

**GUIDE TO  
BARRIER-FREE DESIGN  
SECTION 3.8 OF THE  
ONTARIO BUILDING CODE 2006**



(3) A retail *food premise* is exempt from compliance with this Article if its eating and drinking area does not exceed 50 m<sup>2</sup> and any one or more of the following applies:

- (a) it is designed to sell only cold drinks in or from the original container,
- (b) it is designed to sell only frozen confections in the original package or wrapper,
- (c) it is designed to prepare and sell only hot beverages,
- (d) it is designed to prepare and sell only popped corn, roasted nuts or french-fried potatoes,
- (e) it is designed to sell only food or drink for human consumption that,
  - (i) is pre-packaged at a premise other than the *food premise* at which it is being offered for sale, and
  - (ii) is not capable of supporting the growth of pathogenic organisms or the production of the toxins of such organisms.

### 3.7.6.5. Hot and Cold Water Supply

- (1) A hot and cold water supply shall be provided to,
  - (a) every *plumbing appliance* and *fixture* required by Article 2.7.6.4.,
  - (b) every area where food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed or prepared, and
  - (c) every area where utensils are washed.

(2) This Article does not apply to a retail *food premise* described in Sentence 3.7.6.4.(3).

### 3.7.6.6. Employee Facilities

- (1) In a *food premise*, where dressing rooms are provided for employees, there shall be separate dressing rooms for males and females that,
  - (a) are large enough for the employees to change and store their clothing, and
  - (b) are equipped with lockers or other facilities suitable for storing the clothing of the employees.
- (2) Every room containing *sanitary units* for employees shall have a floor area not less than 2.3 m<sup>2</sup>.

### 3.7.6.7. Sleeping Quarters

- (1) A room or space intended to be used as sleeping quarters shall not open directly into any room where food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed, prepared, stored, displayed, handled, served, distributed, sold or offered for sale.

## Section 3.8. Barrier-Free Design (See Appendix A.)

### 3.8.1. General

#### 3.8.1.1. Application (See Appendix A.)

- (1) The requirements of this Section apply to all *buildings* except,
  - (a) houses, including semi-detached houses, duplexes, triplexes, town houses, row houses and boarding or rooming houses with fewer than 8 boarders or roomers,
  - (b) *buildings* of Group F, Division 1 *major occupancy*, and
  - (c) *buildings* which are not intended to be occupied on a daily or full time basis, including automatic telephone exchanges, pumphouses and substations.

**3.8.1.2. Entrances** (See Appendix A.)

- (1) In addition to the *barrier-free* entrances required by Sentence (2), the number of *barrier-free* entrances in a *building* referred to in Sentence 3.8.1.1.(1) shall be no fewer than those as specified in Table 3.8.1.2. and shall lead from,
  - (a) the outdoors at sidewalk level, or
  - (b) a ramp that conforms to Article 3.8.3.4. and leads from a sidewalk.
- (2) A *suite* of *assembly occupancy, business and personal services occupancy or mercantile occupancy* that is located in the *first storey* of a *building* or in a *storey* to which a *barrier-free* path of travel is provided, and that is separated from the remainder of the *building*, so that there is no access to the remainder of the building, shall have at least one *barrier-free* entrance.

Table 3.8.1.2.  
Minimum Number of Pedestrian Entrances Required to be Barrier-Free  
Forming Part of Sentence 3.8.1.2.(1)

Number of pedestrian entrances into <i>building</i>	Minimum number of pedestrian entrances required to be <i>barrier-free</i>
1 to 3	1
more than 3 to 5	2
more than 5	not less than 50 percent
Column 1	2

- (3) A *barrier-free* entrance required by Sentences (1) or (2) shall be designed in accordance with Article 3.8.3.3.
- (4) At a *barrier-free* entrance that includes more than one doorway, only one of the doorways is required to be designed in accordance with the requirements of Article 3.8.3.3.
- (5) If a *walkway* or pedestrian bridge connects two *barrier-free storeys* in different *buildings*, the path of travel from one *storey* to the other *storey* by means of the *walkway* or bridge shall be *barrier-free*.

**3.8.1.3. Barrier-Free Path of Travel**

- (1) Except as required in Sentence (4) and except as permitted in Subsection 3.8.3., every *barrier-free* path of travel shall provide an unobstructed width of at least 1 100 mm for the passage of wheelchairs.
- (2) Interior and exterior walking surfaces that are within a *barrier-free* path of travel shall,
  - (a) have no opening that will permit the passage of a sphere more than 13 mm in diam,
  - (b) have any elongated openings oriented approximately perpendicular to the direction of travel,
  - (c) be stable, firm and slip-resistant,
  - (d) be bevelled at a maximum slope of 1 in 2 at changes in level not more than 13 mm, and
  - (e) be provided with sloped floors or ramps at changes in level more than 13 mm.
- (3) A *barrier-free* path of travel is permitted to include ramps, passenger elevators or other platform equipped passenger elevating devices to overcome a difference in level.
- (4) Every *barrier-free* path of travel less than 1 600 mm in width shall be provided with an unobstructed space not less than 1 600 mm in width and 1 600 mm in length located not more than 30 m apart.
- (5) Where the headroom of an area in a *barrier-free* path of travel is reduced to less than 1 980 mm, a guardrail or other barrier with its leading edge at or below 680 mm from the floor shall be provided.

### 3.8.1.4. Access to Storeys Served by Escalators and Moving Walks

- (1) In a *building* in which an escalator or inclined moving walk provides access to any floor level above or below the entrance floor level, an interior *barrier-free* path of travel shall be provided to that floor level. (See Appendix A.)
- (2) The route from the escalator or inclined moving walk to the *barrier-free* path of travel that leads from floor to floor required by Sentence (1) shall be clearly indicated by appropriate signs.

### 3.8.1.5. Controls

- (1) Except as required by Sentences 3.5.2.2.(1) and 3.8.3.5.(1) for elevators and Sentence 3.8.3.3.(17) for power door operator controls, controls for the operation of *building* services or safety devices, including electrical switches, thermostats and intercom switches, intended to be operated by the occupant and located in a *barrier-free* path of travel shall be accessible to a person in a wheelchair, operable with one hand and mounted at not less than 900 mm and not more than 1 200 mm above the floor.
- (2) A signal intended for the public to indicate the operation of a *building* security system that controls access to a *building* shall consist of an audible and visual signal.

### 3.8.1.6. Illumination

- (1) All portions of a *barrier-free* path of travel shall be equipped to provide a level of illumination in accordance with Sentence 3.2.7.1.(1).

## 3.8.2. Occupancy Requirements

### 3.8.2.1. Areas Requiring Barrier-Free Path of Travel

- (1) Except as permitted by Sentence (2), a *barrier-free* path of travel from the entrances required by Sentences 3.8.1.2.(1) and (2) to be *barrier-free* shall be provided throughout the entrance *storey* and within all other normally occupied *floor areas* served by a passenger elevator, escalator, inclined moving walk, or other platform equipped passenger elevating device.
- (2) The provision of a barrier-free path of travel in Sentence (1) does not apply,
  - (a) to *service rooms*,
  - (b) to elevator machine rooms,
  - (c) to janitors rooms,
  - (d) to *service spaces*,
  - (e) to crawl spaces,
  - (f) to *attic or roof spaces*,
  - (g) to floor levels not served by a passenger elevator, a platform-equipped passenger-elevating device, an escalator, or an inclined moving walk,
  - (h) to *high-hazard industrial occupancies*,
  - (i) within portions of a *floor area* with fixed seats in an *assembly occupancy* where these portions are not part of the *barrier-free* path of travel to spaces designated for wheelchair use,
  - (j) into *suites of residential occupancy* that are in *storeys* other than the entrance *storey* and that have all entrance doors at floor levels that do not correspond to elevator stop levels,
  - (k) except as required by Sentence (4) within a *suite of residential occupancy*, or
  - (l) within those parts of a *floor area* that are not at the same level as the entry level, provided amenities and uses provided on any raised or sunken level are accessible on the entry level by means of a *barrier-free* path of travel.(See Appendix A.)

