

**HUMBOLDT COUNTY BUILDING DEPARTMENT
CITY OF WINNEMUCCA BUILDING DEPARTMENT
ACCESSIBLE RAMP**

REFERENCED CODE: ICC/ANSI A117.1 -2017 – Accessible and Usable Buildings and Facilities & 2018 International Building Code

Ramps (Section 405)

Slope and Rise. Ramps in new construction shall have a running slope greater than 1:20 and not steeper than 1:12. The rise for any ramp run shall be 30” maximum. Curb ramps and ramps constructed on existing sites or existing buildings or facilities shall be permitted to have slopes and rises as shown in Table 405.2 provided space limitations prohibit use of a 1:12 slope or less. (405.2)

Table 405.2 – Allowable Ramp Dimensions for Construction in Existing Sites, Buildings & Facilities

Slope*	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3”
Steeper than 1:12 but not steeper than 1:10	6”
*A slope steeper than 1:8 shall not be permitted	

Floor Surfaces: Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.

Clear Width. The clear width of a ramp run shall be 36” minimum. Handrails and handrail supports that are provided on the ramp run shall not project into the required clear width of the ramp run (405.5). Exception – within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

Landings. Ramps shall have level landings at bottom and top of each run. Landings shall have the following features: (405.7)

- Slope: Cross slope of ramp surfaces shall not be steeper than 1:48. (405.7.1)
- Width: Clear width of landings shall be at least as wide as the widest ramp leading to the landing. (405.7.2)
- Length: Landings shall have a clear length of 60 inches (405.7.3)
- Change in Direction: Ramps that change direction between runs at landings shall have a clear landing 60 inches minimum by 60 inches minimum. (405.7.4)
- Doorways: Doorways that are adjacent to ramp landing, maneuvering clearances required by Sections 404.2.3 and 404.3.2 shall be permitted to overlap the landing area. Where doors that are subject to locking are adjacent to a ramp landing, landings shall be sized to provide turning space complying with Section 304.3 (405.7.5)

Handrails. Ramps runs with a rise greater than 6 inches shall have handrails complying with Section 505. Exception: Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths, and which are used for the movement of equipment, are designed to permit the installation of handrails complying with Section 505. Ramps not subject to the exception of Section 405.5 shall be designed to maintain a 36-inch minimum clear width where handrails are installed.

Guardrails. Guardrails are required when the ramp is over 30” above grade. Guardrails shall comply with IBC Section 1012.

Thresholds. Threshold at doorways shall not exceed ½” in height per IBC Section 1008.1.6

Edge Protection. Edge protection complying with Section 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings. (405.9) (see exceptions)
The floor surface of the ramp run or ramp landing shall extend 12” minimum beyond the inside face of a railing complying with Section 505. (405.9.1)

A curb shall be a minimum of 4” in height. (405.9.2.1)

Barriers shall be constructed so that the barrier prevents the passage of 4” diameter sphere where any portion of the sphere is within 4” of the floor. (405.9.2.2)

Wet Conditions. Landings subject to wet conditions shall be designed to prevent the accumulation of water. (405.10)

Curb Ramps & Blended Transitions (Section 406)

Perpendicular curb ramps.

Landings: A landing 48 inches minimum shall be provided at the top of a curb ramp. The landing shall be permitted to overlap pedestrian routes and clear spaces. Where the landing is constructed at the back-of-sidewalk, the landing shall be 48 inches minimum by 60 inches minimum. The 60-inch dimension shall be provided in the direction of the curb ramp run. The slope of the landings shall be 1:48 maximum in all directions. (406.2.1)

Running slope: The running slope of a curb ramp shall cut through or shall be built up to the curb at right angles where the curb or shall meet the gutter grade break at right angles where the curb is curved. The running slope of a curb ramp where the curb is curved. The running slope of a curb ramp shall be 1:20 minimum and 1:12 minimum. The curb ramp run length shall not be required to exceed 15 feet. (406.2.2)

Flared sides: Where a pedestrian circulation path crosses a curb ramp, flared sides shall be provided and shall be sloped 10 percent maximum. (406.2.3)

Parallel curb ramps:

Landings: A landing 48 inches minimum by 48" minimum shall be provided at the bottom of a curb ramp. The landing shall be permitted to overlap pedestrian routes and clear spaces. There the landing is constrained on two or more sides, the landing shall be 48 inches minimum by 60 inches minimum. The 60 inches dimension shall be provided in the direction of pedestrian street crossing. The slope of landings shall be 1:48 maximum in all directions. (406.3.1)

Running slope: The running slope of a curb ramp shall be in line with the direction of sidewalk travel. The running slope of a curb ramp shall be 1:20 minimum and 1:12 maximum. The curb ramp run length shall not be required to exceed 15 feet. (406.3.2)

Blended transitions:

Running slope: The running slope of blended transition shall be 1:20 maximum. (406.4.1)

Common requirements: Curb ramps and blended transitions shall comply with Section 406.5.

