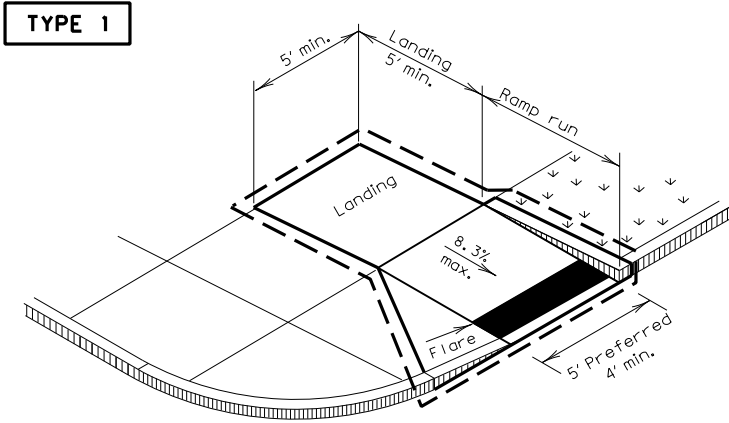
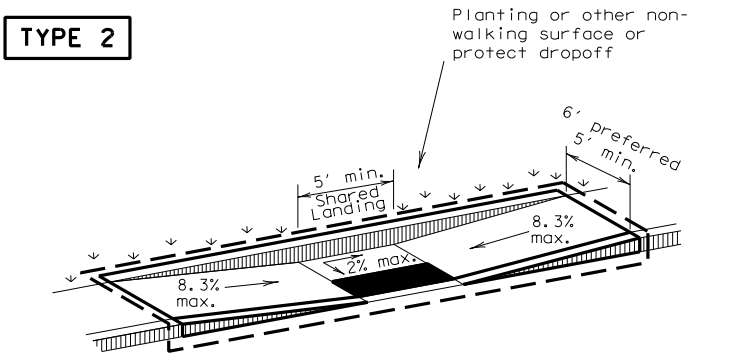


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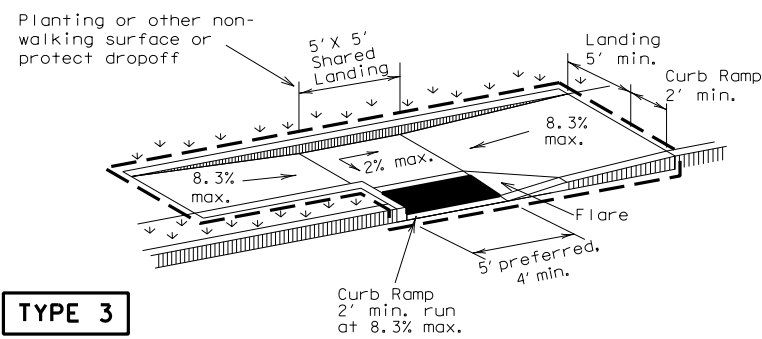


**PERPENDICULAR CURB RAMP**

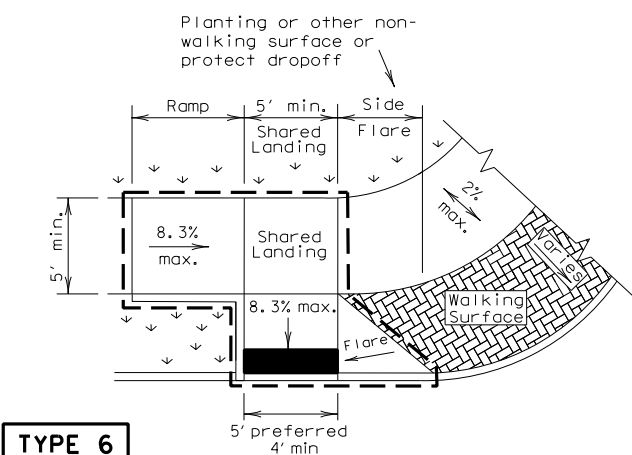


**PARALLEL CURB RAMP**

(Use only where water will not pond in the landing.)

