

□ Where there is an all-weather surface, provide a wheelchair accessible route from the push button to the ramp. {*CA-MUTCD* – Section 4E.08 04-B}

□ PPB located between the edge of the crosswalk line (extended), farthest from the center of the intersection and the side of a curb ramp (if present), but not greater than 5 feet from said crosswalk line (Refer to Figure 4E-3 of the *California MUTCD* in the absence of project details). {*CA-MUTCD* – Section 4E.08 04-C}

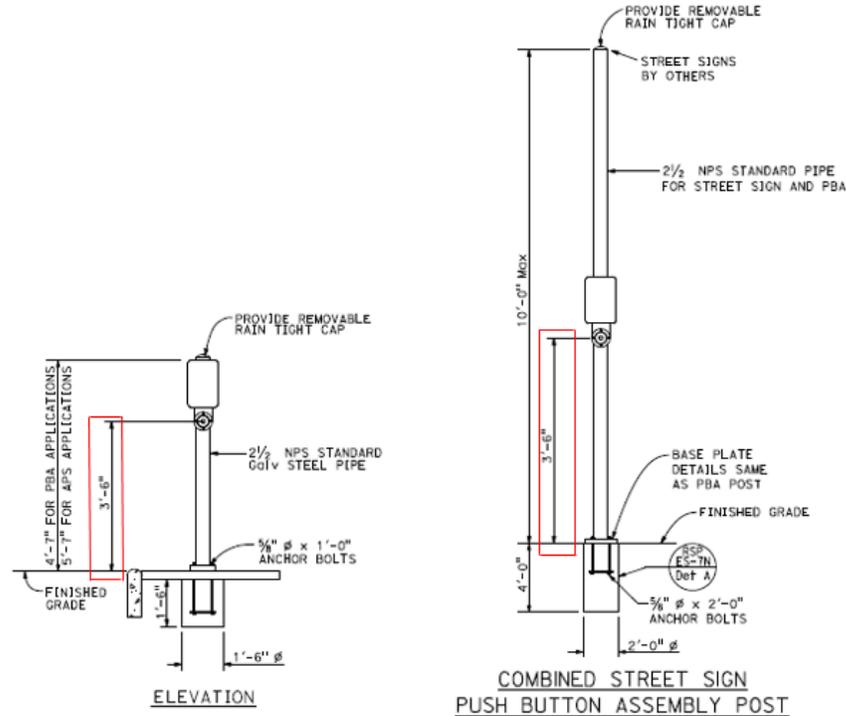
□ PPB is located from 1.5 feet to 6 feet* from the edge of the curb, shoulder, or pavement (see right or refer to Figure 4E-4 of the *California MUTCD* in the absence of project details). {*CA-MUTCD* – Section 4E.08 04-D}

□ ***Exception** – If impractical to meet these distances, it should not be farther than 10 feet from the edge of curb, shoulder or pavement (discuss these situations with your designer). {*CA-MUTCD* – Section 4E.08 06}



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□ PPB mounting height approximately 3 feet 6 inches, but no more than 4 feet above the sidewalk/all-weather surface. [Inspection Report – Field Verify] {CA-MUTCD – Section 4E.08 04-F and Revised Standard Plan ES7A}



□ Face of the PPB is to be mounted parallel to the crosswalk direction it serves. {CA-MUTCD – Section 4E.08 04-E}

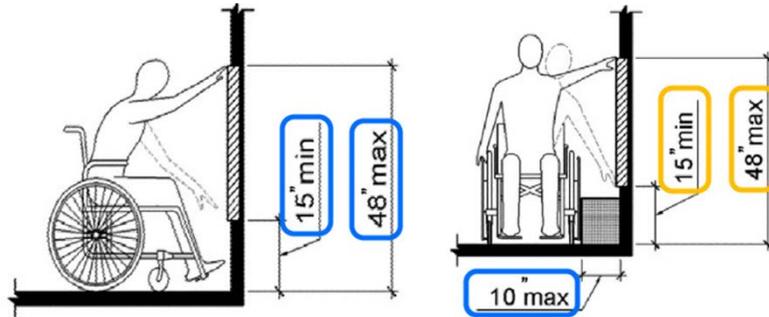


□ Where two PPB are provided on the same corner of a signalized locations, the push buttons should be separated by at least 10 feet.* {CA-MUTCD – Section 4E.08 07}