Width: The clear width of curb ramp runs (excluding any flared sides) and blended transitions shall be 48 inches minimum. (406.5.1)

Grade breaks: Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the curb ramp run. Grade breaks shall not be permitted on the surface of the curb ramp runs and landings. Surface slopes that meet at grade breaks shall be flush. (406.5.2)

Cross slope: The cross slope of curb ramps and blended transitions shall be 1:48 maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade. (46.5.3)

Counter slope: The counter slope of the gutter or street at foot of curb ramp runs, blended transitions and landings shall be 1:20 maximum. (406.5.4)

Clear space: Beyond the bottom grade break, a clear space 48 inches minimum shall be provided within the width of the pedestrian street crossing and wholly outside the parallel vehicle travel lane. (406.5.5)

Marking: If curbs adjacent to the ramp flares are painted, the painted surface shall extend along the flared portion of the curb. (406.5.6)

Location: Curb ramps and the flared sides of curbed ramps shall be located so they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.(406.5.7)

Obstructions: Curb ramps shall be located or protected to prevent their obstruction by parked vehicles. (46.5.8)

Handrails: Handrails shall not be required on curb ramps. (46.5.9)

Detectable warnings. (406.6)

General: Where detectable warning surfaces are provided they shall comply with Section 705. (406.6.1)

Locations for detectable warning surfaces. Detectable warning surfaces shall be provided at the following locations on pedestrian access routes and at transit stops:

1. Curb ramps and blended transitions at pedestrian street crossings.
2. Pedestrian refuge islands. Exception: Detectable warning surfaces shall not be required at pedestrian refuge islands that are cut through at street level and are more than 6 feet in length in the direction of pedestrian travel.
3. Pedestrian at-grade rail crossings not located within a street or highway.
4. Boarding platforms at transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards and.
5. Boarding and alighting areas at sidewalk or street-level transit stops for rail vehicles where the side of the boarding and alighting areas facing the rail vehicles is not protected by screens or guards.

Handrails (Section 505)

Handrails shall be provided on both sides of stairs and ramps. Exception: Aisle stairs and aisle ramps provided with handrail either at the side or within the aisle width. (505.2)

Handrails shall be continuous within the full length of each stair flight or ramp run. Exception: handrails in aisles serving seating. (505.3)

Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs. Other handrails shall comply with 307 & 505.10. Exception: Handrails in aisles serving seating. (505.3)

Top of gripping surfaces of handrails shall be 34" minimum to 38" maximum vertically above ramp surfaces. Handrails shall be at a consistent height above ramp surfaces. (505.4)

Clear space between handrail and wall shall be 1 ½" minimum. (505.5)

Gripping surfaces shall be continuous, without interruption by newel posts, other construction elements, or obstructions. (505.6)

Handrails shall have a circular cross section with an outside diameter of 1 ¼" minimum and 2" maximum; or shall provide equivalent graspability in accordance with the following requirement. Handrails with other shapes shall be permitted provided they have perimeter dimension of 4" minimum and 6 ¼" maximum, and provided their largest cross-section dimension is 2 ¼" maximum. (505.7.1)

Handrails, and any wall or other surfaces adjacent to them, shall be free of any sharp or abrasive elements. Edges shall be rounded (505.8)

Handrail Extensions (505.10) – Handrails for stairs and ramps shall have extensions complying with 505.10 (see exceptions)

Ramp handrails shall extend horizontally 12" minimum beyond the top and bottom of ramp runs. Such extensions shall return to a wall, guard, or the floor, or shall be continuous to the handrail of the adjacent ramp run. (505.10.1)

Accessible Routes Through Parking (Section 507)

Where accessible routes pass through parking facilities, they shall be physically separated from vehicular traffic.

