File #ABE-SDC N148e

Final Proposed
Accessible Built Environment Standard

July, 2010

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1.0 Introduction

1.1 The Issue

Over **1.85 million Ontarians report that their daily life is limited by a disability**. For over two thirds of these individuals, the limitation is barriers that prevent access to buildings, facilities, parks or other aspects of the built environment. Over 50% of Ontarians aged 75 years and older report having such limitations. As Ontario's population ages, the number of persons facing access limitations will grow and will include many individuals who do not now experience such difficulties.

The social value of a barrier free Ontario is substantial. It provides persons with disabilities greater ability to live independently, self sufficiently, with dignity and to participate fully in all aspects of Ontario life. People with disabilities should be able to independently get in and around and make use of buildings and facilities whether they are stores, factories, courts, theatres, hotels, office buildings or outdoor public spaces such as sidewalks, parks, trails and playgrounds.

Ontarians with disabilities have talents and contributions to make to the economy and an accessible built environment enables such valuable contribution which benefits all Ontarians.

In a better built environment, people with various abilities will be able to live independently or at least with less need for assistance to complete the normal activities of daily living. This will reduce the need for family or care workers to provide support in the home.

The proposed accessible built environment standards are timely. Governments across the world are supporting public infrastructure investment as a means of stimulating economies. It does not make sense for future public and private sector investment to support the creation of new barriers. At the same time, the approach to removing and preventing barriers has to work within the fiscal, economic and technical realities we are facing.

Committee members recognize that it may take many years to achieve comprehensive and fundamental changes in how we access the built environment. They believe that some measurable progress can be achieved in much shorter time-frames.

1.2 Background

The Accessibility for Ontarians with Disabilities Act, 2005 (AODA) received Royal Assent and became law on June 13, 2005. The purpose of the AODA is to benefit all Ontarians by developing, implementing and enforcing accessibility standards. The goal

is to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises by January 1, 2025.

As required by the AODA, the Minister of Community and Social Services appointed a Standards Development Committee (hereafter, the Committee) to develop a final proposed Accessible Built Environment Standard (hereafter, the Standard). The Committee is made up of 44 individuals from various sectors of Ontario life (see Schedule 1). Half of the Committee members are persons with disabilities or representatives of organizations for persons with disabilities. Their combined knowledge, skills and experience and those of the organizations and communities from which they come include designing, building, researching, running businesses and delivering services.

The Committee's task was to:

- Develop a Standard that will focus on the first five years, to be submitted to the Minister for public review;
- Consider comments received during the public review, making any changes the Committee considers advisable; and
- Submit a Standard to the Minister of Community and Social Services.

1.3 The Committee's Approach

The Committee has:

- Considered approaches, existing law and best practices across various jurisdictions, emerging trends in the area of accessibility, industry practices and innovation in research and technology.
- Reviewed emerging data trends, sector issues, practices, innovation in research and technology.
- Worked from the premise that accessibility standards should ensure access for the greatest number of people but that individual accommodation will always be required.
- Understood that balancing the goal of accessibility with technical and cost issues are not easy challenges.
- Considered specific elements of the built environment that contribute to or create barriers for people with disabilities when absent or improperly configured.
- Discussed what the key design features and "elements" should be, for example, paths of travel and washroom facilities.
- Considered approaches to accessible design including existing barrier-free requirements of Ontario's Building Code, guidelines developed by municipalities, United States Access Board requirements, Canadian Standards Association standards, Visitable Housing, and Adaptable Housing.

2.0 Scope and Application

2.1 Scope

The Committee developed a working definition of the built environment to focus its efforts. For the purposes of the Committee's work, the built environment includes all public and private sector:

- buildings (including all features that would impede persons with disabilities from fully accessing or using the building or its facilities or circulating within it);
- site development (built elements, external parcels of land bounded by property lines);
- public ways (portions of land such as a street, road, highway, public square or other built area not designated as of a private nature); and
- public parks, trails and playgrounds.

The Committee identified and developed requirements for over 70 elements that apply to the first five years. The list of elements in the Built Environment is not an exhaustive one. This document groups like elements in the following categories:

- common access and circulation (which addresses some elements relevant to both the interior and exterior);
- interior accessible routes;
- exterior spaces;
- communication elements and facilities;
- plumbing elements and facilities;
- building performance and maintenance;
- special rooms;
- spaces and other elements (which addresses some interior and exterior elements);
- transient residential;
- recreation elements and facilities;
- transportation elements; and
- multi-unit housing.

For some elements addressed by this Standard, the following has been provided:

- A Rationale — why is the Committee dealing with the particular item?
- A Functional Description — what is the element intended to do?
- Technical Requirements — measurable criteria that define what "accessibility" look like.
- Committee Comment — additional information where further explanation was deemed necessary.

Committee Comment

There are areas of the final proposed Standard where additional expertise, input and further Committee consideration is required.

For areas the Committee feels are of critical importance for further development, the document contains “placeholders”. Examples are securities systems and life safety, transit stations, bus shelters and bus stops, accessibility around construction sites, exhibition display systems, waiting line-up and queuing areas.

2.2 Application

The Standard covers elements that are currently regulated by Ontario’s Building Code (Ontario Regulation 350/06), and those elements that are not currently regulated by Ontario’s Building Code, such as play areas and amusement parks. It is important to note that, where the Standard does not make explicit reference to an element in Ontario’s Building Code or other existing regulation, the requirements within the regulation will prevail, or where Ontario’s Building Code requirements provide more accessibility than the requirements of this Standard, Ontario’s Building Code requirement takes precedent.

For the purposes of this Standard, the term “**element**” is used to designate parts of buildings, facilities, or exteriors that are found in the built environment; for example, stairs, doors, windows, walkways, lavatories, etc.

The Committee did not have an opportunity to develop accessibility requirements for specific occupancies, such as heritage and secure facilities, schools and transportation facilities, business and mercantile facilities, arenas, cultural and recreational facilities and hospitals. Specific requirements for specialized occupancies should be developed as quickly as possible. In the interim, these specialized facilities are encouraged to abide by the requirements in this document where it is reasonable and appropriate to do so.

The proposed accessibility requirements and the flexibility to achieve the same objectives with alternative solutions should provide for adapting these accessibility requirements to their unique circumstances. The Standard should not reduce the safety, performance levels and functions of these facilities; it should meet or exceed the proposed requirements.

In considering the application of accessibility standards and compliance timelines, the Standard includes the following areas:

1. New construction; and
2. Exemptions.

2.2.1 New Construction Including Extensive Renovation

2.2.1.1 New Construction

Definition

New construction means anything related to the erection, installation, or extension of an element of the built environment.

Application

All new construction would be required to comply with the Standard with separate, specialized requirements for certain types of building and facility usage (e.g., jails, heritage sites).

2.2.1.2 Change of Use and Extensive Renovation to the Interior / Exterior Built Environment

Definition

For interior parts of the built environment the following definition of change is applied:

a) Where existing interior walls or ceilings or floor assemblies or roof assemblies are substantially removed in an existing building and new interior walls, ceilings, floor or roof assemblies are installed in the building; or
b) Where there is a change in use of the building that requires extensive renovations; or
c) The performance level of a building after material alteration or repair is less than the performance level that existed prior to renovation or repair.

For exterior parts of the built environment the following definition of change is applied:

a) A change to the built environment where an element is wholly or partly replaced, removed or re-furbished, or where any change to the component could potentially affect its usability. Examples of changes include: renovations, alterations, remodelling, rehabilitation, historic restoration, resurfacing, rearrangement, reconstruction, change of use of the component, or new additions to an existing element (e.g., an expanded parking lot area attached to an existing building or parking area); or
b) When changes occur to a particular area, where feasible or allowed the route to the changed area is also included in the change.

Committee Comment

The intent of the definition for the "change of use/extensive renovation" Clause is to remove exemptions (e.g., more than 300 m^2, entry step, etc.) that currently exist within Ontario's Building Code that allows a renovation to occur without including the accessibility requirements of Ontario's Building Code. The Committee would like to see the accessibility requirements of this Standard apply to more renovations.

Accessibility requirements would need to be met when upgrades occur (i.e., replacement of door handles, lavatories, etc).

There may be situations where an interior may be made accessible but the exterior route is governed by another body that is not proposing any changes. For example, a single stand-alone unit may be retrofitted and made accessible by the owner but the route to and from the building is owned and managed by someone else. The unit owner does not have the authority to change the exterior route.

Application

All changes as defined above to an element of the interior or exterior built environment must create an element that meets the Final Proposed Accessible Built Environment Standard.

Where the changed element can only be accessed via a non-compliant element (e.g., by using or going through an element that does not meet the Standard), access to the changed element must be provided by modifying the non-compliant element to meet the Standard either

a) in conjunction with the change; or
b) through a defined plan of action with specific timelines.

2.2.2 Exemptions — New Construction and Change of Use/Extensive Renovation

New Construction change of use and extensive renovations shall comply with the requirements of this Standard, except

a) in areas that are not normally occupied on a daily basis by people, including, but not limited to,
    i) crawl spaces;
    ii) catwalks;
    iii) elevator rooms; or
    iv) utility vaults;
b) where it is technically infeasible, or structurally impractical;
c) where it affects the natural, cultural or heritage value of a protected facility or environment; or

d) where it creates hardship that
    i) considers matters, such as impact on continuation of use of the building, the availability of individual accommodation, alternative measures; and
    ii) assures that the use of the built environment is of optimum benefit for Ontarians.

Where an exemption from compliance occurs in (c) and (d), an alternate solution shall be determined.

Committee Comment

The Committee has used the term hardship as a means to determine an exception to meeting the requirements of this Standard. There was a concern raised, regarding the existing defined expression of undue hardship used by the Ontario Human Rights Commission (OHRC). The Committee believed this may not be the best measure to be used for built environment exemptions, because it is too broad, and in many cases, organizations would not be able to use this as a means of exemption. The Committee recognized the need for judicious use of resources for maximum accessibility gains.

It was the Committee's preference to limit exemptions, or have none at all, as they would like to have a built environment that will support employment for people with disabilities. However, there are some circumstances in specific building areas that require exemption; as such, the clause above was developed.

The Committee recognizes that the undue hardship provisions of the OHRC will in no way be diminished by this Standard.

2.2.3 Alternate Solutions

The Committee proposes that organizations that meet the specifications for a requirement contained in the Standard, or an approved equivalent ("an acceptable solution"), that meets the needs of persons with disabilities, will accomplish the intended result.

2.2.4 Similar Occupancies

Where the Committee has defined a proposed requirement for a particular element in a particular building use, the proposed requirement extends to similar elements in similar occupancies, where it is reasonable and appropriate.

2.3 Timelines

2.3.1 New Construction

Twenty-four months after regulations come into force,

a) building permits issued for new construction will require the building to meet the accessibility requirements of this Standard; and
b) new construction of elements not addressed by Ontario's Building Code shall meet the requirements of this Standard at the time of construction.

2.3.2 Extensive Renovation and Change of Use

Twenty-four months after regulations come into force

a) building permits issued for extensive renovations/change of use will require the building to meet the accessibility requirements of this Standard; and
b) extensive renovation of elements not addressed by Ontario's Building Code shall meet the requirements of this Standard at the time of construction.

Committee Comment

The intent of the Committee is to see elements of this Standard implemented sooner rather than later.

2.4 Format of the Standard

The intent of this Standard is that it is to be used in its entirety for the built environment. The Standard has been organized into various high level sections (e.g., Common Access, Interior, Exterior, etc.); however, when something is built in the built environment, the requirements that apply are those found in both the specific clause, and any other common clause or overarching clause. The intent is to use the applicable clauses in this Standard when implementing in the built environment.

For example, when designing/building street furniture, the street furniture would be required to meet Clause 5.5, Street Furniture, and be required to meet provisions for accessible exterior routes (as per Clause 5.1, Accessible Exterior Route) and control and operating mechanisms (as per Clause 8.3, End User Controls and Operating Mechanisms).

2.5 Other

Within twenty-four months of the passage of enacting the Accessible Built Environment Standard, the regulation shall be supported by a review of programs intended to train or provide supplementary training to those who are engaged in the design, construction or operation of the Built Environment to ensure the content of the courses support the implementation of the recommendations of the Committee.

Committee Comment

Existing and future staff and volunteers will need to be trained in a timely fashion to support the implementation of the Standard. Where appropriate, certification of designers, builders and operators to the Standard was discussed, but has not been included at this time.

3.0 Common Access and Circulation

3.1 Entrances

Rationale

Design decisions concerning entrances will have an immediate impact on the independence and dignity of everyone entering a facility. Entrances that address the full range of individuals using the facility promote a spirit of inclusion that separate accessible entrances do not. Features, such as canopies, can limit the influence of weather conditions on this already busy area and also make an entrance more obvious to a person with a cognitive disability or someone unfamiliar with the facility.

Note: Where permitted and where acoustic privacy is not a design requirement, access openings without doors are preferred; for example, public washroom entrances in buildings with large assembly areas.

Functional Description

This section addresses pedestrian entrances into a building. Entrances include all access and entry points into a building or facility. Entrances also function as egress points. An entrance consists of a set of elements that includes the approach to a building, facility, or controlled access area and may extend to the curb, the actual entrance, the transition area to the interior, and may include a lobby and/or a waiting area. 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.

Technical Requirements

3.1.1 Accessible Entrances — Minimum Number

At least 50%, but not less than one, of all pedestrian entrances to a structure or facility shall

a) be accessible with a no-step entrance;
b) be connected to or integrated with an accessible interior route that is in compliance with Clause 4.1, Accessible Interior Route; and
c) comply with Table 3.1.1.

Table 3.1.1
Minimum number of accessible entrances

Number of pedestrian entrances into building	Minimum number of pedestrian entrances required to be barrier-free
1 to 3	1
4 to 5	2
6 or more	Not less than 50 percent

Note: Numbers are rounded down to the nearest whole number.

3.1.2 Main or Primary Entrances

The main or primary entrances to a building or a suite shall be accessible.

3.1.3 Entrance from an Enclosed Parking Garage

If a pedestrian entrance from an enclosed parking garage to the building is provided, at least one entrance from the enclosed parking garage to the building shall be accessible and comply with Clause 4.1.1, Clear Width.

3.1.4 Access to Parking Areas

An accessible route shall be provided from an accessible entrance to parking areas as follows:

a) Where exterior parking is provided, an accessible route, complying with Clause 5.1, Accessible Exterior Route, shall be provided to the exterior parking area;
b) Where interior parking is provided, an accessible route, complying with Clause 4.1, Accessible Interior Route, shall be provided to the door of the indoor parking area or the point where a passenger elevator serves the indoor parking level; and
c) If a passenger elevator is provided along the accessible route it shall comply with Clause 3.3, Elevating Devices.

3.1.5 Enclosed Pedestrian Walkway, Underpass or Overpass

If an enclosed pedestrian walkway, overpass or underpass connects two accessible storeys in different buildings it shall comply with Clauses: 3.4, Ramps; 3.2, Doors and Doorways; and 4.1, Accessible Interior Route.

3.1.6 Doors and Clear Spaces at Entrance Doors

3.1.6.1 Doors and Clear Spaces

All doors and clear spaces at entrances shall comply with Clause 3.2, Doors and Doorways and either Clause 4.1, Accessible Interior Route or Clause 5.1, Accessible Exterior Route.

3.1.6.2 Entrance at Sidewalk

Where an entrance abuts a public sidewalk, the sidewalk may be considered to be part of the clear space in front of the door.

3.1.7 Controlled Entrances

Where turnstiles, gates, or other barriers are used to control access, an adjacent alternate access system or an integrated access system shall be provided.

Notes:
(1) Half-height automatic swing doors can provide independent access for people with reduced mobility.
(2) These types of entrances are provided at various occupancies types which include, but are not limited to, libraries, retail stores, transit stations and recreational facilities.

3.1.8 Canopies

Where canopies are used at a pedestrian entrance, and a passenger loading area is adjacent to the entrance, the vertical clearance shall comply with Clause 9.17.4, Height Clearance.

3.1.9 Waiting Areas

Where a waiting area is provided as part of an entrance area, a clear space of at least 1370 mm (54 in) deep by 1620 mm (64 in) wide within a seating or waiting area shall be provided adjacent to the accessible interior route.

Committee Comment

The intent of this requirement is to provide an accessible, sheltered waiting area space for people with disabilities (including those using mobility devices and service animals) where there is a lobby or waiting area as part of the entrance.

3.1.10 Guards at Entrances

Accessible entrances shall be equipped with guards as follows:

a) Where there is a change in vertical elevation greater than 600 mm (24 in) at the edges of a landing or an accessible route leading to an entrance, guards that are tonal-contrasted with their surroundings and complying with Clause 3.4.8, Guards at Ramps, shall be provided at the edges of the landing or accessible route; and
b) Where doors swing into an accessible interior route, a cane-detectable guard shall be installed at right angles to the wall containing the door and extending for the full width of the door.

3.2 Doors and Doorways

Rationale

Sufficiently wide doorways are advantageous to individuals using mobility aids; however, a raised threshold at the base of the door could be a barrier.

For many people a heavy door is difficult to open. The independent use of doors is desirable as reliance on assistance from others to open doors is neither accessible nor dignified.

Careful thought to the direction of the door swing can enhance the usability and limit the hazard to other pedestrians. Sliding doors can be easier for some individuals to operate, and can also require less wheelchair manoeuvring space.

Glazed doors can present a hazard to all individuals and especially those with low or no vision. The inclusion of horizontal colour-contrast strips across the glass, as well as colour-contrasting doorframes and door hardware, will increase the safety and visibility of a glazed door for a person with low or no vision.

Functional Description

This section addresses the accessibility of doors and doorways within an accessible route, egress routes, and public spaces designed to be independently operable by all users. The accessibility of doors and doorways are an integral component of the accessible route.

Technical Requirements

3.2.1 Application Requirements

Doors located along an accessible interior route shall be accessible in compliance with this Clause 3.2, Doors and Doorways. Where a door system incorporates multiple doors at a single location, at least one of the doors shall be accessible and comply with Clause 3.2, Doors and Doorways.

3.2.2 Guards

Where doors swing onto an accessible interior route, they shall have a guard that complies with Clause 3.1.10, Guards at Entrances.

3.2.3 Clear Opening

The minimum clear opening of all doorways shall

a) be 900 mm (35 in); and
b) comply with Clause 3.7, Overhanging and Protruding Objects.

3.2.4 Manoeuvring Area at Doors

Doorways shall have a level wheeled mobility device manoeuvring space on both sides of a door in accordance with Table 3.2.4, except in the following situations:

a) If the door provides access from only one side, such as a closet, the clear space is not required on the inactive side of the door; and
b) If the door has a power operator, the clear space on the latch or hinge side of the door is not required.

Table 3.2.4
Minimum manoeuvring space at doors

Context	Floor Space Required in mm (in)		
	Depth	Width	Space Beside latch
Side-hinged door — Front approach			
Pull side	1525 (60)	1600 (63)	600 (24)
Push side	1370 (54)	1250 (49)	300 (12)
Side-hinged door — Latch-side approach			
Pull side	1370 (54)	1600 (63)	600 (24)
Push side	1370 (54)	1525 (60)	600 (24)
Side-hinged door — Hinge-side approach			
Pull side	2440 (96)	2440 (96)	600 (24)
Push side	1370 (54)	1830 (72)	450 (18)
Sliding door			
Front approach	1370 (54)	1100 (43)	50 (2)
Side approach	1370 (54)	1550 (61)	600 (24)

Source: City of London. (2007). Facility Accessibility Design Standards.

Note: The main factor to consider when determining manoeuvring space is the direction of approach, rather than the position of the hinge or latch.

3.2.5 Thresholds and Changes in Level

Thresholds and changes in floor level or surfaces at doors shall be

a) vertical for a change in level of less than 6 mm (0.25 in); or
b) bevelled at a maximum slope of 1:2 (50%) for a change in level between 6 mm (0.25 in) to 13 mm (0.5 in).

3.2.6 Door Hardware

Door hardware, operating devices such as handles, pulls, latches, and locks on all doors throughout a facility shall

a) be mounted 900 mm (35 in) to 1100 mm (43 in) from the floor;
b) meet the requirements of Clause 8.3.3, Hand-Operated Controls and Mechanisms; and
c) if it is a sliding door with operating hardware, be configured so that the operating hardware is exposed and usable from both sides when sliding doors are fully open.

3.2.7 Door Opening Force

The maximum door opening force for pushing or pulling open a door shall be 22.2 N (5 lb) for exterior and interior doors.

3.2.8 Door Closers

Except for doors at the entrances to dwelling units, closers for interior doors on a accessible interior route 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 (3 in) from the closed position, measured from the leading edge of the latch side of the door.

3.2.9 Power Door Operator

3.2.9.1 Application

Power door operators shall be required on

a) exterior doors into a building (including vestibule doors);
b) doors into an accessible washroom, where provided; and
c) doors that are off an interior accessible route and used by the public.

Committee Comment

The Committee felt that all doors have to be accessible; however, as a minimum, exterior doors and doors to accessible washrooms should be power assisted. Consideration needs to be given to providing power assisted doors for priority areas (e.g., banks, lawyer offices, doctor offices) that are part of the activities of daily living.

The Committee also noted that doors to secure areas need added accessibility features (e.g., bell, alarm, intercom. etc).

3.2.9.2 Controls and Sensors

Where power door operators are provided, they shall

a) allow persons to activate the opening of the door from a location on either the entry or exit side of the door when entering or leaving a facility or area;
b) except where door operators are activated by proximity scanning devices or pressure mats, have an activation range located one above the other at each activation location with
    i. the upper activation height with its centreline located not less than 900 mm (35 in) and not more than 1000 mm (39 in) from the floor level or ground; and
    ii. the lower activation range 200 mm (8 in) to 250 mm (10 in) above the floor;
c) have activation devices that are
    i. located to allow a person using a wheeled mobility device to stop immediately adjacent to the device, out of the arc of the door swing;
    ii. located at least 600 mm (24 in) from any inside corner;
    iii. located not more than 1500 mm (59 in) beyond the door swing where the door opens towards the control;
    iv. located in a clearly visible position;
    v. operable with a closed fist;
    vi. at least 150 mm (6 in) in width, and comply with Clause 3.7.1, Protruding Objects;
    vii. marked with the International Symbol of Accessibility;
    viii. tonal contrasted from their surroundings of at least 70%; and
    ix. illuminated or otherwise visually defined in compliance with
        1. Clause 8.4, Interior Lighting;
        2. Clause 8.5, Exterior Pedestrian Lighting; or
        3. if illumination is not practically possible, designed to be reflective and/or photoluminescent (i.e., "glow in the dark");
d) have an opening period of not more than 3 seconds, measured at a point 75 mm (3 in) from the closed position measured from the leading edge of the latch side of the door to when the door is in an open position of 70° to the doorway;
e) require a force of not more than 66 N (14.8 lb) to stop door movement;
f) where door operators are activated by proximity scanning devices or pressure mats, the scanning devices or pressure mats shall be able to detect individuals using wheeled mobility devices; and
g) be capable of allowing the door to be opened manually in the case of power failure.

3.2.10 Power Door Wiring

All doors to meeting rooms, common areas, and that are part of an accessible interior route, shall have the necessary wiring and access to electrical power roughed-in, to enable a power door operator to be installed at a later date.

Committee Comment

The Committee considered the provision of electrical wiring for power door opening devices to meeting rooms and common areas as part of an accessible route during construction as a cost saving measure for future installation.

3.2.11 Tonal Contrast of Doors and Frames

A high tonal contrast of at least 70% shall be incorporated to differentiate

a) doors and/or doorframes from the surrounding environment; and
b) door handles and other operating mechanisms from the door itself.

3.2.12 Fully-Glazed Doors

Fully glazed doors, frameless glass doors, and sidelights in an accessible route shall be marked with a continuous opaque strip that

a) has a colour tonal contrasted with the background of the door of at least 70%;
b) is at least 50 mm (2 in) wide;
c) is located across the width of the door at a height of 1350 mm (53 in) to 1500 mm (59 in) above the finished floor; and
d) if it incorporates a logo or symbol, is designed so that the logo or symbol does not diminish
    i. the opacity of the strip;
    ii. the width of the strip; or
    iii. the colour and brightness contrast of the strip with the background of the door.

3.2.13 Revolving Doors and Turnstiles

Revolving doors or turnstiles shall

a) not be considered an accessible entrance along an accessible route; and
b) have an accessible, clearly designated gate or door provided adjacent to the turnstile or revolving door.

3.2.14 Sliding Doors

Installation and dimensions of sliding doors shall be consistent with Clauses 3.2.3, Clear Opening to 3.2.7, Door Opening Force, inclusive.

Note: Sliding doors can include pocket doors, hidden doors, patio doors, etc.

3.2.15 Gates

Where an exterior gate exists, it shall

a) comply with the width requirement of Clause 3.2, Doors and Doorways;
b) have an operating and locking mechanism that meets the requirements of Clause 8.3, End User Controls and Operating Mechanisms;
c) if an exit gate, provide a quick-release mechanism that is no higher than 1220 mm (48 in); and
d) meet the requirements set by authorities having jurisdiction for height and thickness of the fencing.

3.2.16 Vestibules

Vestibules located on an accessible route shall

a) be arranged to allow the movement of mobility devices between doors;
b) provide a distance between two doors in series of at least 1500 mm (59 in) plus the width of any door that swings into the space; and
c) have power door operators on both doors.

3.3 Elevating Devices

Rationale

The buttons used on elevators need to address a range of functional needs, including reach, dexterity and vision. There is also a need to provide audible cues for individuals with low or no vision to identify different floor levels, as well as the direction of travel. These are, in fact, of benefit to anyone who uses the elevator. Adequate door-closing delays provide individuals using mobility devices with additional time to reach, enter, or exit the elevator car. The installation of a mirror can assist individuals using mobility devices to back out of an elevator where there is not sufficient space to turn around.

Functional Description

This section addresses passenger elevators, limited use/ limited application (LU/LA) elevators (i.e., accessible passenger lifts), moving walks, moving ramps, and escalators used to provide pedestrian access within and between levels within the built environment.

Technical Requirements

3.3.1 Application

This clause applies to escalators, moving walks, and lifts along an accessible route, and to elevators that are required to be accessible.

3.3.2 Escalators

3.3.2.1 General

Escalators used to facilitate access between floors are not to be considered part of the accessible interior route.

3.3.2.2 Alternative Route

3.3.2.2.1

Where escalators are used, an accessible interior route to access the floor levels served by the escalator shall be provided.

3.3.2.2.2

The accessible interior route shall

a) be conveniently located adjacent to or in close proximity as is technically feasible; and
b) have signage complying with Clause 6.1, Signage, clearly displayed and directing a person to an alternative means of access.

3.3.2.3 Landings

Escalator landings shall

a) be at least 1500 mm (59 in) deep;
b) extend for the full width of the escalator clear width; and
c) on the transition threshold have a tonal contrast of at least 70% and a tactile surface in accordance with Clause 8.6.6, Escalator.

3.3.2.4 Flat Treads

There shall be a minimum of two flat treads at the entrance and exit of every escalator.

Note: This would be the transition zone for the escalator.

3.3.2.5 Handrails

Handrails on escalators shall include a high tonal contrasting marking of at least 70%.

3.3.3 Moving Walks, and Moving Ramps

3.3.3.1 General

Where moving walks and moving ramps are used to facilitate movement from one point to another, they shall not be considered part of an accessible route.

Note: Heavier scooters and power chairs may cause problems with the mechanical systems of moving walkways and moving ramps. Moving ramps can cause problems with wheeled mobility devices tipping backwards and causing falls and injuries. The slopes on moving ramps should be limited for safety reasons.

3.3.3.2 Alternative Path of Travel

Where moving walks and/or moving ramps are used, an accessible interior route shall be provided to the same areas that the moving walks or moving ramp serves, and will comply with Clause 3.3.2.2, Alternative Route.

3.3.3.3 Landings

Landings at moving walks and moving ramps shall comply with Clause 3.3.2.3, Landings (for escalators).

3.3.3.4 Entrance / Exit Markings

Entrances to and exits from moving walks and moving ramps shall be identified with a high tonal contrasting marking.

3.3.3.5 Handrail Markings

Moving walks and moving ramps shall be identified with a high tonal contrasting marking of at least 70%.

3.3.3.6 Audible Signals

An audible and visual signal shall indicate the approaching end of the moving walk or moving ramp.

3.3.4 Lifts for Persons with Disabilities

3.3.4.1 Platform / Incline Lifts

Platform / incline lifts are permissible in publicly accessible buildings, if the lifts can be operated independently.

3.3.4.2 Limited-use / Limited-Application Elevators (LU/LA Elevators)

Limited-use/Limited-application elevators (LU/LA elevators) that can be operated independently in buildings with a limited number of level changes shall be used instead of controlled access lifts.

Note: The use of controlled passenger lifts that are controlled by key access and that

require an attendant is discouraged.

3.3.4.3 Location

Where used, limited-use/limited-application elevators (LU/LA elevators) shall be accessible and located on an accessible interior route complying with Clause 4.1, Accessible Interior Route.

3.3.5 Elevators

3.3.5.1 General

3.3.5.1.1

Committee Comment

An elevator is not the only means of providing an accessible route of travel to all floors of a building, but it is the preferred means. The intent of the Standard is not only to require elevators, but to allow ramps, where appropriate (i.e., short ramps where the change in elevation is minimal) and to allow for future technologies.