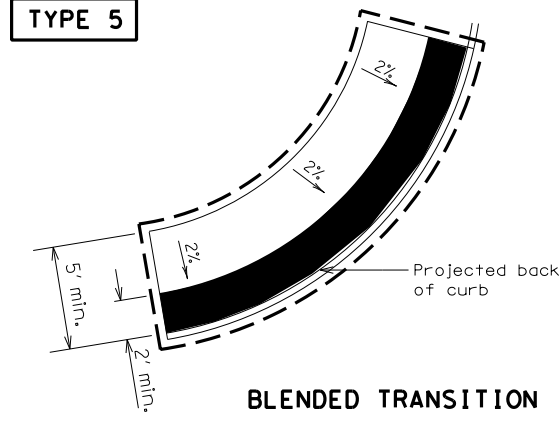


**TYPE 3**

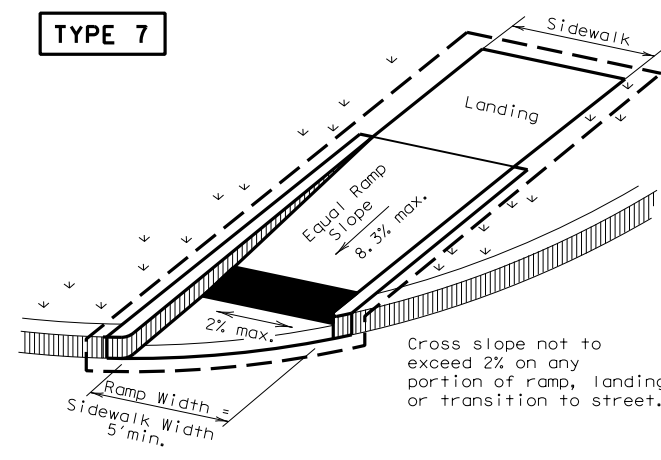


**TYPE 6**

**COMBINATION CURB RAMPS**

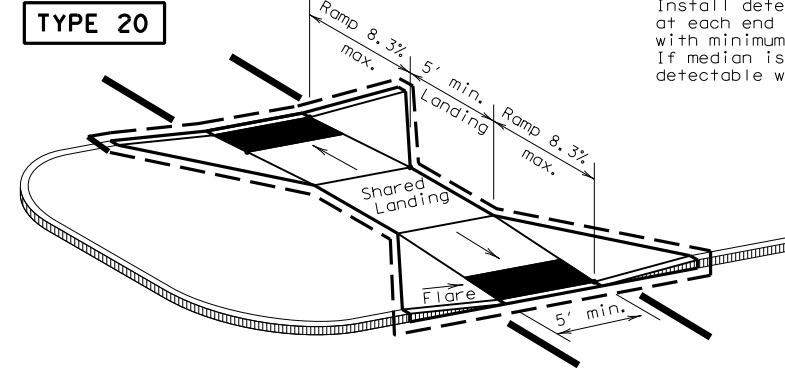


**BLENDED TRANSITION**



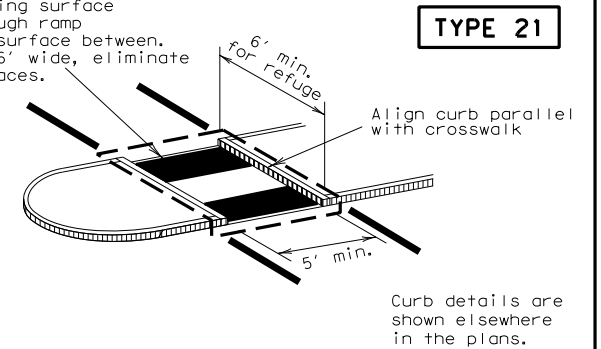
(Sidewalk set back from curb)

**DIRECTIONAL RAMPS WITHIN RADIUS**



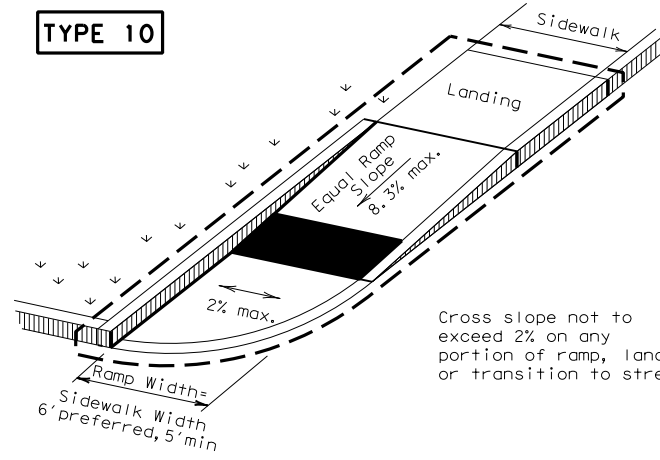
**CURB RAMPS AT MEDIAN ISLANDS**

Install detectable warning surface at each end of cut-through ramp with minimum 2' smooth surface between. If median is less than 6' wide, eliminate detectable warning surfaces.