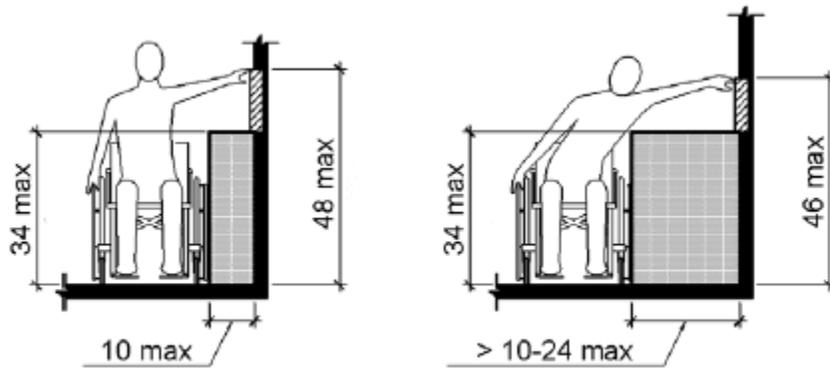
□ ***Exception** – If impractical to provide the 10 feet minimum separation, PBBs may be placed closer together or at the same pole location (discuss this situation

with your designer as there will be additional requirements). {CA-MUTCD – Section 4E.08 08}

- Unobstructed forward and side reaches should be 15 inches minimum and 48 inches maximum. A side reach obstruction is allowable if it does not exceed 10 inches maximum in either height or width. [Inspection Report – Field Verify] {DIB 82-06 4.3.15(1) & (2)}



- Obstructed high side reach – Where a clear floor or ground space allows a parallel approach to an element and the high side reach over an obstruction, the height of the obstruction shall be 34 inches maximum and the depth of the obstruction shall be 24 inches maximum. The high side reach shall be 48 inches maximum for a depth of 10 inches maximum. Where the depth exceeds 10 inches, the high side reach shall be 46 inches maximum for a reach depth of 24 inches maximum. {DIB 82-06 4.3.15(3)}



Parking Facilities

General:

- Accessible parking spaces that serve a particular building or facility shall be on the shortest accessible route from adjacent parking to an accessible entrance. [Inspection Report – Field Verify] {DIB 82-06 4.3.17}
- Accessible parking spaces that serve more than one accessible entrance shall be dispersed and located on the shortest accessible route to the accessible entrances. {DIB 82-06 4.3.17}
- In parking facilities that do not serve a particular building or facility, accessible parking spaces shall be on the shortest accessible route to an accessible pedestrian entrance of the parking facility. [Inspection Report – Field Verify] {DIB 82-06 4.3.17}

Off-Street Parking:

- For off-street accessible parking spaces, there is a minimum number of required accessible parking spaces based on the total number of parking spaces provided in the parking facility. [Inspection Report – Field Verify] {DIB 82-06 4.3.17 (1)}

Total Number of Parking Spaces Provided in Parking Facility	Minimum Number of Required Accessible Parking Spaces
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1,000	See Note 1
1,001 and over	See Note 2