Exceptions: (507.1)

1. Accessible routes crossing drive aisles shall not be required to comply with this section.
2. Accessible routes only from parking spaces complying with Section 502 and passenger loading zones complying with Section 503 to accessible entrances shall not be required to comply with this section.

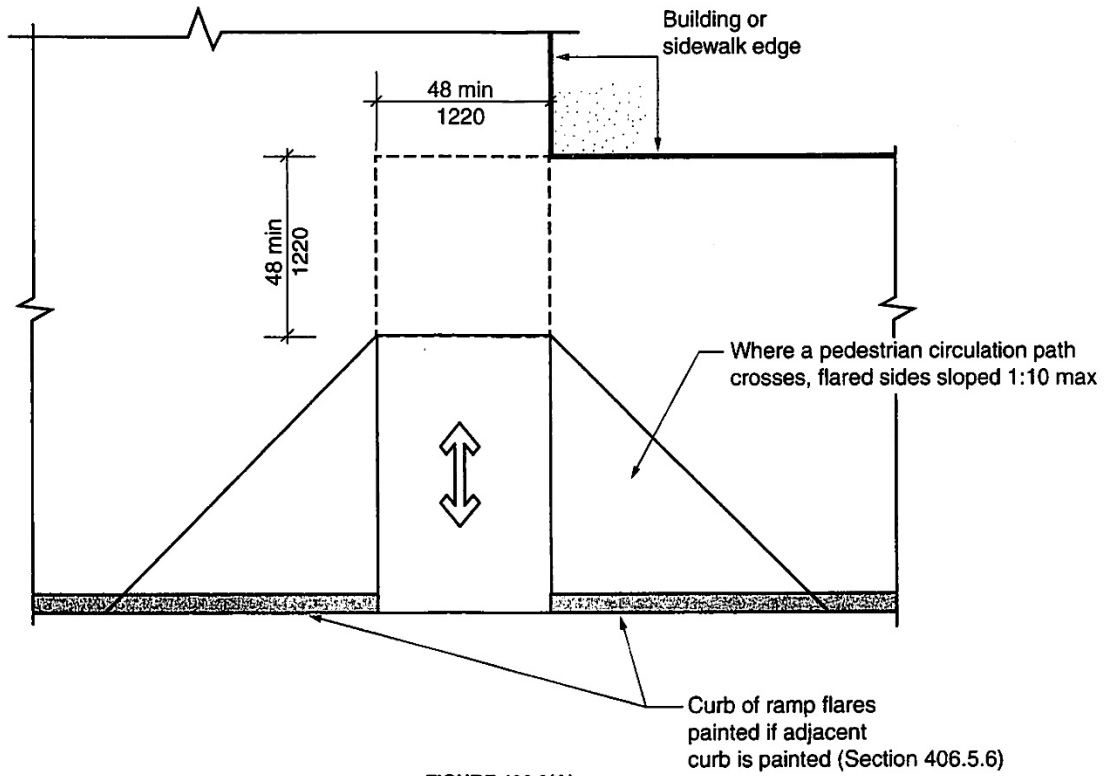


FIGURE 406.2(A)
PERPENDICULAR CURB RAMP

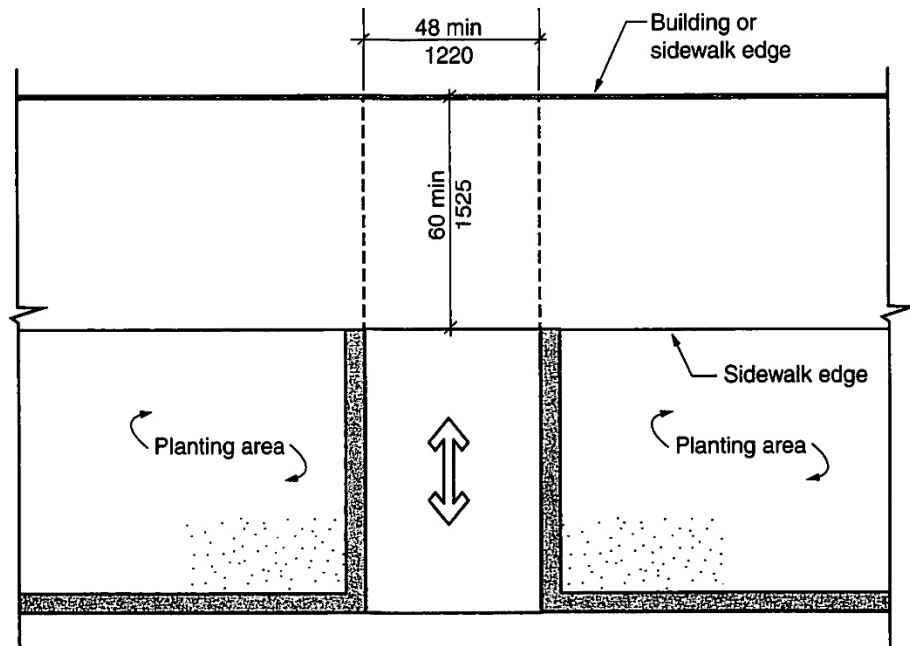


FIGURE 406.2(B)