- (3) The minimum number of spaces designated for wheelchair use in an *assembly occupancy* with fixed seats shall conform to Table 3.8.2.1. (See Appendix A.)
- (4) In a Group C *major occupancy* apartment building, not less than 10% of all residential *suites* shall be provided with a *barrier-free* path of travel from the *suite* entrance door to,
  - (a) the doorway to at least one bedroom at the same level, and
  - (b) the doorway to at least one bathroom,
    - (i) having an area not less than 4.5 m<sup>2</sup> at the same level, and
    - (ii) conforming to Sentence 9.6.3.3.(1).

**Table 3.8.2.1.**  
**Designated Wheelchair Spaces**  
 Forming Part of Sentence 3.8.2.1.(4)

Number of Fixed Seats in Seating Area	Minimum Number of Spaces Required for Wheelchairs
up to 100	2
101 to 200	3
201 to 300	4
301 to 400	5
401 to 600	6
Over 600	Not less than 1 per cent of the seating capacity
Column 1	2

**3.8.2.2. Access to Parking Areas**

- (1) A *barrier-free* path of travel shall be provided from the entrance described in Article 3.8.1.2. to,
  - (a) an exterior parking area, where exterior parking is provided, and
  - (b) at least one parking level, where a passenger elevator serves an indoor parking level.
 (See Appendix A.)
- (2) The vehicular entrance to and egress from at least one parking level described in Sentence (1) and all areas intended to be used by wheelchair accessible vehicles to gain access to a parking space on that level shall have a vertical clearance of not less than 2 100 mm.
- (3) If an exterior passenger loading zone is provided, it shall have,
  - (a) an access aisle not less than 1 500 mm wide and 6 m long adjacent and parallel to the vehicle pull-up space,
  - (b) a curb ramp, where there are curbs between the access aisle and the vehicle pull-up space, and
  - (c) a clearance height of not less than 2 750 mm at the vehicle pull-up space and along the vehicle access and egress routes.

**3.8.2.3. Washrooms Required to be Barrier-Free** (See Appendix A.)

- (1) Except where other *barrier-free* washrooms are provided on the same floor level within 45 m and except within *suites* of *residential occupancy*, and *buildings* exempted in Clauses 3.8.1.1.(1)(a), (b) and (c), in *buildings* where a washroom is required in accordance with Subsection 3.7.4., a *barrier-free* path of travel shall be provided to a *barrier-free* washroom designed to accommodate disabled persons in conformance with the appropriate requirements in Articles 3.8.3.8. to 3.8.3.12.
- (2) Except as permitted in Sentence (3), where washrooms in excess of those required by Subsection 3.7.4. are provided in a *storey* to which a *barrier-free* path of travel is required in conformance with Article 3.8.2.1., these washrooms shall be designed to accommodate disabled persons in conformance with the appropriate requirements in Articles 3.8.3.8. to 3.8.3.12.

- (3) Washrooms need not conform to the requirements in Sentence (2) provided,
- (a) they are located within *suites of residential occupancy*,
  - (b) other *barrier-free* washrooms are provided on the same floor level within 45 m, or
  - (c) they are located in an individual *suite* that is,
    - (i) used for a *business and personal services occupancy*, a *mercantile occupancy* or an *industrial occupancy*,
    - (ii) less than 300 m<sup>2</sup> in area, and
    - (iii) completely separated from, and without access to, the remainder of the *building*.

### 3.8.2.4. Hotels

- (1) Except as permitted in Sentence (2), at least 10% of the *suites* of a *hotel* shall,
- (a) have a *barrier-free* path of travel extending to the inside of each room, and to a balcony where required by Sentence 3.3.1.7.(2), and
  - (b) be distributed among *storeys* having a barrier-free path of travel.
- (2) Not more than 20 *suites* need comply with Sentence (1)
- (3) A *suite* having a *barrier-free* path of travel required by Sentence (1) shall have a bathroom that,
- (a) conforms to the requirements of Clauses 3.8.3.12.(1)(a) to (i),
  - (b) has an unobstructed area at least 1 200 mm in diameter extending the full height of the room; however, a door is permitted to open on the inside if it does not reduce the unobstructed area, and
  - (c) has a bath or shower that conforms to the requirements of Article 3.8.3.13.

## 3.8.3. Design Standards

### 3.8.3.1. Accessibility Signs (See Appendix A.)

- (1) Where a *building* is required to have a *barrier-free* entrance to accommodate disabled persons, signs incorporating the International Symbol of Accessibility shall be installed where necessary to indicate,
- (a) the location of that entrance, and
  - (b) the location of ramps located in a required *barrier-free* path of travel serving that entrance.
- (2) Where a washroom, elevator, telephone or parking area is required to accommodate disabled persons, it shall be identified by a sign consisting of the international symbol of accessibility for disabled persons and such other graphic, tactile or written directions as are needed to indicate clearly the type of facility available.
- (3) Where a washroom is not designed to accommodate disabled persons in a *storey* to which a *barrier-free* path of travel is required, signs shall be provided to indicate the location of the *barrier-free* facilities.
- (4) Signs incorporating the international symbol of accessibility for disabled persons shall be installed where necessary to indicate the location of the accessible *means of egress*.
- (5) Characters, symbols or pictographs on tactile signs shall, if wall mounted, be located not less than 1 200 mm and not more than 1 500 mm above the floor.

### 3.8.3.2. Exterior Walks

- (1) Except as provided in Sentence (2), exterior walks that form part of a *barrier-free* path of travel shall,
- (a) be provided by means of a continuous plane not interrupted by steps or abrupt changes in level,
  - (b) have a permanent, firm and slip-resistant surface,
  - (c) except as required in Sentence 3.8.1.3.(4), have an uninterrupted width of not less than 1 100 mm and a gradient not exceeding 1 in 20,

- (d) be designed as a ramp where the gradient is greater than 1 in 20,
  - (e) have not less than 1 100 mm wide surface of a different texture to that surrounding it, where the line of travel is level and even with adjacent walking surfaces,
  - (f) be free from obstructions for the full width of the walk to a minimum height of 1 980 mm, except that handrails are permitted to project not more than 100 mm from either side into the clear area, and
  - (g) have a level area adjacent to the entrance doorway conforming to Clause 3.8.3.4.(1)(c).
- (2) Where a difference in elevation between levels in a walkway is not more than 200 mm, a curb ramp conforming to Sentences (3) and (4) may be provided.
- (3) The curb ramp permitted by Sentence (2) shall,
- (a) have a running slope conforming to Table 3.8.3.2.,
  - (b) have a width of not less than 1 200 mm exclusive of flared sides,
  - (c) have a surface including flared sides that shall,
    - (i) be slip-resistant,
    - (ii) have a detectable warning surface that is colour- and texture-contrasted with the adjacent surfaces, and
    - (iii) have a smooth transition from the ramp and adjacent surfaces, and
  - (d) have flared sides with a slope of not more than 1:10 where pedestrians are likely to walk across them.

**Table 3.8.3.2.**  
**Ramp Rise and Slope**  
Forming Part of Sentence 3.8.3.2.(3)

Vertical Rise Between Surfaces, mm	Slope
75 to 200	1:10 to 1:12
less than 75	1:8 to 1:10
Column 1	2

- (4) Curb ramps described in Sentence (3) do not require handrails or *guards*.

**3.8.3.3. Doorways and Doors**

- (1) Every doorway that is located in a *barrier-free* path of travel shall have a clear width of not less than 850 mm when the door is in the open position. (See Appendix A.)
- (2) Except where no bathroom within the *suite* is at the level of the *suite* entrance door to which a *barrier-free* path of travel is provided in accordance with Sentence 3.8.2.1.(1), the doorway to at least 1 bathroom and to each bedroom at the same level as such bathroom within a *suite* of *residential occupancy* shall have, when the door is in the open position, a clear width of not less than,
- (a) 760 mm where the door is served by a corridor or space not less than 1 060 mm wide, and
  - (b) 810 mm where the door is served by a corridor or space less than 1 060 mm wide.
- (See Appendix A.)
- (3) Door opening devices that are the only means of operation shall be of a design that does not require tight grasping and twisting of the wrist. (See Appendix A.)
- (4) Except as permitted by Sentences (6) and (12), every door that provides a *barrier-free* path of travel through an entrance referred to in Article 3.8.1.2. shall be equipped with a power door operator if the entrance serves,
- (a) a *hotel*,
  - (b) a *building* containing a Group B, Division 2 or 3 *occupancy*, or
  - (c) a *building* more than 300 m<sup>2</sup> in *building area* containing a Group A, D or E *occupancy*.