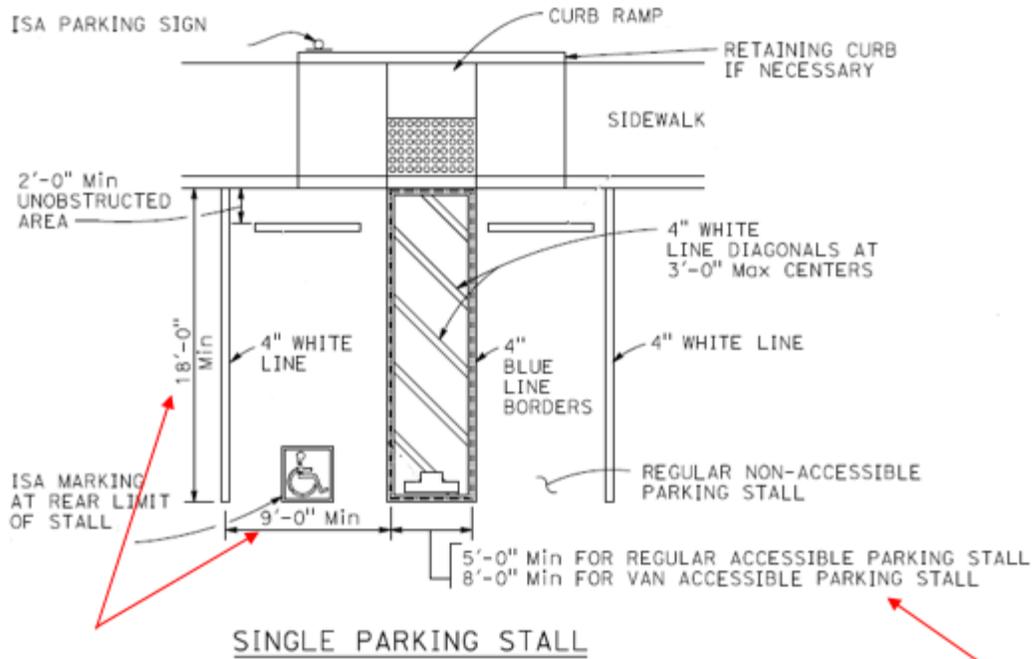
Notes:

1. Two percent of total.
2. Twenty plus one for each 100, or fraction thereof, over 1,000.

- For off-street accessible parking spaces, one of every six accessible parking spaces must be a van accessible parking space. If there is only one accessible parking space provided, it needs to be a van accessible parking space. [Inspection Report – Field Verify] {DIB 82-06 4.3.17 (2)}

- For off-street accessible parking, the minimum parking space length is 216 inches measured from the front of the parking stall to the end of the stall marking stripe for straight parking stalls (see next page). For diagonal parking stalls, refer to Standard Plan A90A detail for “Diagonal Double Parking Stalls.” [Inspection Report – Field Measurement] {DIB 82-06 4.3.17 (3)}

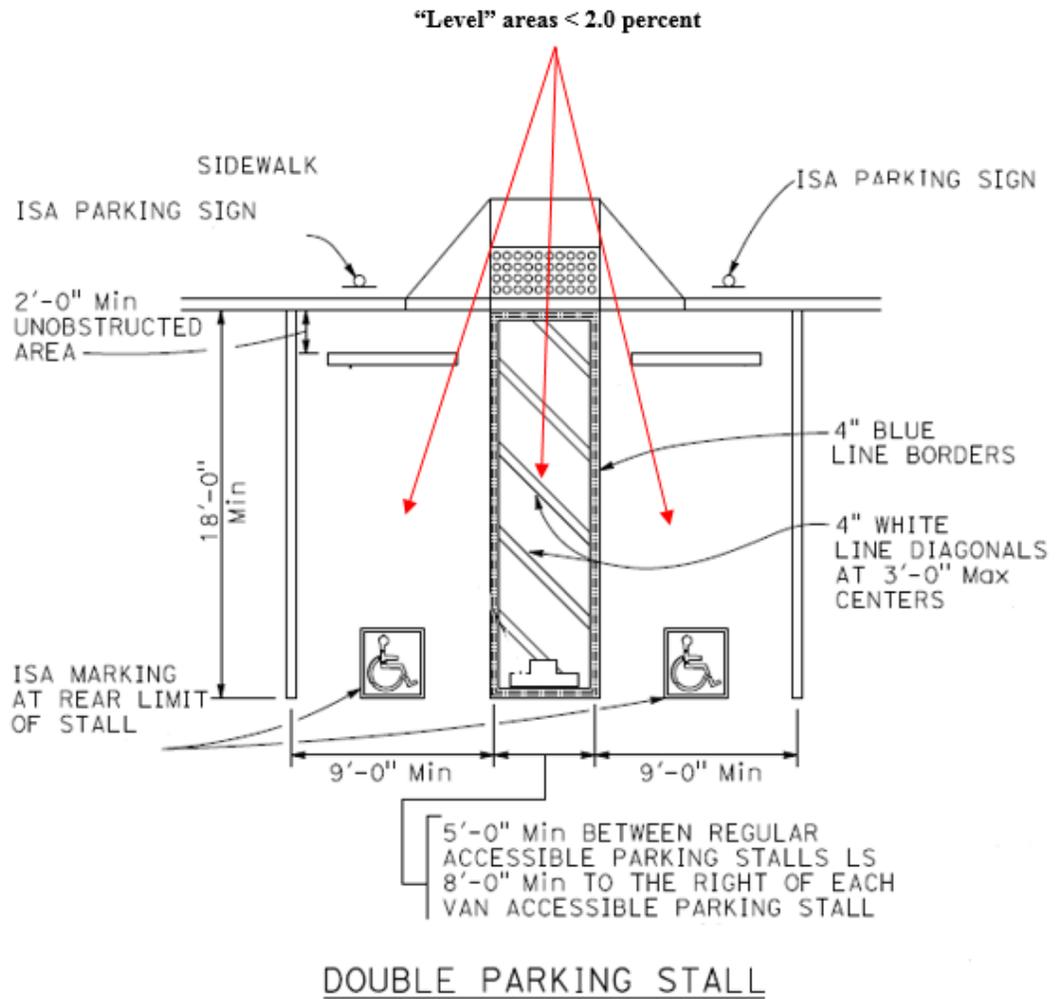
PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK



- For off-street accessible parking, the minimum parking space width is 108 inches for cars (see above). The same 108-inch minimum width is allowed for van accessible parking spaces when a minimum 96 inch wide accessibility aisle is provided to the right (vehicle facing forward) of the van accessible parking space. If the minimum 96-inch wide accessibility aisle is not met, the minimum width of a van accessible space is 144 inches. [Inspection Report – Field Measurement] {DIB 82-06 4.3.17 (3)}
- For off-street accessible parking a 60-inch minimum width accessibility aisle is required for cars and a 96-inch minimum width accessibility aisle is standard for vans unless a wider parking space is provided (see above). [Inspection Report – Field Measurement] {DIB 82-06 4.3.17 (4)}

PERMANENT PEDESTRIAN FACILITIES ADA COMPLIANCE HANDBOOK

- For off-street accessible parking, spaces and accessibility aisles shall be level with surface slopes less than 2.0 percent maximum (see below). [Inspection Report – Verify] {DIB 82-06 4.3.17 (5)}



□ Off-street parking signs shall include sign R100B (CA) posted at a conspicuous place at each entrance to the parking facility or immediately adjacent to and visible from each accessible stall. The sign shall include the address where the towed vehicle may be reclaimed and the telephone number of the local traffic law enforcement agency. [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90A}



SIGN R100B (CA)

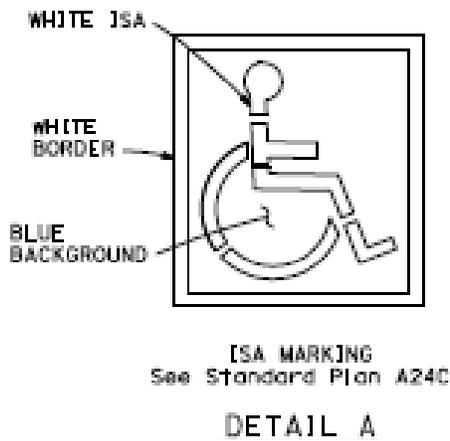
□ Off-street parking signs shall include sign R99C (CA) or R99 (CA) with Plaque R99B (CA) at each accessible stall. For van-accessible spaces, sign R7-8b shall be added. Regardless of sign configuration, the lowest sign edge at each stall shall provide a minimum of 84 inches clearance from the highest surrounding surface. [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90A}



SIGN R99C (CA)