PERPENDICULAR CURB RAMP

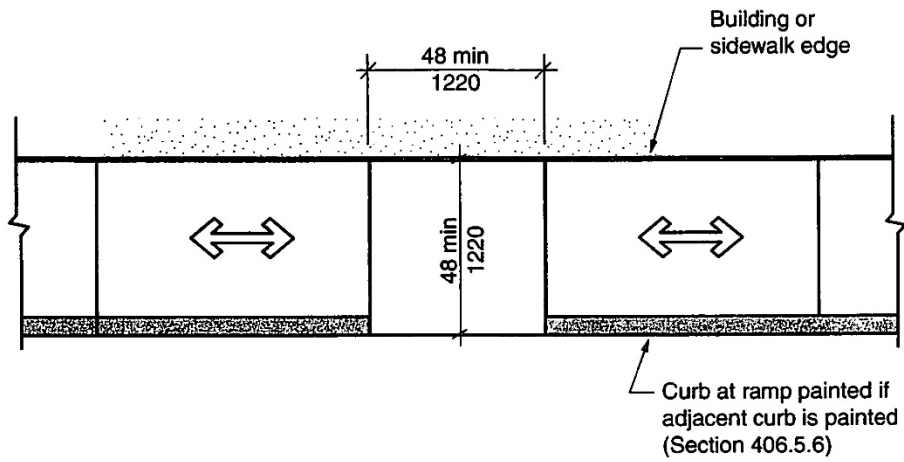


FIGURE 406.3(A)
PARALLEL CURB RAMP

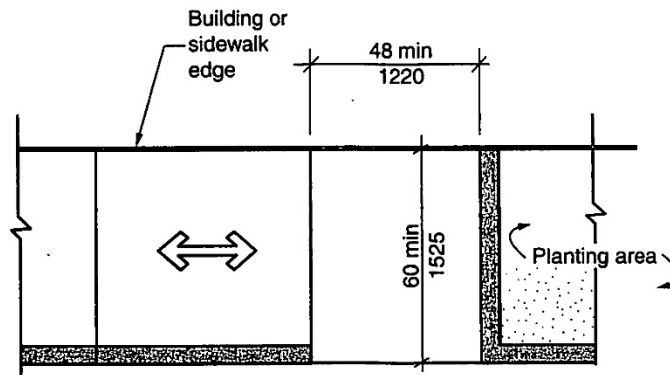
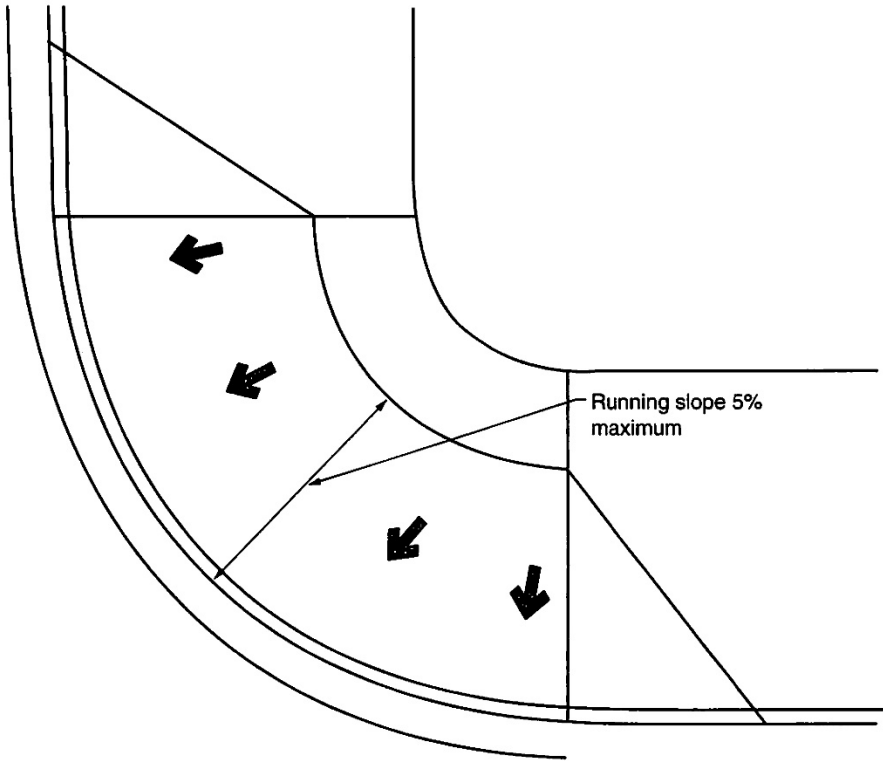
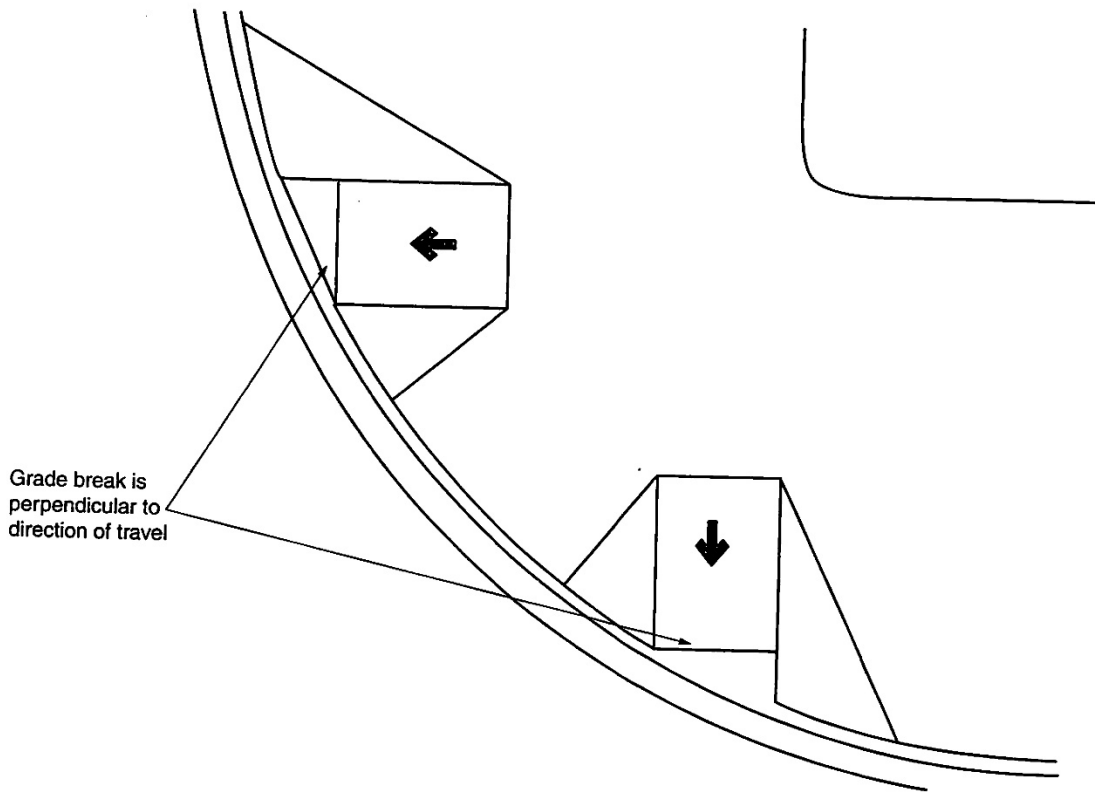