- (5) Except as permitted by Sentences (6) and (12), where the entrance described in Article 3.8.1.2. incorporates a vestibule, a door leading from the vestibule into the floor area shall be equipped with a power door operator in,
- a *hotel*,
  - a *building* of Group B, Division 2 or 3, *occupancy*, and
  - a *building* more than 300 m<sup>2</sup> in *building area* containing a Group A, D or E *occupancy*.
- (See Appendix A.)
- (6) The requirements in Sentence (4) and (5) do not apply to an individual *suite* having an area of less than 300 m<sup>2</sup> in *buildings* having only *suites* of Group A, D or E *occupancy* where such *suite* is completely cut off from the remainder of the *building*.
- (7) Except as permitted in Sentence (8), and except for doors with power operators, closers for doors in a *barrier-free* path of travel shall be designed to permit doors to open when a force of not more than 38 N is applied to the handles, push plates or latch-releasing devices in the case of exterior doors and 22 N in the case of interior doors
- (8) Sentence (7) does not apply to doors at the entrances to *dwelling units*, or where greater forces are required in order to close and latch the doors against prevailing differences in air pressures on opposite sides of the doors. (See Appendix A.)
- (9) Except for doors at the entrances to *dwelling units*, closers for interior doors in a *barrier-free* path of travel shall have a closing period of not less than 3 seconds measured from when the door is in an open position of 70° to the doorway, to when the door reaches a point 75 mm from the closed position, measured from the leading edge of the latch side of the door. (See Appendix A.)
- (10) Unless equipped with a power door operator, a door in a *barrier-free* path of travel shall have a clear space on the latch side extending the height of the doorway and not less than,
- 600 mm beyond the edge of the door opening if the door swings toward the approach side, and
  - 300 mm beyond the edge of the door opening if the door swings away from the approach side. (See Appendix A.)
- (11) Vestibules located in a *barrier-free* path of travel shall be arranged to allow the movement of wheelchairs between doors and shall provide a distance between 2 doors in series of at least 1 200 mm plus the width of any door that swings into the space in the path of travel from one door to another.
- (12) Only the active leaf in a multiple leaf door in a *barrier-free* path of travel need conform to the requirements of this Article.
- (13) Except as provided in Clause 3.8.3.4.(1)(c), the floor surface on each side of a door in a *barrier-free* path of travel shall be level within a rectangular area,
- as wide as the door plus the clearance required on the latch side by Sentence (10), and
  - whose dimension perpendicular to the closed door is not less than the width of the *barrier-free* path of travel but need not exceed 1 500 mm.
- (14) Where a vision panel is provided in a door in a *barrier-free* path of travel, such panel shall be at least 75 mm in width and be located so that,
- the bottom of the panel is not more than 900 mm above the finished floor, and
  - the edge of the panel closest to the latch is not more than 250 mm from the latch side of the door.
- (15) A door in a *barrier-free* path of travel consisting of a sheet of glass shall be marked with a continuous opaque strip that,
- shall be colour and brightness contrasted to the background of the door,
  - shall be at least 50 mm wide,
  - shall be located across the width of the door at a height of 1 350 mm to 1 500 mm above the finished floor, and

- (d) may incorporate a logo or symbol provided such logo or symbol does not diminish,
  - (i) the opacity of the strip,
  - (ii) the width of the strip,
  - (iii) the colour and brightness contrast of the strip to the background of the door, and
  - (iv) the continuity of the strip across the width of the door.

(16) The power door operator required by Sentences (4) and (5) shall allow persons to activate the opening of the door from either side.

(17) The control for a power door operator required by Sentences (4) and (5) shall,

- (a) have no face dimension less than 100 mm,
- (b) have its centre located not less than 1000 mm and not more than 1100 mm from the floor level or ground,
- (c) be located not less than 600 mm beyond the door swing where the door opens towards the control, and
- (d) contain the sign incorporating the International Symbol of Accessibility.

#### 3.8.3.4. Ramps (See Appendix A.)

- (1) Ramps located in a *barrier-free* path of travel shall,
  - (a) have a minimum width of 900 mm between handrails,
  - (b) have a maximum gradient of 1 in 12,
  - (c) have a level area of at least 1 670 mm by 1 670 mm at the top and bottom of a ramp and where a door is located in a ramp, so that the level area extends at least 600 mm beyond the latch side of the door opening, except that where the door opens away from the ramp, the area extending beyond the latch side of the door opening may be reduced to 300 mm,
  - (d) have a level area at least 1 670 mm long and at least the same width as the ramp,
    - (i) at intervals of not more than 9 m along its length, and
    - (ii) where there is an abrupt change in the direction of the ramp,
  - (e) except as provided in Sentence (2), be equipped with handrails on both sides that shall,
    - (i) be continuously graspable along their entire length and have circular cross-section with an outside diameter not less than 30 mm and not more than 40 mm, or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm,
    - (ii) be not less than 865 mm and not more than 965 mm high, measured vertically from the surface of the ramp, except that handrails not meeting these requirements are permitted provided they are installed in addition to the required handrail,
    - (iii) be terminated in a manner that will not obstruct pedestrian travel or create a hazard,
    - (iv) extend horizontally not less than 300 mm beyond the top and bottom of the ramp,
    - (v) be provided with a clearance of not less than 40 mm between the handrail and any wall to which it is attached, and
    - (vi) be designed and constructed such that handrails and their supports will withstand the loading values obtained from the nonconcurrent application of a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails and a uniform load not less than 0.7 kN/m applied in any direction to the handrail,
  - (f) except as provided in Sentence (2), have a wall or a *guard* on both sides and where a *guard* is provided the *guard* shall,
    - (i) be not less than 1 070 mm measured vertically to the top of the *guard* from the ramp surface, and
    - (ii) be designed so that no member, attachment or opening located between 140 mm and 900 mm above the ramp surface being protected by the *guard* will facilitate climbing, and
  - (g) be provided,
    - (i) with a curb at least 50 mm high on any side of the ramp where no solid enclosure or solid *guard* is provided, and
    - (ii) with railings or other barriers that extend to within 50 mm of the finished ramp surface or have a curb not less than 50 mm high.

(2) Where a ramp serves as an aisleway for fixed seating, the requirements for handrails in Clause (1)(e) need not apply.

(3) Floors or walks in a *barrier-free* path of travel having a slope steeper than 1 in 20 shall be designed as ramps. (See Appendix A.)

### 3.8.3.5. Passenger Elevating Devices

(1) A passenger elevating device referred to in Article 3.8.2.1. shall conform to CAN/CSA-B355, "Lifts for Persons with Physical Disabilities".

### 3.8.3.6. Spaces in Seating Area

- (1) Spaces designated for wheelchair use in Sentence 3.8.2.1.(3) shall be,
- (a) clear and level or level with removable seats,
  - (b) not less than 900 mm wide and 1 525 mm long to permit a wheelchair to enter from a side approach, and 1 220 mm long where the wheelchair enters from the front or rear of the space,
  - (c) arranged so that at least two designated spaces are side by side,
  - (d) located adjoining a *barrier-free* path of travel without infringing on egress from any row of seating or any aisle requirements, and
  - (e) situated, as part of the designated seating plan, to provide a choice of viewing location and a clear view of the event taking place.

### 3.8.3.7. Assistive Listening Devices

(1) In *buildings of assembly occupancy*, all classrooms, auditoria, meeting rooms and *theatres* with an area of more than 100 m<sup>2</sup> and an *occupant load* of more than 75 shall be equipped with assistive listening systems encompassing the entire seating area. (See Appendix A.)