3.3.5.1.2 Designated Firefighting Elevators

Unless indicated otherwise, all firefighting elevators shall be accessible.

Note: Accessible passenger elevators, not designated for firefighting use, are not required to be designed for firefighting access.

3.3.5.1.3 Freight / Service Elevators

Freight elevators and service elevators shall meet the accessibility requirements of Clause 3.3.5, Elevators.

3.3.5.2 Floor Designation

Signage indicating the floor level shall

a) be placed on the door jamb between 1400 mm (55 in) and 1500 mm (59 in) from the finished floor to the centre of the number;
b) have a tonal contrast of at least 70% from its surroundings; and
c) be raised and comply with Clause 6.1.2, Tactile Characteristics.

3.3.5.3 Elevator Car Number Designation

Where there is more than one elevator in a facility, signage indicating the elevator car number shall

a) be placed on the wall adjacent to the control panel;
b) be 1400 mm (55 in) from the finished floor to the centre of the number and/or characters;

c) have a tonal contrast of at least 70% from its surrounding surfaces; and
d) be raised and comply with Clause 6.1.2, Tactile Characteristics.

3.3.5.4 Elevator Doors

Passenger elevator doors shall

a) slide horizontally only;
b) have a finish to reduce glare;
c) on the landing side, be identified using a tonal contrasting of at least 70% to differentiate the door face and jamb from the surrounding wall surface;
d) have a clear opening width of not less than 915 mm (36 in) ; and
e) open and close automatically.

3.3.5.5 Door Re-opening Device

Elevator doors shall be provided with a re-opening device / sensor that

a) stops and re-opens a car door and hoistway door automatically if the door becomes obstructed by an object or a person;
b) does not require physical contact with an obstruction passing through the opening to be activated;
c) has the re-opening devices located within a range of 125 mm (5 in) to 1500 mm (59 in) above finish floor; and
d) remains effective for at least 20 seconds after which the door may close, but shall re-open with an audible signal if an object or a person is still in the doorway.

3.3.5.6 Door and Signal Timing for Hall Calls

The minimum acceptable time from notification that a car is answering a call until the doors of that car start to close shall be calculated from the following equation:

$$T = D / 445$$

where T is the total time in seconds and D is the distance (in millimetres) from a point in the lobby or corridor 1525 mm (60 in) directly in front of the farthest call button controlling that car to the centreline of its hoistway door. For cars with in-car lanterns, T begins when the lantern is visible from the vicinity of hall call buttons and an audible signal is sounded. The minimum acceptable notification time shall be 5 seconds.

Note: This clause allows for variation in the location of call buttons, advance time for warning signals, and the door-holding period used to meet the time requirement.

3.3.5.7 Door Delay for Car Calls

The minimum time for elevator doors to remain fully open shall

a) be 10 seconds in response to a car call; and
b) be reduced by the operation of the door close button.

3.3.5.8 Elevator Operation and Leveling

An elevator car shall

a) be operated automatically; and
b) be equipped with a self-leveling device that
    i. is two-way and automatic; and
    ii. maintains the floor level to a maximum of 13 mm (0.5 in) under rated loading conditions to zero loading.

3.3.5.9 Interior Space

The interior space of an accessible elevator shall be

a) 2030 mm (80 in) by 1295 mm (51 in) where the door location is centered; or
b) 1525 mm (60 in) by 1525 mm (60 in) where the door is off-centre.

Committee Comment

The specified interior dimensions for an accessible elevator relate to only those configurations where the clear door width is 915 mm (refer to Clause 3.3.5.4(d)). The interior space dimensions were taken from Annex E of ASME A17.1/CSA B44, Safety Code for Elevators.

3.3.5.10 Floor Surface

The elevator car floor surface shall

a) be firm, level, non-glare and slip resistant;
b) facilitate movement by wheeled mobility devices and not contribute to tripping; and
c) have a tonal contrast of at least 70% from the walls and be texture and tonal contrasted from each elevator lobby floor.

3.3.5.11 Handrails in Elevators

Handrails in elevators shall

a) be continuous on all walls except where there is an operating panel or door; and
b) comply with Clause 3.4.7.3, Detailed Requirements (for Ramp Handrails).

3.3.5.12 Elevator Car Control and Hall Call Buttons

Elevator car controls and floor designation and hall call buttons on a panel shall

a) be readily accessible from a wheeled mobility device upon accessing and entering the elevator;
b) be located at a maximum height above the elevator car floor of 1220 mm (48 in);
c) be located at a minimum height above the elevator car floor of 810 mm (32 in);

    Note: The numbering of the panel should start in the bottom left of the panel, which still allows for a single line of buttons where the number of floors permits.

d) be arranged with the numbers running in ascending order and from left to right on

the panel;
e) have a tonal contrast of at least 70% from the surrounding panel;
f) be 38 mm in diameter. Where not technically feasible for all buttons to be within the range as specified in Clause 8.3.4, Reach, buttons not smaller than 19 mm (0.75 in) in diameter may be used;
g) comply with Clause 8.3.3, Hand-Operated Controls and Mechanisms;
h) provide button identification information, using raised tactile characters and Braille, immediately to the left of the buttons to which it applies; and
i) use industry standard tactile symbols and Braille messages to identify the following elevator controls:
    i. emergency stop;
    ii. alarm;
    iii. door open;
    iv. door close;
    v. main entry floor; and
    vi. telephone.

3.3.5.13 Alarm and Emergency Stop Buttons

Elevator car control buttons for alarm and emergency stop shall

a) be located at the bottom of the panel; and
b) be both audible and visual.

3.3.5.14 Card Access Readers

Card access readers, where provided, shall be located within the maximum and minimum forward reach ranges of a person in a wheeled mobility device and be located between 810 mm (32 in) and 1220 mm (48 in) above the floor.

3.3.5.15 Emergency Signaling and Communications

Two-way communications shall

a) be from within the car to a point outside;
b) present essential information both visually and audibly; and
c) be hands-free for security or emergency services.

3.3.5.16 Mirrors

Mirrors in elevators shall

a) be located above the handrail on the wall opposite the door; or
b) mounted against the ceiling opposite the elevator entrance and angled downward.

Note: The intent is to enable visibility of the elevator entry/exit, if one was to back out of the elevator.

3.3.5.17 Visual and Audible Signals

Visual and audible signals shall be provided

a) at each elevator car entrance
    i. to indicate which elevator car is answering the call;
    ii. to indicate the direction of travel;
    iii. to be clearly visible from within the elevator lobby area; and
    iv. be located above the elevator door in the elevator lobby area;
b) within each elevator car to announce the floor;
c) with audible signals set at 10% above the ambient noise level to a maximum of 80 dBA; and
d) within the elevator car, with the visual indicators to be clearly visible and located above the control panel.

3.3.5.18 Handrails in Lobbies

A vertical wall mounted handrail shall be used where an embankment of elevator doors limits the wall space and shall

a) be provided in the elevator lobby adjacent to the call buttons;
b) be placed between 800 mm (31 in) to 1200 mm (47 in) above the floor;
c) have a clear space of at least 50 mm (2 in) between the handrail and the wall; and
d) where the wall space is limited, vertical handrails shall be provided between 800 mm (31 in) to 920 mm (36 in) above the floor.

3.3.5.19 Elevator Lobby Areas

Elevator lobby areas shall

a) be at least 2000 mm (80 in) by 2000 mm (80 in) in front of the elevator doors; or
b) be at least as wide as the accessible route accessing the elevator.

3.3.6 Illumination

Lighting for elevating devices shall comply with Clause 8.4.2, Elevating Devices.

3.4 Ramps

Rationale

Traditionally, ramps have been synonymous with wheeled mobility device accessibility. However, ramps can be problematic in providing accessibility. Ramps can be difficult and dangerous to negotiate. Also, the physical space required for ramps makes them cumbersome to integrate into a facility. However, where a change in level already exists or cannot be avoided, a properly designed ramp can provide access for those using wheelchairs or scooters, pushing strollers or moving packages on a trolley.

The design of the ramp is critical to its usefulness and safety. A steeply inclined ramp is

difficult to ascend when using a wheelchair, and can increase the risk of the wheelchair tipping backwards. Descending a steep ramp can also be hazardous. Any cross slope will further increase the effort required to negotiate the ramp. Manoeuvring space at the top and bottom are also important factors in the usability of ramps. Level areas at points along a long ramp enable an individual to rest.

Textured surfaces, edge protection and handrails all provide important safety features. Heated surfaces are recommended to address the safety concerns associated with snow and ice.

Functional Description

This section addresses ramps that may be used by wheeled mobility devices, strollers, trolleys, or pedestrians to overcome level changes, both in the interior and exterior environments. Ramp elements include surfaces, landings, edge protection, and handrails. The gradient of the sloped surface determines whether the element is classified as a ramp, rather than a walkway. Walkways with a slope steeper than 1:15 (6.67%) are considered to be ramps, and are required to comply with the design requirements of this clause.

Technical Requirements

3.4.1 Clear Width

The clear width of the ramp shall be 1100 mm (44 in).

3.4.2 Slope

3.4.2.1 Running Slope

A ramp shall have a running slope no steeper than 1:15 (6.67%) and, where technically not feasible, shall not be steeper than 1:12 (8.33%).

3.4.2.2 Cross Slope

A ramp shall have a cross slope no steeper than 1:50 (2%).

3.4.3 Thresholds and Changes in Level

Thresholds and changes in floor level or surfaces at ramps shall be

a) vertical for a change in level of less than 6 mm (0.25 in); or
b) beveled at a maximum slope of 1:2 (50%) for a change in level between 6 mm (0.25 in) to 13 mm (0.5 in).

3.4.4 Landing Location

Landings shall be provided

a) at the top and bottom of a ramp;
b) where there is a change in direction; and
c) at horizontal intervals not greater 9 m (29.5 ft) apart.

Note: Level portions of ramps are referred to as landings. Landings are to be incorporated into ramps to provide manoeuvring space and to allow an individual to rest.

3.4.5 Landing Configuration

3.4.5.1 Size

The size of landings shall be

a) at least 1670 mm (66 in) by 1670 mm (66 in) at the top and bottom of the ramp;
b) at least 1670 mm in depth for in-line landings;
c) 1100 mm (44 in) by 1100 mm (44 in) where there is a 90^0 turn on a landing; and
d) 2000 mm (79 in) deep and the width of the ramp, where there is a 180^0 turn on the landing.

3.4.5.2 Served By Door

Where a landing is served by a door, the length of the landing shall be extended

a) by 600 mm (24 in) beyond the latch side of the door opening when the door swings towards the ramp; and
b) by 300 mm (12 in) beyond the latch side of the door opening when the door swings away from the ramp.

3.4.6 Edge Protection

On ramps and at landings, edge protection shall

a) be provided at all edges where
    i. the ramp surface is not at grade level; or
    ii. there is no solid enclosure or guard; and
b) where required, have a curb at least 50 mm (2 in) in height or have railings or other barriers that extend to within 100 mm (4 in) of the finished ramp surface.

3.4.7 Ramp Handrails

3.4.7.1 Both Sides

All ramps shall have handrails on both sides of the ramp with a clear width of at least 1100 mm (44 in) between the handrails.

3.4.7.2 Intermediate Handrail

Where ramps are wider than 2400 mm (94 in) there shall be an intermediate handrail with a minimum clear width of 1100 mm (44 in) between the two sets of handrails.

3.4.7.3 Detailed Requirements

Handrails shall

a) be continuously graspable along their entire length;
b) except where interrupted by doors, be continuous along the entire length of the ramp and around landings;
c) have a circular cross-section with an outside diameter not less than 30 mm (1.2 in) and not more than 40 mm (1.6 in), or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm (4 in) and not more than 155 mm (6 in) and whose cross-sectional dimension is not more than 57 mm (2 in);
d) have a clearance of at least 50 mm (2 in) between the handrail and any wall to which it is attached or immediately adjacent to;
e) be between 865 mm (34 in) to 965 mm (38 in) in height, measured vertically from the ramp surface to the top of the rail;

   Note: Handrails not meeting these requirements are permitted provided they are installed in addition to the required handrails.

f) be terminated in a manner that will not obstruct pedestrian travel or create a hazard;
g) extend horizontally not less than 300 mm (12 in) beyond the top and bottom of the ramp;
h) have the horizontal rail extensions return to the post, floor, or wall;
i) be designed and constructed such that handrails and their supports can withstand
   i. the loading values obtained from the non-concurrent application of a concentrated load not less than 0.9 kN (202 lb) applied at any point and in any direction; and
   ii. a uniform load not less than 0.7 kN/m (46.6 lb/ft) applied in any direction to the handrail; and
j) have a tonal contrast of at least 70% with their surroundings.

Note: This clause applies to ramps that are elevated above the surrounding terrain. It does not apply to inclines.

3.4.8 Guards at Ramps

Where the surface of the ramp is over 600 mm in height a guard or wall is required on both sides and where guards are provided they shall

a) be not less than 1070 mm (42 in) in height measure vertically to the top of the guard from the ramp surface;
b) be designed so that no member, attachment or opening located between 140 (6 in) mm and 900 mm (35 in) above the ramp surface being protected by the guard

will facilitate climbing; and
c) be provided with edge protection that complies with Clause 3.4.6, Edge Protection.

3.4.9 Tactile Walking Surface Indicators

A detectable warning surface on ramps shall comply with Clause 8.6.1, Tactile Walking Surface Indicators.

3.4.10 Surface

Ramp surfaces shall

a) be firm and stable;
b) be slip resistant;
c) produce minimal glare; and
d) be wear resistant.

3.4.11 Drainage

Ramp and landing surfaces shall

a) incorporate drainage to keep the ramp free of water accumulation; and
b) not have gratings on the ramp.

Note: It is preferred that gratings be located outside of pedestrian paths of travel wherever possible.

3.5 Stairs

Rationale

Stairs that are comfortable for many adults may be challenging for children, seniors or persons of short stature. For many people with disabilities, routes of travel may include stairs. Poorly designed nosings can present tripping hazards, particularly to persons with prosthetic devices or those using canes. Cues to warn a person with low or no vision an upcoming set of stairs are vitally important.

The appropriate application of handrails will aid all users navigating stairways.

Functional Description

This section addresses stairs that are exterior and interior to buildings, which allow persons to move from one level to another and enter/exit buildings. Stair systems

incorporate steps, landings, edge protection elements, and handrails.

Technical Requirements

3.5.1 Rise and Run

A flight of stairs shall

a) have a rise between successive treads not less than 125 mm (5 in) and not more than 175 mm (7 in);
b) have a run of not less than 280 mm (11 in) and not more than 355 mm (14 in) between successive steps;
c) not incorporate open risers;
d) have uniform treads and risers in any one flight and shall not alter significantly in run and rise in successive flights in any stair system; and
e) be slip resistant.

3.5.2 Nosing

Stair nosings shall

a) project not more than 38 mm (1.5 in);
b) have no abrupt undersides;
c) have a radius of curvature at the leading edge of the tread not more than 13 mm (0.5 in);
d) where projecting, be sloped to the riser at an angle greater than 60° to the horizontal; and
e) have a horizontal strip of a minimum 40 mm +/- 10 mm deep that
    i. is located at the leading edge of the tread;
    ii. is tonal contrasted with their surroundings of at least 70%; and
    iii. extends the full width of the tread.

3.5.3 Handrails

3.5.3.1 Both Sides

Handrails shall be provided on both sides of all stairs.

3.5.3.2 Detailed Requirements

Handrails shall

a) be mounted not less than 865 mm (34 in) and not more than 965 mm (38 in) high, measured vertically from a line drawn through the outside edges of the stair nosing;

    Note: Handrails not meeting these requirements are permitted provided they are

installed in addition to the required handrail.

b) be continuous around landings less than 2100 mm (83 in) in length, except where the landing
    i. is intersected by an alternative accessible route; or
    ii. has an entry door leading onto it;
c) be continuous on the inside edge of stairs;
d) have the rail extension return to the post, floor or wall;
e) at the top of stairs, extend at least 300 mm (12 in) parallel to the floor surface;
f) at the bottom of the stairs, continue to slope for a distance equal to the depth of one tread and then extend at least 300 mm (12 in) parallel to the floor surface;
g) have a circular cross-section with an outside diameter not less than 30 mm (1.2 in) and not more than 40 mm (1.6 in), or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm (4 in) and not more than 155 mm (6 in) and whose cross-sectional dimension is not more than 57 mm (2 in);
h) have a clearance of at least 50 mm (2 in) between the handrail and any wall to which it is attached or immediately adjacent to;
i) be terminated in a manner that will not obstruct pedestrian travel or create a hazard;
j) be designed and constructed such that handrails and their supports
    i. will withstand the loading values obtained from the non-concurrent application of a concentrated load not less than 0.9 kN (202 lb) applied at any point and in any direction; and
    ii. a uniform load not less than 0.7 kN/m (46.6 lb/ft) applied in any direction to the handrail; and
k) have a tonal contrast of at least 70% with their surroundings.

3.5.3.3 Intermediate Handrail

Where stairs are wider than 2400 mm (94 in), one or more intermediate continuous handrails between landings shall be provided.

3.5.4 Tactile Walking Surface Indicators at Stairs

3.5.4.1 Location

Tactile walking surface indicators at stairs shall be provided

a) at each landing incorporating an entrance into a stair system;
b) where the regular pattern of a stairway is broken; and
c) where the run of a landing not having a continuous handrail is greater than 2100 mm (83 in)

3.5.4.2 Details

Tactile walking surface indicators at the top of stairs shall

a) extend the full width of the stair;
b) have a depth of 920 mm (36 in), commencing one tread depth from the edge of the stair; and

c) comply with Clause 8.6.1.3, Tactile Attention Surface Indicators.

3.5.5 Guards

Where there is more than a 600 mm (24 in) change in floor level, guards shall be installed on stairs and comply with Clause 3.4.8, Guards at Ramps.

3.5.6 Convex Mirrors

Convex mirrors shall be placed at each stair landing.

Note: These mirrors are used to allow people to receive information that will enable them to navigate independently throughout a building.

3.6 Ground and Floor Surfaces

Rationale

Design decisions related to ground and floor surfaces will influence every person who enters the building. Irregular surfaces, such as cobblestones or pea-gravel finished concrete, are difficult for both walking and pushing a wheelchair. Slippery surfaces are hazardous to all individuals and especially hazardous for seniors and others who may not be sure-footed.

Glare from polished floor surfaces can be uncomfortable for all users and can be a particular obstacle to persons with a low vision by obscuring important orientation and safety features. Pronounced tonal contrast between walls and floor finishes may be helpful for persons with a low vision, as are changes in tone/texture where a change in level or function occurs.

Patterned floors should be avoided, as they can create visual confusion.

Thick pile carpeting makes pushing a wheelchair very difficult. Small and uneven changes in floor level represent a further barrier to using a wheelchair but also present a tripping hazard to ambulatory persons.

Openings in any ground or floor surface, such as grates or grilles, can catch canes or wheelchair wheels.

Functional Description

This section addresses accessible ground and floor surfaces throughout buildings and exterior environments.

Technical Requirements

3.6.1 Surfaces

The ground and floor surfaces shall be firm, stable and slip-resistant.

Notes:
(1) A firm surface does not deform under the vertical forces exerted by permitted users.
(2) A stable surface does not deform or erode under the angular forces of permitted users traveling in a straight line or turning.
(3) Wherever possible, ground and flooring materials should absorb the energy of an impact to reduce the chance of fracture following a fall.
(4) Ground and floor surfaces should have minimal glare.

Committee Comment

The Committee recommended that Government should commit resources to the research and development of technical specifications for energy absorbing materials for use in safer accessible flooring.

3.6.2 Floor Surface

3.6.2.1 Accessible Levels

Where there are changes in level in a building within a storey, each level shall be accessible. Level changes are permitted as long as all levels satisfy accessibility requirements.

Note: Ground and floor surfaces should be designed to avoid unnecessary changes in elevations (e.g., **sunken** or raised rooms/areas for aesthetics).

3.6.2.2 Change in Floor Surface Levels

Ground and floor surfaces with

a) a vertical change in elevation between 6 mm (0.25 in) and 13 mm (0.5 in) shall be bevelled with a maximum slope of 1:2 (50%); or
b) a vertical change greater than 13 mm (0.5 in) shall have a slope, ramp or curb ramp.

Note: A rise in height of 6 mm (0.25 in) would be considered to be a tripping hazard for 10% of the population, and there is not yet a consensus on a maximum acceptable rise for a fully accessible environment, although a range of 2 mm (0.08 in) to 3 mm (0.12 in) is likely to be a practical compromise.

3.6.3 Gratings

Gratings located on an accessible route on walking ground and floor surfaces shall

a) have spaces not greater than 13 mm (0.5 in) wide in one direction; and
b) be placed so that the long dimension is perpendicular to the dominant direction of travel.

3.6.4 Visual Contrast

Ground and floor surfaces shall be distinguished from the following elements through the use of high visual tonal contrast of at least 70%:

a) obstacles;
b) adjacent wall surfaces or their baseboards; and
c) changes in level at stairs, ramps, and curb ramps.

Designs with high tonal contrasts shall not be used for interior and exterior ground and floor surfaces on the accessible route.

3.6.5 Floor Mats

Floor mats shall

a) have a tonal contrast of at least 70% from surrounding surfaces;
b) not exceed 13 mm (0.5 in) in height; and
c) either have a bevelled edge, be securely fixed or be placed in a depression where the top surface of the mat is level with the surrounding floor area.

3.6.6 Acoustics

Ground and floor surfaces shall comply with the acoustical specifications in Clause 8.2.3, Floor Finishes, Wall Surfaces and Ceilings.

3.6.7 Roll Resistance

Ground and floor surfaces shall not increase the rolling resistance of mobility devices significantly.

Committee Comment

The Committee is recommending that Government should commit resources to the research and development of technical specifications for the rolling resistance of floor surfaces.

3.6.8 Carpets or Carpet Tile

Carpets or carpet tile shall

a) have a low loop or level pile;
b) have a firm cushion, underpadding, or backing, where provided;
c) have a combined carpet and pad height of not more than 13 mm; and
d) be securely fastened.

3.7 Overhanging and Protruding Objects

Rationale

Overhanging and protruding obstacles that are not cane detectable can be hazardous for many people, in particular to people who have low or no vision. An example of an overhanging hazard is the underside of a rising stairway. An example of a protruding hazard is a large wall-mounted lighting fixture, mounted at eye-level. This covers both exterior and interior rest areas.

Functional Description

This section addresses overhanging and protruding objects throughout and around buildings that can present a hazard or obstruction to persons with a disability.

Technical Requirements

3.7.1 Protruding Objects

Protruding objects on an accessible route shall not protrude more than 100 mm (4 in) unless they are cane detectable at or below 680 mm (27 in) above the floor.

Notes:
(1) This does not apply to a continuous protrusion (e.g., handrail, guard, door latches, or panic bars), as the clear path of travel will be maintained.
(2) The 680 mm (27 in) height from the ground ensures the protruding object can be felt by a cane.

3.7.2 Clear Width

Protruding objects shall not reduce the clear width of an accessible interior route to less than 1100 mm (47 in).

3.7.3 Headroom

The clear headroom

a) along an accessible route, shall not be less than 2100 mm (83 in) high and will comply with Clause 4.1.10, Reduced Headroom; and
b) in underground and all spaces within covered parking garages, shall not be less than 2100 mm (83 in) high for Type B parking spaces, and for Type A parking spaces be 2750 mm (108 in).

Note: Mechanical fixtures, such as lights, sprinkler heads, security cameras, etc., cannot hang **below** the clear headroom height.

3.8 Rest Areas

Rationale

Benches provide convenient resting places for all individuals and are especially important for those who may have difficulty with standing or walking for extended periods. Benches should be placed adjacent to pedestrian walkways to provide convenient rest places without becoming potential obstructions. Appropriate seat heights and arm rests can facilitate sitting and rising for individuals with various abilities.

Functional Description

This section addresses rest areas along accessible routes within a building and in the exterior environment. Rest areas are places for persons to rest, adjacent to an accessible route, which may incorporate seating. The frequency of rest areas is addressed within the circulation elements (Accessible Routes, Exterior Walkways, and Trails and Pathways).

Technical Requirements

3.8.1 Location

3.8.1.1 Rest Areas Along a Level Accessible Path of Travel

Rest areas and any associated furniture or amenities shall be located every 30 m and adjacent to an accessible route when the accessible route is

a) less than 3000 mm wide; and
b) in a high public traffic area.

3.8.1.2 Level Rest Areas Along a Sloped Accessible Path of Travel

A level rest area shall be provided every 30 m where the running slope of the accessible path of travel exceeds 1:20 (5%).

3.8.2 Rest Area Design

3.8.2.1 Details

Rest areas shall

a) have a ground/floor surface that has a tonal contrast of at least 70% from the accessible route;
b) when exterior or interior, have a clear ground area at least 915 mm wide and 1370 mm (54 in) long, adjacent to a bench or seat (where provided); and
c) comply with Clauses: 3.6 Ground and Floor Surfaces; 4.1 Accessible Interior Route; and 5.1 Accessible Exterior Route.

3.8.2.2 Slope or Change in Level

Where the rest area abuts a downward slope or change in level greater than 200 mm (8 in), the rest area shall be separated from it by

a) a continuous curb;
b) a railing or guard that complies with Clause 3.4, Ramps; or
c) a detectable warning surface that complies with Clause 8.6, Tactile Walking Surface Indicators.

3.8.3 Seating

Where seating is provided, there shall be at least one bench or seat that complies with Clause 5.5.2, Amenities — Seating and Benches.

Note: Seating should be considered for all rest areas. When two benches are located in a rest area, consideration should be taken to place the benches facing each other or at a 90° angle. This arrangement allows people to see each other's faces and is better suited for people who are Deaf, deafened or hard of hearing and those with communication disabilities.

3.8.4 Electrical Outlet

Where power is available, an electrical three-prong outlet shall be provided along an accessible route of travel for mobility devices to be charged.

4.0 Interior Accessible Routes

4.1 Accessible Interior Route

Rationale

All routes of travel through a facility should enable individuals with a range of disabilities to use them. They must provide the clear width necessary for persons using wheeled mobility devices, those pushing strollers, or those travelling in pairs. Consideration should be given not just to the width of items, such as wheeled mobility devices, but also to their manoeuvrability. While a corridor may be wide enough for a person to drive a scooter in a straight line, it may not be possible to make a turn around a corner. Accessible interior routes need to be connected to accessible entrances and accessible exterior routes.

High visual tonal contrast from the surrounding environment and/or tactile pathways set into floors may be used to assist individuals with low or no vision to negotiate an environment. Edge protection that guards a change in level is an important safety feature for all users.

Functional Description

This clause addresses accessible interior routes or pedestrian circulation paths within buildings which provide access to facilities and elements within buildings and allow persons with disabilities to move throughout the interior of a building safely, easily, efficiently, and comfortably. Accessible interior routes include, but are not limited to, corridors, hallways and passageways, as well as routes across foyers and other open spaces. Accessible interior routes are permitted to include ramps, curb ramps, stairs, elevators or other elevating devices (as permitted) where a difference in elevation exists. Access should be provided to all areas of all buildings, with the exception of those noted in Clause 4.1.3, Exempted Areas.

Technical Requirements

4.1.1 Clear Width

Every accessible interior route shall have an unobstructed width of at least 1100 mm (44 in) except as required in Clauses: 4.1.2 Minimum Clear Width Exceptions; and 4.1.4 Unobstructed Passing Area.

4.1.2 Minimum Clear Width Exceptions

The minimum clear width of an accessible interior route shall be 1100 mm (44 in) except in the following situations:

a) at doors, the minimum clear width shall comply with Clause 3.2.3, Clear Opening;
b) where additional manoeuvring space is required at doorways, the minimum clear width shall comply with Clause 3.2.4, Manoeuvring Area at Doors;
c) at landings for elevating devices, the minimum clear width shall comply with Clause 3.3, Elevating Devices;
d) at landings at the top and bottom of a ramp the minimum clear width shall comply with Clause 3.4, Ramps; and
e) at landings at the top and bottom of stairs the minimum clear width shall comply with Clause 3.5, Stairs.

4.1.3 Exempted Areas

An accessible interior route is not required for the following areas in a building:

a) elevator machinery rooms;
b) crawl spaces;
c) attics; and
d) within portions of a floor area with fixed seats in an assembly occupancy where these portions are not part of the accessible interior route to spaces designated for wheeled mobility device use.

Note: Individual accommodations may be required to make an area accessible.

4.1.4 Unobstructed Passing Area

Every accessible interior route less than 1620 mm (64 in) in width shall be provided with unobstructed spaces not less than 1830 mm (73 in) in width and 2200 mm (87 in) in length, located not more than 30 m (98.5 ft.) apart, to allow for passing by one or more persons using a mobility device, service animal or personal attendant. If the corridor is less than 30 m, a passing area is not required.

Note: A passing area and rest area may be combined.

4.1.5 Areas Requiring an Accessible Interior Route

4.1.5.1 Occupied Floors

Except as identified in Clause 4.1.3, Exempted Areas, an accessible interior route shall be provided throughout the entrance storey and within all other normally occupied floor areas served by a passenger elevator, LU/LA elevators, or ramp.

4.1.5.2 All Routes

Except as identified in Clause 4.1.3, Exempted Areas, an accessible interior route shall be provided for all paths commonly used by the public and employees of a building.

