

# ADA NOTES

## CHAPTER 3: BUILDING BLOCKS

**302.2 Carpet.** Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncurl pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

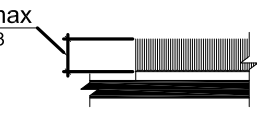


Figure 302.2 Carpet Pile Height

**302.3 Openings.** Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

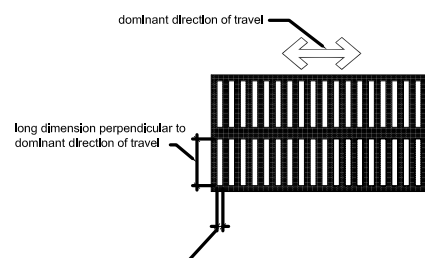


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

**302.3 Vertical.** Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to vertical.

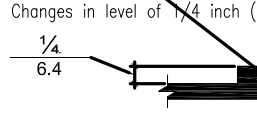


Figure 302.3 Vertical Change in Level

**303.3 Beveled.** Changes in level shall be 1/4 inch (6.4 mm) high maximum and 1/2 inch (13 mm) high maximum shall be permitted with a slope not steeper than 1:2.

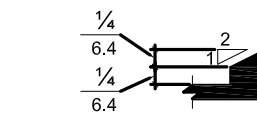


Figure 303.3 Beveled Change in Level

**304 Turning Space.**  
**304.1 Circular Space.** The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.  
**304.3.2 T-Shaped Space.** The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

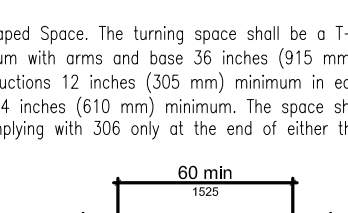


Figure 304.1 Circular Space and Figure 304.3.2 T-Shaped Turning Space

**307.3 Post-Mounted Objects.** Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) minimum or 80 inches (2030 mm) minimum above the finish floor or ground.

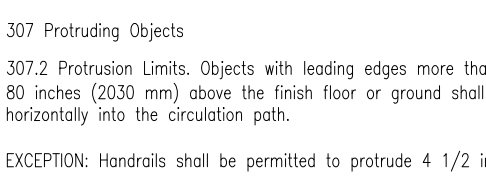


Figure 307.3 Post-Mounted Objects

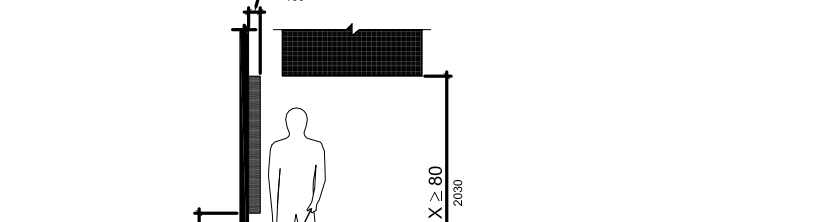


Figure 307.2 Limits of Protruding Objects

**307.3 Post-Mounted Objects.** Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) minimum or 80 inches (2030 mm) minimum above the finish floor or ground.

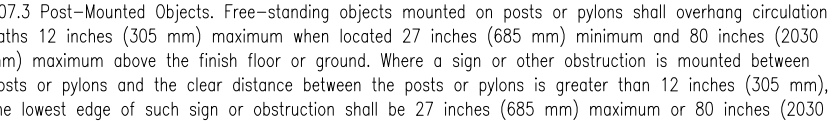


Figure 307.3 Post-Mounted Objects

**307.4 Vertical Clearance.** Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

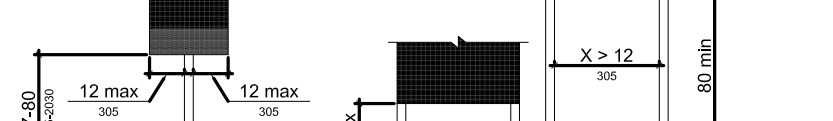


Figure 307.4 Vertical Clearance

**EXCEPTION:** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

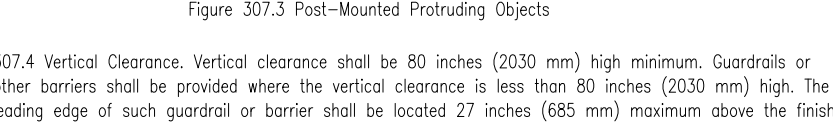


Figure 307.4 Vertical Clearance

**308 Reach Ranges.**  
**Children's Reach Ranges**

Forward or Side Reach	High (maximum)	Low (minimum)
Ages 3 and 4	36 in. (915 mm)	20 in. (510 mm)
Ages 5 through 8	40 in. (1015 mm)	18 in. (455 mm)
Ages 9 through 12	44 in. (1120 mm)	16 in. (405 mm)