### 3.8.3.8. Water Closet Stalls (See Appendix A.)

- (1) Where a washroom is required by Article 3.8.2.3. to be *barrier-free*, at least 1 water closet stall or enclosure shall,
- (a) be at least 1 500 mm in width by 1 500 mm in depth,
  - (b) be equipped with a door that shall,
    - (i) be capable of being latched from the inside with a mechanism that is operable by one hand,
    - (ii) provide, when the door is in an open position, a clear opening of at least 810 mm,
    - (iii) swing outward, unless 760 mm by 1 220 mm clear floor area is provided within the stall or enclosure to permit the door to be closed without interfering with the wheelchair,
    - (iv) be provided with spring-type or gravity hinges so that the door closes automatically,
    - (v) be provided with a door pull on the outside, near the latch side of the door, and
    - (vi) be aligned with the clear manoeuvring space adjacent to the water closet,
  - (c) have a water closet located so that its centreline is not less than 460 mm and not more than 480 mm from an adjacent side wall on one side,
  - (d) be equipped with grab bars that shall,
    - (i) be at least 760 mm in length and mounted at a 30° to 50° angle sloping upwards, away from the water closet with the lower end of the bar mounted 750 mm to 900 mm above the floor and 50 mm in front of the toilet bowl, or alternatively, be L-shaped with 760 mm long horizontal and vertical components mounted with the horizontal component 750 mm to 900 mm above the floor and the vertical component 150 mm in front of the toilet bowl,
    - (ii) be at least 600 mm in length mounted horizontally on the wall behind the water closet from 840 mm to 920 mm above the floor and, where the water closet has a water tank, be mounted 150 mm above the tank,
    - (iii) reserved,

- (iv) be installed to resist a load of at least 1.3 kN applied vertically or horizontally,
- (v) be not less than 30 mm and not more than 40 mm in diameter,
- (vi) have a clearance of 30 mm to 40 mm from the wall, and
- (vii) have a slip resistant surface,
- (e) be equipped with a coat hook mounted not more than 1 200 mm above the floor on a side wall and projecting not more than 50 mm from the wall,
- (f) have a clearance of at least 1 700 mm between the outside of the stall face and the face of an in-swinging washroom door and 1 400 mm between the outside of the stall face and any wall-mounted fixture or other obstruction, and
- (g) when a toilet paper dispenser is provided, provide a dispenser that is,
  - (i) wall mounted,
  - (ii) located below the grab bar,
  - (iii) in line with or not more than 300 mm in front of the toilet seat, and
  - (iv) not less than 600 mm above the floor.

### 3.8.3.9. Water Closets (See Appendix A.)

- (1) Water closets for a person with physical disabilities shall,
  - (a) be equipped with a seat located at not less than 400 mm and not more than 460 mm above the floor,
  - (b) be equipped with hand-operated flushing controls that are easily accessible to a wheelchair user or be automatically operable,
  - (c) be equipped with a back support where there is no seat lid or tank, and
  - (d) not have a spring-activated seat.

### 3.8.3.10. Reserved

### 3.8.3.11. Lavatories (See Appendix A.)

- (1) A *barrier-free* washroom shall be provided with a lavatory that shall,
  - (a) be located so that the distance between the centreline of the lavatory and the side wall is not less than 460 mm,
  - (b) be mounted so that the top of the lavatory or, where the lavatory is in a vanity, the top of the vanity is not more than 840 mm above the finished floor,
  - (c) have a clearance beneath the lavatory not less than,
    - (i) 760 mm wide,
    - (ii) 735 mm high at the front edge,
    - (iii) 685 mm high at a point 205 mm back from the front edge, and
    - (iv) 230 mm high over the distance from a point 280 mm to a point 430 mm back from the front edge,
  - (d) have insulated pipes where they would otherwise present a burn hazard or have water supply temperature limited to a maximum of 43°C,
  - (e) be equipped with faucet handles of the lever type without spring loading or be automatically operable and are located so that the distance from the centreline of the faucet to the edge of the basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm, and
  - (f) have soap dispensers that are,
    - (i) located to be accessible to persons in wheelchairs,
    - (ii) located so that the dispensing height is not more than 1 200 mm above the floor, and
    - (iii) operable with one hand.
  - (g) have towel dispensers or other hand drying equipment that are,
    - (i) located to be accessible to persons in wheelchairs,
    - (ii) located so that the dispensing height is not more than 1 200 mm above the floor, and
    - (iii) operable with one hand.
- (2) If mirrors are provided in a *barrier-free* washroom, at least one mirror shall be,
  - (a) mounted with its bottom edge not more than 1 000 mm above the floor, or
  - (b) inclined to the vertical to be usable by a person in a wheelchair.

(3) If dispensing or hand-operated washroom accessories, except those located in toilet stalls or described in Clause (1)(f), are provided, they shall be mounted so that the dispensing height is between 900 mm and 1 200 mm above the floor.

### 3.8.3.12. Universal Toilet Rooms (See Appendix A.)

- (1) A universal toilet room shall,
  - (a) be served by a *barrier-free* path of travel,
  - (b) have a door capable of being locked from the inside and released from the outside in case of emergency and that has,
    - (i) a graspable latch-operating mechanism located not less than 900 mm and not more than 1 000 mm above the floor,
    - (ii) if it is an outward swinging door, a door pull not less than 140 mm long located on the inside so that its midpoint is not less than 200 mm and not more than 300 mm from the hinged side of the door and not less than 900 mm and not more than 1 000 mm above the floor, and
    - (iii) if it is an outward swinging door, a door closer, spring hinges or gravity hinges, so that the door closes automatically,
  - (c) have one lavatory conforming to Article 3.8.3.11.,
  - (d) have one water closet conforming to the requirements of Article 3.8.3.9. and located,
    - (i) so that its centreline is not less than 460 mm and not more than 480 mm from an adjacent side wall on one side, and
    - (ii) not less than 1 020 mm to the wall on the other side,
  - (e) have grab bars conforming to Clause 3.8.3.8.(1)(d),
  - (f) have no internal dimension between walls that is less than 1 700 mm,
  - (g) have a coat hook conforming to Clause 3.8.3.8.(1)(e) and a shelf located not more than 1 200 mm above the floor,
  - (h) be designed to permit a wheelchair to back in alongside the water closet in the space referred to in Subclause (d)(ii),
  - (i) be designed to permit a wheelchair to turn in an open space not less than 1 500 mm in diameter, and
  - (j) be provided with a door equipped with a power door operator if the door is equipped with a self-closing device.
- (2) The water closet and lavatory provided in the special washroom described in Sentence (1) may be counted as part of the *plumbing fixtures* required for males and females in Subsection 3.7.4.

### 3.8.3.13. Showers and Bathtubs (See Appendix A.)

- (1) Except within a *suite of residential occupancy*, if showers are provided in a *building*, at least one shower stall in each group of showers shall be *barrier-free* and shall,
  - (a) be not less than 1 500 mm wide and 900 mm deep,
  - (b) have a clear floor space at the entrance to the shower not less than 900 mm deep and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower,
  - (c) have a slip-resistant floor surface,
  - (d) have a bevelled threshold not more than 13 mm higher than the finished floor,
  - (e) have a hinged seat that is not spring-loaded or a fixed seat that shall be,
    - (i) not less than 450 mm wide and 400 mm deep,
    - (ii) mounted approximately 450 mm above the floor, and
    - (iii) designed to carry a minimum load of 1.3 kN,
  - (f) have a horizontal grab bar conforming to Subclauses 3.8.3.8.(1)(d)(iv) to (vi) that is,
    - (i) not less than 900 mm long,
    - (ii) mounted approximately 850 mm above the floor, and
    - (iii) located on the wall opposite the entrance to the shower so that not less than 300 mm of its length is at one side of the seat,
  - (g) have a pressure-equalizing or thermostatic mixing valve controlled by a lever or other device operable with a closed fist from the seated position,

- (h) have a hand-held shower head with not less than 1 500 mm of flexible hose located so that it can be reached from the seated position and equipped with a support so that it can operate as a fixed shower head, and
  - (i) have fully recessed soap holders that can be reached from the seated position.
- (2) Individual shower stalls that are provided for use by patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall conform to the requirements of Sentence (1).
- (3) Individual bathtubs that are provided for the use of patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall have,
- (a) faucet handles of the lever type that are not spring-loaded or be automatically operable,
  - (b) faucet handles that are located so as to be usable by a person seated in the bathtub, and
  - (c) unless the bathtub is free-standing, an "L"-shaped grab bar conforming to Subclauses 3.8.3.8.(1)(d)(iv) to (vi) mounted on the wall,
    - (i) with each leg of the "L" being at least 900 mm long,
    - (ii) with the legs of the "L" being separated by 90°,
    - (iii) with the horizontal leg of the "L" being located between 150 mm and 200 mm above and parallel to the rim of the bathtub, and
    - (iv) with the vertical leg of the "L" being located between 300 mm and 450 mm from the control end of the bathtub.