4.1.6 Surfaces

Interior surfaces that are on an accessible interior route shall comply with Clause 3.6, Ground and Floor Surfaces.

4.1.7 Slope and Changes in Elevation

4.1.7.1 Cross Slope

The cross slope for an accessible interior route shall be no greater than 1:50 (2%).

4.1.7.2 Running Slope

The running slope for an accessible interior route shall be no greater than 1:20 (5%).

4.1.7.3 Changes in Elevation

A vertical change in elevation

a) less than 6 mm (0.25 in) may be vertical;
b) between 6 mm (0.25 in) and 13 mm (0.5 in) shall have a bevel with a maximum slope of 1:2 (50%); or
c) greater than 13 mm (0.5 in), shall meet the requirements of Clause 3.4.2.1, Running Slope.

4.1.8 Curb Protection

Where the edge(s) of an accessible interior route, path, or corridor is not level with the adjacent surface — except at stairs and at elevated platforms, such as performance areas or loading docks — the edge(s) of the accessible route shall comply as follows

a) where the change in level is less than 200 mm (8 in), the edge shall be marked with a high tonal contrast marking of at least 70%;
b) where the change in level is between 200 mm (8 in) and 600 mm (24 in) there shall be a tonal contrasting curb at least 75 mm (3 in) high; and
c) except at transportation facility platforms (e.g., subway platform)**,** where the change in level is greater than 600 mm (24 in) there shall be a guard that meets the requirements of Clause 3.4.8, Guards at Ramps.

4.1.9 Reduced Headroom

Where the headroom of an area on an accessible interior route is reduced to less than

2100 mm (83 in) in height, a guard or other barrier (e.g., large planter, bench, etc) complying with Clause 3.7.1, Protruding Objects, shall be provided.

4.1.10 Convex Mirrors

Convex mirrors shall be installed at hallway intersections along an accessible route where the line of sight is impeded.

5.0 Exterior Spaces

5.1 Accessible Exterior Route

Rationale

Accessible exterior routes shall provide a clear path of travel to facilities and address the range of capabilities of the individuals that might use them. Consideration shall be given to the expected number and type of users in determining the design parameters that will enable independent, safe, and efficient use of the exterior walk by individuals of all ages and abilities. Accessible exterior routes shall provide a path of travel that is free from safety hazards or barriers that impede users. In outdoor environments, the most common barriers to use of an exterior route are inadequate drainage from rain, or snow melt, the formation of ice or a soft or unstable ground surface.

Irregular surfaces, such as cobblestones or pea-gravel finished concrete, are difficult for both walking and pushing a wheeled mobility device. Uneven surfaces can also create unpleasant and damaging vibration for wheeled mobility device users. Sand and gravel surfaces are extremely difficult for wheeled mobility devices and walking aids.

Functional Description

This section addresses accessible exterior routes. Accessible exterior routes and walkways serving buildings are pedestrian circulation paths that provide access to facilities and elements outside a building, and include elements within a privately owned site, as well as public right-of-ways. Accessible exterior routes and walkways that service buildings include, but are not limited to,

a) sidewalks and footpaths;
b) routes across plazas and other open spaces, elements within public common-use areas on a privately owned site;
c) public right-of-ways;
d) ramps;
e) curb ramps;
f) stairs; and
g) elevators or other elevating devices (as permitted) where a difference in elevation exists.

Accessible exterior routes and walkways that service buildings do not include trails and pathways within parks and other natural environments, or privately owned homes.

Note: The requirements for trails are addressed in Clause 11.1, Paths and Trails.

Technical Requirements

5.1.1 Criteria for Exceptions

5.1.1.1 Conditions

Accessible exterior routes and walkways shall comply with this clause, except where compliance would

a) cause substantial harm to cultural, historic, religious, or significant natural features or characteristics;
b) substantially change the intended experience provided by the facility;
c) require construction methods or materials that are prohibited by federal, provincial, or local law, other than laws whose sole purpose is to prohibit use by persons with disabilities; or
d) be impractical due to physical terrain.

5.1.1.2 Variances

Should the criteria for exception occur as noted in Clause 5.1.1.1, Conditions, then the conditions on the exterior walk and walkways may vary to the extent indicated, but the variance should always be the minimum required over the shortest distance possible.

5.1.2 Clear Width

The minimum clear width for accessible exterior routes and walkways shall

a) be 1500 mm (60 in);
b) if one or more of the criteria for exception exists as noted in Clause 5.1.1, Criteria for Exceptions, the width of the exterior walk and walkways may be reduced to a minimum of 1200 mm (47 in), provided that passing spaces of at least 1830 mm (71 in) in width and 2200 mm (87 in) in length are provided at intervals not to exceed 50 m (164 ft); and
c) be reduced to 920 mm (36 in) at curb ramps.

Notes:
(1) The permitted reduction should be as small as possible, and it should continue for the shortest distance possible.
(2) The minimum clear width does not include objects (e.g., cars, etc) that could overhang into the accessible exterior route.

5.1.3 Running Slope

5.1.3.1 Limit

The running slope for accessible exterior routes and walkways shall

a) not exceed 1:20 (5%), unless one or more of the criteria for exception applies as noted in Clause 5.1.1, Criteria for Exceptions;

b) be the minimum permitted by the terrain; and
c) have a rate of change over a 2 m (6.5 ft) distance that does not exceed 1:10 (10%).

5.1.4 Cross Slope

The cross slope on accessible exterior routes and walkways shall;

a) be the minimum required to maintain proper drainage; and
b) not exceed,(unless one or more of the criteria for exception occur Clause 5.1.1, Criteria for Exceptions, are met)
    i. 1:20 (5%) for paved surfaces; or
    ii. 1:10 (10%) for unpaved surfaces

The cross slope plus the running slope shall not exceed 1:6.67 (15%).

Notes:
(1) It is important that the cross slope be the minimum to allow for adequate drainage. The greater the cross slope, the more likely it will affect the balance of an individual while walking.
(2) The cross slope of 1:50 (2%) as noted in Clause 9.10.4 for parking spaces and access aisles should be maintained. In high pedestrian traffic areas the cross slope should be maintained at 1:50 (2%) wherever possible.

5.1.5 Exterior Surface

The exterior surface shall be firm and stable.

5.1.6 Tonal and Tactile Contrast

A high visual tonal contrast of at least 70%, and/or changes in surface texture shall be used to

a) distinguish the edges of the accessible exterior routes; and
b) clearly distinguish the exterior walk from vehicular routes.

5.1.7 Changes in Level

A change in level greater than 20 mm (0.8 in) and up to 50 mm (2 in) shall be bevelled, with the bevel having a maximum slope of 1:2 (50%).

5.1.8 Gratings or Other Openings in the Surface

Gratings shall

a) comply with Clause 3.6.3, Gratings; and

b) be placed off the accessible route and may be located in an amenity strip on either side of an exterior walk and walking surface.

Note: Openings can include access openings, ventilation or drainage grates, utility covers, and gratings around trees.

5.1.9 Edge Protection

5.1.9.1 Details

Edge protection, where provided to protect a change in level for user safety, shall

a) be a minimum of 100 mm (4 in) above the walkway surface for grade differentials from 200 mm (8 in) to 600 mm (24 in);
b) have tonal contrast and/or texture of at least 70%, with the contrast located on the edge as protection and not on the surface of the walkway; and
c) be designed so as not to impede drainage of the surface.

Note: Edge protection can be provided in the form of a raised curb or landscaping. See Clause 3.1.10, Guards at Entrances.

5.1.9.2 Guards

For grade differentials greater than 600 mm (24 in), guards shall be provided in accordance with Clause 3.4.8, Guards at Ramps.

5.1.10 Ramps

Where the exterior walk or walkway has a slope of more than 1:20 (5%) and elevates the person above the surrounding terrain, the elevated section shall be considered a ramp and the ramp shall comply with Clause 3.4, Ramps.

5.1.11 Alternative Path of Travel

Where stairs are located on accessible exterior routes or walkways, the stairs shall not be the only means of access along the accessible exterior routes or walkways. An alternative accessible route shall be available that is immediately adjacent to the stairs and may include either a ramp or another accessible means of negotiating the elevation change.

5.2 Curb Ramps

Rationale

In the interest of moving people safely and efficiently off a roadway, the design of curb ramps is very important. The same issues related to the slopes of ramps apply equally

to slopes of curb ramps. A well-designed curb ramp can be spoiled by an uneven or gapped transition between the road surface and curb ramp. Flared sides on the curb ramp eliminate the hazard of pedestrians stepping off of an edge. While a smooth transition and minimal slope are ideal for someone in a wheeled mobility device, they are a potential hazard to an individual with low or no vision who may not notice the transition from sidewalk to street. Textured surfaces become an important safety feature for curb ramps.

Functional Description

This section addresses the accessibility of curb ramps — providing access between levels where a curb is present. A curb ramp is defined as the connecting route between the vehicular travel lanes including, but not limited, to pedestrian crossings, designated accessible parking space, passenger drop-off areas, and access aisles and the adjacent exterior walkway. A curb ramp is required when the elevation of the vehicular route is different from the elevation of the exterior walkway.

Technical Requirements

5.2.1 Surface

The surface of a curb ramp shall

a) be stable, and firm; and
b) have a detectable warning surface that complies with Clause 8.6, Tactile Walking Surface Indicators.

5.2.2 Running Slope

Curb ramps shall have

a) a running slope that is a maximum of 1:10 (10%);
b) a counter slope of gutters and road surfaces immediately adjacent to the bottom of the curb ramp that is not steeper than the ratio of 1:20 (5%). The curb ramp shall not create a sudden transition that would impede the transition of the pedestrian from the vehicular route to the curb ramp; and
c) the difference between the curb ramp and all surrounding surfaces of not more than 10% (x% cross slope on curb ramp, y% cross slope on adjacent surfaces, where x+y =10 or less).

5.2.3 Cross Slope

The cross slope on curb ramps shall

a) be the minimum required for drainage;
b) not exceed the ratio of 1:50 (2%) on paved surface or 5% on unpaved surfaces;

and

c) not have a difference between the curb ramp and all surrounding surfaces of more than 10% (x% cross slope on curb ramp, y% cross slope on adjacent surfaces, where x+y =10 or less).

5.2.4 Curb Ramp Sides

5.2.4.1 Return Curb

Wherever possible a return curb shall

a) be used over the full length of the curb ramp; and
b) have high tonal contrast and/or texture of at least 70% at the outside of the return curbs to clearly designate them as not intended for pedestrian travel.

Note: The return curb design provides a hard, detectable edge on both sides of the curb ramp that prevents people from unintentionally moving off of the curb ramp surface and provides directional guidance to people with low or no vision.

5.2.4.2 Flared Sides

Flared sides shall not be permitted for new construction or extensive alteration unless existing infrastructure prevents the installation of perpendicular or parallel curb ramp design. The flared sides shall

a) not be steeper than 1:8.33 (12%); and
b) be clearly demarcated and grooved.

Committee Comment

Curb ramps present a tripping hazard for ambulatory people and a tipping hazard for people using mobility devices. Further research is needed to address the safety issues associated with all curb ramp designs (including specifications for grooves).

The intent of this clause is to limit the use of curb ramps with flared sides. There may be situations where a curb ramp with flared sides is the only option, so flexibility is needed.

5.2.5 Walkway Clear Width at Top of Curb Ramp

A minimum clear width of at least 920 mm (36 in) shall be provided on exterior walkways at the top of a curb ramp, to serve as a transition area where pedestrian traffic would bypass the curb ramp.

5.2.6 Width

The width of a curb ramp, exclusive of return curbs shall be at least 1500 mm (60 in).

5.2.7 Drainage

Curb ramp design shall provide for drainage to minimize water accumulation on the accessible route.

5.3 Pedestrian Crossing

Rationale

Certain situations may warrant the installation of a pedestrian crossing, such as a signalized intersection, a sudden change from rural conditions to those of an urban business district, an extremely wide roadway, a predominance of small children, seniors, or persons with disabilities. In all situations involving pedestrian/vehicular conflict, pedestrian safety is paramount.

Functional Description

This section addresses the accessibility of pedestrian crossings, across vehicular roadways / driveways at the points where individuals will normally be expected to cross, including through or across intermediate islands within the road system.

Technical Requirements

5.3.1 Accessible Route

Pedestrian crossings shall provide a continuous, clear, and linear accessible route across the vehicular route. Wherever possible, the path of travel shall be perpendicular to the vehicular route.

5.3.2 Curb Ramps

Curb ramps at pedestrian crossings shall be parallel to the direction of travel and shall comply with Clause 5.2, Curb Ramps.

5.3.3 Edge Markings

Edge markings shall be provided at both sides of pedestrian crossings that

a) are at least 200 mm (8 in) wide;
b) are marked with permanent high-contrast yellow; and
c) have a surface texture (e.g., cobblestone, textured concrete, etc.) to distinguish them from the main pedestrian crossing path of travel and vehicular route/roadway.

5.3.4 Traffic Islands

Where traffic islands are provided within a pedestrian crossing, they shall

a) have a level area for pedestrians to wait to cross that is a minimum of 1600 mm (63 in) by 1600 mm (63 in);
b) be cut through level with the street or have curb ramps at both sides that comply with Clause 5.2, Curb Ramps; and
c) have tactile walking surface indicators at both ends of the island crossing that comply with Clause 8.6, Tactile Walking Surface Indicators.

5.4 Pedestrian Crossing Signals

Rationale

Pedestrian crossing controls and standards are necessary for public safety to

a) increase awareness that an intersection is equipped with audible pedestrian signals (APS);
b) indicate where the push button is located;
c) provide additional information;
d) assist with orientation/direction; and
e) enable independent operation of controls.

Functional Description

This section addresses the accessibility of pedestrian crossing signals at pedestrian crossings across vehicular roadways, including, but not limited to, designated crosswalks and signalized intersections.

Technical Requirements

5.4.1 Requirements

Audible pedestrian crossing signals shall be installed in high density areas, or where deemed necessary and shall comply with the requirements of the Transportation Association of Canada “Guidelines for Understanding, Use and Implementation of Accessible Pedestrian Signals” — August 2008.

5.5 Street Furniture

Rationale

Street furniture can provide a resting place for any individual with difficulty walking distances. Such furniture should incorporate strong tonal contrasts and be located off pathways, to minimize its potential as an obstruction to pedestrians.

Functional Description

This section addresses street furniture, which includes, but is not limited to,

a) benches;
b) bollards;
c) lighting elements;
d) planters;
e) permanent signage; and
f) temporary signage.

Street furniture also includes amenities that provide a specific service and/or function to the public and complement outdoor spaces, rights-of-way, and accessible route. Examples of these elements include, but are not limited to,

a) bicycle racks;
b) drinking fountains;
c) information kiosks;
d) mailboxes;
e) newspaper boxes;
f) parking meters;
g) recycling stations;
h) telephones;
i) vending machines; and
j) waste receptacles.

Technical Requirements

5.5.1 General

5.5.1.1 Accessible Route

Street furniture and amenities and the placement of street furniture and amenities relative to accessible routes shall

a) comply with Clause 5.1, Accessible Exterior Route;
b) not be placed within the accessible exterior route itself; and
c) not require the movement or temporary removal of an element to provide access to and use of street furniture.

5.5.1.2 Tonal Contrast

The ground surface where the street furniture and amenities are located shall have a tonal contrast of at least 70% from the accessible route and a texture difference.

5.5.1.3 Operating Mechanisms

The operating mechanisms on amenities, where supplied, shall comply with Clause 8.3, End User Controls and Operating Mechanisms, and shall be designed so that they do not interfere with features intended to prevent the inappropriate use of the amenities (e.g., by animals or children).

5.5.2 Amenities — Seating and Benches

Seating and benches shall

a) have a seating / bench surface located at a height of 430 mm (17 in) to 500 mm (20 in) above the surrounding grade;
b) be 380 mm (15 in) to 510 mm (20 in) deep;
c) provide back rests for 50% of the seating positions; and
d) provide a minimum of one arm rest opposite of the wheeled mobility device parking space.

6.0 Communication Elements and Facilities

6.1 Signage

Rationale

Signage must be simple and uncluttered, and incorporate plain language. The use of graphic symbols is helpful for individuals, such as children, those with limited literacy or cognitive abilities, or those who speak a different language.

Sharp contrasts in colour make signage easier for everyone to read, particularly someone with low or no vision. The intent of the symbol must be evident, culturally universal, and intuitive. To enhance readability, raised tactile lettering should incorporate edges that are slightly smoothed.

Street signage and numbering systems must be legible and incorporate audible signage; it can be used by people with little or no vision.

Functional Description

This section addresses the accessibility of signage systems for both permanent and temporary signs, and both interior and exterior signs. Signage includes, but is not limited to the following: wall mounted signage; signage on support posts; and suspended signage.

Technical Requirements

6.1.1 General Signage Features / Characteristics

6.1.1.1 Font for Print Signs

Print letters and numerals on signage shall

a) be a san serif font;
b) be a mixture of upper and lower case;
c) have a stroke-width-to height ratio between 1:5 and 1:10 that is based on an uppercase "O";
d) have a character height in accordance with Table 6.1.1.1 that is based on an uppercase "O";
e) have a tonal contrast of at least 70% with their background; and
f) be finished with a matte or glare-free surface.

6.1.1.2 Font for Electronic Signs

Electronic letters and numerals shall

a) approximate san serif or Arabic fonts;
b) have a character height in accordance with Table 6.1.1.1;
c) be displayed for a duration that is a function of the number of words needed to convey the information accurately, but shall not be less than 10 seconds;
d) not be red on a black background; and
e) where provided, light emitting diodes (LED) signs shall be white, yellow, green, or light blue on a black background to achieve the best contrast.

Note: Red LEDs on a black background are unreadable for most people with vision loss, particularly those who are colour-blind.

Table 6.1.1.1
Font Height and Viewing Distance

Minimum Character Height (mm)	Functional Viewing Distance (mm)
200 (8 in)	6000 (236 in)
150 (6 in)	4600 (181 in)
100 (4 in)	2500 (98 in)
75 (3 in)	2300 (91 in)
50 (2 in)	1500 (59 in)
25 (1 in)	750 (30 in)

Note: The functional viewing distance is the closest distance one can reasonably approach on an accessible path of travel.

6.1.2 Tactile Characteristics

Tactile characters shall

a) be raised at least 0.8 mm (0.03 in) above the surface;
b) be between 16 mm (0.63 in) and 50 mm (2 in) high;
c) be san serif font;
d) be smooth at its edges;
e) be accompanied by Grade 1 Braille; and
f) have a tonal contrast of at least 70% with the signage background.

6.1.3 Pictograms

Pictograms shall

a) have a minimum height and width of 150 mm (6 in);
b) where possible, be consistent with national and international standards; and
c) have a tonal contrast of at least 70% with the signage background.

6.1.4 Types of Signage

6.1.4.1 General

All signage shall use lettering and numerals that comply with Clause 6.1.1, General Signage Features / Characteristics and be located to avoid shadow areas and to minimize glare.

6.1.4.2 Orientation and Information Signs

6.1.4.2.1 Essential Areas

Signage for entrances, means of egress, ramps, washrooms, elevators, telephones or parking areas on an accessible route shall

a) have tactile lettering in accordance with Clause 6.1.2, Tactile Characteristics if it is not an overhead sign;
b) include the International Symbol of Access; and
c) be illuminated to a level of 200 lux.

6.1.4.2.2 Rooms and Spaces

Signage to identify rooms or spaces shall

a) have tactile lettering in accordance with Clause 6.1.2, Tactile Characteristics, where the top letter line does not exceed 1525 mm (60 in) from the floor;
b) be located on the wall adjacent to the latch side of the door, in case of double doors, be located on both sides adjacent to the door hinges and clear of the door swing;
c) be located at a height with the horizontal centerline 1200 mm (47 in) to 1500 mm (59 in) above the floor or ground surface;
d) have a clear wall area around the sign of at least 75 mm wide;
e) where possible, have the leading vertical edge 140 mm (5.5 in) to 160 mm (6.3 in) from the edge of the door frame, or where there is no wall space adjacent to the latch side of the door, including multiple-leaf doors, be located on the nearest adjacent wall; and
f) be illuminated to a level of 200 lux.

6.1.4.2.3 Street Signage

Signage shall

a) be reflective; and
b) comply with Clause 8.5, Exterior Pedestrian Lighting.

6.1.4.3 Regulatory and Warning Signs

All regulatory and warning signs shall be tactile and in accordance with Clause 6.1.2, Tactile Characteristics.

6.2 Information / Visual Display Systems

Rationale

Information should be accessible to all facility users. Where universally accessible formats are not possible, alternate formats should be available. Video display terminals may present difficulties for persons with low or no vision. Alternate technology or audio interfaces can be beneficial.

To ensure that a person using a wheelchair or scooter can access an information terminal, consideration should be given to the lower vantage point and reach ranges of all information systems provided.

Functional Description

This section addresses the placement of information display systems to make them accessible. Information display systems include, but are not limited to, information kiosks, electronic directories, and electronic signs.

Technical Requirements

6.2.1 Direct Access

Where the information display system requires direct access by the public and the user, the display shall be placed adjacent to an accessible interior route within a building or accessible exterior route outside a building.

6.2.2 Placement

The information display system shall

a) be placed
    i. no higher than 1200 mm (47 in) and no lower than 900 mm (36 in) from the floor, without an obstruction, where a person from a seated position may be required to view or interact with the display; or
    ii. no higher than 1100 mm (43 in) and no lower than 400 mm (16 in) from the floor, where there is an obstruction be between 500 mm (20 in) and 625 mm (25 in) in depth.
b) have a clear floor area at least 1370 mm (54 in) wide and 1370 mm (54 in) long that allows for either a forward or a side approach by a person using a mobility device;
c) be on a level ground surface and comply with Clause 3.6, Ground and Floor Surfaces;
d) have controls and operating mechanisms (e.g., push buttons) that comply with Clause 8.3, End User Controls and Operating Mechanisms;

e) have a minimum font size available suitable for a variety of vision needs and comply with Clause 6.1, Signage;
f) have a tonal contrast of at least 70% with its surroundings to distinguish the information display system from the surrounding environment; and
g) be placed in a consistent location throughout a building.

6.2.3 Systems

Information and visual display systems shall comply with **CAN/CSA B651.2-07, Accessible design for self-service interactive devices**.

Committee Comment

The Committee recommended referencing the CSA Standard B651.2 as this Standard provides more information regarding the accessibility of the information display systems.

6.3 Wayfinding

Rationale

Everyone uses cues from their environment to make their way around and find their destination in both the external and built environments. The cues include the design of the building itself, the use of signage, the placement of furnishings, lighting, the placement of security and information staff, the use of signage, the use of colour, texture and acoustics.

People with differing abilities may rely more on one certain cue. For instance, someone who is Deaf, deafened or hard of hearing will look for visual cues, such as directories, signage and the use of colour. Someone who is no/low vision may rely more on texture, strong colour contrasts, acoustics and the placement of furnishings.

The design of wayfinding cues is particularly important for emergency situations when people must evacuate a facility quickly and efficiently.

Functional Description

This section addresses wayfinding in the built environment. Wayfinding is a term that describes the spatial problem-solving process that a person uses to reach a destination. A mental "map" is formed of the overall environment and the desired destination. This map is based on information obtained from "orientation cues" that are available from the environment. These cues include not only signage, but also the overall spatial forms, structures, sounds, surface textures, colours, illumination levels, etc. Tactile maps

and/or recorded instruction can augment these orientation cues and enable people to find their way independently, even in complex settings. A well-designed setting can thus be spatially gratifying and simple enough for persons to navigate, if there are adequate, varied, and non-conflicting wayfinding cues available.

Technical Requirements

6.3.1 Design Principles

Any combination of the following design principles may be used to support wayfinding in the built environment:

a) Provide a logical layout that is easy to memorize for a person with no/low vision;
b) Use textural contrasts and tactile cues with the built environment to provide directional cues;
c) Define the space with acoustic characteristics;
d) Use colour and brightness contrasts to accentuate the structural and decorative design of the built environment;
e) Use tactile signs to provide information that can be read by touching;
f) Use audible signs to provide information that can be heard by everyone; or
g) Use lighting both inside and out to differentiate one area from another.

Note: The intent of wayfinding is to consider the use of design and maintenance of a built environment from the wayfinding perspective of people who have no/low vision.

6.3.2 Wayfinding Systems

The design of wayfinding systems shall include

a) identifying and marking spaces;
b) grouping spaces;
c) linking and organizing spaces; and
d) communicating this information to the user.

6.3.3 General Requirements

A wayfinding system shall

a) be understandable to people of differing abilities;
b) be on the accessible route;
c) be provided in external areas that include, but are not limited to,
    i. parking areas;
    ii. building sites with more than one building;
    iii. passenger loading zones;
    iv. accessible entrances;
    v. public streets;
    vi. accessible exterior routes; and

vii. open plazas.

d) be provided in internal areas that take a person to or from areas that include, but are not limited to,
    i. entrances;
    ii. elevators;
    iii. exits;
    iv. accessible washrooms;
    v. information kiosks;
    vi. public telephones; and
    vii. large enclosed areas (e.g., convention centres or large shopping centres).
e) have signage complying with Clause 6.1, Signage, that identifies areas that include, but are not limited to,
    i. directions including street orientation; and
    ii. items listed in (c) and (d);
f) use colour and textured wall and floor surfaces to distinguish hallways and pathways;
g) have a tonal contrast of at least 70% with their surroundings;
h) where applicable, use pictograms and universal symbols;
i) where possible, provide audio to differentiate hallways and pathways;
j) be modified to account for changes made to the internal or external environment; and
k) be of consistent design and location throughout a specific facility.

6.4 Public Address Systems

Rationale

Public address systems should be designed to accommodate all users, especially those that may be hard of hearing. They should be easy to hear above the ambient background noise of the environment and there should be no distortion or feedback. Background noise should be minimized through acoustic management.

Visual equivalents should be made available for individuals with who are Deaf, deafened or hard of hearing who may not hear an audible public address system.

Functional Description

This section addresses public address systems. Included are public address systems inside a building; and public address systems in the exterior environment.

Technical Requirements

6.4.1 Speakers

Public address speakers that are surface mounted shall be mounted no lower than 2100 mm (83 in) from the floor, and provide effective sound coverage in required areas, such as:

a) corridors, assembly and meeting room areas;
b) recreational and entertainment facilities; and
c) educational facilities.

6.4.2 Zoning

Public address systems shall be zoned so that information can be directed to key locations only, minimizing background noise in other areas.

6.4.3 Background Music

Where public address systems are used to broadcast background music, the music shall not be broadcast continuously or throughout the entire facility and shall meet the requirements in Clause 8.2, Acoustics.

6.4.4 Configuration

Public address systems shall be configured to be:

a) audible;
b) comprehensible; and
c) compatible with assistive listening devices.

6.4.5 Electronic Signage

Where possible, electronic signs shall provide visual information that will supplement auditory announcements.

6.4.6 Intercom Systems

Where provided, intercoms shall comply with the Accessible Information and Communications Standard.

6.5 Public Telephones

6.5.1 Access to Public Telephones

Telephones and other communication devices shall

a) have a clear floor space in front of the telephone or communication device at least 810 mm (32 in) wide and 1370 mm (54 in) deep, with the telephone or communication devices centred on the long dimension for a side approach or centred on the short dimension for a forward approach;
b) if configured for a forward approach, have a clear knee space below the telephone at least 740 mm (29 in) high, 500 mm (20 in) deep and 810 mm (32 in) wide;
c) have operable portions that are restricted to a maximum height, including a coin slot that is no more than 1170 mm (46 in) above the floor;
d) have a flat shelf at least 500 mm (20 in) wide and 350 mm deep (14 in), at a height of 775 mm (31 in) to 875 mm (34 in) above the floor, and 250 mm (10 in) clear space above the shelf;
e) have a minimum illumination level of 100 lx measured at the operating mechanisms, the directory, and shelf; and
f) have an identification sign featuring the International Symbol of Accessibility.

Committee Comment

The provision and configuration of telephone equipment itself is beyond the scope of the Standard.

The intent of this clause is to provide the appropriate clearance for a person in a seated position to access a ‘communication’ device, and provide a shelf next to or under the device to use it. The user does not necessarily have to get under the device, but they must be able to use the device.

The provision of public pay telephone service in Canada is subject to comprehensive sector specific regulation as a telecommunications service under the federal Telecommunications Act (the Act). The Canadian Radio-Television and Telecommunications Commission (CRTC), as part of its statutory authority under the Act, has issued accessibility rules governing how public pay telephones are provided across Canada.

Barrier removal for persons with disabilities is addressed through a CRTC ruling process. If new standards addressing accessibility issues for all public pay telephone customers are demonstrably required, they would apply equally to all public pay telephone providers across Canada.

7.0 Plumbing Elements and Facilities

7.1 Lavatories

Rationale

The accessibility of lavatories is greatly influenced by their operating mechanisms. While automatic faucets can initially confuse some individuals, their ease of use is notable. Individuals with hand strength or dexterity difficulties can use lever-style handles. For an individual in a wheelchair, a lower counter height and clearance for knees under the counter is required.

Functional Description

This section addresses the accessibility requirements of lavatories (washbasins/ sinks) within accessible washrooms and universal toilet rooms. There should be at least one accessible lavatory per grouping in each washroom and an accessible lavatory in all universal washrooms toilet rooms.