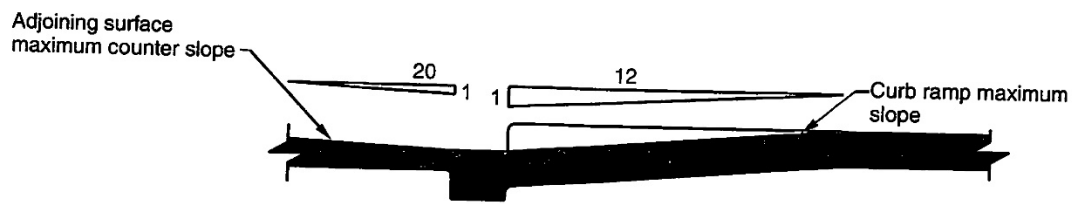
FIGURE 406.3(B)
PARALLEL CURB RAMP



**FIGURE 406.4
BLENDED TRANSITION**



**FIGURE 406.5.2
GRADE BREAK**



**FIGURE 406.5.4
COUNTER SLOPE OF SURFACES ADJACENT TO CURB RAMPS**

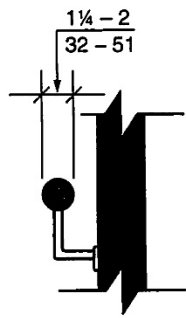


FIGURE 505.7(A)
HANDRAIL CROSS SECTION - CIRCULAR

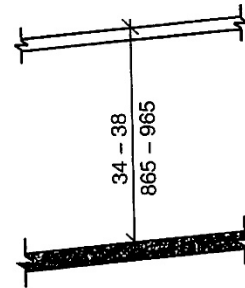


FIGURE 505.4(B)
HANDRAIL HEIGHT - RAMPS

505.5 Clearance. Clearance between handrail gripping surface and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

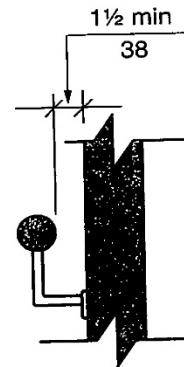


FIGURE 505.5
HANDRAIL CLEARANCE

GENERAL SITE AND BUILDING ELEMENTS

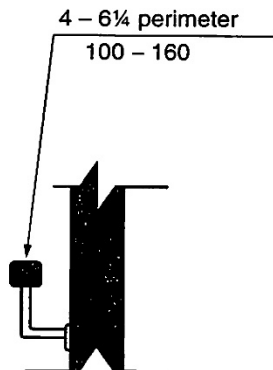


FIGURE 505.7(B)
HANDRAIL CROSS SECTION - NONCIRCULAR

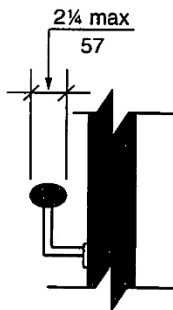


FIGURE 505.7(C)
HANDRAIL CROSS SECTION - NONCIRCULAR

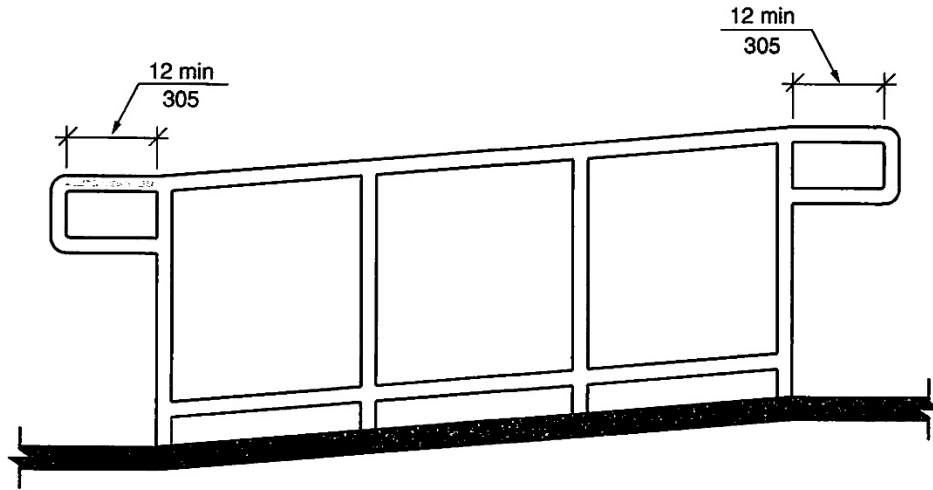


FIGURE 505.10.1
TOP AND BOTTOM HANDRAIL EXTENSION AT RAMPS