**3.8.3.14. Reserved**

**3.8.3.15. Shelves or Counters for Telephones** (See Appendix A.)

- (1) Where built-in shelves or counters are provided for public telephones, they shall be level and shall,
  - (a) be not less than 350 mm deep, and
  - (b) have, for each telephone provided, a clear space not less than 250 mm wide having no obstruction within 250 mm above the surface.
- (2) The top surface of a section of the shelf or counter described in Sentence (1) serving at least one telephone shall,
  - (a) be not more than 865 mm from the floor, and
  - (b) have a knee space not less than 685 mm high.
- (3) Where a wall-hung telephone is provided above the shelf or counter section described in Sentence (2), it shall be located so that the receiver and coin slot are not more than 1 200 mm from the floor.

**3.8.3.16. Drinking Fountains**

- (1) Where drinking fountains are provided, at least one shall be *barrier-free* and shall,
  - (a) have a spout located near the front of the unit not more than 915 mm above the floor, and
  - (b) be equipped with controls that are easily operated from a wheelchair using one hand with a force of not more than 22 N or be automatically operable.

Similarly, every installation of an x-ray machine or x-ray equipment for industrial or veterinary applications shall be shielded with a primary and a secondary protective barrier to protect any person who could be exposed to radiation. This protection is required for

- x-ray workers,
- persons other than x-ray workers,
- persons in adjacent buildings, and
- persons located outdoors of buildings containing x-ray equipment.

The protective barriers should be designed and installed to comply with requirements of The Occupational Health and Safety Act. Applications for approval for these installations should be addressed to the Ministry of Health.

### **A-3.8. Barrier-Free Design Assumptions.**

This Section contains minimum provisions to accommodate a person using a typical manual wheelchair or other manual mobility assistance devices such as walking aids, including canes, crutches, braces and artificial limbs.

#### **A-3.8.1.1. Accessibility.**

Industrial buildings often pose a greater risk to their occupants due to the presence of significant quantities of dangerous materials or the use of hazardous processes. For example, plants which are classified as Group F, Division 2 or 3, may store and use toxic or highly flammable substances in significant quantities, or house processes which involve very high temperatures and which may have a high degree of automation. In some facilities, particularly in primary industries such as forestry and metallurgy, the construction normally used and the operations carried out within the space can make compliance with the requirements of Section 3.8. impractical. It is therefore intended that these requirements be applied with discretion in buildings of Group F, Division 2 or 3 major occupancy. However, where industrial buildings contain subsidiary occupancies, such as offices or showrooms, it is reasonable to require that accessibility be provided in these spaces.

#### **A-3.8.1.2. Entrances.**

An accessible route should exist from the sidewalk or roadway and parking area to an accessible building entrance. This route should be located so that persons with physical disabilities do not have to pass behind parked cars. To provide more general access to buildings, not less than the number of pedestrian entrances as required by Table 3.8.1.2. are required to be barrier-free. This should include a principal entrance. For the purpose of determining the number of entrances to a building, several adjacent doors in a bank of doors are considered to be a single entrance.

#### **A-3.8.1.4.(1) Access to Storeys Served by Escalators and Moving Walks.**

In some buildings, escalators and inclined moving walks are installed to provide transportation from one floor level to another floor level so as to increase the capacity to move large numbers of persons. Some buildings located on a sloping site are accessible from street level on more than one storey and an escalator or inclined moving walk is provided for internal movement from floor to floor. In both these situations, a person with a physical disability must be provided with an equally convenient means of moving between the same floor levels within the building. A wheelchair user should not be required to travel outside the building in order to gain access to another level. This can be accomplished by providing elevators or a platform-equipped passenger-elevating device.

#### **A-3.8.2.1.(2) Access to Rooms and Facilities.**

If barrier-free access is required into suites or rooms in Subsection 3.8.2., it is intended that access be provided, with some exceptions identified in Sentence 3.8.2.1.(2), throughout each room or suite. Some examples of where barrier-free access is required are as follows:

- within each suite (subject to Clauses 3.8.2.1.(2)(j) to (l)),
- within rooms or areas that serve the public or are designated for use by visitors, including areas in assembly occupancies with fixed seats, display areas and merchandising departments,
- within rooms or areas for student use in assembly occupancies,
- within general work areas, including office areas,
- within general use or general service areas, including shared laundry areas in residential occupancies, recreational areas, cafeterias, lounge rooms, lunch rooms and infirmaries,

- within sleeping rooms in hospitals and nursing homes,
- (if installed), into at least one passenger elevator or elevating device conforming to Article 3.8.3.5.,
- into washrooms described in Article 3.8.2.3.,
- to any facility required by this Section to be designed to accommodate persons with physical disabilities,
- onto every balcony provided in conformance with Sentence 3.3.1.7.(2),
- to service counters used by the general public (examples include ticket counters, refreshment stands, drinking fountains, cafeteria counters, checkout counters and bank service counters)
- into 10% of hotel suites, (not more than 20 suites required), and
- within 10% of residential suites in an apartment building from the suite entrance door to at least one bedroom and bathroom at the same level

The permission to waive a barrier-free path of travel for wheelchair access to certain specified areas of a building is not intended to waive accessibility requirements for persons whose physical disabilities do not require special provision for access to raised or sunken levels. Persons with visual or hearing disabilities that do not require the use of a wheelchair can be expected to move throughout a building.

The concept of providing similar amenities and facilities applies, among other things, to food, beverage, and entertainment facilities within restaurants, and to window areas providing a view of an exterior attraction. Availability of specific spaces depends on reservation policy and the sequence in which patrons arrive at a restaurant or other facility, and therefore is beyond the scope of this Code.

Accessibility "within" a floor area means that in general all normally occupied spaces are to be accessible, except those areas which are deemed not to require barrier-free access. Examples of excluded floor areas are small raised office areas in retail and industrial premises and storage platforms in industrial and other occupancies.

The concept of wheelchair accessibility does not extend to building service facilities, nor to all floor levels within a storey, e.g., mezzanines not served by an elevator. Mezzanines that are accessible by an elevator are therefore not excluded.

### **A-3.8.2.1.(3) Fixed Seating.**

Spaces for persons using wheelchairs should be scattered rather than located in one place so as to provide a choice of location for the users. Locating such spaces in pairs enables a wheelchair user to accompany another wheelchair user or an ambulant companion

### **A-3.8.2.2.(1) Parking Areas.**

In localities where municipal by-laws do not govern the provision of or dimensions of barrier-free parking spaces, the following provides guidance to determine appropriate provisions. If more than 50 parking spaces are provided, parking spaces for use by persons with physical disabilities should be provided in the ratio of one for every 100 parking spaces or part thereof. Parking spaces for use by persons with physical disabilities should

- (1) be not less than 2 400 mm wide and provided on one side with an access aisle not less than 1 500 mm wide,
- (2) have a firm, slip-resistant and level surface,
- (3) be located close to an entrance required to conform to Article 3.8.1.2.,
- (4) be clearly marked as being for the use of persons with physical disabilities, and
- (5) be identified by a sign located not less than 1 500 mm above ground level, with the international symbol of accessibility and the words "Permit Required" (Figure A-3.8.2.2.A.).

Asphalt, concrete and gravel are acceptable parking surfaces. Curb ramps should be not less than 920 mm wide. Parallel parking spaces should be not less than 7 000 mm long. If more than one parking space is provided for persons with physical disabilities, a single access aisle can serve two adjacent parking spaces. The arrangement shown in Figure A-3.8.2.2.B. allows the shared use of an access aisle to serve two adjacent parking spaces provided for use by persons with physical disabilities.



Figure A-3.8.2.2.A.  
Permit Required Sign

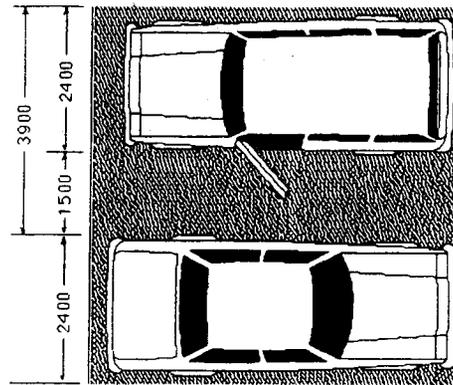


Figure A-3.8.2.2.B.  
Shared access aisle

### A-3.8.2.2.(1)(a) Access to Exterior Parking.

It is not intended that a separate accessible entrance must be provided from the exterior parking area. The designer may choose to designate the entrance leading to the exterior parking area as the required entrance or provide a properly identified and unobstructed path of travel from the parking area to the entrance which is accessible. The entrance chosen should, in any case, be one normally used by the occupants of the building. Long paths of travel are not recommended.