Technical Requirements

7.1.1 General

An accessible lavatory shall

a) be located so that the distance between the centreline of the lavatory is not less than 460 mm (18 in) from the wall;
b) be mounted so that the top of the lavatory or, where the lavatory is in a vanity, the top of the vanity is between 820 mm (32 in) and 840 mm (33 in) above the finished floor;
c) have a knee clearance beneath the lavatory not less than
    i. 920 mm (36 in) wide;
    ii. 700mm (28 in) high at the front edge;
    iii. 685 mm (27 in) high at a point 205 mm (8 in) back from the front edge;
    iv. 230 mm (9 in) high over the distance from a point 280 mm (11 in) to a point 430 mm (17 in) back from the front edge; and
    v. have a toe clearance not less than 350 mm (12 in) high from a point 300 mm (14 in) back from the front edge to the wall;
d) have pipes that are either located or protected so as to not present a burn hazard, or have a water supply temperature limited to a maximum of 43°C;
e) be equipped with faucets that
    i. are operable with a closed fist or be automatically operable;
    ii. have the hot water on the left;
    iii. 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 500 mm (20 in) deep;

f) have a minimum clear floor space 1370 mm (54 in) deep to allow for a forward approach, of which a maximum of 500 mm (20 in) shall be under the lavatory; **Note**: The 760 mm (30 in) clear floor space may overlap with the turning radius of 1800 mm (72 in);
g) have a clear floor space of 1800 mm (72 in) wide to allow for a side approach for a scooter; and
h) have soap dispensers and other accessories that comply with Clause 7.3, Washroom Accessories.

7.1.2 Shelves or Other Projections

Shelves or other projections above lavatories shall

a) be located no higher than 1100 mm (43 in) above the floor;
b) project no more than 100 mm (4 in) from the wall;
c) be placed so they will not present a hazard to persons with low or no vision and can be reached from a seated position; and
d) be placed no higher than 200 mm (8 in) above the top of the lavatory.

7.2 Washrooms

Rationale

As an integral feature of a building, washroom facilities should accommodate individuals with a range of abilities. Although many persons with disabilities use toilet facilities independently, some can require assistance.

Where the individual providing assistance is of the opposite gender, a separate unisex washroom is preferred. Parents and caregivers with small children and strollers also benefit from a large, individual washroom with toilet and change facilities contained within the same space (See Clause 7.7, Universal Toilet Rooms).

Circumstances, such as wet surfaces and the need to transfer between toilet and a wheeled mobility device, can make toilet facilities accident-prone areas. If an individual falls in a washroom, a door that swings inward could prevent his or her rescuers from opening the door. Due to the risk of accidents, design decisions, such as door swings and material finishes, have safety implications. Toilet facilities are a prime location for emergency call switches. The appropriate design of all features will increase the usability and safety of all toilet facilities.

The identification of washrooms involves design issues. For children or those who cannot read text, a symbol or pictogram is preferred. A person with a reduced or no vision also benefits from accessible signage. Features, such as colour-contrasting door

frames and door hardware, will also increase accessibility.

Functional Description

This section addresses the requirements for the provision of accessible common-use washrooms. Common-use washrooms are facilities that contain multiple fixtures - the washroom can be used by more than one person at a time.

Note: Requirements for Water Closets, Water Closet Stalls, Lavatories, Urinals and Washroom Accessories are presented in separate Clauses within this Standard.

Technical Requirements

7.2.1 Access to Washrooms

Where accessible washrooms are provided they shall be on an accessible route.

7.2.2 Dimensions and Placement

7.2.2.1 Dimensions

Accessible washrooms shall

a) be identified with wayfinding signage complying with Clause 6.1, Signage, and Clause 6.3, Wayfinding;
b) have a minimum clear floor space of 1800 mm (72 in) diameter, of which a maximum of 500 mm (20 in) may be under the lavatory, to allow a person using a mobility device to make a 180° turn;
c) have evenly distributed illumination throughout the washroom of at least 200 lx measured at floor level;
d) have a minimum clearance of 1400 mm (55 in) between the outside face of the accessible stall and any wall-mounted fixture or obstruction; and
e) have floors that drain to the wall opposite the door at a maximum slope of 1:50 (2%), are slip resistant, and shall comply with Clause 3.6, Ground and Floor Surfaces.

7.2.2.2 Lavatories

Accessible washrooms shall include lavatories that meet the requirements of Clause 7.1, Lavatories.

7.2.2.3 Accessories

Where washroom accessories are provided they shall meet the requirements of Clause 7.3, Washroom Accessories.

7.2.2.4 Water Closets

Water closets shall meet the requirements of Clause 7.4, Water Closets, and where water closet stalls are provided they shall meet the requirements of Clause 7.5, Water Closet Stalls.

7.2.3 Doors to Washrooms

All doors, where provided to accessible washrooms shall

a) not swing into the space required for operating the door;
b) have a minimum 1700 mm (67 in) clearance between the inside face of an in-swinging entrance door and the outside face of an adjacent toilet stall; and
c) be equipped with a power assisted door operator complying with Clause 3.2.9, Power Door Operator.

Note: The power assist device would be provided for combination washrooms.

7.2.4 Minimum Number

The minimum number of accessible washrooms shall be determined using Table 7.2.4.

Table 7.2.4
Designated Accessible Toilet Stalls

Number of water closets (toilets) per washroom per floor	**Minimum number of accessible toilet stalls per washroom.**	**Universal Toilet Room required**	
		Where floor area is greater than 600 m^2 (6400 ft^2)	Where floor area is less than 600 m^2 (6400 ft^2)
1-3	1 (can be the universal toilet room)	1	1) Where washrooms are provided, a minimum of one universal toilet room per building. 2) For multi-storey buildings, at least one (1) universal toilet room every three (3) floors.
4-9	1	1	
10-16	2	1	
17-20	3	1	
21-30	4	1	
Over 30	1 additional accessible toilet stall for each unit of 10	2 plus 1 additional universal toilet room for each additional 30 water closets	

Note: The number of water closet stalls will be determined by the occupancy loads in Ontario's Building Code.

7.3 Washroom Accessories

Rationale

Design issues related to washroom accessories include hand strength, dexterity, and cognitive ability required to operate mechanisms, as well as operability with a closed fist. Reaching the accessories is another concern. Accessories that require the use of two hands to operate can present difficulties for a range of persons with disabilities whose balance or ability to reach is limited.

Functional Description

This section addresses the accessibility requirements of washroom accessories within accessible washrooms. Accessories include, but are not limited to, paper towel dispensers/disposal receptacles, hand dryers, paper towels, soap dispensers, and vending machines.

Technical Requirements

7.3.1 Detailed Requirements

At least one type of each washroom accessory shall

a) be located so that where there is an obstruction between 500 mm (20 in) and 625 mm (25 in) in depth, the dispensing height is not more than 1100 mm (43 in) above the floor (e.g., paper towel dispenser or hand dryer);
Note: Dispensing height can be modified depending on accessory (e.g., toilet paper dispenser versus paper-towel dispenser).
b) have operable portions and controls mounted between 400 mm (16 in) and 1200 mm (47 in) above the floor;
c) where they apply to a lavatory, be located within arms reach of the accessible lavatory and no more than 610 mm (24 in) from the edge of the lavatory;
d) be self operated or operable with a closed fist;
e) have a tonal contrast of at least 70%;
f) have a clear floor area of 1370 mm (54 in) by 1370 mm (54 in) in front of controls and operating mechanisms for receptacles and dispensers to allow for a front or side approach;
g) where they apply to a water closet, be located in close proximity to the accessible water closet; and
h) any additional accessories that are added to a lavatory shall take into consideration the requirements of this section.

Note: Washroom accessories should be placed so that a person can reach them from a seated position and a person who has low or no vision will not bump into them.

7.3.2 Floor Clearance

Accessories located less than 875 mm (34 in) from the floor shall not encroach into the required clear floor space.

7.3.3 Protrusions

Accessories shall be cane detectable and comply with the requirements of Clause 3.7, Overhanging and Protruding Objects.

Committee Comment

This intent of this requirement is so that a person with no or low vision does not bump into any of the accessories.

7.3.4 Mirrors

Where mirrors are provided, at least one shall be

a) mounted with its bottom edge not more than 1000 mm (39 in) from the floor; or
b) inclined from vertical to be usable from a seated position.

Committee Comment

This is provided so that a person in a seated position can see themselves in the mirror.

7.4 Water Closets

Rationale

Automatic flush controls are preferred. If flushing mechanisms are not automated, then consideration must be given to the ability to reach a switch and the hand strength or dexterity required to operate it. Lever style handles on the transfer side of the water closet facilitate these considerations. Appropriate location of the toilet paper dispenser will ensure it does not interfere with use of the grab bar.

Appropriate placement of grab bars makes sitting and standing or transfers between the water closet and a mobility device safer.

Functional Description

This section addresses the accessibility requirements of water closets within accessible washroom stalls and universal toilet rooms.

Technical Requirements

7.4.1 Configuration

Water closets for persons with physical disabilities shall

a) be equipped with a seat located not less than 430 mm (17 in) and not more than 460 mm (18 in) above the floor;
b) be equipped with a back support where there is no seat lid or tank;
c) not have a spring-activated seat;
d) have water closet seats designed to avoid pinching the user; and
e) have internal extension guards that will not allow the seat to slide should the back attachment become loose.

7.4.2 Flush Controls

Water closets for persons with physical disabilities shall

a) be equipped with a hands-free automatic flushing device, that can also be hand-operated in compliance with Clause 8.3, End User Controls and Operating Mechanisms; or
b) be hand-operated by a lever that
    i. is located on the transfer side of the water closet;
    ii. is easily accessible to a mobility device user; and
    iii. complies with Clause 8.3, End User Controls and Operating Mechanisms.

Note: Flush controls should not interfere with back supports if provided.

7.4.3 Toilet Paper Dispenser

A water closet shall have a toilet paper dispenser that is

a) wall mounted;
b) located below the grab bar;
c) in line with or not more than 300 mm (12 in) in front of the toilet seat; and
d) not less than 600 mm (24 in) above the floor.

7.4.4 Water Closet Location

A water closet shall be located so that its centreline is not less than 390 mm (15.5 in) and not more than 410 mm (16.5 in) to the centerline of a

a) grab bar mounted to an adjacent side wall; or
b) a fold down grab bar.

7.5 Water Closet Stalls

Rationale

The manoeuvrability of mobility devices is a significant consideration in the design of an accessible stall. The increased size of the stall is required to ensure that there is sufficient space to facilitate proper placement of any mobility device to accommodate transfer onto the water closet fixture. Not only is space required for mobility equipment, there are also instances where an individual requires assistance and the stall will have to accommodate a second person or service animal.

Door swings are normally outward for safety reasons and space considerations, but this can make it difficult to close the door once inside. A handle mounted part way along the door makes it easier for individuals to close the door behind them. The proper location of the toilet paper dispenser should ensure it is reachable from the water closet but does not interfere with use of the grab bars. Universal features include accessible hardware and a minimum stall width to accommodate persons of large stature, parents with children, or persons using a service animal.

Functional Description

This section addresses water closet stalls within common-use washroom areas for use by people with disabilities. The dimensional requirements for water closet stalls other than those for use by people with disabilities are not covered by this clause.

Technical Requirements

7.5.1 Minimum Size

An accessible water closet stall shall have a clear floor space of at least 1500 mm (59 in) wide and 1500 mm (59 in) deep.

7.5.2 Clearance

Accessible water closet stalls shall have a clearance of at least 1700 mm (67 in) between the outside of the stall face and the face of an in-swinging washroom door.

7.5.3 Stall Doors and Door Controls

An accessible water closet stall shall be equipped with a door that

a) where the stall is approached from the front, aligns with the clear transfer space adjacent to the water closet;
b) provides, when in an open position, a clear opening of at least 900 mm (35 in) wide;
c) is capable of being locked from the inside by a device that is operable with a closed fist, does not require fine finger control, tight grasping, pinching, or twisting of the wrist and complies with Clause 8.3.4, Reach;
d) can be released from the outside in case of emergency;
e) swings outward, unless a 810 mm (32 in) wide by 1370 mm (54 in) long clear floor area is provided within the stall or enclosure to permit the door to be closed without interfering with the mobility device;
f) is equipped with spring-type or gravity hinges so that the door closes automatically; and
g) is equipped with a “D” type door pull at least 140 mm (5.5 in) long mounted horizontally on the outside of the door and inside of the door
    i. at a height of 800 mm (32 in) to 1000 mm (39 in) above the floor; and
    ii. aligned with a clear manoeuvring space adjacent to the water closet.

7.5.4 Grab Bars

Water closet stalls shall be equipped with two grab bars

a) the first one, L-shaped with 760 mm (30 in) long horizontal and vertical components mounted with the horizontal component 750 mm (30 in) to 900 mm (35 in) above the floor and the vertical component 150 mm (6 in) in front of the toilet bowl;
b) the second one, at least 600 mm (24 in) in length mounted horizontally on the wall behind the water closet from 840 mm (33 in) to 920 mm (36 in) above the floor and, where the water closet has a water tank, are mounted 150 mm (6 in) above the tank;
c) installed to resist a load of at least 1.3 kN applied vertically or horizontally;
d) not less than 30 mm (1.2 in) and not more than 40 mm (1.5 in) in diameter;
e) provided with a clearance of a minimum of 50 mm (2 in) from the wall; and
f) that have a slip resistant surface.

7.5.5 Coat Hooks

Two collapsible coat hooks shall be mounted not more than 1220 mm (48 in) from the floor on a side wall, and project not more than 50 mm (2 in) from the wall.

Note: Collapsible is defined in Clause 14.0, Glossary and Units.

7.5.6 Tonal Contrast

Water closet stall partitions, doors, water closet stall door pulls, lock control, coat hooks, and grab bars shall have a tonal contrast of at least 70% with their surrounding.

Committee Comment

The intent is to enable people with low vision to see the difference between the walls and floors in the water closet stall.

7.5.7 Fold Down Grab Bar

Where provided, a fold down grab on the transfer side of the toilet shall comply with Clause 7.7.5, Fold Down Grab Bar.

7.6 Urinals

Rationale

A clear floor space is required in front of urinals for a mobility device. The provision of grab bars can assist individuals in rising from a seated position and steadying themselves.

Floor-mounted urinals accommodate children and persons of short stature, as well as enable easier access to drain personal care devices. Flush controls should be lever-style or automatic (preferred); manual flushing shall be provided as well.

Strong visual contrasts between the urinal, the wall, and the floor will assist persons with low or no vision.

Functional Description

This section addresses the accessibility requirements of urinals in washrooms and universal toilet rooms (where applicable). Where more than one urinal is provided, at least one urinal shall meet the requirements of this clause.

Technical Requirements

7.6.1 Configuration

Accessible urinals shall

a) be wall-mounted with an elongated rim located no higher than 375 mm (15 in)

above the finished floor or floor-mounted with the rim at the finished floor level;
b) be at least 345 mm (14 in) deep, measured from the outer face of the urinal rim to the back of the fixture;
c) be of a depth that shall not restrict reach and access to a grab bar; and
d) be equipped with grab bars installed on each side that
    i. comply with Clause 7.5.4, Grab Bars, items c), d), e), and f);
    ii. are not less than 600 mm (24 in) long; and
    iii. are mounted vertically between 380 mm (15 in) to 450 mm (18 in) from the centreline of the urinal and with the lowest end located between 600 mm (24 in) and 650 mm (26 in) above the floor.

7.6.2 Minimum Number

Each male washroom and universal toilet room shall have at least one floor level urinal.

Each male washroom shall also have one accessible urinal.

7.6.3 Clear Floor Space

The clear floor space provided in front of each urinal shall
a) be 810 mm (32 in) wide by 1370 mm (54 in) long; and
b) adjoin but not overlap the accessible interior route.

7.6.4 Privacy Screen

Where privacy screens are provided they shall
a) be mounted a minimum of 460 mm (18 mm) to the centerline of the urinal;
b) incorporate a high visual tonal contrast of at least 70% to differentiate them from the surrounding environment; and
c) have a vertical outer edge that has a tonal contrast of at least 70%.

Note: The placement of the privacy screens depends on where the grab bars are installed, as there must be enough hand space between the grab bars and the screens.

7.6.5 Flush Controls

Where provided, flush controls shall
a) be automatic or operable with a closed fist;
b) be mounted no higher than 1220 mm (48 in) above the finished floor; and
c) comply with Clause 8.3, End User Controls and Operating Mechanisms.

7.7 Universal Toilet Rooms

Rationale

The provision of a separate universal toilet room is advantageous in a number of instances. For an individual using a mobility device, the extra space provided by a separate washroom is preferred to an accessible stall. Should an individual require an attendant of a different gender to assist them in the washroom the complication of a woman entering a men's washroom or vice versa is avoided. This same scenario would apply to a parent with a young child of a different gender.

In the event of an accident or fall by a single individual in this form of washroom, an emergency call switch and a means of unlocking the door from the outside are important safety features.

Incorporating universal toilet rooms into all public buildings will provide options for persons with disabilities and enhanced accessibility for everyone.

Functional Description

This section addresses the accessibility requirements of universal toilet rooms. Universal toilet rooms are washrooms containing a single water closet, a lavatory and other related amenities. Universal toilet rooms are often accessed by more than one person at a time — a person with an attendant to assist with hygiene routines.

Technical Requirements

7.7.1 Detailed Requirements

7.7.1.1 Location

The number of universal toilet rooms provided shall be in accordance with Table 7.2.4. Where the floor area of a building is greater than 600 m^2 (6400 ft^2), the maximum distance from any point to a universal toilet room shall not exceed 45 m.

Committee Comment

Committee members recognized that conventional washrooms present barriers to certain people with disabilities. The space limitations in a conventional washroom make it difficult to accommodate a wheeled mobility device and/or the task of changing an adult diaper. Attendants of a different gender to the person requiring assistance will also feel uncomfortable entering a male/female washroom to provide them support. Incorporating universal toilet rooms into all public buildings will provide options for persons with disabilities and enhanced accessibility for everyone.

Committee members supported increasing the number of universal toilet rooms from the current 'one per building' requirement for buildings of all sizes. They have based their recommendation for the minimum number of universal toilet rooms (Table 7.2.4) on floor area. The intent is to take into account the capacity of building owners and operators to afford, implement and maintain these facilities.

In recognition of the resulting loss of productive/usable floor space, the floor area within accessible water closet stalls has been reduced to offset the increase in the number of universal toilet rooms.

7.7.1.2 Details

A universal toilet room shall

a) be served by an accessible interior route;
b) have a door capable of being locked from the inside and released from the outside in case of emergency and that;
    i. has a graspable latch-operating automatic locking mechanism or power lock located on both sides of the door not less than 900 mm (35 in) and not more than 1000 mm (39 in) above the floor and operable with a closed fist;
    ii. if it is an outward swinging door, have a door closer, spring hinges, or gravity hinges, so that the door closes automatically; and
    iii. has a power door operator and meets the requirements of 3.2.9, Power Door Operator to open and close the door;
c) have one lavatory complying with Clause 7.1, Lavatories;
d) have one water closet conforming to the requirements of Clause 7.4, Water Closets;
e) have grab bars conforming to the requirements of Clause 7.5.4, Grab Bars;
f) provide a clear manoeuvring space of at least 2500 mm (98 in) by 2500 mm (98 in) to allow a scooter to enter, conduct a 3-point turn and to exit;
g) have a coat hook that meets the requirements of Clause 7.5.5, Coat Hooks;
h) be identified with signage in compliance with Clause 6.1, Signage;
i) be equipped with a mirror and washroom accessories complying with Clause 7.3, Washroom Accessories;
j) have a stable, slip resistant floor in compliance with Clause 3.6, Ground and

Floor Surfaces;

k) have a clear transfer space beside the toilet to facilitate transfer to and from a mobility device which shall be at least 900 mm (35 in) wide by 1500 mm (59 in) long with the width measured from the edge of the water closet bowl; and
l) have one floor level urinal complying with Clause 7.6.1, Urinals.

Note: Where there may be a large number of people in the building, accessible water closet stalls can also be provided within the same facility along with the Universal Toilet Room.

7.7.2 Adult Change Table

Universal toilet rooms shall have an adult change table that

a) is at least 810 mm (32 in) wide by 1830 mm (72 in) long;
b) has a change surface height between 450 mm (18 in) and 500 mm (20 in);
c) has an adjacent clear floor space not less than 760 mm (30 in) wide by 1500 mm (59 in) long;
d) is designed to carry a minimum load of 1.33 kN (299 lb); and
e) if of the fold-down type, has no operable portions higher than 1220 mm (48 in) from the floor.

7.7.3 Controls

All controls and operating mechanisms in a universal toilet room shall

a) have a visual tonal contrast of at least 70%;
b) have their operable portions (e.g., electrical receptacles, thermostats, and intercom switches) located
    i. a maximum of 1200 mm (47 in) above the floor, where there is no obstruction with a depth greater than 500 mm (20 in), to be reachable from a seated position; or
    ii. at a maximum of 1100 mm (43 in) above the floor where there is an obstruction depth between 500 mm (20 in) and 625 mm (25 in); and
c) meet the requirements of Clause 8.3, End User Controls and Operating Mechanisms.

7.7.4 Lighting

Universal toilet rooms shall

a) be automatically lit when occupied (e.g., by use of motion sensors); and
b) comply with Clause 8.4.3, Washrooms.

Note: Providing lighting automatically (e.g., where it is turned on by the use of a motion sensor) will make it easier for the user of the facility who might have difficulty finding a light switch or being able to use it.

7.7.5 Fold Down Grab Bar

Where possible, universal toilet rooms should be equipped with a fold-down grab bar that

a) is at least 760 mm (30 in) in length;
b) is located on the transfer side of the toilet;
c) is mounted to the same height as the ends of the permanent horizontal bar so the bars are level;
d) extends at least 150 mm (5.9 in) beyond the front face of the seat and does not impede the transfer space; and
e) does not require more than 22.2 N (5 lb) of force to pull it down.

7.7.6 Emergency Call System

Where universal toilet rooms are provided in buildings that have a monitored security system, the universal toilet rooms shall

a) have an emergency call system linked to a central monitoring location (e.g., office or switchboard); and
b) have a visual and audible signal to indicate that help is on the way.

Where the room is not monitored by a security system, the universal toilet room shall be equipped with a visual and audible signal both inside and outside of the room to indicate that help has been requested.

7.7.7 Visual and Audible Fire Alarm

Universal toilet rooms shall be equipped with a visual and audible fire alarm that complies with Clause 8.4.12.2, Stroboscopic Lighting.

7.8 Shower Areas

Rationale

Showers can present a slipping hazard. Slip-resistant surfaces are an important feature and will benefit any individual, including those with disabilities. Grab bars also provide stability. Operating controls are subject to limitations in hand strength, dexterity, and reach.

Roll-in shower stalls eliminate the hazard of stepping over a threshold and are essential for persons with disabilities who use mobility devices in the shower. Grab bars and slip resistant materials are safety measures that will benefit any individual. Additional equipment, such as a hand-held showerhead or a folding bench, can be an asset to someone with a disability but also convenient for others. Equipment that contrasts in

colour from the shower stall itself will assist individuals with no or low vision. Adopting a universal design approach for the provision of roll-in shower stalls will provide options for persons with disabilities and enhanced accessibility for everyone.

Functional Description

This section addresses the accessibility requirements of shower areas where provided in public buildings including, but not limited to, recreational facilities, office facilities, and schools.

Technical Requirements

7.8.1 General

Where showers are provided, at least one shower shall be accessible. Where more than one shower is provided in a room, one in every seven showers shall be accessible.

7.8.2 Configuration

Showers shall

a) be not less than 1500 mm (59 in) wide and 900 mm (35 in) deep;
b) have a clear floor space at the entrance to the shower not less than 900 mm (35 in) deep and the same width as the shower; and
c) where enclosure screens are provided they shall not obstruct the transfer from a mobility device to the shower seat or access to the controls.

7.8.3 Shower Floor

Floors of showers shall have

a) a slip-resistant, non-glare surface; and
b) entry thresholds that are
    i. level; or
    ii. bevelled at a maximum slope of 1:2 (50%) and not more than 13 mm (0.5 in) high.

7.8.4 Shower Seat

7.8.4.1

Shower stalls shall be equipped with a hinged seat that is not spring loaded, fixed seat, or portable seat.

7.8.4.2

Shower stalls equipped with a hinged seat that is not spring-loaded or a fixed seat shall be

a) not less than 450 mm (18 in) wide and 400 mm (16 in) deep;
b) mounted between 430 mm (17 in) and 460 mm (18 in) above the floor;
c) designed to carry a minimum load of at least 1.3 kN (299 lb);
d) placed within 500 mm (20 in) of the shower controls; and
e) mounted with a transfer space next to the seat of at least 900 mm (35 in) wide by 1500 mm (59 in) long.

7.8.5 Grab Bars

Shower stalls shall have grab bars as follows:

a) a horizontal grab bar on all walls of the shower that
    i. complies with Clause 7.5.4, Grab Bars items c), d), e), and f);
    ii. is not less than 900 mm (35 in) long;
    iii. is mounted 850 mm (33 in) above the floor;
    iv. Is located on the wall opposite the entrance to the shower so that not less than 300 mm (12 in) of its length is at one side of the seat; and
b) an L-Shape grab bar located on the wall under the shower head and above the controls, with the horizontal portion of the grab bar no higher than 850 mm (33 in) above the floor and complies with Clause 7.5.4, Grab Bars items c), d), e), and f).

7.8.6 Controls

Shower controls shall have a pressure-equalizing or thermostatic mixing valve controlled by a lever or other device operable with a closed fist from the seated position.

7.8.7 Shower Head

Shower heads in shower stalls shall be designed to allow the controls to be reachable and the spray to be adjusted from a seated and standing position.

7.8.8 Soap Holders

Showers shall have fully recessed soap holders that can be reached from the seated position and be placed between 900 mm (35 in) and 1200 mm (47 in).

Note: A soap holder should be placed above the handrail.

7.8.9 Lighting

The illumination levels in showers shall comply with Clause 8.4.3, Washrooms (for interior lighting).

7.8.10 Emergency Showers

Where provided, emergency showers shall have an activation device that is no higher than 1200 mm (47 in) above the ground.

7.9 Bath Tubs

Rationale

Bathing facilities can present a slipping hazard. Slip-resistant surfaces are an important feature and will benefit any individual, including those with disabilities. Grab bars also provide stability. Operating controls are subject to limitations in hand strength, dexterity, and reach. Grab bars and slip resistant materials are safety measures that will benefit any individual. Adopting a universal design approach for the provision of accessible bathtubs will provide options for persons with disabilities and enhanced accessibility for everyone.

Functional Description

This section addresses the accessibility requirements of bathtubs where provided in public and multi-unit buildings including, but not limited to, hotels, university residences and apartments.

Technical Requirements

7.9.1 Floor Clearance

A clear floor space of at least 900 mm (35 in) wide by 1370 mm (54 in) long shall be provided along the full length of the bathtub.

7.9.2 Bath Tub Height

The maximum height of the bathtub rim shall be 475 mm (19 in) above the floor.

7.9.3 Faucets and Other Controls

Faucets and other controls shall

a) be non-spring loaded lever type or self operated and be operable with a closed fist;
b) be located so as to be usable by a person seated in the bathtub;
c) be not more than 450 mm (18 in) above the bathtub rim; and
d) have a water supply temperature limited to a maximum of 43°C.

7.9.4 Grab Bars

A bathtub, unless it is freestanding, shall have

a) one L-shaped grab bar that
    i. is mounted on the wall along the length of the bathtub;
    ii. has each leg of the L-shaped grab bar at least 900 mm (35 in) long;
    iii. has the horizontal leg of the L-shaped grab bar located between 150 mm (6 in) and 200 mm (8 in) above and parallel to the rim of the bathtub;
    iv. has the vertical leg of the L-shaped grab bar located between 300 mm (12 in) and 450 mm (18 in) from the control end of the bathtub; and
    v. complies with Clause 7.5.4 Grab Bars, items c), d), e), and (f); and
b) a grab bar at each end of the tub, vertically mounted to a minimum height of 200 mm (8 in) above the rim of the bathtub.

    Note: A more optimal solution is to provide two vertical grab bars at each end of the tub, one inside and one outside the rim of the tub.

7.9.5 Vertical Grab Bar

Where provided, a vertical grab bar that is at least 1200 mm (47 in) long should be mounted adjacent to the transfer area in front of the bathtub, and starting 200 mm (8 in) above the bathtub rim.

7.9.6 Bath Tub Base

The bottom surfaces of bathtubs shall be slip resistant.

7.10 Drinking Fountains

Rationale

Where drinking fountains are provided, they must be served by an interior/exterior accessible route and take into consideration the range of human functioning. The placement and design of drinking fountains must take into account persons using

mobility devices (wheelchairs, scooters, walkers, crutches and canes), persons who have no or low vision, persons who have difficulty bending, and persons who have limited hand strength or dexterity.

The drinking fountain must not protrude into the main accessible route so it does not become a hazard for persons who use canes and/or persons with no or low vision, and must have sufficient access space in front of the drinking fountain to maintain the clear width of any path of travel that serves the drinking fountain.

Functional Description

This section addresses the accessibility requirements of interior and exterior drinking fountains served by an accessible interior route or an accessible exterior route. It does not address hoses or other constructed outlets for water flow that are designed to provide access to drinking water.