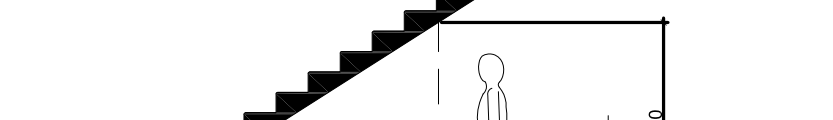


Figure 308.2 Obstructed High Forward Reach

**308.2.1 Unobstructed.** Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1219 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.



Figure 308.2.1 Unobstructed Forward Reach

**308.2.2 Obstructed High Reach.** Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth above the obstruction. The high forward reach shall be 48 inches (1219 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

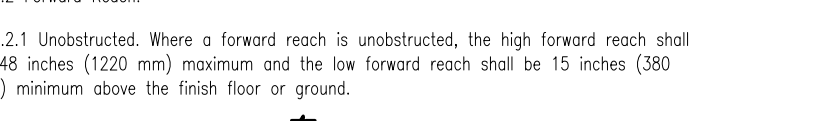


Figure 308.2.2 Obstructed High Reach

**308.2.3 Side Reach.** Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1219 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

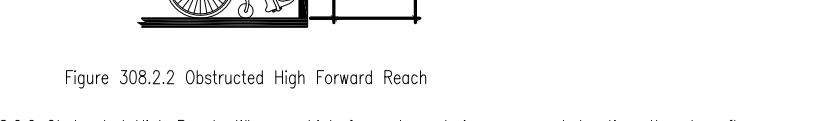


Figure 308.2.3 Side Reach

**308.3.2 Obstructed High Reach.** Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1219 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

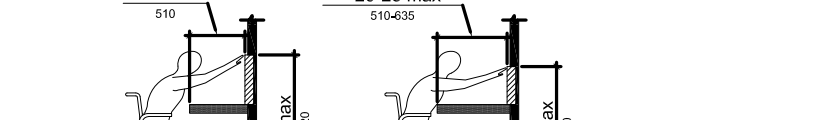


Figure 308.3.2 Obstructed High Side Reach

**305.7.1 Forward Approach.** Alcoves shall be 36 inches (915 mm) wide minimum where the depth exceeds 24 inches (610 mm).

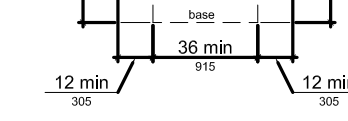


Figure 305.7.1 Forward Approach

**305.7.2 Parallel Approach.** Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).



Figure 305.7.2 Parallel Approach

**305.7.3 Maneuvering Clearance in an Alcove, Parallel Approach.**

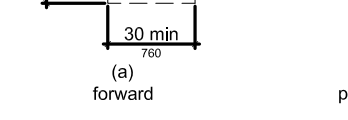


Figure 305.7.3 Maneuvering Clearance in an Alcove, Parallel Approach

**306 Knee and Toe Clearance.**  
**306.1 General.** Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.2.  
**306.2 Maximum Depth.** Toe clearance shall extend 25 inches (635 mm) maximum under an element.  
**306.2.3 Minimum Required Depth.** Where toe clearance is required on an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.  
**306.2.4 Additional Clearance.** Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.  
**306.2.5 Width.** Toe clearance shall be 30 inches (760 mm) wide minimum.