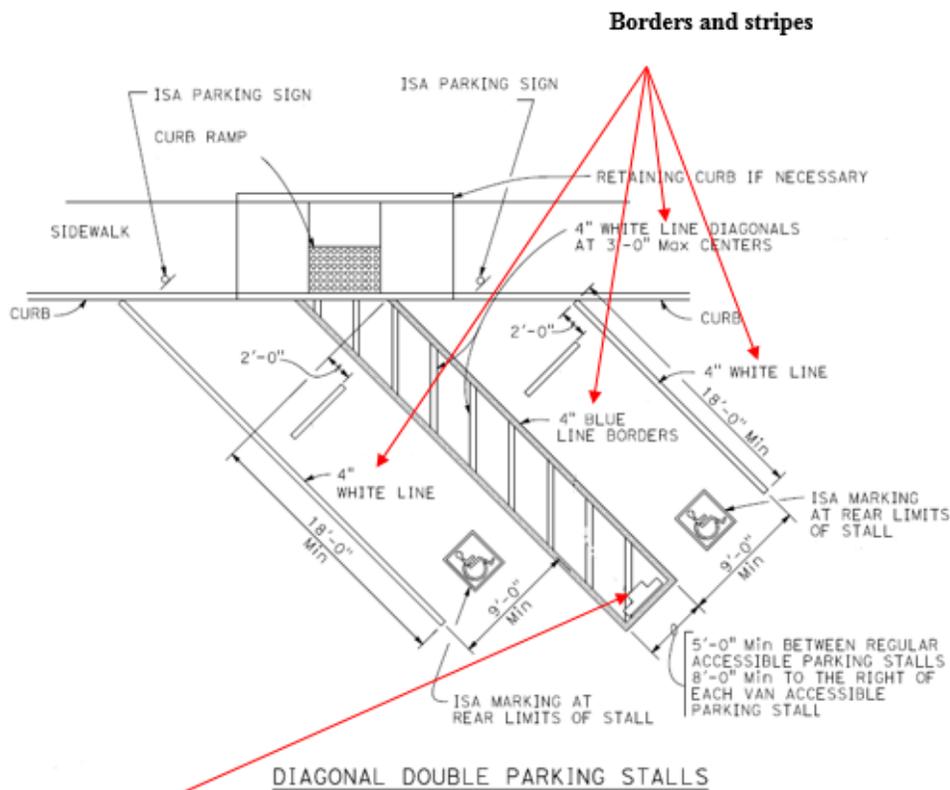
SIGN R99 (CA)

PLAQUE R99B (CA)



□ For off-street accessible parking stalls, include the International Symbol of Accessibility (ISA) marking (see Standard Plans A90A and A24C) with white border, blue background and white ISA. Place in each accessible parking stall at the rear limit and centered in the width of the stall. [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90A}

□ For off-street accessible parking stalls, include 4 inch white lines on stall edges, excluding those edges at accessibility aisles (see below). [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90A}