Technical Requirements

7.10.1 Placement

7.10.1.1

Where drinking fountains are provided within a building floor area, or on an exterior site, they shall

a) be served by an accessible route; and
b) be placed against a wall or be free standing.

7.10.1.2

Where more than one drinking fountain is provided at a location, at least one shall meet the requirements of Clause 7.10.

Note: Drinking fountains are not required in all building floor areas or exterior areas.

7.10.2 Clear Floor or Ground Area

A drinking fountain shall have a clear ground or floor area in front of or adjacent to the drinking fountain that is a minimum of 1370 mm (54 in) depth by 2200 mm (87 in) length and meet the following requirements

a) one fully unobstructed side shall adjoin an accessible route or adjoin another clear floor or ground area;
b) the clear ground or floor area shall allow for either a forward or parallel approach to access the drinking fountain; and
c) access space shall not overlap the minimum space of the accessible route used to access the drinking fountain.

7.10.3 Minimum Number of Drinking Fountains

Where a single drinking fountain cannot meet the requirements for both standing and seated persons, then an additional drinking fountain shall be provided.

7.10.4 Knee and Toe Clearances

Where cantilevered drinking fountains are provided, they shall

a) be mounted between 700 mm (28 in) and 900 mm (35 in) above the finished floor and provide knee clearance of at least 700 mm (28 in);
b) have a clear depth under the drinking fountain of at least 500 mm (20 in);
c) have a clear width under the drinking fountain of at least 760 mm (30 in);
d) have a toe clearance height under the drinking fountain of at least 350 mm (14 in) above the finished floor from a point 300 mm (12 in) back from the front edge to the wall;
e) have a depth at the foot of the drinking fountain of at least 700 mm (28 in); and
f) where not recessed or otherwise located out of the circulation routes, be cane-detectable at or below 680 mm (27 in) above the finished floor.

Note: The space beneath the drinking fountain may be included as part of the clear floor area or turning space, provided that appropriate toe and knee clearances are available; for a forward approach; or a parallel approach to an unrecessed or partially recessed drinking fountain.

7.10.5 Controls

Drinking fountain controls shall be

a) located at the front of the drinking fountain;
b) hands-free or operable by pressure plate or lever operable by a closed fist; and
c) automatic or require a maximum force of activation of 22.2 N (5 lb).

7.10.6 Water Spout

Water spouts on drinking fountains shall

a) be located at a maximum of 900 mm (35 in) above the finished floor;
b) be located a maximum 125 mm (5 in) from the front of the drinking fountain;
c) project the water at least 100 mm (4 in) high; and
d) have the water stream provided at a vertical angle of either
    i. 30° maximum, where water spouts are located less than 75 mm (3 in) from the front of the unit; or
    ii. 15° maximum, where water spouts are located between 75 mm (3 in) and 125 mm (5 in) from the front of the unit.

7.10.7 Tonal Contrast

Drinking fountains shall have a tonal contrast of at least 70% with their surroundings.

7.10.8 Eye-wash Stations

Where provided, eye wash stations shall be placed no higher than 1100 mm (43 in) to be reached by a person in a wheeled mobility device.

7.11 Saunas and Steam Rooms

Rationale

Sauna and steam rooms should be available to people who can benefit from their use. Primary considerations for those with low or no vision should include colour and textural cues along primary routes of travel through the sauna and steam room facilities and tactile warning indicators around heating elements in the saunas and steam rooms.

Functional Description

This section addresses the accessibility facilities and elements that are unique to saunas and steam rooms and that are in addition to other accessibility requirements. It does not include requirements for manufactured equipment (e.g., pumps and mechanical systems) for sauna and steam rooms and specialized mobility devices that can be used in a sauna and steam room environment.

Technical Requirements

7.11.1 Doors

The entrance into the sauna and steam room area shall

a) not swing into the clear floor space designated for circulation of a wheeled mobility device;
b) be equipped with vision panels extending 500 mm (20 in) to 1500 mm (59 in) above the floor or be equipped with a sidelight; and
c) where the force to open the door is more than 22.2 N (5 lb), have a power door operator that complies with Clause 3.2.9, Power Door Operator.

Note: Vision panels are a pane of glass within the door.

7.11.2 Floor Space

Within the sauna or steam room there shall be

a) a clear floor space alongside a bench that can accommodate a wheeled mobility device; or
b) a section of bench that can be raised or easily removed to provide space for a mobility device.

The clear space shall be at least 900 mm (35 in) wide by 1500 mm (59 in) long with the width measured from the edge of the bench.

7.11.3 Floor Clearance

Within the sauna or steam room, there shall be a minimum floor clearance and turning space of at least 2020 mm (80 in) from the edge of seats / benches to the wall and/or any other protruding objects in the room so as to ensure toe and knee clearance and allow unobstructed access by other sauna and steam room users.

7.11.4 Bench Height

At least one bench adjacent to a clear floor space as noted in Clause 7.11.2, Floor Space, shall have a seat that is at least 1065 mm (42 in) long, 450 mm (18 in) above the floor, and 610 mm (24 in) deep, with a tonal contrast on the leading edge of the bench.

Notes:
(1) Additional benches of various heights should be available to accommodate persons with different needs.
(2) A sauna or spa bench is wider than a locker room bench, to allow the user to lie down.

7.11.5 Bench Back Support

A bench shall be affixed to a wall or provide for back support. A bench back support where provided shall

a) be at least 1065 mm (42 in) long;
b) be positioned from a point 51 mm (2 in) maximum above the seat surface and extend to a point 455 mm (18 in) maximum; and
c) be a maximum of 64 mm (2.5 in) from the rear edge of the seat measured horizontally or be at a maximum vertical angle of 7.5 degrees.

7.11.6 Bench Seat Surface

Where installed in wet locations, the surface of the seat / bench shall be slip resistant and not accumulate water.

7.11.7 Grab Bars

Grab bars shall

a) not obstruct transfer to the bench or act as an obstruction while sitting on the bench, but be placed to fully facilitate transfer to the bench;
b) meet the requirements of Clause 7.5.4, Grab Bars, items c), d) and e); and
c) be on the wall adjacent to the bench, but not on the seat back.

7.11.8 Tactile / Tonal Surfaces

Tactile warning surfaces shall

a) be provided on the floor around all heat devices;
b) be 900 mm (36 in) wide commencing 300 mm (12 in) from the hazard and may overlap the interior accessible route; and
c) comply with Clause 8.6, Tactile Walking Surface Indicators.

7.11.9 Emergency Alarms

Where emergency alarms are monitored they shall

a) be connected to a visual signal outside of the room;
b) be both visible and audible within the sauna or steam room and
    i. if located outside the room, be within viewing distance of the vision panel in the door; or
    ii. if located outside the room, able to be seen through a glazed wall or window;
c) comply with Clause 8.3, End User Controls and Operating Mechanisms; and
d) be located no higher than 1220 mm (48 in) above the floor.

Note: The emergency alarm should connect directly to an attendant station or to the workstation of another responsible person in the facility.

8.0 Building Performance and Maintenance

8.1 Air Quality

Rationale

Air quality can affect the health and well-being of many people, especially those with environmental sensitivity to a variety of chemicals, such as those released by building materials, through chemicals used or stored in the building or through perfumes containing manufactured fragrance (scented personal care products, such as lotions, hair care products and antiperspirants). It is estimated that approximately one-third of the Canadian population may have sensitivity to fragrances. Poor air quality can also affect the health of people with asthma and other respiratory conditions, or allergies.

Indoor air quality (in buildings) is often worse than outdoor air quality; therefore, indoor air quality can have a significant impact on the health of all of the building's occupants. Improved standards for elements that impact on indoor air quality (listed under Functional Description, below), can improve the health, safety and productivity of all those within a building. Improved indoor air quality will also significantly improve access to buildings for people with environmental sensitivities, many of whom have limited access to most buildings due to common environmental exposures within the building.

Functional Description

This section addresses air quality within buildings.

Many elements in a building, and the activities within, affect the indoor air quality, including:

- materials used in construction, finishes, flooring, particleboard, caulking, insulation, furniture and window treatments, amongst others, which can off-gas (emit) volatile organic compounds (VOCs) and other contaminants into the air;
- design elements (for example, poor detailing leading to water intrusion and mould growth; or inoperable windows);
- ventilation where a lack of flushing of the building's stale air can lead to sick building syndrome;
- chemicals used inside the building for activities such as cleaning, disinfecting, pest control or in day to day operations (any chemicals used, stored or created in the manufacture of a product or service, for example, solvents in hairdressing or nail salons, art supplies and other chemicals used in schools, and disinfectants used routinely in hospitals);
- pollutants, particulates, VOCs and other indoor air pollutants emitted by computers, printers, photocopy and fax machines, carbonless paper and other common machinery and products used in buildings, particularly workplaces;
- VOCs and other chemicals brought into a building by individuals wearing

perfumes, colognes and other scented personal care products;
- products of combustion, including from heating (gas or oil), cooking with natural gas or propane, tobacco smoking, candle burning; and
- pollutants, particulates and fumes from underground parking.

People with environmental sensitivities can experience symptoms when exposed to any of the above indoor air quality contaminants, among others (or a combination of contaminants), which prevent the affected person from either entering a building or, more frequently, remaining in the building and/or functioning, once he or she is exposed to the offending environmental agents.

Technical Requirements

8.1.1 Materials

All building materials, including, but not limited to, doors and cabinetry; floor surfaces; wall surfaces and finishes; caulking; insulation; and furnishings and fixtures shall be inert; i.e., no or low off-gassing of volatile organic compounds (VOCs).

Note: This will improve indoor air quality and, therefore, increase accessibility for those with environmental sensitivities.

8.1.2 Portable and Temporary Structures

8.1.2.1 Well Drained Surface

The portable shall be placed over a well-drained surface and surface run-off shall be directed away from the structure.

8.1.2.2 Well Ventilated

The space under the structure shall be well-ventilated to prevent rot from ground moisture.

8.1.2.3 Water Damage

Cement board and non-cellulose based wall panels shall be used to minimize the impact of water damage.

8.1.2.4 Roof

The roof shall be sloped to provide adequate drainage and to not retain large depths of snow, and comply with Ontario’s Building Code Clause 9.26.3.1, Slope (for roof surfaces) and Ontario’s Building Code Table 9.26.3.1, Roofing Types and Slope Limits.

8.1.2.5 Scheduled Maintenance

For buildings that remain for more than one year, include a scheduled maintenance

inspection regime, including the inspection of caulking and flashing around windows and service posts.

Note: Portable structures, such as classrooms, have a history of mould growth, which can exacerbate symptoms for people with environmental sensitivities (ES), and can even cause ES, in some cases. To eliminate mould growth, specific building materials, humidity and ventilation requirements and building design parameters should be followed.

8.1.3 Kitchens

Ventilation in the kitchen and seating area shall meet American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards at a minimum, and meet minimum requirements and comply with Clause 8.1.7.1, Ventilation Rates.

Note: Fumes from cooking (e.g., gas and propane) can travel into the seating area and storage areas if the kitchen is not properly ventilated. These fumes and odours can exacerbate symptoms for people with environmental sensitivities. Adequate ventilation in both the kitchen and seating areas is required to mitigate air quality problems.

8.1.4 Passenger Loading Zones

8.1.4.1 Idling

A limited or non-idling requirement shall be required.

Note: Vehicles emit pollutants while idling, which can exacerbate symptoms in people with environmental sensitivities.

8.1.4.2 Air Intake

The air intake to the building shall be located away from passenger loading zones, parking lots, loading docks, smoking areas, and other obvious sources of outdoor air pollutants. Loading docks shall be designed to prevent vehicle exhaust fumes from entering the building.

8.1.5 Parking

8.1.5.1 General

For general parking, outdoor lots and open air parking structures shall be constructed with the least off-gassing materials, whenever possible (e.g., concrete versus asphalt).

8.1.5.2 Indoor

Indoor parking shall meet at a minimum American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 62-1989 Ventilation for Acceptable Indoor Air Quality Standard.

Note: Parking garages have poorer indoor air quality than most other indoor spaces. They require increased ventilation and other considerations to minimize exposure to volatile organic compounds and particulates, especially for people with environmental sensitivities.

8.1.6 Ventilation Exhaust

Ventilation exhaust for rooms that store chemicals (e.g., toner for printers, copiers, cleaners, etc.) shall be provided.

8.1.7 Ventilation

8.1.7.1 Ventilation Rates

The ventilation rates within a building shall be consistent with the standards developed by The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) at minimum and comply with Ontario's Building Code Clause 6.2.3.9, Interconnection of Systems (for air duct systems).

8.1.7.2 Air Exchanges and HEPA Filters

Air exchangers and High Efficiency Particulate Air (HEPA) filters shall be installed in all new buildings.

8.1.8 Odour Controlling Devices

8.1.8.1 Washrooms

Odour controlling materials/devices within the washroom shall be replaced with ones with no or low off-gassing of volatile organic chemicals (VOCs).

8.1.8.2 Urinals and Water Closets

Whenever possible, odour controlling materials/devices within urinals or water closet (e.g., urine pucks and drip installed cleaning agents) shall be replaced with materials with no or low off-gassing of volatile organic chemicals (VOCs).

Notes:
(1) Waterless urinals can be installed as an alternative.
(2) Urine pucks off gas VOCs, which can make washrooms inaccessible for people with environmental sensitivities.

8.1.9 Emissions from Office Equipment and Stored Chemicals

8.1.9.1 Exhaust Ventilation

Exhaust shall be provided, whenever possible, for rooms where chemicals are used or

stored (e.g., toner for printers, copiers, cleaners, etc.).

8.1.9.2 Dedicated Exhaust

When possible, office equipment that off-gasses VOCs (e.g., photocopy machines) shall be placed in an enclosed room with dedicated exhaust ventilation.

Note: Even when volatile chemicals are stored in closed containers, some can escape. For people with environmental sensitivities, this can decrease accessibility to that room and nearby rooms. In addition, the off-gassing of VOCs from photocopy machines and printers can cause symptoms for people with environmental sensitivities if they are located too close to the equipment.

8.1.10 Products

Any product used in the day to day operations, cleaning and maintenance of the building shall be fragrance-free and contain no or low volatile organic compounds (VOCs). This includes, but is not limited to,

a) cleaning products, floor waxes, disinfectants and other solvents; and
b) products used in renovations to the building.

Note: Scented office and school products, such as scented markers and art supplies, off-gas VOCs; therefore, fragrance-free non-volatile organic compound products should be used.

8.1.11 Low Maintenance Materials

Surface materials (e.g., floors, walls, counter tops, etc.) that require minimum maintenance shall be selected (e.g., those that require minimal use of harsh cleaning and maintenance products).

8.2 Acoustics

Rationale

The acoustic environment is an integral component that can enhance a building's usability for everyone. Routes of travel through a facility, large open spaces and dedicated areas can be audibly detected by people based on the different sound qualities of the spaces. People who have low or no vision often learn to use acoustical cues to assist them in orientation and wayfinding. These acoustical cues are created by the sound quality, reverberation and design of these spaces.

People who are Deaf, deafened or hard of hearing rely on their residual hearing and their hearing amplification systems together with the acoustical environment to enable

them to hear. The careful design of acoustic treatments includes the control of sound reverberations, and the use of soft and hard surfaces.

Functional Description

In areas of all buildings, acoustics play an important role in accessible design, since they can distort or enhance auditory information cues. For example, the careful application of sound insulation and absorbing materials on ceilings, walls, and floors is important in many settings (for work, entertainment, transportation, shopping, dining, etc.), particularly for persons who are Deaf, deafened or hard of hearing. In other circumstances, appropriate auditory cues along circulation routes and at destination points serve as useful wayfinding clues, especially for persons who have low or no vision and who rely upon hearing to orient themselves.

Technical Requirements

8.2.1 Public Corridors

Every public corridor shall be designed and constructed to facilitate wayfinding by using acoustic treatments to differentiate main corridors from secondary corridors.

Notes:
(1) This involves the selection of sound-reflective or sound-absorbent materials that create different acoustic cues and the control of sound reverberations; and
(2) Wayfinding should be considered with the use of texture and acoustical cues.

8.2.2 Accessible Interior Route

The sound transmission/reflection characteristics of finished materials along an accessible interior route where decision-making is necessary shall aurally differentiate major and secondary paths of travel.

Notes:
(1) Finishing materials should be selected with this in mind.
(2) Schedule 3 includes World Health Organization (WHO) Guidelines for Community Noise Values that should be considered when designing the Built Environment.

8.2.3 Floor Finishes, Wall Surfaces and Ceilings

Floor finishes, wall surfaces (e.g., textured, or textured wallpaper), and ceilings (e.g., lowered) shall be selected so that occasional noise is not unduly amplified.

Note: Hard surfaces, such as marble or terrazzo, will allow each footstep to be heard by persons who have no or low vision, but add another level of noise for persons who are Deaf, deafened or hard of hearing.

8.2.4 Ceiling Shapes

Except as specified, ceiling shapes shall be designed so that echoes do not occur; unless an alternate acoustical treatment is incorporated.

Note: Domed shapes tend to distort sound.

Committee Comment

It is not the intent of this clause to eliminate domed or vaulted ceiling profiles.

8.2.5 Public Address and Call Systems

Public address and call systems shall be capable of also being zoned to key areas, rather than blanketing all areas of a facility at all times, and shall meet the requirements of Clause 6.4, Public Address Systems.

8.2.6 Meeting Room and Assembly Areas

In meeting rooms and assembly areas where sound is transmitted, all unnecessary background noise (e.g., from fans, other mechanical equipment, air diffusers, open windows, fluorescent lighting, piped in music, etc.) shall

a) be dampened;
b) include adequate sound insulation;
c) be located away from rooms that are inherently noisy (e.g., copy room); and
d) comply with Clause 9.4.1, Configuration.

8.3 End User Controls and Operating Mechanisms

Rationale

End user controls and operating mechanisms both within and around a building facility must be designed and constructed in such a manner as to provide life safety and operational opportunities equally for all those who utilize them. The challenge involves locating these controls in areas accessible to all and providing control mechanisms that can be manipulated by an end user group characterised through a broad range of abilities. Proper location and construction and implementation of these control systems will provide maximum independence for all users equally.

Functional Description

This section addresses the recognition, accessibility, and operability of end user controls and operating mechanisms in both the internal and external environments. End user controls may include (but may not be limited to) the following; light switches, wall outlets, alarm pulls, thermostats, door handles, lever hardware, and faucets.

Technical Requirements

8.3.1 Lighting

The illumination of controls, including liquid crystal displays or its equivalent that are used as controls, and operating mechanisms shall comply with Clause 8.4.5.1, General Lighting Levels.

Note: Many controls have liquid crystal display (LCD) panels that are not back lit, so for some displays an appropriate amount of front lighting is needed to enable the user to read the display.

8.3.2 Tonal Contrast

Controls and operating mechanisms shall incorporate a high tonal contrast of at least 70%.

8.3.3 Hand-Operated Controls and Mechanisms

Hand-operated controls and mechanisms shall be operable

a) with a closed fist;
b) without tight grasping, pinching, or twisting of the wrist; and
c) with a force of not more than 22.2 N (5 lb).

8.3.4 Reach

Controls for the operation of building services or safety devices, including electrical switches, remote controls, thermostats, and intercom switches, intended to be operated by the occupant and located on an accessible interior route shall

a) be mounted not less than 600 mm (24 in) and not more than 1200 mm (47 in) above the floor where there are no obstructions and where there is an obstruction, between 500 mm (20 in) to 625 mm (25 in) in depth; the mounting height shall be reduced to 1100 mm (43 in) above the floor; and
b) be placed where the maximum high forward reach depth of 600 mm (24 in) is not exceeded, in cases where there is an obstruction.

Note: Controls that are used often should be located at the middle of the height range.

Committee Comment

The intent of this requirement is to provide general information for controls. Specific height dimensions for controls, such as light switches and power-door operators, have been provided elsewhere in the document.

8.3.5 Control Responses

For operating controls in a building, at least one other sensory feedback mode shall be provided.

Example:
Where instructions for a control are displayed on a screen, they should also be conveyed in spoken form through audio output.

Notes:
(1) Controls include building entry systems, elevators, thermostats, and fire alarms, and exclude light switches.
(2) Tactile response allows the user to feel the control mechanism being used.
(3) Audible response allows the user to hear the control mechanism being used.
(4) Depending on the type of control, Braille may be needed.

8.3.6 Clear Floor Area for Approach

There shall be a clear approach of at least 2200 mm (54 in) wide to allow persons using mobility devices to access controls and operating mechanisms, such as at light switches, alarm pulls, thermostats, and dispensers. The clear, level floor area may overlap the adjacent interior accessible route.

Note: The clear approach in front of controls and operating mechanism is intended to allow a side approach for scooters.

8.3.7 Faucets and Other Similar Controls

Faucets and other similar controls shall be hand-operated and comply with Clause 8.3.3, Hand-Operated Controls and Mechanisms, or shall be automatically controlled.

8.4 Interior Lighting

Rationale

Adequate lighting is the single most important aid to vision. Inadequate and limited

spectrum lighting is associated with increased fall risk, reduced visual performance, headaches, Seasonal Affective Disorder (SAD), and depression.

The essential properties of proper lighting are sufficient quantity of light for all contemplated seeing activities, appropriately directed lighting, and the absence of direct or reflected glare from light sources.

Artificial lighting and natural light sources should provide comfortable, evenly distributed light at all working areas, in all circulation routes and in all areas of potential hazard, such as at stairs, ramps, drop-offs, changes in level, and decision making points, etc.

Functional Description

This clause addresses installed lighting systems, portable lighting and lighting elements along circulation routes and within functional spaces in buildings.

Technical Requirements

8.4.1 Lighting Level

An exit, a public corridor, a corridor providing access to exit for the public, a corridor serving patients or residents, a corridor serving classrooms, a step or steps, a stairway, a ramp, and an electrical equipment room shall be illuminated to an average level not less than 200 lx measured at floor level.

8.4.2 Elevating Devices

Lighting levels in elevator lobbies (e.g., area in front of elevator) shall be similar to the lighting levels in elevating devices (e.g., elevators, cabs, escalators, and lifts), to minimize tripping hazards, and in no case shall be less than 200 lx measured at floor level.

8.4.3 Washrooms

Lighting levels in washrooms shall be evenly distributed and be no less than 200 lx measured at floor level.

8.4.4 Dressing Rooms

Lighting levels in dressing rooms shall be evenly distributed and be no less than 200 lx measured at floor level.

8.4.5 General Lighting

8.4.5.1 General Lighting Levels

Appropriate lighting levels shall be provided, as follows

a) 200 lx, measured at the floor for lobbies and waiting areas;
b) 500 lx measured at the floor for halls and inquiry / reception stations;
c) 200 lx measured at the floor for circulation areas, corridors, elevators, and stairs;
d) 200 to 300 lx measured at the floor for lounges;
e) 200 lx measured at the work surface for kitchen and food preparation areas;
f) 500 lx measured at the work surface for offices and general lighting;
g) 300 lx measured at the work surface for computer workstations;
h) 100 lx measured at the control and operating mechanism where provided; and
i) 150 lx measured at the control for an LCD panel.

Committee Comment

The essential principles of accessible lighting include;

a) evenness;
b) transition;
c) glare;
d) colour;
e) flicker; and
f) task lighting.

The Committee recommended that the government initiate research to determine the need to define lighting levels and to establish a committee of lighting experts.

The Committee also recognized the need for flexibility to change lighting levels in certain situations.

8.4.5.2 LED Lighting

Where provided, light-emitting diode (LED) lighting shall be used for task lighting and shall

a) light up instantly;
b) be easily dimmed;
c) operate silently; and
d) require only a low-voltage power supply.

8.4.5.3 Lighting Safety

Lighting used in task spaces shall be moved out of the way from the accessible interior route or have a cover to prevent injury.

Note: Lights can give off a great deal of heat and persons with vision loss could inadvertently sit or stand underneath and be injured from the heat.

8.4.6 Signage

Lighting for directional or informational signage, or highlighting other orientation features, at public telephones, information or service counters, and card or keypad security systems, shall be no less than 200 lx measured at the working surface.

8.4.7 Meeting Rooms

Lighting in meeting rooms and assembly areas shall

a) be evenly distributed such that lighting levels are equal through the room and comply with Clause 8.4.11, Distribution;
b) be capable of being adjusted (e.g., dimmers);
c) comply with Clause 8.4.5, General Lighting; and
d) have where possible, multiple areas of lighting, such as, but not limited to,
    i. areas surrounding projection screens;
    ii. work surfaces; and
    iii. lectern areas.

8.4.8 Delivery of Live Communication

Lighting at lecterns, podiums/platforms or other live communication speaker locations shall be capable of being enhanced, even when other lighting is dimmed/brightened, to permit ease of speech reading and/or viewing of a sign language interpreter.

8.4.9 Glare

Lighting fixtures (luminaries) should be used that do not provide a view of the light source, either directly or by specular reflection, from common lines of sight.

8.4.10 Colour

Light sources shall provide as full a spectrum of light as possible, as an aid to edge and colour definition.

8.4.11 Distribution

Lighting shall be configured to create an even distribution at floor level and to minimize pools of light and areas of shadow.

8.4.12 Emergency Lighting

8.4.12.1 Accessible Interior Route

Emergency lighting for stairs and ramps, in an exit or accessible interior route, shall be not less than 200 lx measured at floor level.

8.4.12.2 Stroboscopic Lighting

Emergency stroboscopic lighting shall be provided as a visual enhancement to a fire alarm and/or emergency system. The stroboscopic lighting shall have a maximum frequency of 5 Hz and be active for a duration of not less than 30 seconds between rest periods.

8.4.13 Lighting System

A lighting system in a facility may be used to adjust the lighting levels depending on the required activity in the facility.

Notes:
(1) Dimmer switches and other controls can be used to achieve the lighting levels.
(2) In specific facilities, such as restaurants and nightclubs, dimmer switches or other controls will enable the lighting levels to be achieved, but still provide an appropriate atmosphere.

8.5 Exterior Pedestrian Lighting

Rationale

Ensuring adequate vision is an important component of individual safety and security, and independent access for many individuals.

The level of illumination is only one of the factors to be considered in relation to accessible lighting for exterior pedestrian facilities. The even distribution of light (eliminating shadows or very bright spots) and the reduction of glare or other reflective surfaces also play a significant role and must be considered.

For the purposes of this clause, “building” refers to a temporary or permanent structure with walls, a roof, and an entrance (e.g., campsite outhouses and port-o-potties).

Functional Description

This section addresses installed lighting systems and lighting elements along exterior accessible routes, including, but not limited to, sidewalks, pathways, stairs, ramps, etc., and at functional areas exterior to buildings, including entrances, parking, passenger drop off areas, curb ramps etc.

Technical Requirements

8.5.1 Location

Exterior pedestrian lighting shall be provided

a) on accessible exterior routes;
b) on accessible exterior routes leading to public buildings; and
c) at accessible building entrances, passenger loading zones, and accessible parking facilities.

Note: Accessible exterior routes and walkways that service buildings do not include trails and pathways within parks and other natural environments, or privately owned homes.

8.5.2 Light Levels

Exterior pedestrian lighting shall

a) be evenly distributed over the accessible route;
b) be positioned so as to not cause any obstruction, protrusions, or tripping hazard;
c) along an accessible exterior route, illuminate the walk to at least 100 lx, measured at ground level;
d) at accessible building entrances, accessible parking facilities, and accessible passenger loading zones, be equipped to provide non-glare illumination to an average level not less than 100 lx, measured at ground level; and
e) along accessible exterior routes leading to steps and ramps and at exterior steps and ramps
    i. be equipped to provide illumination to an average level not less than 100 lx, measured at ground level; and
    ii. clearly illuminate or be reflective and/or radiant / glowing (glow in the dark) at the treads, risers, and nosings at stairs.

8.5.3 Glare

Lighting fixtures (luminaries) that do not provide a view of the light source, either directly or by specular reflection, from common lines of sight shall be used.

8.5.4 Colour

Light sources shall provide as full a spectrum of light as possible as an aid to edge and colour definition.

8.5.5 Supplementary Lighting

Where supplementary lighting, such as landscape or accent lighting, is provided, it shall be designed and incorporated into the site so as not to spill onto exterior walkways or cause glare conditions.

8.6 Tactile Walking Surface Indicators

Rationale

Tactile walking surface indicators provide important navigational cues for persons with low or no vision. These surfaces alert all pedestrians to potential hazards, such as crosswalks, ramps and stairs or drop-offs at transit platforms. Suitable surfaces include a change in texture and high colour contrast but should not present a tripping hazard. Tactile walking surface indicators should be used consistently throughout a facility.

Functional Description

This section addresses tactile walking surface indicators used to identify potential hazards through the use of distinct changes in colour and texture. Tactile walking surface indicators have a texture that can be felt under foot or detected by a person using a long cane. The texture is either built-in or applied to the walking surface. Typical locations for tactile walking surface indicators include, but are not limited to, top of stairs, curb ramps, and at unprotected edges with a change in level (such as at the edge of a transit platform).

Technical Requirements

8.6.1 Tactile Walking Surface Indicators

8.6.1.1 Types

Tactile walking surface indicators are used to inform persons who are walking over them of two possible situations:

a) an attention indicator (truncated domes) signals a need for caution at a change in elevation, a vehicular route, etc.; and
b) a direction indicator (linear bar surface) facilitates wayfinding in open areas and indicates a possible route that may be taken.