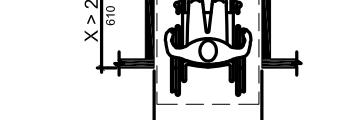


Figure 306.1 General Knee and Toe Clearance

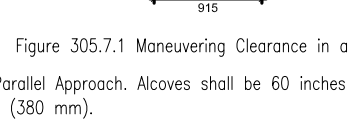


Figure 306.2 Maximum Depth Toe Clearance

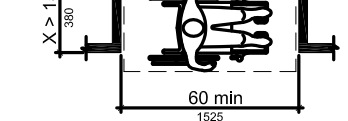


Figure 306.2.3 Minimum Required Depth Toe Clearance

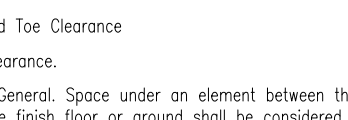


Figure 306.2.4 Additional Clearance

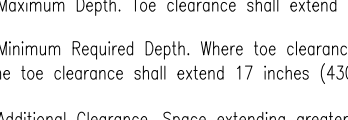


Figure 306.2.5 Width Toe Clearance

**306.3.1 General.** Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.  
**306.3.2 Maximum Depth.** Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.  
**306.3.3 Minimum Required Depth.** Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.  
**306.3.4 Clearance Reduction.** Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 8 inches (205 mm) in height.  
**306.3.5 Width.** Knee clearance shall be 30 inches (760 mm) wide minimum.

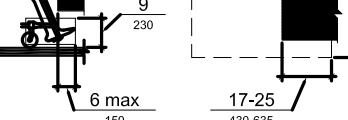


Figure 306.3.1 General Knee Clearance

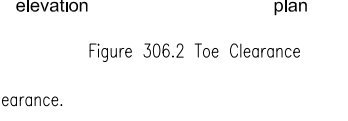


Figure 306.3.2 Maximum Depth Knee Clearance

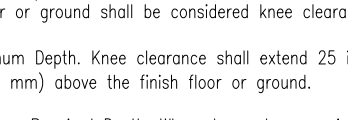


Figure 306.3.3 Minimum Required Depth Knee Clearance

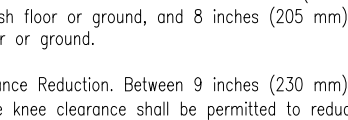


Figure 306.3.4 Clearance Reduction

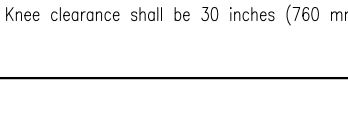


Figure 306.3.5 Width Knee Clearance

**402.2 Components.** Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the forced sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

**Advisory 402.2 Components.** Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

**403 Walking Surfaces.**  
**403.1 General.** Walking surfaces that are a part of an accessible route shall comply with 403.  
**403.2 Floor or Ground Surface.** Floor or ground surfaces shall comply with 302.  
**403.3 Slope.** The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.  
**403.4 Changes in Level.** Changes in level shall comply with 303.  
**403.5 Clearances.** Walking surfaces shall provide clearances complying with 403.5.  
**EXCEPTION:** Within employee work areas, clearances on 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.  
**403.5.1 Clear Width.** Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.  
**EXCEPTION:** The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.  
**403.5.2 Clear Width at Turn.** Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.  
**403.5.3 Passing Spaces.** An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum.  
**404 Doors, Doorways, and Gates.**  
**404.1 General.** Doors, doorways, and gates that are part of an accessible route shall comply with 404.  
**EXCEPTION:** Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2, 404.2.8, 404.2.9, 404.3.2 and 404.3.4 through 404.3.7.  
**Advisory 404.1 General Exception.** Security personnel must have sole control of doors that are eligible for the Exception in 404.1. It would not be acceptable for security personnel to operate the doors for people with disabilities while allowing others to have independent access.  
**404.2 Manual Doors, Doorways, and Manual Gates.** Manual doors and doorways and manual gates intended for user passage shall comply with 404.2.  
**404.2.1 Revolving Doors, Gates, and Turnstiles.** Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.  
**404.2.2 Double-Leaf Doors and Gates.** At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.  
**404.2.3 Clear Width.** Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.4 Clear Width of Doorways.**  
**404.2.1 Front Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
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**404.2.2 Side Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
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**404.2.3 Pocket or Hinge Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
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**404.2.1 Front Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
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**404.2.4 Stop or Latch Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.5 Clear Width of Doorways.**  
**404.2.1 Front Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.2 Side Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.3 Pocket or Hinge Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.4 Stop or Latch Approach.** Clear width of doorways shall be 48 inches (1220 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening wider than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).  
**EXCEPTIONS:** 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.  
**2.** Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.  
**404.2.5 Clear Width of Doorways.**  
**404.2.1 Front Approach.** Clear width of doorways shall be 48 inches (122