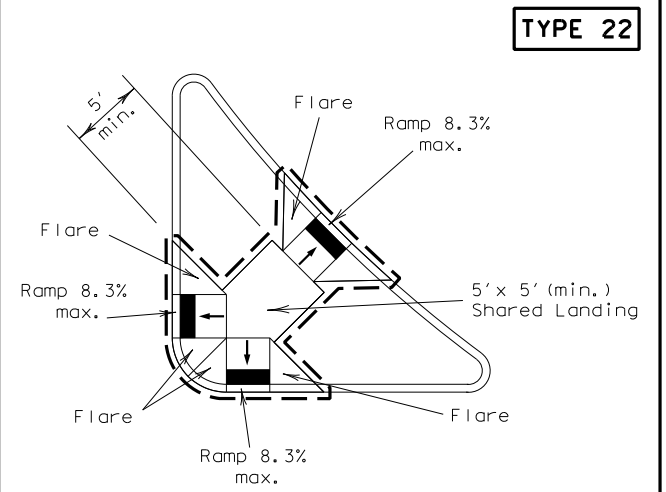
**TYPE 21**

Curb details are shown elsewhere in the plans.



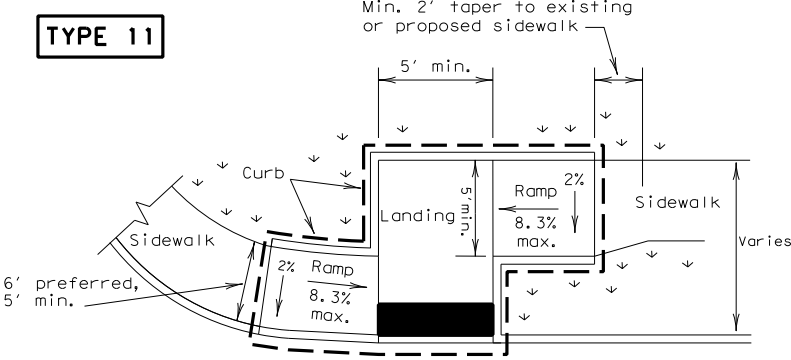
(Sidewalk adjacent to curb)

Cross slope not to exceed 2% on any portion of ramp, landing or transition to street.



**TYPE 22**

**COMBINATION ISLAND RAMPS**



**TYPE 11**

**OFFSET PARALLEL CURB RAMP**

**NOTES / LEGEND:**

See General Notes on sheet 2 of 4 for more information.

Denotes planting or non-walking surface not part of pedestrian circulation path.

Ramp Limits of Payment

Detectable Warning Surface

**PEDESTRIAN FACILITIES CURB RAMPS**

**PED-12A**

FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
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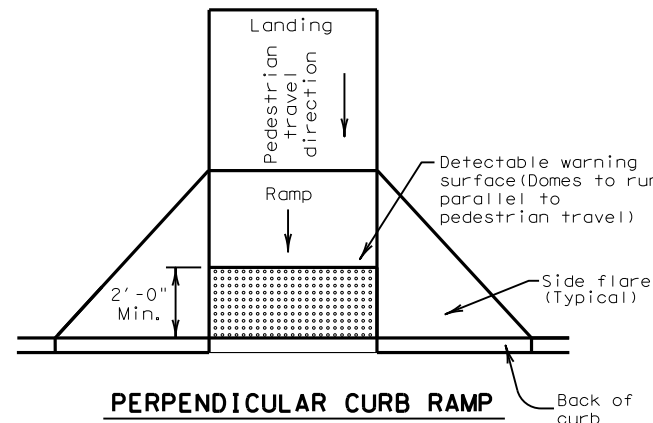
**General Notes**