8.6.1.2 General

A tactile walking surface indicator shall

a) be installed in a manner that
    i. avoids interference from an irregular walking surface; and

ii. does not create a tripping hazard;

b) have its base surface level with the surrounding surface, or not more than 3 mm (0.12 in) above or below it;
c) be slip-resistant; and
d) be colour-contrasted with the surrounding surface.

8.6.1.3 Tactile Attention Surface Indicators

8.6.1.3.1 Configuration

A tactile attention indicator shall be composed of truncated domes

a) with a height of 5 ± 1 mm (0.2 ± 0.04 in);
b) with the top diameter between 12 mm (0.47 in) and 15 mm (0.6 in) and the base diameter 10 ± 1 mm (0.4 ± 0.04 in) greater than the top diameter;
c) arranged in a square grid; and
d) with a center to center distance of adjacent domes that complies with Table 8.6.1.3.1.

Table 8.6.1.3.1
Dome diameter and spacing combinations

Top surface diameter mm (in)	Base surface diameter mm (in)	Centre to centre distance between domes mm (in)
12 (0.47)	22 (0.87)	55-61 (2.15–2.4)
15 (0.6)	25 (1)	57-63 (2.25–2.5)

Note: It has been demonstrated that a top diameter of 12 mm (0.47 in) is optimal for detection and discrimination underfoot.

8.6.1.3.2 Location

A tactile attention indicator shall be located at

a) stairs;
b) an unprotected drop-off edge, such as a transit platform, where
    i. the change in elevation is greater than 250 mm (10 in); or
    ii. the slope is steeper than in a ratio of 1:3 (33%);
c) the unprotected edges of a reflecting pool;
d) curb ramps; and
e) an entry into a vehicular route or area where no curbs or other elements separate it from a pedestrian route.

8.6.1.3.3 Installation

A tactile attention indicator shall be

a) installed along the full width of the hazard
    i. to a depth of at least 600 mm (24 in); and
    ii. with one long side against the edge of the hazard, unless otherwise

indicated in the Standard; and

b) in a color that
   i. contrasts at least 70% with the surrounding surface; or
   ii. if yellow, contrasts at least 40% with the surrounding surface.

Note: The color specifications for yellow should be:

(1) Munsell system: hue 5.0, chroma yellow 8.0/12;

(2) CIE 1931 system: 59.10% luminosity at the chroma coordinates of x = 0.4562 and y = 0.4788; or

(3) an equivalent.

8.6.1.4 Tactile Surface Direction Indicators

8.6.1.4.1 Configuration

A tactile direction indicator shall be composed of flat-topped, parallel, elongated bars having

a) a height of 5 ± 1 mm (0.2 ± 0.04 in);
b) a top width between 17 mm (0.67 in) to 30 mm (1.2 in) and a base width 10 ± 1 mm (0.4 ± 0.04 in) greater than the top width;
c) a top length not more than 270 mm (11 in) and the base length 10 ± 1 mm (0.4 ± 0.04 in) greater than the top length;
d) no more than a 30 mm (1.2 in) space between ends of inline bars; and
e) a center to center distance of adjacent bars to comply with Table 8.6.1.4.1.

Table 8.6.1.4.1
Bar width and spacing combinations

Top surface width mm (in)	Base surface width mm (in)	Centre to centre distance between bars mm (in)
17 (0.67)	27 (1.1)	72-78 (2.8–3.1)
25 (1.0)	35 (1.4)	75-83 (3.0–3.25)
30 (1.2)	40 (1.6)	80-85 (3.15-3.35)

Notes:

(1) Tactile direction indicator layout that is as continuous as possible is the easiest to follow.

(2) It has been demonstrated that flat-topped elongated bars with a top width of 17 mm (0.67 in) are optimal for detection and discrimination underfoot.

8.6.1.4.2 Installation of Directional Indicators

A tactile direction indicator shall

a) where installed to define a route,
   i. be between 250 to 300 mm (10 to 12 in) wide;
   ii. have a clear space at least 600 mm (24 in)on each side; and

iii. have the elongated bars running in the direction of the route of travel;

b) where installed across a route as an indicator of a facility or diverging route,
   i. be between 600 to 650 mm (24 to 26 in) wide; and
   ii. have the elongated bars running in the direction toward the facility or diverging route;
c) where there is a risk of water pooling, have the elongated bars interrupted by a drainage gap between 20 to 30 mm (0.8 to 1.2 in); and
d) have a colour contrast of at least 70% with the surrounding surface.

Notes:
(1) Tactile direction indicators should be located in large open floor areas, such as shopping malls or transportation terminals, to facilitate wayfinding by indicating the primary routes of travel.
(2) The indicated routes should lead from the entrance to major destinations, such as an information kiosk, registration desk, stairway, elevator, or to store or service doors.

8.6.2 Ramps

Tactile attention surface indicators at ramps shall

a) be provided at the top, intermediate level and bottom of the ramp;
b) extend the full width of the ramp;
c) have a depth of at least 920 mm (36 in) with an offset of 300 mm (12 in) from the landing; and
d) comply with Clause 8.6.1.3, Tactile Attention Surface Indicators.

8.6.3 Curb Ramps

Tactile attention surface indicators at curb ramps shall

a) be provided at the top and bottom of the curb ramp;
b) extend the full width of the ramp;
c) have a length of 600 mm (24 in) to 650 mm (26 in), starting at 150 mm (6 in) to 200 mm (8 in) from the curb; and
d) comply with Clause 8.6.1.3, Tactile Attention Surface Indicators.

8.6.4 Elevated Platforms

Tactile attention surface indicators at elevated platforms shall

a) be consistent throughout the setting; and
b) be positioned parallel to the open platform edge, extending the full length of the platform;
c) be 610 mm (24 in) deep from the edge of the elevated platform; and
d) comply with Clause 8.6.1.3, Tactile Attention Surface Indicators.

Note: Elevated platforms, such as stage areas, speaker podiums, etc., should be

accessible to all.

8.6.5 Pedestrian and Vehicular Intersection

If a pedestrian walk crosses or joins a vehicular way and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall

a) be defined by a continuous tactile attention surface indicator along the full length of the crossing boundary between the walking surface and the vehicle way; and
b) have a depth of at least 920 mm (36 in).

8.6.6 Escalator

Escalators shall incorporate detectable warning surfaces in compliance with Clause 8.6.1.3, Tactile Attention Surface Indicators, and shall be provided at the head and foot of the escalator.

9.0 Special Rooms, Spaces, and other Elements

9.1 Courtrooms and Public Assembly Rooms

Rationale

Court facilities shall accommodate persons with disabilities who can be members of the judiciary, courthouse staff, crown, police, defence counsels, in addition to defendants, members of counsel, and members of the public. Based on functionality, there are four distinct groups/areas (i.e., judge/court officials, defendants, counsel/jury, and general public) that need to be considered when addressing courthouse accessibility. All areas of the court should be accessible to all persons.

Functional Description

This section addresses the accessibility facilities and elements within courtrooms, public meetings rooms, and similar public assembly type facilities.

Note: The requirements in this clause can also be applied to other occupancies with similar features.

Technical Requirements

9.1.1 Courtrooms and Adjacent Areas

Every aspect of courtrooms and adjacent areas shall be made accessible, including the holding cell, prosecutor area, judicial chambers, and public gathering spaces.

Courtrooms and adjacent areas shall have

a) a clear accessible interior route that complies with Clause 4.1, Accessible Interior Route;
b) tables, work surfaces, and service counters that comply with Clause 9.13, Service Counters;
c) lighting that complies with Clause 8.4, Interior Lighting;
d) where provided, bench seating that complies with Clause 9.2.1.1(c);
e) accessible seating that complies with Clause 9.12, Accessible Seating Spaces;
f) ramps that comply with Clause 3.4, Ramps;
g) accessible washrooms that comply with Clause 7.2, Washrooms;
h) adaptive systems that comply with Clause 9.16, Assistive Listening Systems for Assembly; and
i) access to raised areas in compliance with Clause 9.9.1, General (for stages).

9.1.2 Holding Cells

Holding cells shall have

a) a clear accessible interior route that complies with Clause 4.1, Accessible Interior Route, and lighting that complies with Clause 8.4, Interior Lighting;
b) where provided, bench seating that complies with Clause 9.2.1.1(c);
c) accessible washrooms that comply with Clause 7.2, Washrooms;
d) an adjacent accessible telephone, complying with Clause 6.5, Public Telephones; and
e) an audible and visual emergency system.

9.2 Team Dressing Rooms, Change Rooms, and Fitting Rooms

Rationale

In addition to the provision of accessible common-use dressing rooms, a separate unisex dressing room is useful, particularly where an attendant or parent of a different gender is providing assistance. Key elements of accessibility include sufficient space to accommodate a wheeled mobility device, an accessible change bench, and accessible clothes hooks and shelving. Consideration should also be given to non-mobility disabilities.

Functional Description

This section addresses the accessibility facilities and elements that are unique to team dressing rooms, gender specific change rooms, family change rooms, individual change rooms and fitting rooms.

Technical Requirements

9.2.1 General

9.2.1.1

Team dressing rooms, gender specific change rooms, family change rooms, individual change rooms shall

a) be located adjacent to an accessible path of travel that complies with Clause 4.1, Accessible Interior Route;
b) have a floor surface that is stable, firm and slip-resistant;
c) have benches
    i. that have a seat height between 430 (17 in) to 460 mm (18 in) above the floor;
    ii. with a seat depth of 460 mm (18.5 in) to 510 mm (20.4 in);

iii. that provide a tonal contrast of at least 70% to distinguish the bench from the surrounding area;
iv. that have grab bars beside the accessible benches, and comply with Clause 7.5.4, Grab Bars, items c), d), e) and f);
v. where one of the benches is at least 2500 mm (98 in) long and 510 mm (20.4 in) wide; and
vi. at least 50% of the benches shall have a seat back height of 762 mm (30 in), unless the bench is located against the wall.

Note: Support is required on both sides of a bench and can include horizontal, vertical, or L-shaped grab bars.

9.2.1.2 Washroom and Shower Amenities

9.2.1.2.1

Where provided, at least 10% and no less than one lavatory shall comply with Clause 7.1, Lavatories.

9.2.1.2.2

Where provided, at least 10% and no less than one washroom accessories shall comply with Clause 7.3, Washroom Accessories.

9.2.1.2.3

Where provided, at least 10% and no less than one water closet and water closet stall shall comply with Clauses 7.4, Water Closets, and 7.5, Water Closet Stalls, respectively.

9.2.1.2.4

Where provided, at least 10% and no less than one urinal shall comply with Clause 7.6, Urinals.

9.2.1.2.5

Where provided, at least 10% and no less than one shower area shall
a) comply with Clause 7.8, Shower Areas; and
b) have an adjacent clear floor area that is 1500 mm (59 in) by 900 mm (35 in) with a splash barrier that can serve as a storage area for mobility aids and a drying off area.

9.2.1.3 Coat Hooks

Where provided coat hooks shall meet clause 7.5.5, Coat Hooks.

9.2.1.4 Shelves

Where provided, wall-mounted shelves shall
a) be placed a maximum of 1220 mm (48 in) above the finished floor where there is no obstruction greater than 500 mm (20 in) deep; if there is an obstruction

between 500 mm (20 in) and 625 mm (25 in), it shall be placed no higher than 1100 mm (44 in) above the floor;
b) have a visual tonal contrast of at least 70% on the edge of the shelf distinguishing it from its surroundings;
c) have a bench or other object located below and in front of the shelf to comply with Clause 3.7, Overhanging and Protruding Objects; and
d) have an adjacent clear floor space of 1370 mm (54 in) by 1370 mm (54 in).

Note: Where there is a bench in front of the shelf, a person with low vision or no vision would feel the bench with their cane and the shelf would not be an obstruction or protruding object.

9.2.1.5 Lockers

Where locker rooms are provided, at least 10%, but never less than one shall be accessible. Locker doors and locks shall meet the requirements of Clause 8.3, End User Controls and Operating Mechanisms.

9.2.1.6 Signage

Locker numbers or other signage shall

a) be large enough for low-vision users to see any numbers or other information and have a tonal contrast of at least 70%; and
b) have accompanying tactile signage.

9.2.1.7 Mirrors

Where mirrors are provided there shall be at least one full length mirror.

9.2.2 Team Dressing Rooms

At least 50% of the dressing rooms, but never less than two dressing rooms, shall comply with the requirements of Clause 9.2.1, General.

9.2.3 Gender Specific Changing Rooms

9.2.3.1 General

All gender specific changing rooms shall comply with the requirements of

a) Clause 9.2.1, General; and
b) Clause 9.2.3.2, Clear Width.

9.2.3.2 Clear Width

Change rooms shall maintain an accessible route width throughout the room of 1100 mm (44 in) and meet the requirements of Clause 4.1, Accessible Interior Route.

9.2.4 Family Change Rooms

9.2.4.1 General

All family change rooms shall comply with the requirements of Clauses: 9.2.1, General; 9.2.4.2, Clear Width; and 9.2.4.3, Changing Stalls.

9.2.4.2 Clear Width

Change rooms shall maintain an accessible route width throughout the room of 1100 mm (44 in) and meet the requirements of Clause 4.1, Accessible Interior Route.

9.2.4.3 Changing Stalls

9.2.4.3.1

No less than one and at least 10% of the changing stalls provided in a family change room shall be accessible.

9.2.4.3.2

The accessible changing stall shall

a) have a clear floor area of 2500 mm (98 in) by 2500 mm (98 in);
b) have a door that meets the requirements of Clause 7.5.3, Stall Doors and Door Controls;
c) where provided, have a bench that meets the requirements of Clause 9.2.1.1(c); and
d) provide a collapsible hook that meets the requirements of Clause 7.5.5, Coat Hooks.

9.2.5 Individual Dressing / Change Room

Where a facility is not equipped with a family change room, there shall be at least one accessible individual changing room that

a) has a clear floor space of at least 2500 mm (98 in) by 2500 mm (98 in); and
b) contains the same amenities as the gender specific changing rooms for that facility.

Note: This room can also include the features of a universal toilet room.

9.2.6 Fitting Rooms

Where gender-specific fitting rooms are provided, at least one accessible fitting room for each gender, or at least one unisex accessible fitting room, shall have

a) doors that meet the requirements of Clause 3.2, Doors and Doorways;
b) a minimum of 2500 mm (98 in) by 2500 mm (98 in) turning space in the room;
c) handles and a locking mechanism that meets the requirements of Clause 8.3, End User Controls and Operating Mechanisms;

d) a bench that meets the requirements of Clause 9.2.1.1(c);
e) a coat hook that meets the requirements of Clause 7.5.5, Coat Hooks;
f) floor surface that meet the requirements in Clause 3.6, Ground and Floor Surfaces; and
g) a grab bar that meets the requirements of Clause 7.5.4, Grab Bars.

9.3 Kitchens and Kitchenettes

Rationale

Kitchens, kitchenettes, and coffee stations require an appropriate level of access if they are to be used by persons of varying abilities.

Functional Description

This section addresses the accessibility of common-use kitchens and kitchenettes that are intended for use by staff or members of the public (e.g., in offices, common areas of apartment buildings and hotel suites).

Technical Requirements

9.3.1 Galley Kitchens

Galley kitchens where counters, appliances, or cabinets are on two opposing sides or opposite a parallel wall shall

a) have a minimum clearance of 1100 mm (44 in) between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas; and
b) have two doorways with one at each end.

9.3.2 U-Shaped Kitchens

U-shaped kitchens enclosed on three continuous sides shall have a minimum clearance of 1500 mm (59 in) between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas.

9.3.3 Cabinets

At least 50% of the cabinets shall

a) be located on an accessible route;
b) comply with at least one of the reach ranges specified in Clause 9.13.2, Counter Depth;
c) comply with Clause 8.3, End User Controls and Operating Mechanisms; and

d) except in a galley kitchen, have clear floor space in compliance with Clause 9.8.1.1, Random Access.

9.3.4 Tonal Contrast

Kitchen elements shall incorporate a tonal contrast of at least 70% to visually differentiate

a) the cabinets and appliances from adjacent wall and floor surfaces;
b) the countertop from the cabinets and adjacent walls; and
c) operable hardware on cabinets.

Note: The use of tonal contrast between kitchen elements will assist persons with low vision to locate surfaces, appliances, and controls.

9.3.5 Kitchen Sinks and Wet Bars

9.3.5.1 Parallel Approach to Kitchen Sinks and Wet Bars

A parallel approach may be provided to a kitchen sink or wet bars where a cook top or conventional range is not provided.

9.3.5.2 Forward Approach to Kitchen Sinks and Wet Bars

Except where permitted in Clause 9.3.5.1, Parallel Approach to Kitchen Sinks and Wet Bars, kitchen sinks or wet bars shall be located on an accessible route with adjacent clear floor space for a forward approach as noted in Clause 9.3.1, Galley Kitchens, or Clause 9.3.2, U-Shape Kitchens.

9.3.5.3 Designated Section of Counter

Where a forward approach is provided, there shall be a designated section of counter for wheelchair access measuring at least

a) 500 mm (20 in) deep maximum;
b) 760 mm (30 in) wide minimum; and
c) 700 mm (28 in) underside counter clearance.

9.3.5.4 Knee Space

Kitchen sinks or wet bars shall incorporate knee space such that the height of the sink rim or the countertop, whichever is higher, is within the range of 775 mm (31 in) to 860 mm (34 in).

9.3.5.5 Faucets and Other Control

Faucets and other sink or wet bars controls shall comply with Clause 8.3, End User Controls and Operating Mechanisms.

9.3.5.6 Surfaces under the Sink or Wet Bars

Surfaces located under the sink or wet bars shall

a) if a water supply or drainpipe is located under the sink be insulated or otherwise configured to protect against contact; and
b) not have sharp or abrasive surfaces used under the sink.

9.3.6 Kitchen Appliances

9.3.6.1 Accessible Route to Kitchen Appliances

Kitchen appliances shall be located on an accessible route complying with Clause 4.1, Accessible Interior Route and with adjacent clear floor space complying with Clause 9.3.1, Galley Kitchens, or Clause 9.3.2, U-Shaped Kitchens.

9.3.6.2 Clear Floor Space at Kitchen Appliances

Except for a galley kitchen, kitchen appliances including dishwashers shall incorporate clear floor space complying with Clause 9.8.1.1, Random Access.

9.3.6.3 Controls for Kitchen Appliances

Controls and operable portions of kitchen appliances that are not doors or door-latching devices shall comply with Clause 8.3, End User Controls and Operating Mechanisms.

9.3.7 Ranges and Cook Tops

9.3.7.1 Forward Approach

Where a forward approach is provided, there shall be a designated section of counter that complies with Clause 9.3.5.3, Designated Section of Counter.

9.3.7.2 Controls

Range and cook top controls shall be located to avoid reaching across the burners.

9.3.7.3 Work Surface

A work surface shall be

a) provided at the same height of the cooktop;
b) at least 400 mm (16 in) wide;
c) located on each side of the cooktop; and
d) heat resistant.

9.3.8 Ovens

9.3.8.1 Controls

Appliance controls shall

a) be located on the front panels of the appliance;
b) be mounted no higher than 1220 mm (48 in) above the floor; and
c) comply with Clause 8.4, End User Controls and Operating Mechanisms.

9.3.8.2 Side-hinged Doors

Appliances with side-hinged doors shall

a) be located a work surface adjacent to the latch side of the door; and
b) incorporate a pull-out shelf below the oven.

9.3.8.3 Bottom-hinged Doors

Where bottom-hinged doors are used, ovens shall be located with an adjacent work surface positioned adjacent to one side of the door.

9.3.9 Refrigerators and Freezers

Where provided, refrigerators and freezers shall

a) be configured so that at least 50% of the freezer space is no higher than 1220 mm (48 in) from the floor; and
b) incorporate a clear floor area in front of the refrigerator/freezer, positioned for a parallel approach immediately adjacent to the refrigerator/freezer, with the centreline of the clear floor area offset by 610 mm (24 in) maximum from the front face of the refrigerator/freezer.

Note: Enough space should be provided to pull up to the freezer/refrigerator in a mobility device and still have space to open the door.

9.3.10 Tables, Counters and Work Surfaces

9.3.10.1 Accessible Route

Accessible tables, counters, and work surfaces shall

a) be located on an accessible route in accordance with Clause 4.1, Accessible Interior Route; and
b) have an accessible route leading to and around fixed or built-in tables, counters, and work surfaces.

9.3.10.2 Forward Approach

Where a forward approach is provided to access a wheelchair seating space, at accessible tables, counters and work surfaces, there shall be a clear knee space complying with Clause 9.3.5.3, Designated Section of Counter.

Note: The clear knee space may overlap the clear floor space by a maximum of 500 mm (20 in).

9.3.10.3 Counter Top Height

The top of accessible tables, counters, and work surfaces shall be located between 775 mm (31 in) and 860 mm (34 in) above the finished floor or ground surface.

9.4 Meeting Rooms

Rationale

Meeting rooms must be designed to address accessibility challenges relating to user circulation and visual and outside environmental conditions conducive to effective use of the space for all occupants.

Functional Description

This section addresses the accessibility of facilities and elements that are unique to meeting rooms and that are in addition to other accessibility requirements. The accessibility of typical building elements, such as accessible routes, doors, controls, etc., is addressed through other clauses in this Standard.

Technical Requirements

9.4.1 Configuration

Where meeting rooms are provided for use by the general public, clients, customers, or staff, no less than one meeting room per tenant shall

a) be located on an accessible route complying with Clause 4.1, Accessible Interior Route;
b) where equipped with a door, have a door that complies with Clause 3.2, Doors and Doorways;
c) have a clear floor space of 2500 mm (98 in) by 2500 mm (98 in) within the room, allowing a person using a wheeled mobility device to make a 180° turn;
d) have an accessible route at least 1100 mm (44 in) in width throughout the space that connects the primary activity elements within the meeting room;
e) have knee and toe clearances and work surfaces that comply with Clause 9.13, Service Counters;

f) be equipped with an assistive listening system that complies with Clause 9.16, Assistive Listening Systems for Assembly;
g) be configured to control and minimize glare; and
h) have temporary wires and cables equipped with standard metal, double-amp protection.

Note: These meeting rooms should have movable tables and chairs, not fixed seating.

9.5 Offices and Work Areas

Rationale

The role of persons with disabilities should not be restricted or limited to that of the customer or consumer. Workspaces should be designed with a view to accommodate individual equipment or assistive devices.

Offices providing services or programs to the public should be accessible to all, regardless of mobility or functional profile. Furthermore, office and related support areas should be accessible to staff and visitors with varying levels of ability.

All persons, but particularly those with who are Deaf, deafened or hard of hearing, would benefit from having a quiet acoustic environment. Background noise from mechanical equipment such as fans should be limited. Appropriate communication technology should be supplied to support persons who are Deaf, deafened or hard of hearing (two-way for those who cannot communicate verbally). Appropriate communication technology should be supplied to support Deaf, deafened and hard of hearing people and may include assistive listening systems, captioning and American Sign Language interpreters.

Circulation areas, tables, and workstations should address the knee space and manoeuvring space requirements of individuals who use mobility devices.

Functional Description

This section addresses the accessibility of facilities and elements that are unique to offices that are intended to be accessed and used by the general public, clients or customers, and that are in addition to other accessibility requirements. It also addresses common-use work areas that are intended to be accessed and used by the general public, employees, clients or customers, and that are not dealt with elsewhere in this Standard. Common-use work areas include, but are not limited to, work rooms, photocopy rooms and storage rooms. The accessibility of typical building elements, such as accessible routes, doors, controls, etc., is addressed through other clauses in this Standard. These requirements do not include details for a specific workstation.

Technical Requirements

9.5.1 Offices and Related Work Areas

Offices and related work areas shall

a) be located on an accessible route that meets the requirements of Clause 4.1, Accessible Interior Route;
b) where equipped with a door, have the door in compliance with Clause 3.2, Doors and Doorways; and
c) have a clear floor space 2500 mm (98 in) by 2500 mm (98 in) to accommodate a person using a scooter who does not transfer to an office chair.

9.5.2 Common-Use Work Areas

Common-use work areas that are intended to be accessed and used by the general public, employees, clients, or customers shall

a) be located on an accessible interior route that meets the requirements of Clause 4.1, Accessible Interior Route;
b) where equipped with a door, have the door in compliance with Clause 3.2, Doors and Doorways;
c) have a clear floor space of 2500 mm (98 in) by 2500 mm (98 in) to accommodate a person using a scooter who does not transfer to an office chair;
d) have an accessible route that connects the activity elements within the work area;
e) where provided, have knee and toe clearance below work surfaces that comply with Clause 9.13, Service Counters;
f) be free of unnecessary background noise, permit comprehension by a person with hearing loss and meet the requirements of Clause 8.2, Acoustics;
g) where provided, have access to storage, shelving and display units, so that they
    i. are located a maximum of 1220 mm (48 in) above the floor where there is no obstruction greater than 500 mm (18 mm) deep; if there is an obstruction between 500 (20 in) and 625 mm (25 in), it shall be placed no higher than 1100 mm (43 in) above the floor; and
    ii. have a clear floor space 1370 mm (54 in) wide by 2200 mm (87 in) long in front of the units.

9.6 Libraries

Rationale

Traditional and automated systems for book and information retrieval should be available to all patrons and staff. Both the design of the facility and the provision of services should be considered when accommodating persons with various abilities.

Lighting requirements have a large impact on the ability to manoeuvre in a library.

The provision of workstations equipped with assistive technology, such as large displays, screen readers, etc., will increase the accessibility of a library.

The provision of book drop-off slots at different heights for standing and seated use will enhance usability.

Functional Description

This section addresses the accessibility or facilities and elements that are similar to library rooms. A library room can be a room or space in a public or private library building, or it can be a designated room in a building used for another purpose. The requirements in this clause can also be applied to other occupancies with similar features.

Technical Requirements

9.6.1 Location

Accessible fixed seating, tables, and study carrels shall be located on an accessible route in compliance with Clause 4.1, Accessible Interior Route.

9.6.2 Clearances

Clearances between fixed seating, tables, and study carrels shall comply with Clause 4.1, Accessible Interior Route.

9.6.3 Shelving

Where shelving is provided at fixed seating, tables, or study carrels, the shelving shall

a) be no higher than 1220 mm (48 in) where there is no obstruction; and
b) be no higher than 1100 mm (43 in) where there is an obstruction between 500 mm (20 in) and 625 mm (25 in) deep.

9.6.4 Study Carrels

Accessible fixed study carrels shall

a) incorporate work surfaces and knee/toe clearance in compliance with Clause 9.13, Service Counters;
b) incorporate an electrical outlet that meets the requirements of 8.3, End User Controls and Operating Mechanisms; and

c) meet the requirements in Clause 8.4, Interior Lighting, at the work surface.

9.6.5 Security Gates

Where provided, controlled access, traffic control, or book security gates shall have a clear width of 900 mm (35 in) and comply with Clause 3.1.7, Controlled Entrances.

9.6.6 Aisles and Self-Service Areas

9.6.6.1 Aisle Configuration

Aisle configurations shall incorporate a clear floor space of 2020 mm (80 in) allowing a person in a wheelchair to make a 180° turn within the configuration.

Note: A turning space can be provided at the end of the aisle.

Committee Comment

The requirement does not suggest the aisle width is 2020 mm (80 in) wide, but that the configuration allows for it.

9.6.6.2 Self Service

The self-service area shall

a) have a minimum clear aisle space at card catalogues, study carrel, microfiches, computer stations, etc., and at stacks complying with Clause 4.1, Accessible Interior Route;
b) meet the requirements of Clause 9.13, Service Counters; and
c) have a minimum of one movable chair provided at every information service counter, computer catalogue, or computer workstation.

9.6.7 Reach

Reach heights at card catalogues shall be a maximum of 1220 mm (48 in) from the floor to allow a person from a seated position to reach the card catalogues.

9.6.8 Shelf Height

Shelf height in stack areas is unrestricted, and thus assistance shall be provided to customers to access unreachable items on shelves.

9.6.9 Book Drops

Book drop slots shall

a) be located on an accessible route complying with Clause 4.1, Accessible Interior Route and Clause 5.1, Accessible Exterior Route;
b) be located adjacent to a 2500 mm (98 in) by 2500 mm (98 in) level clear floor space that complies with Clause 3.6, Ground and Floor Surfaces;
c) have a tonal contrast to the wall of at least 70%; and
d) have a slot that is operable using a closed fist, located between 860 mm (34 in) and 900 mm (35 in) above the floor.

9.6.10 Lighting

Lighting in a library shall meet the requirements of Clause 8.4, Interior Lighting.

9.6.11 Acoustics

The acoustic quality shall be free of unnecessary background noise and shall permit comprehension by persons with hearing loss and meet the requirements of Clause 8.2, Acoustics.

9.6.12 Separate Space

Where there is a separate space provided for listening or reviewing library materials without disturbing other library users, the provided space shall be on an accessible interior route and shall meet the requirements of Clause 3.2, Doors and Doorways, Clause 4.1, Accessible Interior Route, and Clause 9.13, Service Counters.

9.6.13 Signage

Informational and directional signage shall comply with Clause 6.1, Signage, and Clause 6.4, Wayfinding.

9.7 Temporary Facilities

Rationale

Temporary facilities provide goods and services similar to permanent facilities. They may be constructed to meet emergency situations and, as such, are required to provide services to all residents, including people with disabilities. Temporary facilities such as first aid facilities and special event structures are also covered by human rights

legislation requiring accessibility for persons with disabilities.