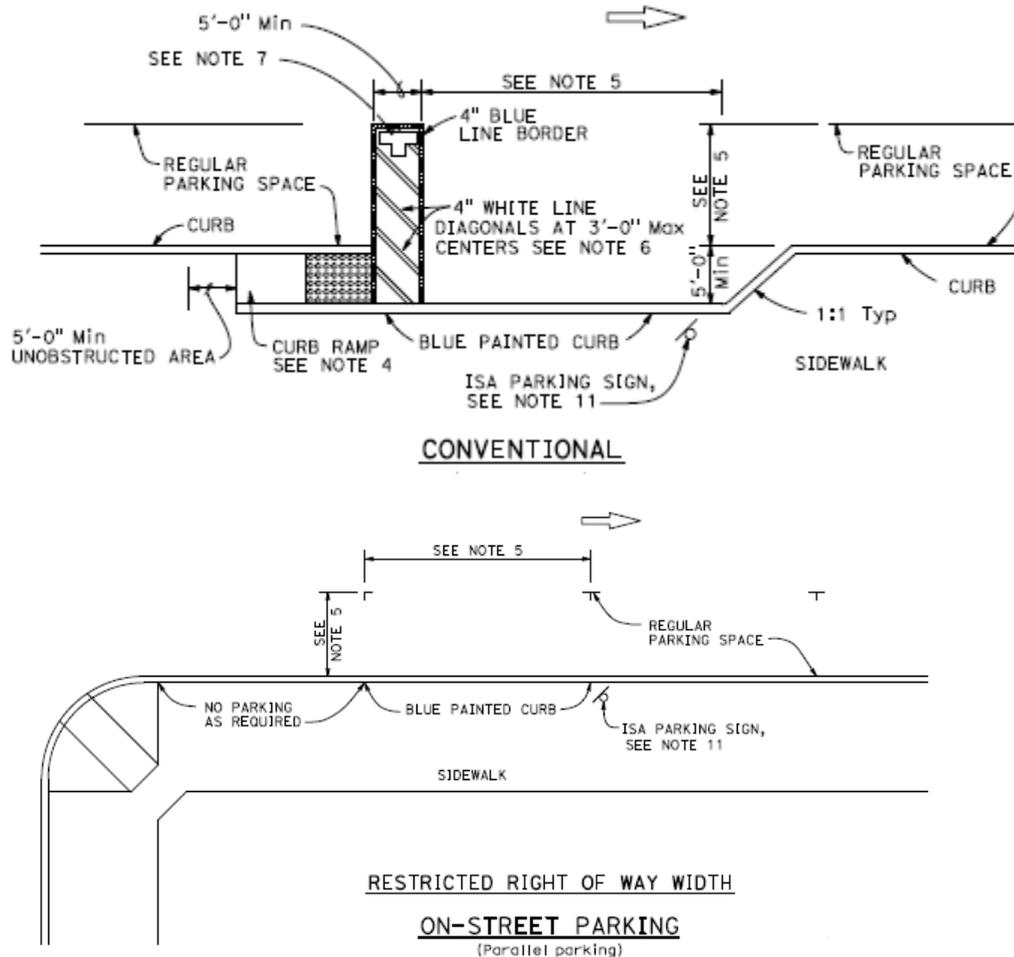


**“NO PARKING”
Pavement marking**

- For accessibility aisles, include 4-inch blue line borders and 4-inch white* line diagonals at 36 inch maximum centers. *Blue paint, instead of white paint diagonals may be used for marking accessibility aisles in areas where snow may cause white marking visibility concerns (see previous page). Include the words “NO PARKING” in white letters no less than 12 inches high within and at the traffic end of accessibility aisles (see Standard Plan A90A for location and A90B and A24E for pavement marking details). [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90A}
- Curb ramps and DWS are compliant and do not to encroach into accessible parking spaces or accessibility aisles. [Inspection Report – Verify] {DIB 82-06 4.3.17}

On-Street Parking:

- Accessible parking spaces shall be located so that persons with disabilities are not compelled to wheel or walk behind parked vehicles other than their own (see Standard Plan A90B for “conventional” or “restricted right-of-way width” cases). [Inspection Report – Verify] {DIB 82-06 4.3.17}



- Surface slopes of accessible parking spaces shall be the minimum feasible. [Inspection Report – Verify]
- Installation of required ISA signage, R99 (CA) and R99B (CA) or R99C (CA), must provide a minimum of 84 inches of clearance from the lowest edge of sign to the highest surrounding surface. [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90B}
- Accessible spaces must be a minimum of 240 inches in length and 96 inches in width unless the local jurisdiction calls for larger minimums. [Inspection Report – Measurement] {Standard Plan A90B}
- Curbs at accessible spaces shall be painted blue. [Inspection Report – Verify] {DIB 82-06 4.3.17 and Standard Plan A90B}
- Accessibility aisles shall be a minimum of 60 inches in width and shall be marked with 4-inch blue line borders and 4-inch white line diagonals at 36-inch maximum centers. Blue paint, instead of white paint diagonals may be used for marking accessibility aisles in areas where snow may cause visibility issues. Include the words “NO PARKING” in white letters no less than 12 inches high within and at the traffic end of accessibility aisles (see Standard Plans A90B and A24E for location and pavement marking details). [Inspection Report – Measurement/Verify]{DIB 82-06 4.3.17 and Standard Plan A90B}
- There shall be no obstructions on the sidewalk adjacent to and for the full length of the accessible parking space, except for the ISA parking sign. {Standard Plan A90B}
- If the “restricted right-of-way width” detail is used and it conflicts with a bus stop or other uses, the detail may be applied to the other end of the block. Discuss this situation with your designer. {Standard Plan A90B}

Special Locations

Bus Stops:

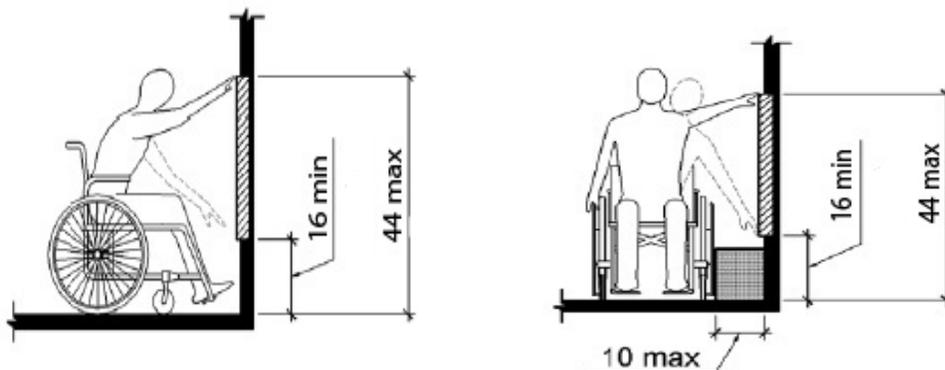
- Boarding and alighting areas shall provide a clear length of 96 inches minimum, measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches minimum, measured parallel to the vehicle roadway. {DIB 82-06 4.3.16 (1)}
- Where provided, new or replaced bus shelters shall be installed or positioned to permit a wheelchair or mobility aid user to enter from the public way and to reach a location, having a minimum clear floor area of 30 inches by 48 inches, entirely within the perimeter of the shelter. {DIB 82-06 4.3.16 (2)}
- Boarding and alighting areas shall be connected to streets, sidewalks, or pedestrian paths by an accessible route. Newly constructed bus stop pads shall provide a square curb transition between the pad and roadway elevations or detectable warnings. Caltrans Type A or B curb will satisfy the square curb requirement (See Standard Plan A87A). {DIB 82-06 4.3.16 (3)}
- Parallel to the roadway, the slope of the boarding and alighting area shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the boarding and alighting area shall not be steeper than 2.0 percent. {DIB 82-06 4.3.16 (4)}

Railroads:

- Where an accessible path crosses railroad tracks, the openings for wheel flanges shall be permitted to be 2.5 inches maximum. [Inspection Report – Field Verify] {DIB 82-06 4.3.6(2)}

Exhibits:

- Pedestrian facilities that are part of non-motorized transportation facilities may include vertical exhibit panels, wayside exhibit panels, and touchable exhibits. These exhibits have special forward and side reach requirements in DIB 82-06. Unobstructed forward reach for exhibits shall not exceed a maximum high forward reach of 44 inches or a minimum low forward reach of 16 inches above the finished surface. Unobstructed side reach for exhibits shall not exceed a maximum high side reach of 44 inches or a minimum low side reach of 16 inches above the finished surface. {DIB 82-06 4.3.15(4) & (5)}



Special Considerations

Pre- Postconstruction Surveys:

□ Projects may include a pre-postconstruction survey bid item for certain permanent pedestrian facilities, such as non-standard plan curb ramps. When used, the summary of quantities plan sheet will identify which individual facilities will require the surveys. These surveys must be performed by a California licensed surveyor or California registered engineer.

The required documentation for the postconstruction survey needs to capture the slopes and dimensions for each element of the facility. A minimum of three measurements are to be recorded for slopes and dimensions of each element. These may be captured and submitted in any format as determined by the surveyor/engineer and include their professional stamp. Specification changes are planned that would require that this information be placed on a corresponding inspection report for the corresponding facility. Regardless, these facilities will still require spot verification by Caltrans field staff to ensure that contract and ADA compliance has been attained. The contractor's submitted postconstruction survey can be used to supplement verification inspection, but cannot replace verification inspection and certification by Caltrans.

Intersections Without Yield or Stop Control:

□ Intersections without yield or stop control receive special consideration as vehicular traffic may not always reduce speed at such locations. Common signalized intersections with three-phase control (red, yellow, green) are considered to be an intersection without yield or stop control as vehicles travelling through the intersection with a "green" signal may not reduce speed. In contrast, signalized intersections with either flashing yellow or flashing red are considered intersections with yield or stop control respectively, the same is true for intersections signed with yield or stop signs.

It may also be possible that an intersection contains yield or stop control in one direction, but does not have yield or stop control in another direction (for example, at rural road crossing of highway). This will affect the ADA compliance requirements for the pedestrian facility traversing the intersection. {see DIB 82-06 4.3.5, Figure 4.3.5 – Cross Slope Examples}