**Curb Ramps**

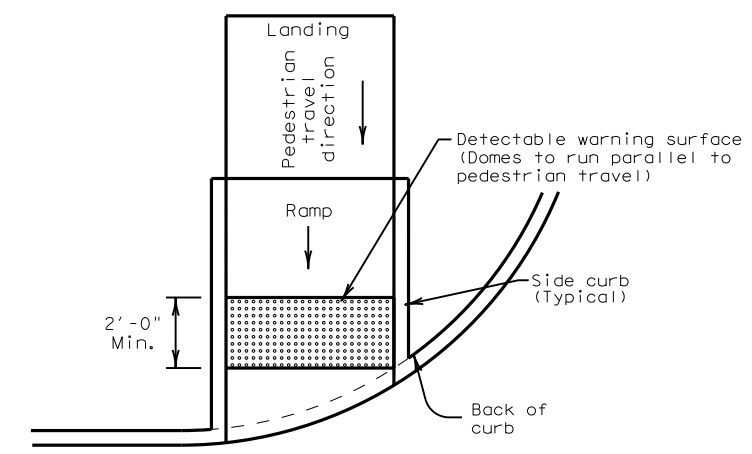
1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever on accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

**Detectable Warning Material**

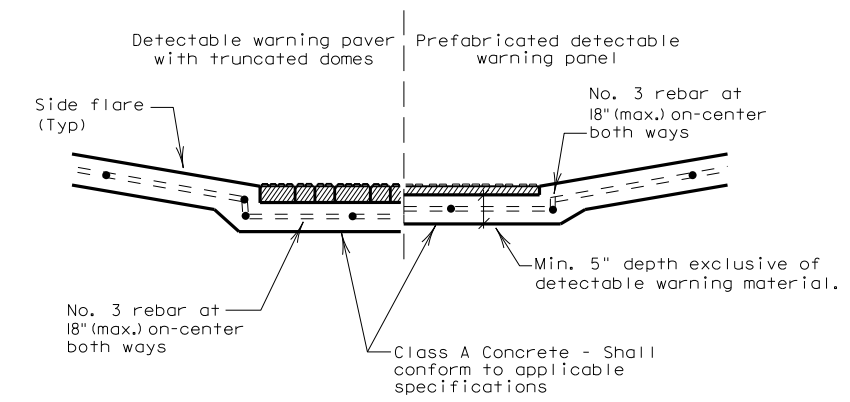
18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.



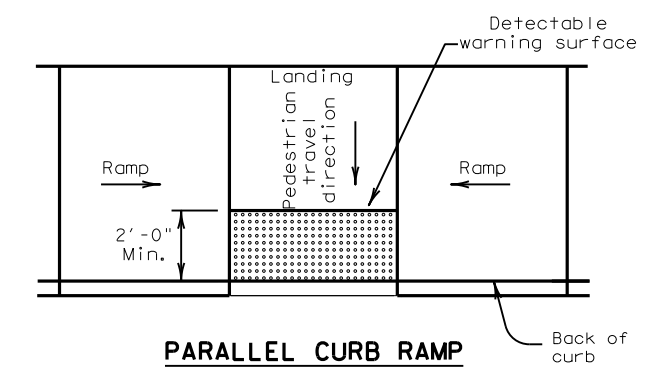
**PERPENDICULAR CURB RAMP**  
Typical placement of detectable warning surface on sloping ramp run.



**DIRECTIONAL CURB RAMP**  
Typical placement of detectable warning surface on sloping ramp run.



**SECTION: CURB RAMP AT DETECTABLE WARNING**



**PARALLEL CURB RAMP**  
Typical placement of detectable warning surface on landing at street edge.

**DETECTABLE WARNINGS**

**Detectable Warning Pavers**

24. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
25. Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.

**Sidewalks**

26. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
27. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
28. Street grades and cross slopes shall be as shown elsewhere in the plans.
29. Changes in level greater than 1/4 inch are not permitted.
30. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
31. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
32. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
33. Sidewalk details are shown elsewhere in the plans.