People with a wide range of different disabilities, including those who have low or no vision, are Deaf, deafened, or hard of hearing and people who use wheeled mobility devices, those pushing strollers or those with temporary disabilities require access to temporary facilities. In emergency situations, there may be a larger than normal use of these facilities by people with disabilities.

Functional Description

This section addresses the accessibility of facilities and elements that are unique to temporary facilities, which include, but are not limited to, school portables, washrooms, special event facilities, first aid and emergency shelters, and temporary housing.

Technical Requirements

9.7.1 Detailed Requirements

Temporary facilities, including portables, shall meet the requirements of this Standard as they apply to permanent facilities.

Note: This also includes emergency systems requirements.

9.7.2 Washrooms

Where washrooms are provided in a temporary facility, accessible washrooms shall be provided complying with Clause 7.2, Washrooms, as well as Clause 7.5, Water Closet Stalls, or Clause 7.7, Universal Toilet Rooms.

9.8 Cafeterias and Restaurants

Rationale

Cafeteria serving line and seating area designs must consider lower sightlines, reduced reach, and the knee/toe-space and manoeuvring requirements of a person using a wheeled mobility device. Cafeterias and restaurants should enable independence. Patrons should be able to obtain service as independently as possible.

Patrons using mobility devices might not be able to hold a tray or food items while supporting themselves on canes or while manoeuvring a wheeled mobility device. Tray slides should be designed to move trays with minimal effort.

Features such as colour contrasts and large print signage can assist persons with low or no vision.

9.0 Special Rooms, Spaces and Other Elements

Functional Description

This section addresses the accessibility facilities and elements that are unique to fixed items in cafeterias and restaurants within buildings and that are in addition to other accessibility requirements.

Technical Requirements

9.8.1 Layout

9.8.1.1 Random Access

Where random access layouts in a cafeteria are provided, the following shall be provided

a) counter heights in accordance with Clause 9.13, Service Counters;
b) access to food/drink stations with a clear floor area of 1370 mm (54 in) wide and 2200 mm (87 in) long for both a forward approach and side approach;
c) where possible, a mobile tray (e.g., walkalator) on wheels that will allow patrons to obtain their own food and drink;
d) tonal or texture contrasts to delineate different stations; and
e) an audible or tactile map of the station layout.

Note: The trend in cafeteria design is to have a random access service layout that consists of various stations. Random access plans for cafeterias do not work for persons with disabilities unless they have accessibility features built in.

9.8.1.2 Cash Register

Where a cash register counter is used, the following shall be provided;

a) counter heights in accordance with Clause 9.13, Service Counters;
b) access to stations with a clear floor area for both a forward approach of 810 mm (32 in) wide and 2200 mm (87 in) long and side approach of 2200 mm (87 in) wide by 810 mm (32 in) long;
c) where possible, a mobile tray on wheels that will allow the customer to obtain their own food/drink; and
d) where possible, the cash register display shall be facing the customer.

Note: Where possible, assistance should be provided so that the patron is able to get to a table from the cash register counter.

9.8.2 Tray Rails

Where provided, tray rails shall have a maximum side reach for grasping of 500 mm (20 in) and a height in accordance with Clause 9.13, Service Counters, to allow a patron to reach over the tray rails.

9.8.3 Food Display and Overshelf

9.8.3.1 Overshelf Height

Where provided, an overshelf shall have a maximum height range of 1220 mm (48 in). Where the obstruction is 254 mm (10 in) or less, the maximum height cannot exceed 1170 mm (46 in).

9.8.3.2 Open Space

The open space between sections of the overshelf/display shall have a minimum width of 610 mm (24 in) at specified intervals depending on the length of the service line.

Committee Comment

If open spaces are not provided, extra service would need to be provided to carry the food item to the customer around the counter or at the cash.

The intent of the open space is to have a break in the overshelf so something can be transferred (e.g., food between the serving area and the person requesting the service.

9.8.4 Beverage Dispensers

Beverage dispensers shall have

a) a space provided to set down a cup in front of beverage dispensers; and
b) a clear floor space to access a beverage dispenser provided for both a forward approach of 810 mm (32 in) width and 1370 mm (54 in) length and side approach of 2200 mm (87 in) width by 810 mm (32 in) length.

9.8.5 Fixed Seating

Restaurants with fixed seating shall

a) comply with the requirement in Clause 9.12.1, Designated Space; and
b) have an accessible interior route between fixed seating in accordance with Clause 4.1, Accessible Interior Route.

9.8.6 Non-Fixed Seats

Accessible seating for non-fixed seats shall

a) provide a minimum floor clearance of 500 mm (20 in) deep that is not part of the accessible route, for wheeled mobility devices at the seat;

b) provide a minimum floor clearance of 600 mm (24 in) adjacent to the 500 mm (20 in) for the customer and other customers in the facility to be able to access the table; and
c) maintain an accessible interior route in accordance with Clause 4.1, Accessible Interior Route.

9.8.7 Service Lanes

9.8.7.1 Width

Where a rail separates a cafeteria service line from the rest of the space the clear distance between the tray rail and the separating rail shall be between 920 mm (36 in) and 1100 mm (43 in) wide.

Note: The intent of this clause is to ensure the space is adequate for a person in a wheeled mobility device to move forward through a service line.

9.8.7.2 Directional Indicators

Service lanes shall have directional indicators that comply with Clause 8.6.1.4, Tactile Surface Direction Indicators, to assist people with low or no vision.

9.8.8 Floor Level Changes

Only accessible level changes are permitted in a cafeteria or restaurant, and shall meet the requirements of Clause 3.6.2.2, Changes in Floor Surface Levels.

9.9 Stages

Rationale

Stages and stage equipment must address all accessibility issues. The issues include, but are not limited to, circulation access to stage areas, raked seating, spaces required for sign language interpreters, adjustable podiums and microphones, assistive listening systems and visual, life safety devices and tactile.

Functional Description

This section addresses the accessibility of facilities and elements that are unique to stages and daises, which are defined as raised platforms. Stages are elements comprised of raised platforms, exterior and interior to buildings, generally used for performances and presentations. Traditionally, stages are provided in auditoria, theatres and in lecture halls. Stages are raised to allow for easy viewing by an audience. They are accessed via a ramp and stairs and are generally equipped with a

podium and microphone. Assistive listening systems are provided to accommodate audience members who are people who are hard of hearing.

Technical Requirements

9.9.1 General

Stages/daises, including any portable or temporary ramps and stairs designed to access them, shall

a) be considered as floor areas;
b) be free of obstacles;
c) where provided, have overhanging and protruding objects that comply with Clause 3.7, Overhanging and Protruding Objects; and
d) meet the design requirements of Clauses: 3.4, Ramps; 3.5, Stairs; 3.6, Ground and Floor Surfaces; and 4.1, Accessible Interior Route.

Note: This clause applies to both interior and exterior stages/daises.

9.9.2 Location

Stages/daises shall be located on an accessible interior route to both the audience and backstage areas.

9.9.3 Assistive Listening Devices

Assistive listening devices for audience members shall be provided in compliance with Clause 9.16, Assistive Listening Systems for Assembly.

9.9.4 Stage Edges

The edge of the stage shall be marked from the surrounding surface that provides a tonal contrast of at least 70%.

9.9.5 Sign Language Interpreters

Space for sign language interpreters and captioning shall be provided on the stage, near the speaker and be sufficiently illuminated to be easily seen from all areas where the audience may be located.

9.10 Parking

Rationale

Some of the barriers that currently exist with regard to parking are as follows:

a) Standard parking spaces are not always adequate for many persons with disabilities (i.e., spaces too small, inadequate clear height, inadequate access zones for vehicle ramps, etc.);
b) Poor identification and signage make it difficult to find accessible spaces; and
c) Parking is hampered by poor maintenance — the accumulation of ice and snow, storage of shopping carts.

This section addresses two types of parking spaces:

Type A parking space — Mobility-aided: for people who need larger parking spaces for larger vehicles (such as vans), as well as clear access space for entering and exiting the vehicle (such as lifts to assist wheeled mobility aids).

Type B parking space — Distance-limited: for people who have difficulty traveling a great distance to the building entrance but do not necessarily have a larger vehicle. There is also a need for adequate access to exit the vehicle by opening the door sufficiently wide to manage a mobility aid such as a walker or cane.

Functional Description

This section addresses the accessibility of accessible parking facilities within interior and exterior parking lots, including enclosed and open air parking garages, exterior surface parking, on-street parking, and access to parking meters and ticket machines.

Technical Requirements

9.10.1 Access from Parking Spaces to an Accessible Entrance

An accessible route shall

a) be provided from the accessible parking spaces to the accessible building entrance and be part of the shortest accessible route to the building or facility entrance;
b) wherever possible, be designed to avoid entering the vehicular routes and drives;
c) be designed to avoid curbs. Where curbs cannot be avoided, they shall comply with Clause 5.2, Curb Ramps; and
d) comply with Clause 5.1, Accessible Exterior Route.

9.10.2 Directional Signage to Accessible Parking Spaces

Where the location of designated accessible parking spaces is not obvious or is distant from the approach viewpoints, directional signage shall

a) be placed along the route leading to the designated parking spaces;
b) incorporate the International Symbol of Access and the appropriate directional arrows; and
c) comply with Clause 6.1, Signage.

9.10.3 Signage

9.10.3.1 Directional Signage to the Nearest Accessible Facility Entrance

Where the location of the nearest accessible entrance is not obvious or is distant from the approach viewpoints, and/or the accessible parking spaces, directional signs shall

a) be placed along the route leading to the nearest accessible entrance to the facility;
b) incorporate the symbol of access and the appropriate directional arrows; and
c) comply with Clause 6.1, Signage.

9.10.3.2 Placement

Each accessible parking space shall be designated with signage that is

a) mounted vertically on a post that has a tonal contrast of at least 70% with the surrounding and background environment;
b) at least 300 mm (12 in) wide and 450 mm (18 in) high;
c) installed at a height of 1500 mm (59 in) to 2500 mm (98 in) from the ground/floor surface to the centre line of the sign;
d) for perpendicular or angled parking, centred on and at the front of the parking space;
e) for parallel parking, located adjacent to and toward the front of the parking space; and
f) incorporated with pavement markings that
    i. are located near the back of the designated parking space for 90° or angled parking, and centered on the parking space for parallel parking spaces;
    ii. are 1525 mm (60 in) wide by 1525 mm (60 in) deep;
    iii. have a white border with a blue background field colour; and
    iv. contains the International Symbol of Access.

9.10.4 Parking Spaces

Accessible parking spaces and adjacent access aisles shall

a) be located on an accessible route complying with Clause 4.1, Accessible Interior Route or Clause 5.1, Accessible Exterior Route;

b) have a firm, stable, and slip resistant surface;
c) have a maximum running slope of 1:50 (2%);
d) have a maximum cross slope of 1:50 (2%); and
e) incorporate post-mounted signage and pavement markings, as outlined in Clause 9.10.3.1, Signage.

9.10.5 Access Aisles for Vehicles Parked at 90°

Access aisles for vehicles parked at 90° shall

a) adjoin an accessible route;
b) extend the full length of the parking spaces they serve;
c) be marked so as to discourage unauthorized parking;
d) not overlap the vehicular way;
e) have markers and painting with slip resistant finish; and
f) be 1500 mm (59 in) in width.

Notes:
(1) Caution should be used when using paint to mark the access aisle area. Painting the entire access aisle area could make the surface slippery when wet. Sand or some other similar abrasive material could be added to the paint.
(2) Two parking spaces may share a common access aisle and may be placed on either side of the parking space.

9.10.6 Parking Spaces

All buildings, for which parking is provided, shall provide accessible parking spaces.

9.10.7 Type A Mobility-Aided Parking Dimensions

Where Type A parking spaces are provided, they shall

a) be at least 2600 mm (102 in) wide;
b) have an adjacent access aisle at least 2000 mm (79 in) wide clearly indicated by floor markings;
c) have a height clearance of at least 2750 mm (108 in) at the parking space and along the vehicle access and egress routes; and
Note: If adequate clear height cannot be obtained in an enclosed parking garage, the minimum required number of Type A spaces should be located at grade.
d) be marked with unique signage that notes that this accessible parking space has been designated for people who need larger parking spaces for larger vehicles (e.g., vans).

Note: Two adjacent spaces may share an access aisle.

9.10.8 Type B Distance-Limited Parking Dimensions

Where Type B parking spaces are provided they shall

a) be at least 2400 mm (94 in) wide;
b) have an adjacent access aisle at least 1500 mm (59 in) wide clearly indicated by floor markings. Two adjacent spaces may share an access aisle;
c) be a maximum of 30 m (98.4 ft) from the accessible main building entrance or main facility entrance; and
d) have a height clearance of at least 2100 mm (83 in) at the parking space and along the vehicle access and egress routes.

Committee Comment

Some of the barriers that currently exist with regard to parking for many persons with disabilities are spaces that are too small, inadequate clear height, inadequate access zones for vehicle ramps. Additionally poor identification and signage makes it difficult to find accessible spaces.

This section addresses two types of parking spaces:

Type A parking space — Mobility-aided: for people who need larger parking spaces for larger vehicles (such as vans), as well as clear access space for entering and exiting the vehicle (such as lifts to assist wheeled mobility aids).

Type B parking space — Distance-limited: for people who have difficulty traveling a great distance to the building entrance but do not necessarily have a larger vehicle. There is also a need for adequate access to exit the vehicle by opening the door sufficiently wide to manage a mobility aid such as a walker or cane.

Some Committee members recommend that Type A parking spots should not be required to be close to the accessible entrance; however, some members have concerns regarding how different types of accessible parking spots would be regulated.

Other jurisdictions have specifications for both car and van accessible parking spaces; however, there is no requirement that van spaces be limited to vans only, eliminating the requirement for a separate regulatory process.

9.10.9 Number of Designate Type A and Type B Parking Spaces

Accessible parking spaces shall be provided as follows:

a) If only one parking space is provided, that space must meet Type A parking dimensions but not be designated an accessible parking space and located within 30 m (98.4 ft) from the accessible main entrance of the building;
b) If there are two to five spaces provided, there shall be one designated accessible

space that meets the dimensions of Type A;

c) If there are six to twenty parking spaces provided, there shall be at least one space that meets the dimensions of Type A and one space that meets the dimensions of Type B;
d) At least 5% of the total parking spaces in a parking lot or structure shall be accessible for over 20 spaces, no less than 50% shall be Type A parking spaces; and
e) Where more than one parking facility (lot or structure) is provided on a site, the number of accessible spaces provided on the site shall be calculated according to the number of spaces required for each parking facility (lot or structure).

Note: For specific high use facilities such as hospitals and pharmacies, additional accessible parking spaces may be required.

Committee Comment

The Committee identified the minimum number of accessible parking spaces based on understanding the number of accessible parking permits issued.

9.10.10 Number of On-Street Parking Spaces

Five per cent of on-street parking spaces shall be designated as accessible Type A parking spaces. The parking spaces shall be dispersed as determined by the municipalities.

9.10.11 On-Street Parking

Where on-street parking is provided for Type A and Type B parking spaces, an accessible path of travel from the parking space to the sidewalk shall be provided.

9.10.12 Indoor Parking Structures

Convex mirrors shall be positioned in indoor parking lots to assist people who are Deaf, deafened and hard of hearing to see on-coming vehicle or pedestrian traffic.

9.10.13 Lighting

The accessible parking space, access aisle and path of travel shall be well lit and comply with Clause 8.4, Interior Lighting, and/or Clause 8.5, Exterior Pedestrian Lighting.

9.10.14 Parking Meter / Dispensing Machine

Where provided, a parking meter or ticket-dispensing machine shall

a) have a clear ground/ floor area of 1370 mm (54 in) wide by 2200 mm (87 in) long to allow for either a forward or side approach;
b) have its operating mechanisms located no higher than 1220 mm (48 in) above the ground/floor;
c) comply with Clause 8.3, End User Controls and Operating Mechanisms;
d) comply with Clause 3.6, Ground and Floor Surfaces; and
e) where these requirements are impossible to meet there should be a means for the parking patron to obtain assistance to purchase a ticket.

9.10.15 Vehicle Block Heater Receptacles

Where vehicle block heaters are supplied they shall

a) be located no higher than 1200 mm (47 in) above the ground;
b) be located off the path of travel; and
c) be accessible to a person using a wheeled mobility device.

9.10.16 Shopping Cart Storage

Where there is storage in the parking area for shopping carts, there shall be shopping cart return areas in close proximity to the accessible parking spots.

9.11 Waiting, Line-up and Queuing Areas

Rationale

Queuing areas for information, tickets or services should permit persons who use wheelchairs, scooters and other mobility devices as well as persons with a varying range of user ability to move through the line safely and conveniently.

Waiting and queuing areas need to provide space for mobility devices, such as wheelchairs and scooters. Queuing lines that turn corners or double back on themselves will need to provide adequate space to manoeuvre mobility devices. Providing handrails in queuing lines may be useful support for individuals and guidance for those with low or no vision. The provision of benches in waiting areas is important for individuals who may have difficulty with standing for extended periods.
It is important to provide and use visual indicators for Deaf, deafened and hard of hearing people in queuing areas.

Functional Description

The section addresses waiting, line-up and queuing areas within a building and in the exterior environment.

Technical Requirements

9.11.1 Access

Waiting line-up and queuing areas shall be on an accessible route complying with Clause 4.1, Accessible Interior Route, or Clause 5.1, Accessible Exterior Route.

9.11.2 Waiting Line-Up and Queuing Area Guides

Waiting line-up and queuing area guides shall

a) be separated by a clear width of at least 1100 mm (43 in);
b) have a clear floor area of at least 2200 mm (87 in) by 2200 mm (87 in) where line-ups change direction and where they begin and end;
c) be cane detectable at or below 680 mm (27 in) from the floor;
d) be stable and not move easily;
e) have a tonal contrast of at least 70% with their surroundings;
f) have a glare-free finish; and
g) where waiting line-up and queuing area guides are permanent, use directional indicators and comply with Clause 8.6.1.4, Tactile Surface Direction Indicators.

Notes:
(1) Ropes should not be used for queue line as they are difficult to detect with a long cane.
(2) These waiting line-up and queuing area guides may or may not be permanent.

9.11.3 Floor Surface

The floor surface through a waiting line-up and queuing area shall

a) comply with Clause 3.6, Ground and Floor Surfaces; and
b) have texture and a tonal contrast of at least 70% with the surrounding surfaces.

9.11.4 Seating

Seating for a waiting line-up and queuing area shall

a) be provided and comply with Clause 9.12, Accessibility Seating Spaces; and
b) be located adjacent to, but attached to the accessible interior route.

9.11.5 Signage

Directional signage identifying the waiting line-up and queuing area shall be provided and comply with Clause 6.1, Signage.

9.11.6 Signals

Signals for available service in queuing areas shall be visual as well as auditory.

Note: An example would be where a bell rings when the next available service window is available, etc.

9.11.7 Call Button

Where permanent waiting line-up and queuing area guides are present, a call button shall be placed at the beginning and end of the queuing line so that assistance can be requested.

9.12 Accessibility Seating Spaces

Rationale

Accessible viewing and sitting areas are required for indoor and outdoor environments, including, but not limited to, theatres, performance halls, religious institutions, sporting/recreation/competition venues, and outdoor environments such as natural and built amphitheatres and outdoor sporting/recreation/competition venues.

Designated viewing areas are required for individuals unable to use typical fixed seating. Viewing areas should provide adequate space to manoeuvre a mobility device as large as a scooter and should not be limited to one location. Adjacent designated companion seating should also be provided. Guards placed around a viewing area should not interfere with the line of sight of someone sitting in a wheeled mobility device. A choice of locations and a range of ticket prices should be available.

People who are distance challenged need to have ergonomic seating at regular intervals to rest. As well, some users of mobility devices will want to transfer to a fixed seat and have a space to store their mobility device.

Functional Description

This section addresses accessible seating spaces and adjacent areas with fixed seating, for persons who use wheelchairs, power chairs, scooters, service animals, or who may use other assistive devices

Technical Requirements

9.12.1 Designated Space

In an assembly occupancy with fixed seats the minimum number of

a) accessible spaces designated for wheelchair, power chair, or scooter use shall be 3% or no less than one of the seating capacity, rounded up to the next whole number; and
b) adaptable seats shall be 5%, or no less than one of the seating capacity, rounded up to the whole next number.

9.12.2 Detailed Requirements

Spaces designated for a wheeled mobility device use shall

a) have a clear and level floor area;
b) have a clear floor space to allow a mobility device user to make either a forward or side approach and have space to transfer as follows
    i. not less than 2200 mm (87 in) wide and 900 mm (35 in) long to permit a wheeled mobility device to enter from a side approach; or
    ii. 900 mm (35 in) wide by 1370 mm (54 in) long from the front or rear of the space;
c) be arranged so that at least two accessible designated spaces are side by side;
d) be located adjoining an accessible route without infringing on egress from any row of seating or any aisle requirements;
e) be situated, as part of the designated seating plan, to provide a choice of viewing locations and a clear view of the event taking place where possible, in spaces exceeding 200 seats, a choice of seating shall be provided. Designated seating shall not be limited to the back or front of the seating area;
f) have at least one companion (e.g., support person, children) seat provided next to each wheelchair seating area;
    Note: Companion seating to be calculated in addition to the required accessible seating spaces specified in Clause 9.12.1, Designated Space.
g) be permitted to have temporary seats to be used in designated accessible areas that, if not required, can be used by someone else;
h) be dispersed throughout the seating area on all levels; and
i) where provided, comply with Clause 9.16, Assistive Listening Systems for Assembly.

9.12.3 Storage Space and Location

Storage space shall

a) be provided for mobility devices to be stored;

b) accommodate at least one mobility device in facilities with less than 200 seats and two mobility devices in facilities with more than 200 seats; and
c) have a minimum floor space of 810 mm (32 in) wide by 1370 mm (54 in) deep per device.

Note: Storage space for mobility devices shall be located on the same level as the related designated seating spaces.

9.12.4 Adaptable Seating

Adaptable seating shall be an aisle seat with removable, foldable or no armrest, and the availability of this seating shall be clearly posted and comply with Clause 6.1, Signage.

Note: This type of seating can be used for persons to transfer from a wheel chair or scooter into the fixed seating.

9.12.5 Force

The force required to open a seat that closes under a spring action shall not exceed 22.2 N (5 lb).

9.13 Service Counters

Rationale

Service counters must be designed to address a wide range of accessibility issues. Heights and reach of counters must address mobility and mobility device issues: colour, contrast, texture and sound must address visual accessibility issue.

Functional Description

This section addresses the accessibility facilities and elements that are unique to service counters; including, but not limited to, reception desks, check-out stations, teller counters, information kiosks, money (ATM's), and food (food vendors) and that are in addition to other accessibility requirements.

Technical Requirements

9.13.1 Designated Section

Service counters shall have a designated accessible section suitable for wheeled mobility devices or persons seated in chairs. The designated service counter section shall

a) have a clear floor space, in front of the designated counter area that is
    i. at least 810 mm (32 in) wide by 1370 mm (54 in) long for a forward approach;
    ii. at least 2200 mm (87 in) wide by 810 mm (32 in) long for a side approach; and
    iii. centred on the designated service counter section;
b) have a clear knee-space under the counter that is at least 500 mm (20 in) deep by 760 mm (30 in) wide by 700 mm (28 in) high;
c) have a clear toe-space under the counter that is at least 600 mm (24 in) deep by 760 mm (30 in) wide by 350 mm (14 in) high;
d) where intended to be accessible from both sides, have clear floor space, knee-space and toe-space on both sides in compliance with this Clause;
e) have a visual tonal contrast to distinguish the surface/edge of the counter from surrounding finishes of at least 70%; and
f) have its countertop no higher than 860 mm (34 in) above the floor.

9.13.2 Counter Depth

Where a service counter is intended for seated use on both sides by wheelchair users, the depth of the section of the counter designated for use shall

a) where a forward reach is required, be no more than 635 mm (25 in) deep;
b) where a side reach to touch is required, be no more than 610 mm (24 in) deep;
c) where a side reach to grasp reach is required, be no more than 500 mm (20 in) deep; and
d) be less than 1000 mm (39 in) deep.

9.13.3 Partitions

The positioning of grills, slats, talk-through baffles, and intercoms, shall be such that the individuals face is still visible for those who rely on visual communication especially the Deaf, deafened and hard of hearing individuals.

9.14 Balconies and Porches

Rationale

Where a number of balconies, porches, are provided for a single building, it is desirable to consider options for different levels of sun and wind protection.

Examples of design considerations include the following:

a) Doors incorporating large expanses of glazing should be appropriately marked to increase their visibility.

b) Thresholds at balcony doors should be avoided by sinking the door tracks or framing.
c) The placement of railings and guards should take into account the viewing characteristics of seated persons and should be tonal contrasted to enhance visibility for everyone, but particularly persons with low vision.

Functional Description

This section addresses spaces that may be used as building exits and areas of refuge, such as common-use balconies, porches, in buildings. Private balconies, porches, and terraces that are attached to dwelling units are not considered in this clause.

Technical Requirements

9.14.1 Location and Depth

Balconies and porches shall have

a) an accessible route; and
b) a minimum depth of 2000 mm (79 in).

9.14.2 Threshold, Door Stop and Door Openers

Balconies and porches shall have

a) thresholds at balconies, porches, and terraces used for exiting or refuge be
    i. bevelled at a maximum slope of 1:2 (50%) at changes in level of not more than 13 mm (0.5 in); and
    ii. provided with sloped floors or ramps at changes in level of more than 13 mm (0.5 in);
b) a door stop and door sweep to threshold, still, track or glide that does not impede access to the balcony, or porch; and
c) automatic door openers for common balconies, porches, used for exit or refuge, in compliance with Clause 3.2.9, Power Door Operator.

9.14.3 Guardrails and Guards

Balconies, porches and terraces shall have

a) where doors open directly into an accessible route, cane detectable guardrails or other barriers located perpendicular to the wall containing the door; and
b) guards at balconies and porches, used for exiting or refuge that
    i. are designed to facilitate visibility through the guard; and
    ii. have a visual tonal contrast of at least 70% between horizontal and vertical guard/floor surface and horizontal tonal contrast at the top of the guard.

Note: Guards at balconies, porches, and terraces may consist of vertical pickets or glass.

9.14.4 Surfaces

The ground/floor surface of balconies and porches used for exit or refuge shall

a) be firm, slip resistant and comply with Clause 3.6, Ground and Floor Surfaces;
b) be sloped at a ratio of no more than 1:50 (2%) to permit drainage;
c) where provided have spacers for drainage no wider than 6 mm (0.25 in); and
d) have a clear accessible route.

9.15 Terraces and Patios

Rationale

Terraces and Patios that are part of an outdoor common use area should have sufficient space between elements such as tables, chairs, service stations, storage areas, etc., to allow unobstructed circulation.

Where table seating is provided, there should a variety of locations that allow patrons to have a choice that will enable them to enjoy views or sunshine, or be protected from outdoor elements such as wind or rain.

When fences, rails, or guards are used to define a terrace or patio area, they often protrude into a public right of way or travel route located outside of the space. This causes an obstruction for those using mobility devices and can cause a potential hazard for those with low or no vision.

Shadows caused by trellises, overhangs, planters, branches, canopies, and other exterior elements can create uneven light distribution and potentially hazardous conditions for those with low vision.

Functional Description

This section addresses access to terraces and patios within the exterior environment, including those that are related to the exterior of a building, such as those that serve as an extension of restaurants, bars and retail shops, hotel banquet facilities, viewing areas, etc.

This clause does not apply to

a) outdoor areas that are part of private residential dwelling such as a detached or semi-detached house, townhouse, or condominium; and
b) areas around pools, spas, or designated rest and viewing areas.

Technical Requirements

9.15.1 Accessible Route

The accessible route to a terrace or patio shall comply with Clause 4.1, Accessible Interior Route, for interior spaces and Clause 5.1, Accessible Exterior Route, for exterior spaces.

9.15.2 Entrances

The entrances into a terrace or patio shall comply with Clause 3.1, Entrances.

9.15.3 Surface

The ground or floor surface of a terrace or patio shall

a) be level, firm, and slip resistant; and
b) comply with Clause 3.6, Ground and Floor Surfaces.

9.15.4 Fencing, Handrails, and Guards

Where fencing, railings, or guards are

a) used to identify terrace or patio area limits they shall
    i. not protrude onto an accessible route, travel route, etc.;
    ii. be cane detectable complying with Clause 3.7.1, Protruding Objects;
    iii. where a railing or guard is not an independent structure of the facility comply with Clause 9.14.3, Guardrails and Guards; and
    iv. comply with other jurisdictions having authority, Clause 3.4.8, Guards at Ramps; and
b) not used to identify patio area limits, the perimeter of the surrounding surface shall be clearly demarcated so that tables, chairs, and other related items do not extend into the pedestrian right of way or designated pedestrian accessible route.

9.15.5 Lighting

Light from a terrace or patio area shall

a) not spill onto, or create glare, on an accessible route located outside of and adjacent to the patio area; and
b) comply with Clause 8.5, Exterior Pedestrian Lighting.

9.15.6 Seating

Tables and seats in a designated patio area shall accommodate patrons using a variety of mobility devices.