### A-3.8.2.3. Washrooms.

The primary intent of this requirement is that all regular washrooms be made accessible to all persons, including persons with disabilities, primarily persons who must use a wheelchair. Well-designed washrooms which can accommodate disabled persons need not be much larger than conventional washrooms.

The exception in Clause (3)(b) recognizes situations where several washrooms may be provided on a large floor area. In such a case, not all washrooms need to be barrier-free, provided that a barrier-free washroom is available within a reasonable distance (45 m) of one that is not and that the location of that barrier-free washroom is clearly indicated as required by Sentence 3.8.3.1.(3).

Clause 3.8.2.3.(3)(b) is intended to address "strip malls" (a shopping mall with no public corridor). Section 3.7, which requires plumbing facilities, does not address the concept of suite and could permit, for instance, a shopping mall containing only Group E occupancies (assuming the mall is more than 100 m<sup>2</sup>) to have only one washroom for each sex located in any one of the suites. It is desirable however that such washrooms be located so as to be accessible at all times, since the owner or tenant of one suite has no control over the activities of another. Such buildings may either provide public barrier-free washrooms in a central location or washrooms which can accommodate disabled persons in each suite. This arrangement relieves any one tenant from having to provide "public" washrooms. Hence, the exception for suites of less than 300 m<sup>2</sup> is meant as a relaxation to avoid an unnecessary burden on small facilities but should not be construed as meaning that such buildings need not provide accessible washrooms.

### A-3.8.3.1. Accessibility Signs.

The official symbol, as shown in Figure 3.8.3.1.A below, indicates to persons with disabilities that they will have reasonable freedom of movement within the building to which it is attached. It usually has a blue background, but if, because of lighting conditions, it does not stand out, it can be set on a white background. An arrow can be added to either side or to the top or bottom to indicate direction or the location of an accessible space or facility.

An international sign, shown in Figure A-3.8.3.1.B, indicating accessibility for persons with hearing disabilities, should be used to indicate the availability of variable volume controls on telephones, assistive listening systems, and text telephones (TT). These latter devices may also be referred to as teletypewriters (TTY) or telecommunications devices for the deaf (TTD).

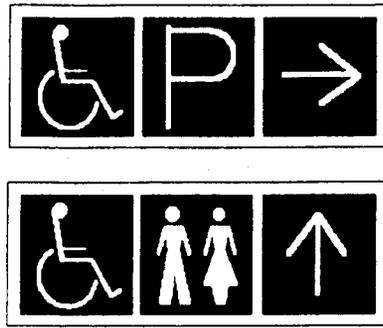


Figure A-3.8.3.1.A  
Signs Indicating Accessible Facilities



Figure A-3.8.3.1.B  
Signs for Assistive Listening Facilities

**A-3.8.3.3.(1) Doorway Width.**

Standard wheelchair width specifications indicate a range of sizes from 584 mm overall to 685 mm overall. Every doorway that is located in a barrier-free path of travel must have a clear width of not less than 850 mm when the door is in the open position and therefore it is important that this dimension be measured correctly. Figure A-3.8.3.3.(1) shows a door opened to 90°. It is clear that the door, and to a lesser extent the stop, impinges on the space within the door frame. The clear width of not less than 850 mm is measured from the face of the door to the outside edge of the stop on the door frame. It is not sufficient just to measure the inside width of the door frame. Other factors, including location of door stops other than on the door frame, and the installation of door closers and exit devices, should be taken into account. The intrusion of a door handle into the space is of lesser importance. It is recognized that there are many types of door frame and door mounts but the overall objective is to maintain a clear width of not less than 850 mm. The diagram depicts a somewhat restrictive scenario, as many doors can open wider than 90°, however, a door smaller than 874 mm would not be wide enough to ensure the minimum clear width of 850 mm that is required. The intent of this requirement is to permit the use of standard 915 mm (3 ft) doors.

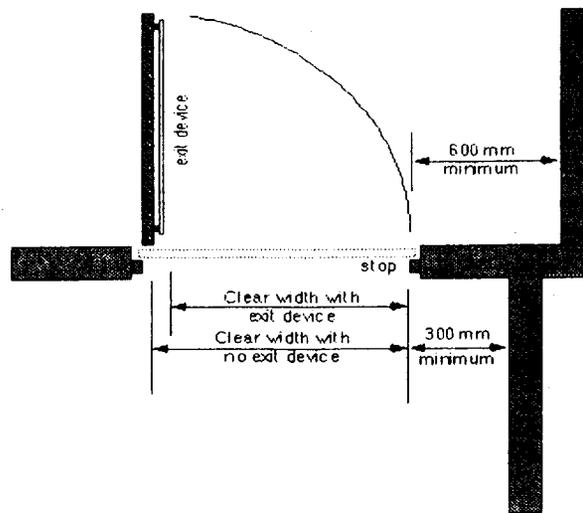


Figure A-3.8.3.3.(1)  
Clear Doorway Width

**A-3.8.3.3.(2) Washrooms and Bedrooms in Residential Occupancies.**

This requirement ensures that the doorway to the washroom and the bedrooms in a dwelling unit or a hotel/motel suite is at least large enough to accommodate someone using a wheelchair. The Code does not require these washrooms (except the 10% required by Sentence 3.8.2.1.4) and Article 3.8.2.4.) to be barrier-free, in order to avoid a set of prescriptive requirements which could limit design flexibility. It is relatively simple to make washrooms accessible through careful planning and positioning of fixtures and this can be achieved in an area not much larger than that of conventional washrooms.

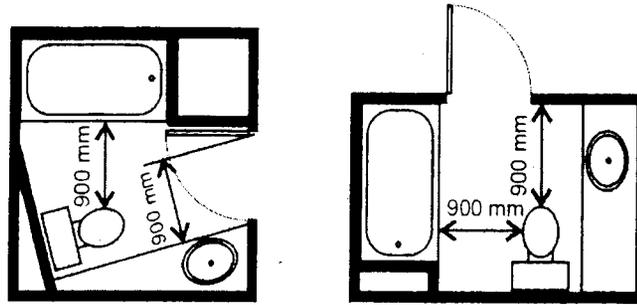


Figure A-3.8.3.3.(2)  
Residential Washrooms

### **A-3.8.3.3.(3) Lever Handles.**

Lever handles are useable by most persons with limited hand mobility and will meet the intent of this requirement. Lever handles with an end return towards the door are less prone to catch the clothing of someone passing through the doorway.

### **A-3.8.3.3.(5) Doors with Power Operators.**

Doors equipped with a power operator activated by a pressure plate identified with the international symbol for accessibility or, where security is required, by a key, card or radio transmitter, and that can otherwise be opened manually meet the intent of the requirement. The location of these activating devices should ensure that a wheelchair will not interfere with the operation of the door once it is activated.

Swinging doors equipped with power operators which are activated automatically and open into passing pedestrian traffic should be provided with a guard or other device designed to prevent pedestrians from stepping in the swing area of the door. These guards or devices should be detectable by blind persons. For example, inverted U-shaped guards should have an additional rail at a height not more than 680 mm so that it is detectable by the long cane. These doors should also have a device (mat or other sensor) on the swing side to prevent the door from opening if someone is standing in the swing area.

### **A-3.8.3.3.(8) Air Pressure Differences.**

Differences in air pressure on opposite sides of a door may be due to the operation of mechanical systems such as those associated with smoke control. So-called "stack action" in buildings in winter can also cause differential pressures due to the buoyancy of warm air. Stack action is usually most noticeable between stairwells and the remainder of the building, and at the entrances to buildings; the taller the building, the greater the effect. Doors with automatic closers have to operate with sufficient opening forces to allow the return action to overcome the differential pressure.