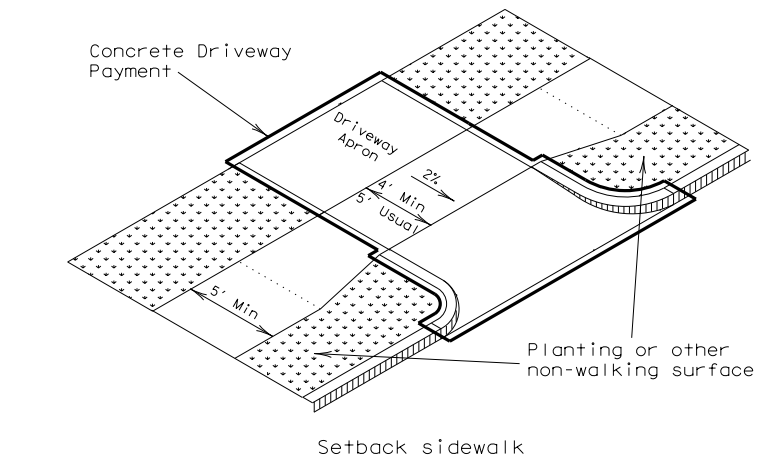
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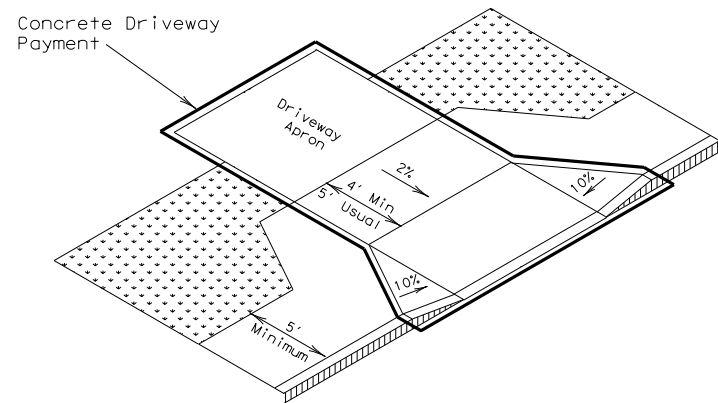
		<b>Design Division Standard</b>	
<h2>PEDESTRIAN FACILITIES</h2> <h3>CURB RAMPS</h3> <h1>PED-12A</h1>			
FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT
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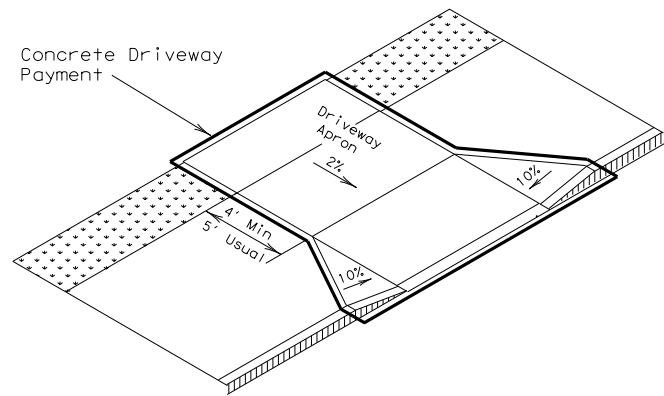
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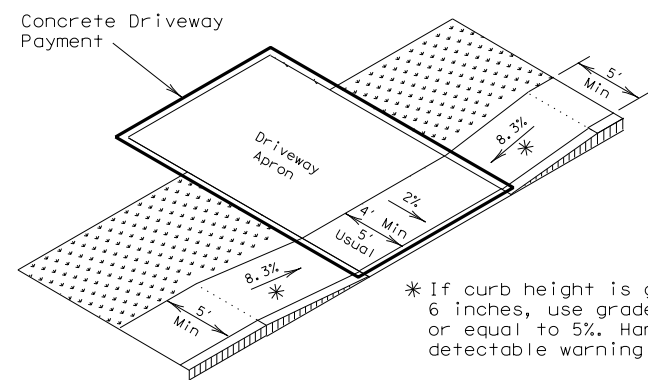
Setback sidewalk



Apron offset sidewalk



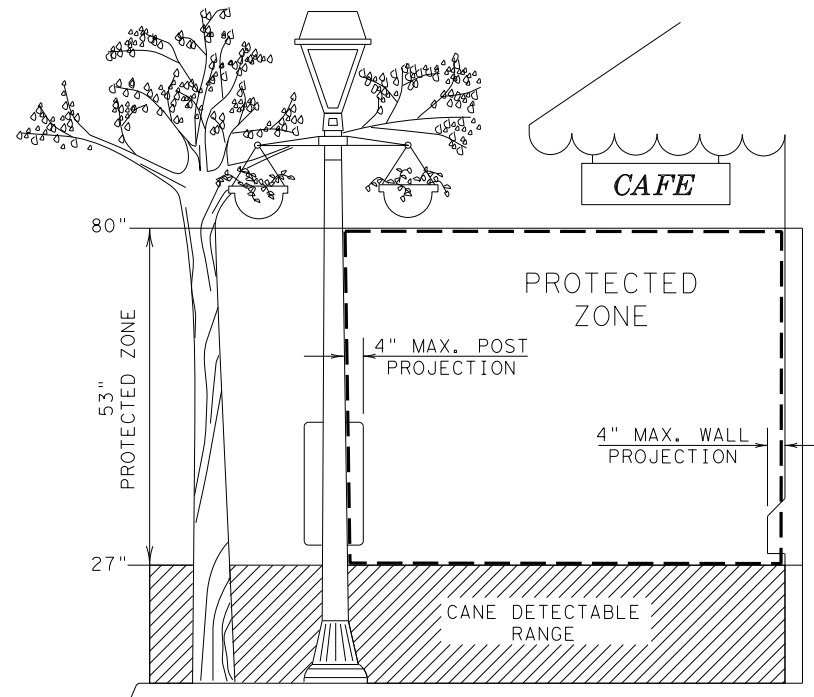
Wide sidewalk



Ramp sidewalk

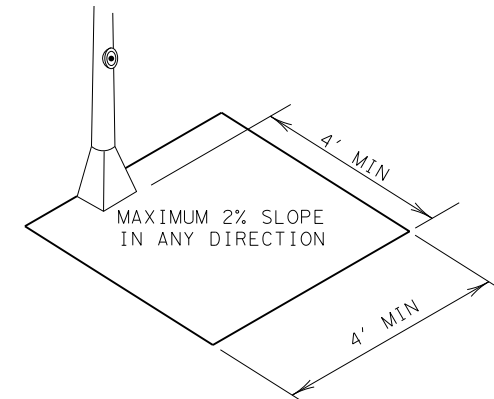
**SIDEWALK TREATMENT AT DRIVEWAYS**

\* If curb height is greater than 6 inches, use grade less than or equal to 5%. Handrail and detectable warning not required.

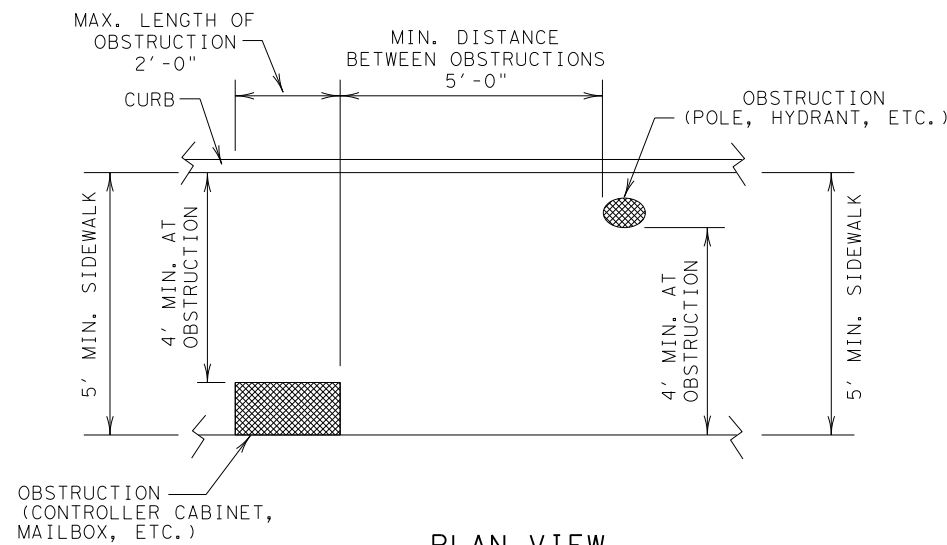


**PROTECTED ZONE**

In pedestrian circulation area, maximum 4" projection for post or wall mounted objects between 27" and 80" above the surface.