### **A-3.8.3.3.(9) Delayed Action on Door Closers.**

In some circumstances, closers with a delay feature which keep the door open for several seconds before it begins to close might be desirable. However, closers with this feature have limited back-check, a feature of a normal door closer where resistance to opening increases as the door reaches the full arc of swing. Doors equipped with this type of closer are more susceptible to damage should the door be opened with too much force or should someone try to force it closed, thinking the closer has failed to operate. Delayed action closers are not recommended for such occupancies as schools.

### **A-3.8.3.3.(10) Clearances at Doorways.**

Sufficient clearance must be provided on the latch side of doors for a user to operate the door opening mechanism and open the door without interference from the wheelchair. This is particularly important where the door swings toward the approach side. Although the requirement applies only to doors equipped with closers, this clearance should be provided for all doors.

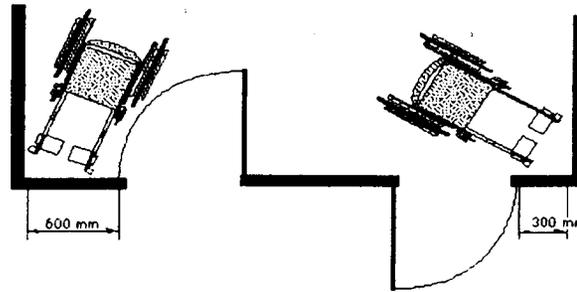


Figure A-3.8.3.3.(10)  
Doorway Clearance

**A-3.8.3.4.(1)(b) Ramp Slopes.**

Ramps with a gradient of more than 1 in 16 can be very difficult for disabled persons with upper body mobility to manage. Even though they pose less of a problem for people in motorized wheelchairs, such ramps can be unsafe to descend, especially in cold climates. Although Article 3.8.3.4. permits slopes on ramps as great as 1 in 12 for distances of up to 9 m, gradients of 1 in 20 are safer and less strenuous. When limited space is available, as may be the case during renovations, ramps of up to 1 in 12 should be restricted to lengths not exceeding 3 m whenever possible.

A strip contrasting in colour and texture should be used at the top and bottom of ramps to warn blind and visually impaired persons.

**A-3.8.3.4.(1)(c) Landing Design at Doorways Leading to Ramps.**

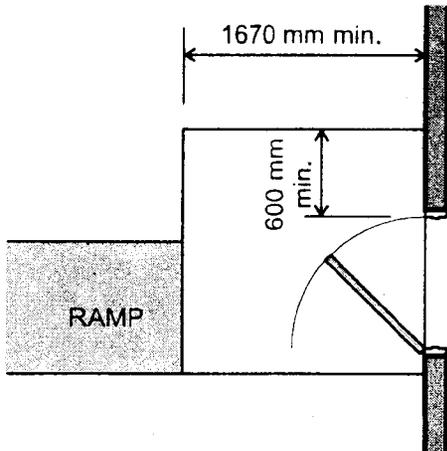


Figure A-3.8.3.4.(1)(c).A  
Landing Design at Doorway Leading to Ramps

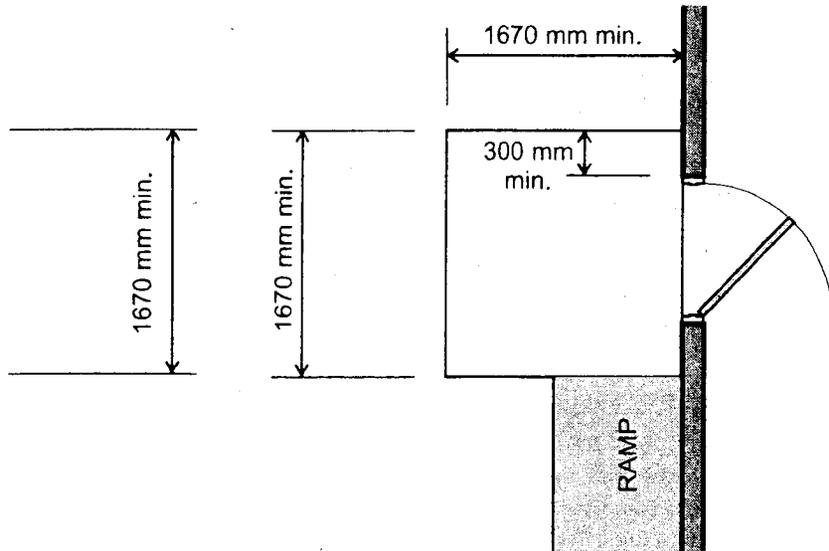


Figure A-3.8.3.4.(1)(c).B  
Landing Design at Doorway Leading to Ramps

**A-3.8.3.4.(3) Floors or Walks to be Designed as Ramps.**

In an assembly room with fixed seating on a sloped floor, such as a theatre, the limitation on floor slope is intended to apply only to the required barrier-free access leading to spaces for wheelchair users described in Sentence 3.8.2.1.(3) and not to aisles and portions of floors serving only fixed seating for ambulatory persons.

**A-3.8.3.7. Assistive Listening Devices.**

Wireless sound transmission systems, such as FM, infrared or magnetic induction loop, improve sound reception for the hard of hearing by providing amplification which can be adjusted by each user while blocking out unwanted background noise. These systems transmit a signal that is picked up by special receivers available for use by people with a hearing impairment, whether or not they use a hearing aid. Neither system interferes with the listening enjoyment of others.

The transmitter can be jacked into an existing P.A. system amplifier or used independently with microphones. The induction loop system requires users to sit in the area circumscribed by the loop; though installation of the loop is relatively simple, the installer should be knowledgeable about these systems if proper functioning is to be achieved. FM or infrared systems can be designed to broadcast signals which cover the entire room and, thus do not restrict seating to any one area. Figures 3.8.3.7.A and 3.8.3.7.B show the general configuration of FM and infrared systems. Although portable systems (FM in particular) are available, these are best suited to small audiences. Generally, the systems installed in church halls, auditoria, theatres and similar places of assembly are not easily portable, as they are installed in a fixed location by a sound technician and form an integral part of the P.A. system of the room or building.

Hard wired systems (where a jack is provided at a particular seat) will not meet this requirement unless adequate provisions are made to accommodate persons with hearing aids. In choosing the most appropriate system, a number of factors must be taken into account including cost, installation and maintenance, suitability to the audience, ease of operation and the need for privacy. Information on designers and suppliers of these systems may be obtained from such organizations as the Canadian Hearing Society.

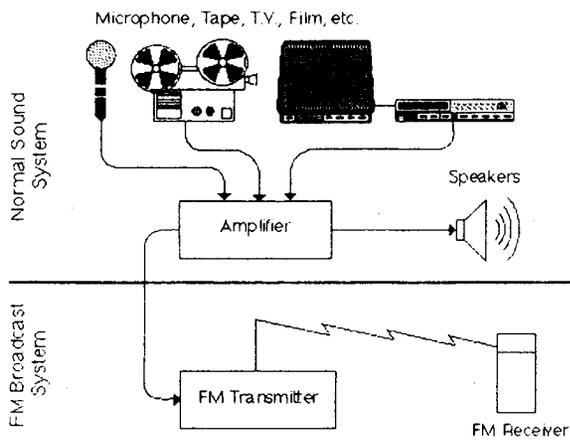


Figure A-3.8.3.7.A  
FM Sound Transmission System

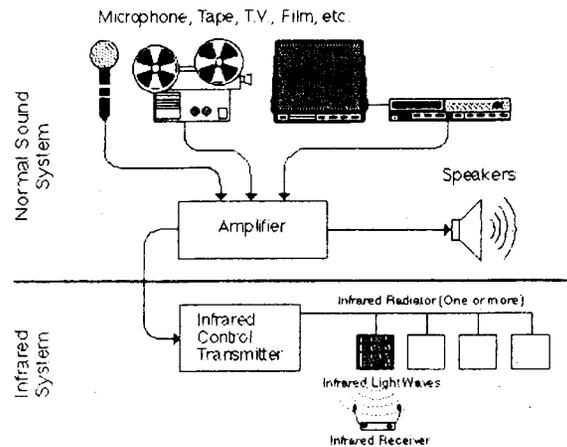


Figure A-3.8.3.7.B  
Infrared Sound Transmission System

**A-3.8.3.8.(1)(b)(iii) Water Closet Stalls.**

Doors to water closet stalls for persons with disabilities should swing outward and preferably against a side wall.