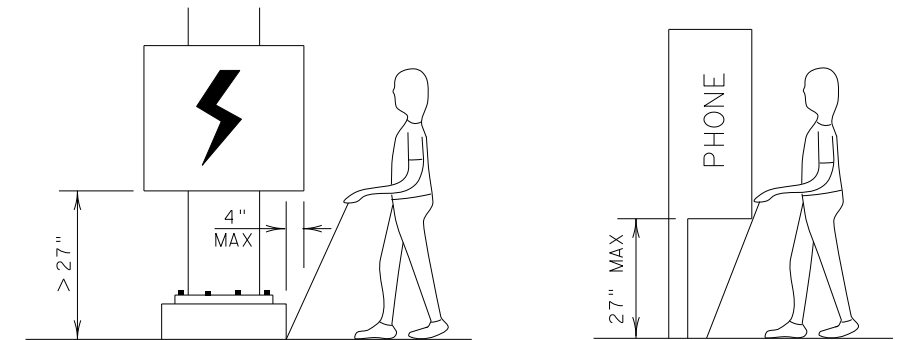


**CLEAR GROUND SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON**



**PLAN VIEW  
PLACEMENT OF STREET FIXTURES**

(ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' x 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)



When an obstruction of a height greater than 27" from the surface would create a protrusion of more than 4" into the pedestrian circulation area, construct additional curb or foundation at the bottom to provide a maximum 4" overhang.

Protruding objects of a height  $\leq 27"$  are detectable by cane and do not require additional treatment.

**DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"**

SHEET 3 OF 4

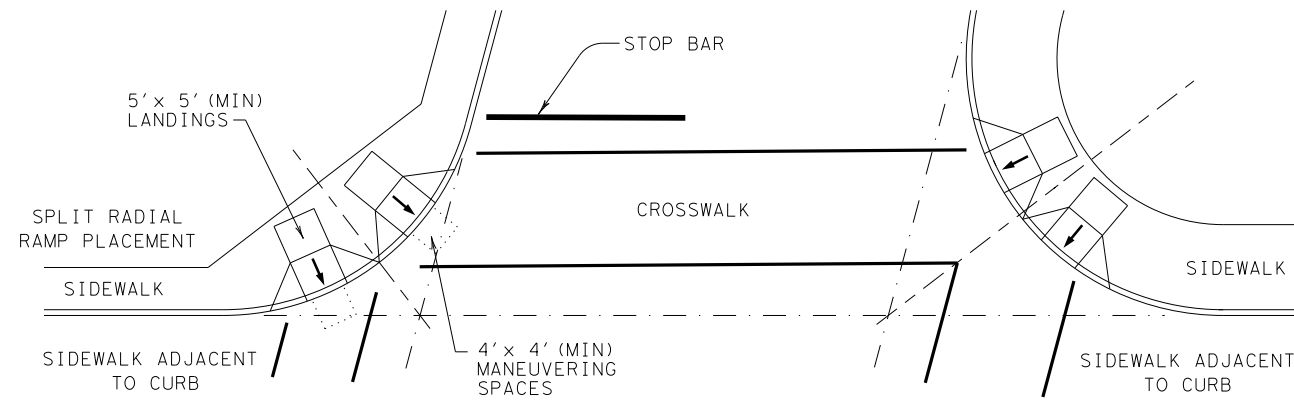


**PEDESTRIAN FACILITIES  
CURB RAMPS**

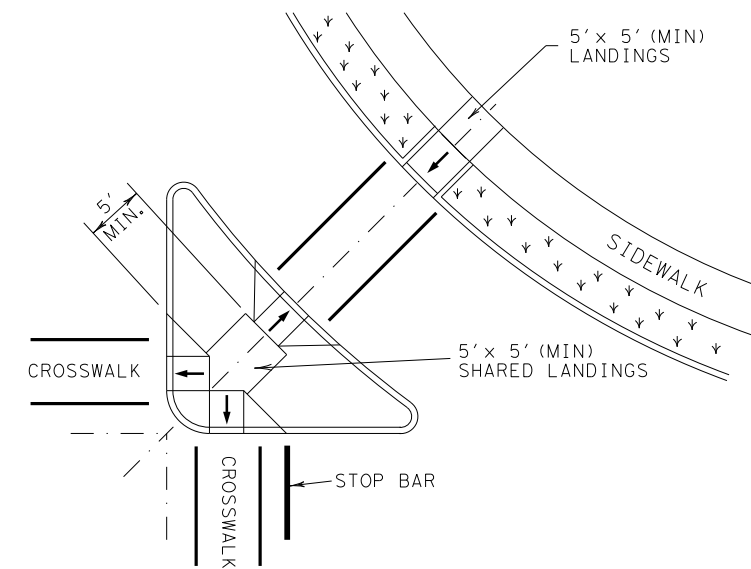
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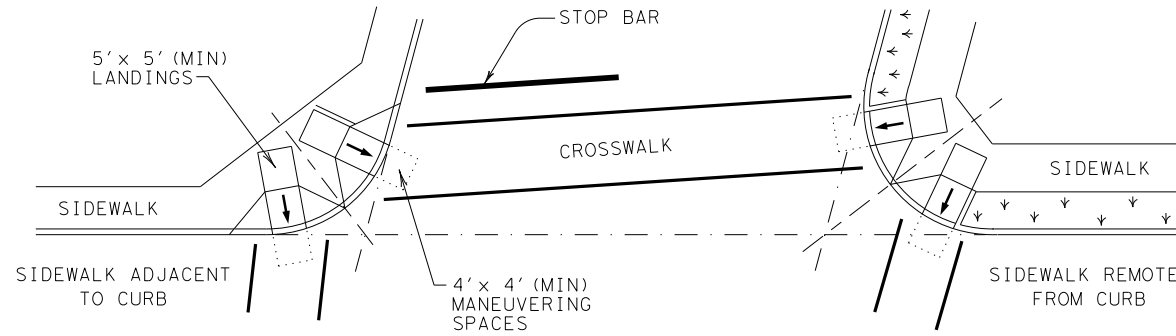
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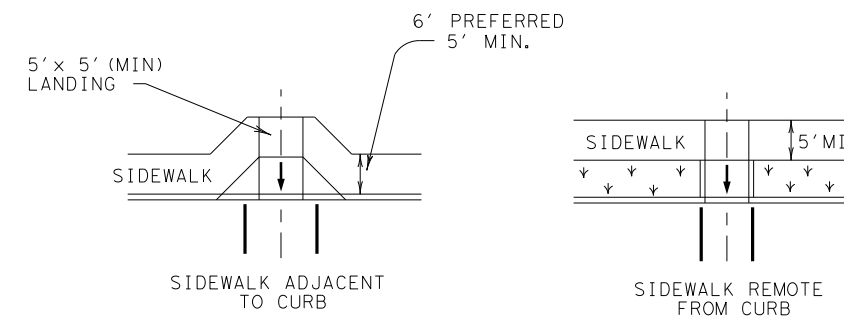
SKewed INTERSECTION WITH "LARGE" RADIUS



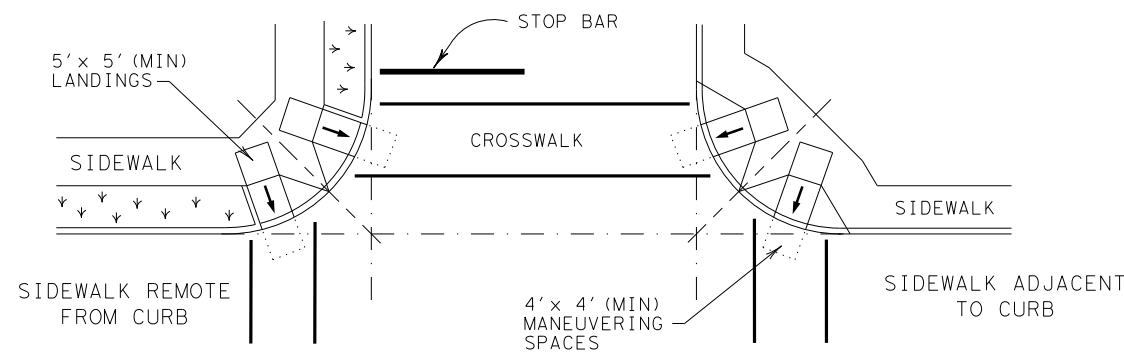
AT INTERSECTION W/FREE RIGHT TURN & ISLAND



SKewed INTERSECTION WITH "SMALL" RADIUS



MID-BLOCK PLACEMENT PERPENDICULAR RAMPS



NORMAL INTERSECTION WITH "SMALL" RADIUS

TYPICAL CROSSING LAYOUTS

SHEET 4 OF 4



PEDESTRIAN FACILITIES  
CURB RAMPS

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