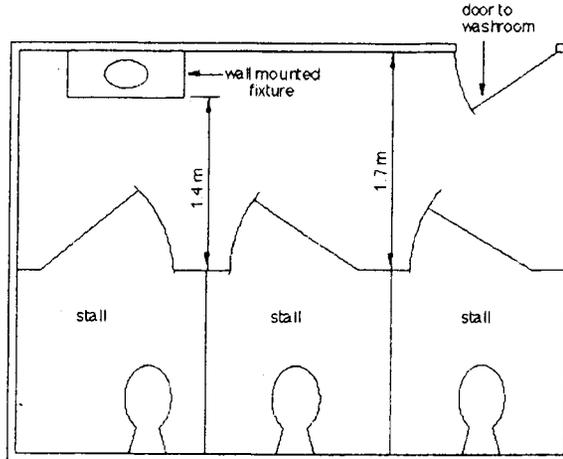


Figure A-3.8.3.8.(1) Water Closet Stalls

**A-3.8.3.8.(1)(b)(iv) Door Pulls.**

The door pull should consist of a D-shaped handle mounted either horizontally or vertically. The centrelines are the lines drawn through the long axis and the short axis of the handle. If the handle is installed in the horizontal position, the short or transverse axis is the centerline which must be located at between 200 and 300 mm from the hinged side of the door, and the long or longitudinal axis is the one which is located between 900 and 1 000 mm from the floor. If the handle is installed in the vertical position, the distance is measured from the longitudinal axis to the hinged side of the door, while the distance from the floor is measured to the transverse axis.

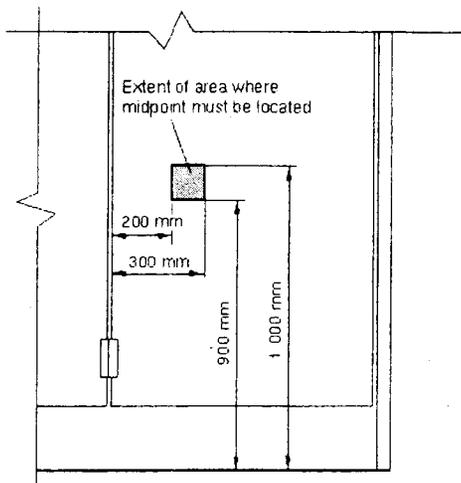


Figure A-3.8.3.8.(1)(b)(iv).A Door Pull Location

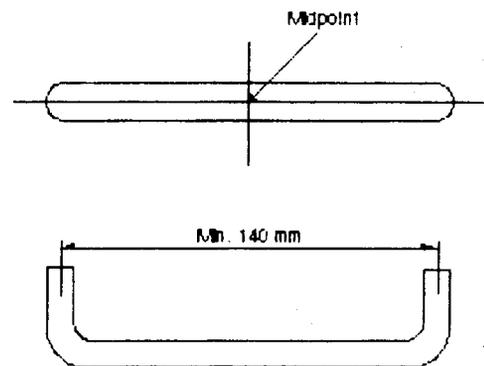


Figure A-3.8.3.8.(1)(b)(iv).B Door Pull Details

**A-3.8.3.8.(1)(d)(i) Additional Grab Bars.**

It is the designer's prerogative to exceed the minimum requirements found in the Building Code and specify the installation of additional grab bars in other locations. These additional grab bars may be of different configurations and can be installed in other orientations.

**A-3.8.3.9.(1) Water Closets.**

Wall-mounted water closets or floor models with receding bases are preferable because they provide the least amount of obstruction.

**A-3.8.3.11.(1)(c) Clearances Beneath a Lavatory.**

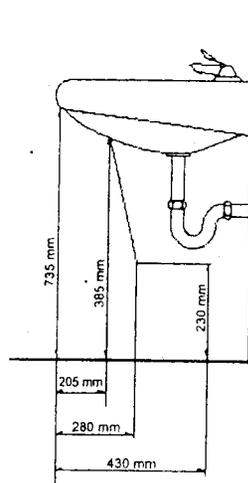


Figure A-3.8.3.11.  
Clearances Beneath a Lavatory

**A-3.8.3.11.(1)(d) Pipe Protection.**

The pipes referred to in Clause 3.8.3.11.(1)(d) include both supply and waste pipes. The hazard can be prevented by insulating the pipes, by locating the pipes in enclosures, or avoided by limiting the temperature of the hot water to a maximum of 45°C.

**A-3.8.3.12. Universal Toilet Rooms.**

Unobstructed areas in front of the lavatory, in front of the water closet and on one side of the water closet are necessary for maneuverability of a wheelchair.

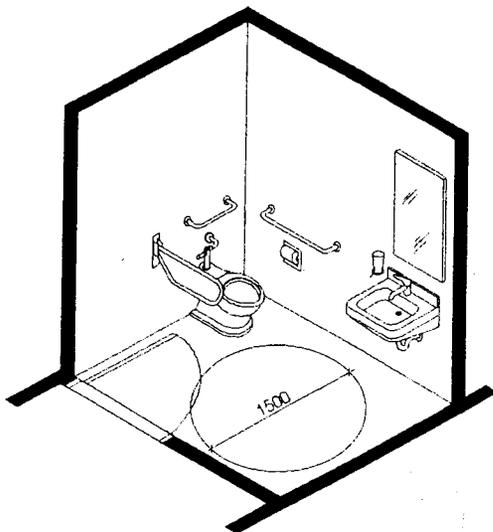


Figure A-3.8.3.12.A  
Universal Toilet Room with Outward Swing Door

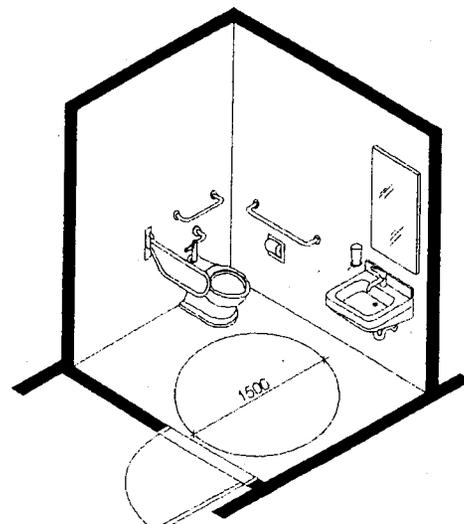


Figure A-3.8.3.12.B  
Universal Toilet Room with Inward Swing Door

**A-3.8.3.13.(1)(b) Clear Space at Entrances to Showers.**

The clear space at the entrance to a shower may be encroached upon by fixtures such as a wall hung sink which does not interfere with the leg rests of the wheelchair. However, this sink could restrict movement for persons who need to make a lateral transfer if it were installed at the seat end of the shower.

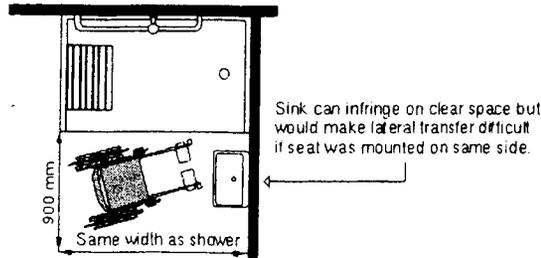


Figure A-3.8.3.13.(1)(b)  
Shower Design

**A-3.8.3.13.(1)(f) Grab Bars.**

Only one grab bar is required, to be installed on the wall next to the seat; a grab bar behind the seat prevents the user from leaning against the wall, while one located on the wall opposite the seat cannot be reached from the seated position. The seat itself may be used in conjunction with the bar for transfer. If design flexibility is required, fold away grab bars can be used as an alternative.

**A-3.8.3.15. Telephone Shelves or Counters.**

Built-in shelves or counters for public telephones must be designed to accommodate persons using text telephones (TT). These devices may also be referred to as teletypewriters (TT) or telecommunication devices for the deaf (TDD). These devices require a level surface at least 350 mm deep by 250 mm wide with no obstruction above that space within 250 mm. If a wall-hung telephone or other obstruction extends to less than 250 mm from the shelf or counter, an equivalent clear space must be provided on either side of each telephone. At least one telephone should be equipped with a volume control on a receiver that generates a magnetic field compatible with the T-switch of a hearing aid. The lower portion of the shelf or counter is intended for persons using a wheelchair, therefore all parts of the operating mechanism of the telephone above this portion should be within the reach of a wheelchair user.