9.15.7 Amenities

Where washroom or lavatory facilities are provided, they shall

a) comply with Clause 7.1, Lavatories, and Clause 7.2, Washrooms; and
b) be located near a terrace or patio and on an accessible route in compliance with Clause 4.1, Accessible Interior Route, and/or Clause 5.1, Accessible Exterior Route.

9.15.8 Other

Where shade umbrellas, hanging baskets, heaters, and other related items are used, they shall not be located in an accessible route to create overhanging or protruding hazards and shall comply with Clause 3.7, Overhanging and Protruding Objects.

9.16 Assistive Listening Systems for Assembly

Rationale

Captioning and descriptive video systems enable people who are Deaf, deafened and hard of hearing or who have low or no vision to participate in assembly facilities.

Functional Description

This section addresses systems that enable people with sensory disabilities to attend and participate as audience members at assembly facilities. Assistive listening systems are sound amplifications systems that include infrared, inductive loop systems, FM, and direct wire systems. These systems transmit sound that can be picked up by someone with a hearing aid or with a special receiver.

Adaptive systems for assembly enable people with sensory disabilities to have access to information shared in assembly facilities (movies theatres, educational and religious institutions, and other places of assembly). This may be accomplished by the use of assistive listening devices, rear view captioning (Rear Window® Captioning; RW®C), descriptive video (Descriptive Video Service®; DVS®), or other developing technologies.

Technical Requirements

9.16.1 Support Measures

An assembly facility shall include technology to provide the appropriate support for

a) patrons with low or no vision; and
b) Deaf, deafened, and hard of hearing patrons.

Note: The ability of an exhibitor to offer captioning in movie theatres depends on the studio that distributes the film providing a captioned version. If the studio does not caption a film, neither RW®C nor any other captioning technology will provide captions to be shown in a movie theatre, even where the exhibitor has installed a captioning system.

9.16.2 Assistive Listening Devices

In buildings of assembly occupancy, all classrooms, auditoria, meeting rooms and theatres with an area of more than 100 m^2 (120 yd^2) and an occupant load of more than 75 shall be equipped with assistive listening systems encompassing the entire seating area.

9.16.3 Minimum number of devices

New theatres and movie houses shall be equipped with assistive listening and captioning devices at a minimum of 4% of the available seating within each screening room.

9.16.4 Universal Hook Up

Listening device systems shall be provided with universal hook up and electrical outlets where required.

9.17 Passenger Boarding Areas

Rationale

Passenger boarding areas are important features for individuals who have difficulty walking distances, for those who use specialized transit or mobility devices, and for those who require someone to accompany them (e.g., a person with low or no vision or a cognitively disability, the very young, and seniors). Passenger boarding areas should allow persons to be dropped off or picked up in a safe, convenient, comfortable, and

efficient manner. From the boarding zone, they will be able to easily access the building or facility they are attending.

Functional Description

This section addresses the characteristics of barrier free passenger boarding areas both exterior to and within a building where passengers transfer from vehicles such as cars, vans, taxis and buses, to a pedestrian area which provides an accessible route to a building or other facility. It should be noted that bus stops and bus shelters are not passenger boarding areas.

Technical Requirements

9.17.1 General

Where passenger boarding areas are provided they shall meet the requirements of Clause 9.17.

9.17.2 Accessible Route

Accessible routes for boarding areas shall

a) be on an accessible route complying with Clauses: 4.1, Accessible Interior Route; and/ or 5.1, Accessible Exterior Route;
b) be removed from the flow of traffic;
c) where provided, have bench seating that meets the requirements of Clause 9.2.1.1(c);
d) where curbs are used, have at least one curb ramp complying with Clause 5.2, Curb Ramps; and
e) where curbs are not used, be separated from the walkway by a detectable hazard indicator that complies with Clause 8.6.1.3, Tactile Attention Surface Indicators.

Note: A sheltered boarding area with seating is beneficial to protecting people from inclement weather.

9.17.3 Access Aisle

Passenger boarding areas shall provide an access aisle at least 2000 mm (80 in) wide and 7000 mm (276 in) long, adjacent and parallel to the vehicle pull-up space.

9.17.4 Height Clearance

Passenger boarding areas shall have a minimum vertical clearance of 5000 mm (197 in) at the boarding area and along the vehicle access route to such areas as the site entrances.

9.17.5 Signage

Passenger boarding areas shall have appropriate signage marking the area complying with Clause 6.1, Signage.

9.17.6 Lighting

Passenger boarding areas shall meet the requirements in Clause 8.4, Interior Lighting, or Clause 8.5, Exterior Pedestrian Lighting, as applicable.

9.18 Windows

Rationale

Windows and glazed screens, when designed for the purpose of view, are a barrier when placed at a height that does not permit viewing for persons with disabilities; it should be noted that some glazed panels are not meant for viewing.

Operating controls for windows are a barrier when placed in a location not accessible to persons with disabilities. The window-opening controls (for ventilation purposes) are a barrier when the equipment is difficult to grasp or requires significant strength or twisting to operate.

Functional Description

This section addresses space requirements for access to windows, glazed screens, vision panels in doors, and fully-glazed sidelights intended for viewing and ventilation.

Technical Requirements

9.18.1 Sill Height

Windows and glazed screens that are specifically designed for the purpose of viewing a feature, shall

a) be located no more than 660 mm (26 in) above the floor; and
b) elsewhere, be no more than 1100 mm (43 in) above the floor.

9.18.2 Horizontal Structures

Horizontal structures or beams used across windows shall not be located between 900 mm (35 in) and 1300 mm (51 in) above the floor.

Committee Comment

The intent of this clause is to not have a support structure for a window be at the eye level of a person seating in a wheeled mobility device.

9.18.3 Operating Controls

Window-operating controls provided for ventilation purposes shall

a) be located between 380 mm (15 in) and 1220 mm (48 in) above the floor in order to be reachable from a seated position;
b) have a clear floor area of 2200 mm (87 in) in length by 1370 mm (54 in) in width to permit both forward and side approach and use by a person using a mobility device; and
c) comply with Clause 8.3, End User Controls and Operating Mechanisms.

9.18.4 Tonal Contrast Band

Wall systems that incorporate large expanses of windows, glazed screens or vision panels shall be marked with a horizontal band that complies with Clause 3.2.12, Fully-Glazed Doors, and has a tonal contrast of at least 70% with its surrounding.

9.19 Community Mailboxes

Rationale

Community mailboxes are locations where people collect and send their mail from a common delivery or sending area. This clause addresses the location of such mailboxes, as well as the ability of persons with disabilities to access them. The configuration of the mailboxes themselves is beyond the scope of this Standard due to the fact that mailboxes are under federal jurisdiction.

Community mailboxes should be located on an accessible route and have appropriate space beside them for a wheeled mobility device user to park.

The design and placement of the mailboxes is under federal jurisdiction according to Canada Post's **Delivery Planning Standards Manual** (February 2004). Given this limitation, the Committee has provided requirements that address access to, egress

from, and the ground surrounding the mailboxes and mail drop boxes.

Functional Description

This section addresses community mailboxes, which are defined as places where people collect or send their mail from a common delivery or sending area. It provides requirements for the location of such mailboxes, as well as provisions to enable persons with disabilities to access them.

This section does not address the design and configuration of mailboxes.

Note: The design and configuration of mailboxes is under federal jurisdiction. Canada Post's Delivery Planning Standards Manual (February 2004) sets out specifications for mailbox design and location.

Technical Requirements

9.19.1 Exterior Community Mailboxes

Where provided, exterior mailboxes and exterior community mailboxes shall

a) be cane detectable and be no higher than 680 mm (27 in) above the floor/ground surface;
b) be located along an accessible exterior route in compliance with Clause 5.1, Accessible Exterior Route;
c) have a minimum clear floor area of 810 mm (32 in) wide and 1370 mm (54 in) long for a forward approach and the minimum clear floor area of 1370 mm (54 in) wide and 2200 mm (87 in) long for a side approach to the mailbox by an occupied mobility device;
d) have at least 10% of mailboxes, and no less than one mailbox, for users to pick up mail, that is be reachable from a seated position;
e) where a mail drop-off box/slot is provided, be reachable from a seated position; and
f) have operating mechanisms in compliance with Canada Post's Delivery Planning Standards Manual (February 2004) and Clause 8.3, End User Controls and Operating Mechanisms.

9.19.2 Drop-off Area and Short Duration Parking for Exterior Community Mailboxes

A drop-off area and short duration parking area adjacent to the accessible exterior route leading to the community mailbox shall be provided. The drop-off area shall be provided in accordance with Clause 9.17, Passenger Boarding Areas. The parking area shall be provided in accordance with Clause 9.10, Parking.

9.19.3 Interior Mail Boxes

Where provided in venues such as offices complexes, apartment complexes, and retail stores, pick-up mailboxes shall

a) have a minimum clear floor area of 810 mm (32 in) wide and 1370 mm (54 in) long for a forward approach and the minimum clear floor area of 1370 mm (54 in) wide and 2200 mm (87 in) long for a side approach to the mailbox by an occupied mobility device;
b) have operating mechanisms in compliance with Canada Post's Delivery Planning Standards Manual (February 2004) and Clause 8.3, End User Controls and Operating Mechanisms;
c) provide signage that complies with Clause 6.1, Signage;
d) be located on a clear accessible interior route in accordance with Clause 4.1, Accessible Interior Route; and
e) be cane detectable no higher than 680 mm (27 in) maximum above the floor/ground surface.

Note: Where mail service must be accessible because of occupant needs, Canada Post should be consulted.

10.0 Transient Residential

10.1 Transient Lodging Guest Rooms

Rationale

As persons with disabilities could be guests, staff, or visitors, it is important to ensure access to all areas of transient lodging facilities including, but not limited to, all lobby areas, reception areas, restaurants, business centres, recreation centres, pools, spas and saunas. This clause addresses only the sleeping areas in transient lodges.

Within the rooms, it is important to consider the needs of everyone. Lower door viewers, as well as storage provided at a variety of heights, accommodate persons using a mobility device, as well as people of short stature. Providing a clear transfer space adjacent to the bed accommodates persons using mobility aids, as well as people who might require assistance from a caregiver. Balconies and decks associated with transient lodging should have a zero step threshold and a door meeting the minimum clear width requirements to ensure they are accessible to all guests, visitors, and staff. Bathrooms, kitchens, and kitchenettes are integral to the use of the rooms and should be accessible.

Visual alarms are an invaluable safety feature and should be provided in all public spaces and in all guest rooms to ensure the safety of all guests, staff, and visitors, including people who are deaf, deafened, or hard of hearing.

Functional Description

This section addresses the accessibility facilities and elements that are unique to transient lodging guest rooms, including, but not limited to, rooms in hotels, motels and boarding houses, and that are in addition to other accessibility requirements.

Technical Requirements

10.1.1 Design Considerations

At least 10% of a facility's transient lodging guest rooms shall

a) be distributed among accessible storeys;
b) have an accessible interior route extending to a balcony when all similar rooms have balconies;
c) have a bathroom that
    i. conforms to the requirements of Clause 7.7, Universal Toilet Rooms; and
    ii. has a bath or shower that conforms to the requirements of Clause 7.8, Showers Areas and Clause 7.9, Bath Tubs;

d) have a power door operator that complies with Clause 3.2.9, Power Door Operator; and
e) be located near an elevator or an area of rescue assistance, in case of an emergency.

10.1.2 General

All accessible guest units, sleeping guest rooms, and guest suites shall

a) be on an accessible interior route that complies with Clause 4.1, Accessible Interior Route;
b) have an accessible interior route extending to the inside of each guest room;
c) have a 1200 mm (47 in) clear width manoeuvring space located along both sides of a bed;
   Note: where two beds are provided, this requirement may be met by providing a 1200 mm (47 in) wide manoeuvring space between the two beds.
d) have sufficient space around furniture to allow persons using mobility aids to move around easily (minimum of 1070 mm [42 in]);
e) have an accessible interior route connecting all accessible spaces and elements (e.g., living room, sleeping area, balcony, kitchen) including telephones;
f) have controls that comply with Clause 8.3, End User Controls and Operating Mechanisms;
g) have thermostats, electrical switches, and duplex outlets mounted no lower than 600 mm (24 in) and
   i. where there is no obstruction, no higher than 1200 mm (47 in) from the floor; and
   ii. where there is an obstruction between 500 mm (20 in) and 625 mm (25 in), no higher than 1100 mm (43 in) high from the floor; and
h) where provided, have an air-conditioning system easily accessed and controlled; and
i) have window drapes and/or blind controls, cords, or fling rods that are easy to reach and use and that are no lower than 380 mm (15 in) and no higher than 1220 mm (48 in) from the floor.

10.1.3 Emergency Power

Where emergency power is provided, at least one accessible guest room or suite shall include at least one duplex outlet on emergency power for a guest who might require ventilation or other constant electrical support equipment.

10.1.4 Doors

Doors and doorways designed to allow passage into and within all sleeping guest rooms, suites, or other covered units shall

a) comply with Clause 3.2, Doors and Doorways; and
b) have a lower peephole provided no higher than 1100 mm above the floor.

10.1.5 Floor Surfaces

Floor surfaces shall comply with the following requirements:

a) all floor materials shall be laid so that there are no open joints or projecting elements that might cause a tripping hazard;
b) the junctions between floors and walls shall be clearly visible (e.g., through the use of a tonal contrast of at least 70%);
c) all floor finishes in accessible suite bathrooms, showers, and powder rooms shall be of slip resistant, non-glare materials and shall be compliant with Clause 3.6, Ground and Floor Surfaces; and
d) carpet shall be of firm, low-loop pile and easy for a mobility device user to roll over without difficulty (e.g., be level-looped, non-static, securely fastened).

10.1.6 Wall Surfaces

Wall surfaces shall have a finish that minimizes glare.

10.1.7 Balconies

Where balconies are provided, the balcony doors and the thresholds shall comply with Clause 9.14, Balconies and Porches.

10.1.8 Storage

When located in accessible spaces, fixed or built-in storage facilities (e.g., cabinets, shelves, closets, and drawers) shall

a) provide at least 1500 mm (59 in) clear floor space in front of coat closets or other storage units, for easy access by persons using mobility devices;
b) comply with the reach, dexterity, and height requirements specified in Clause 8.3, End User Controls and Operating Mechanisms; and
c) be reachable from a seated position at a maximum of 1220 mm (48 in) high from the top of the finished floor.

Note: Additional storage may be provided outside of the required dimensions.

10.1.9 Bathroom Storage

Where no counter space is provided in an accessible bathroom, storage space or shelving shall be provided.

10.1.10 Kitchens, Kitchenettes, and Wet Bars

Where provided as an accessory to a guest room or suite, kitchens, kitchenettes, wet bars, or similar amenities shall comply with Clause 9.3, Kitchens and Kitchenettes.

10.1.11 Furniture

Furniture in accessible guest rooms shall

a) have the top of the mattress on the bed be located between 430 mm (17 in) to 460 mm (18 in) from the floor, so that persons can easily transfer from a mobility device to the bed;
b) have table lamps or standard lamps be sturdy and of the touch-type variety, so that persons with limited reach or dexterity can turn them on/off with a closed fist;
c) have tables or desks that have a knee clearance of at least 810 mm (32 in) wide by 740 mm (29 in) deep to accommodate mobility devices;
d) not impede access to a telephone jack provided at the bedside and the desk;
e) have portable/cordless phones that comply with Clause 6.5, Public Telephones;
f) have central information telephones (e.g., at the reception desk) fitted with a TTY device for persons who are Deaf, deafened or hard of hearing;
g) provide assistive technology such as amplified telephones, TTY, captioning units for TVs, bedshakers and visual signalers to indicate someone is at the door, telephone is ringing, wake up call or room service; and
h) not impede access to at least on of the electrical outlets.

10.1.12 Fire Safety

Accessible suites shall have

a) exit instructions that are available printed in large text and mounted in an accessible, highly visible location in each suite; and compliant with Clause 6.1, Signage;
b) fire alarms that have both a visual and audible signal; and
c) vibrating pagers, pillow or bed shakers to notify persons with hearing loss that a fire alarm has been activated.

10.1.13 Adjoining Guest Room Doors

Where provided, adjoining guest room doors shall have a clear open width of 900 mm (35 in).

11.0 Recreation Elements and Facilities

11.1 Paths and Trails

Rationale

Opportunities for recreation, leisure and active participation should be available to all members of the community. Outdoor trails and pathways which offer a range of levels of difficulty will allow each individual to choose their preferred route based on their abilities and desired level of challenge.

The accessibility strategy commonly applied to natural environments is to provide appropriate accessibility for persons with disabilities wherever practical, and to provide relevant information on the grade, cross-slope, width, surface, or length of the trail where it is not practical or appropriate to fully comply with the requirements.

Functional Description

This section addresses the accessibility of trails in natural exterior environments such as parks and wilderness areas. Such recreation areas typically contain a wide variety of trails. A trail is distinguished from an exterior walkway. Trails are themselves the recreational activity (such as hiking, biking, and nature trails) and should be designed to meet a variety of needs and interests. Trails are also a voluntary activity. Unlike exterior walkways, trails do not provide an essential link to outdoor facilities and elements. Exterior walkways that provide access to outdoor facilities and elements shall comply with Clause 5.1, Accessible Exterior Route.

Technical Requirements

11.1.1 Criteria for Exception

11.1.1.1 Conditions

For recreation trails that are designated for pedestrian use, regardless of the surface material used (boardwalk, pavement, dirt, concrete, asphalt, etc.), the specifications of Clauses 11.1.2 through 11.1.16 shall be met on the trail and the connecting surfaces to the trail, except where the following criteria for exception would occur such that compliance would

a) cause substantial harm to cultural, historic, religious or significant natural features or characteristics (environmentally sensitive areas);
b) substantially change the intended experience provided by the facility;
c) require construction methods or materials that are prohibited by federal, provincial, or local law, other than laws whose sole purpose is to prohibit use by persons with disabilities;

d) be impractical due to physical terrain; or
e) compromise volunteer activity.
Note: Exception item e) is intended to ensure that volunteers can continue to build and maintain these parks and trails without having to perform work that is beyond their capacity.

11.1.1.2 Variances

Should one or more of the criteria for exception outlined in Clause 11.1.1.1, Conditions, be met, then the conditions on the recreation trail can vary, to the minimum required over the shortest distance possible.

11.1.2 Optional Experience

Recreation trails provide an optional experience for those who wish to use the trail. Outdoor paths that provide access to accessible outdoor facilities and elements that people use for activities of daily living are not recreation trails. The paths that provide access to facilities for daily living must comply with Clause 5.1, Accessible Exterior Route, so that they provide a higher level of access.

11.1.3 Width

11.1.3.1 Minimum Width

The minimum width of the trail surface shall be 1500 mm (59 in).

11.1.3.2 Variance in Width

Should one or more of the criteria for exception outlined in Clause 11.1.1, Criteria for Exception, be met, the trail width may be reduced to less than 1500 mm (59 in), provided that passing spaces at least 1500 mm (59 in) in width and 1500 mm (59 in) long are provided at intervals not to exceed 100 m (109 yd). The reduction in width shall be as small as possible, to an absolute minimum of 1000 mm (39 in), and the reduced width shall occur for the shortest distance possible.

11.1.4 Running Slope

11.1.4.1 General

The running slope shall be the minimum slope required for drainage.

11.1.4.2 Maximum

The maximum running slope shall not exceed 1:10 (10%) except at the bottom of open drainage structures where the running slope may be a maximum of 1:7.1 (14%) for a distance of 1500 mm (59 in).

11.1.4.3 Sheet Drainage

The running slope shall be equal to or less than the cross slope to maintain sheet drainage.

11.1.4.4 Provision of Level Rest Area

Where the running slope exceeds 1:20 (5%), a level rest area shall be provided every 100 m (109 yd).

11.1.4.5 Elements or Facilities

Where there are elements or facilities along the trail that are intended for use or operation by users of the trail, an area shall be provided on all operating sides of the element or facility that has a running slope of 1:20 (5%) or less and is at least 1500 mm (59 in) in diameter.

Note: Elements or facilities could include washrooms, drinking fountains, etc.

11.1.4.6 Rate of Change

The rate of change over a 2 m (6.5 ft) distance shall not exceed 10%. Rate of change is calculated as the sum of the two adjacent slopes (in percent).

11.1.5 Cross Slopes

11.1.5.1 Minimum

The cross slope shall be the minimum slope required for drainage and in no case shall exceed 10%.

11.1.5.2 Sheet Drainage

The cross slope shall be equal to or greater than the running slope to maintain sheet drainage.

11.1.5.3 Level Rest Area

Where the cross slope exceeds 1:20 (5%), a level rest area will be provided every 100 m (109 yd).

11.1.5.4 Elements or Facilities

Where there are elements or facilities along the trail that are intended for use or operation by users of the trail, an area shall be provided on all operating sides of the element or facility that has a cross slope of 1:20 (5%) or less and is at least 1500 mm (59 in) in diameter.

Note: Elements or facilities could include washrooms, drinking fountains, etc.

11.1.5.5 Rate of Change

The rate of change over a 2 m (6.5 ft) distance shall not exceed 10%. Rate of change is calculated as the sum of the two adjacent slopes (in percent).

11.1.6 Total Slope

The total slope of running and cross slopes shall not exceed 1:6.67 (15%).

11.1.7 Surface

11.1.7.1 General

The surface of the trail shall be

a) firm, stable, and produce minimal glare; and
b) resistant to damage by normally occurring weather conditions and able to sustain the wear and tear produced by normally permitted uses between planned maintenance cycles.

11.1.7.2 Information

Where one or more of the criteria for exception (see Clause 11.1.1) prevent the creation of a firm and stable trail surface, either temporarily or throughout the permitted seasons of use, information describing the surface conditions shall be made available to trail users.

Note: For example, sand dunes are constantly shifting and a trail on the dune surface might not be firm and stable. In this case, information about the trail surface should be made available to trail users with disabilities.

11.1.8 Tonal or Texture Contrast

High tonal or texture changes of at least 70%, and/or changes in surface texture shall be used to distinguish the edge of the trail and to identify the location of facilities and elements along the trail as needed.

Note: This will enable individuals with low or no vision to independently and safely negotiate the environment.

11.1.9 Protruding Objects

Overhanging and protruding objects on a trail shall comply with Clause 3.7, Overhanging and Protruding Objects.

11.1.10 Changes in Level

11.1.10.1 Tripping Hazard

Changes in level should be the minimum permitted by the terrain. Changes in level cannot exceed 75 mm. Trails with a hard, constructed surface (e.g., asphalt, concrete, interlocking brick, boardwalk) must bevel all changes in level greater than 20 mm, with the slope of the bevel not exceeding 1:2 (50%).

11.1.10.2 Tonal Contrast

If the change in level requirement cannot be met due to the criteria for exception (see Clause 11.1.1), then a high tonal contrast of at least 70% and texture changes shall be implemented to highlight the location of the non-compliant changes in level.

11.1.10.3 Total Slope

Where elements or facilities exist that trail users are expected to operate (e.g., gates), the total slope shall not exceed 1:40 (2.5%).

11.1.11 Openings in the Surface

11.1.11.1 Sinking

Openings in the trail surface (e.g., grates or spaces between boards on a boardwalk) shall be designed so as not to allow any permitted users or their assistive devices to sink below the level of the surrounding trail surface.

11.1.11.2 Elongated Openings

Elongated openings shall have the long dimension of the opening perpendicular or diagonal to the direction of travel.

11.1.11.3 Size of Opening

The opening shall not allow passage of a sphere 13 mm (0.5 in) in diameter.

11.1.12 Edge Protection

11.1.12.1 Trails Near Water

Guards complying with Clause 3.4.8, Guards at Ramps, shall be provided on constructed paths adjacent to water where there is an immediate drop greater than 600 mm (24 in).

11.1.12.2 Drainage

The edge protection shall be designed so as not to impede drainage of the trail surface.

11.1.12.3 Tonal or Texture Contrast

Where edge protection is provided, it shall have

a) a tonal contrast of at least 70% with it surroundings; and/or
b) texture contrast marking.

11.1.13 Signage

11.1.13.1

Where signage is provided for trail users, it shall meet the requirements of Clause 6.1, Signage, and Clause 6.2, Information / Visual Display Systems, except where the illumination of signs at night is not required.

11.1.13.2

Signage shall be easily understood and detectable by users of all abilities.

11.1.14 Trails Allowed to Move by Design

If a trail is intended to move by design, it shall comply with the requirements in Clauses 11.1.3 through 11.1.13, and in addition the trail shall

a) incorporate slip resistant materials;
b) have a width of at least 2000 mm (79 in); and
c) incorporate a handrail on both sides of the movable section of trail tread.

Note: Examples of this type of trail include suspension bridges and floating boardwalks.

11.1.15 Seating

Where level seating is provided it shall meet the requirements of Clause 5.5.2, Amenities — Seating and Benches.

Note: Intervals for bench spacing should respect the demographics of the trail user.

11.2 Amusement Parks

Rationale

Opportunities for participation should be available to all members of the community.

Functional Description

This section addresses the accessibility of amusement parks and rides. An amusement ride is a system that moves people through a fixed course within a defined area for the

purpose of amusement. These requirements apply to newly designed or newly constructed and altered amusement rides. A new ride refers to the “first use” of the ride by patrons. If a ride is moved to a different location, it is not considered “new” if patrons have taken a ride on the device at a previous location. The requirements do not apply to existing rides, except that the ride entrance and exit must be located on an accessible exterior route.

These requirements do not provide the designs for amusement rides. Rather, they are intended to provide specifications for elements of amusement rides that are important for enabling people of all abilities to enjoy the ride. Enjoyment of a ride encompasses access to the ride, as well as use of specific elements.

Vehicles, such as trams or gondolas, that can be enjoyable but are primarily used to transport people (e.g., to the top of a mountain) are not covered by this clause. Other elements found in amusement parks that are not part of a ride (e.g., toilet facilities, theatres, swimming facilities) are not covered by this clause but must comply with the appropriate provincial regulations.

Technical Requirements

11.2.1 Exterior Walkways

All accessible exterior routes within an amusement park shall meet the requirements of Clause 5.1, Accessible Exterior Route, and shall

a) connect all facilities, rides, and elements within an amusement park; and
b) connect all entrances to and exits from the amusement park with passenger loading/unloading areas, sidewalks, transit stops, and parking areas that serve the amusement facility.

11.2.2 Controls

Controls and operating mechanisms that a patron uses during the ride shall

a) meet the requirements of Clause 8.3, End User Controls and Operating Mechanisms; and
b) have a high visual tonal contrast of at least 70% with its surrounding, and/or changes in surface texture shall be used to clearly identify surfaces that the patron is expected to use.

11.2.3 Traveling Rides

11.2.3.1 General

Rides that require the patron to walk, slide, or otherwise use their own physical effort to travel through the ride shall comply with Clauses 11.2.3.2 to 11.2.3.9.

11.2.3.2 Running Slope and Cross Slope

The patron's accessible interior route through the ride shall have a running slope and a cross slope that are 1:10 (10%) or less.

11.2.3.3 Width

11.2.3.3.1 Minimum

The accessible interior route through a ride shall have a minimum width of 1000 mm (39 in).

11.2.3.3.2 Two Rider Minimum

A minimum width of 1800 mm (71 in) shall be required on rides where a patron (e.g., a young child) might need to be held by another person.

11.2.3.4 Protruding Objects

Protruding objects along the patron's accessible interior route shall comply with Clause 3.7, Overhanging and Protruding Objects.

11.2.3.5 Changes in Level

Changes in level within the ride, including the loading and unloading areas, shall

a) not present a tripping hazard or impede the passage of individuals using assistive devices;
b) be bevelled at a slope of no more than 1:2 (50%) if the change in floor level is between 20 mm (0.8 in) 50 mm (2 in); and
c) not exceed 50 mm (2 in).

11.2.3.6 Surface

11.2.3.6.1

The surface of the accessible interior route through the ride shall

a) be firm, stable, and slip-resistant;
b) meet the requirements of Clause 3.6, Ground and Floor Surfaces;
c) not have openings in the surface unless they are essential to the safe operation of the ride or the provision of the intended ride experience;
d) where openings are required, not allow any portion of permitted users or their assistive devices to sink below ground level; and
e) where elongated openings are provided, have the long dimension of the opening perpendicular or diagonal to the direction of travel.

11.2.3.6.2

The floor of an amusement ride with wheelchair spaces and the floor of its load and unload areas shall be coordinated so that, when the amusement ride is at rest in the load and unload position, the vertical difference between the floors shall be within 20 mm (0.8 in) and the horizontal gap shall be no greater than 75 mm (3 in) under normal passenger load conditions.

11.2.3.7 Patron Seating

Seating for patrons that is provided within the ride shall comply with the bench requirements in Clause 9.2.1.1(c).

11.2.3.8 Patron Loading and Unloading

The patron loading and unloading area shall have a turning space of 2500 mm (98 in) by 2500 mm (98 in) at each loading/unloading area, to allow a user of a wheeled mobility aid to turn out of the loading/unloading area.

11.2.3.9 Patron Transfer

Rides that require the patron to transfer into or onto a moving vehicle or surface shall have a staged loading/unloading procedure such that the movement of the patron onto or off of the moving surface is separate from the transfer into or out of the assistive mobility device.

11.2.4 Transport Rides

11.2.4.1 General

Rides that transport patrons in such a way that they are not required to walk, slide, or otherwise use their own physical effort to travel through the ride shall meet the requirements of Clauses 11.2.4.2 to 11.2.4.7.

11.2.4.2 Running Slope and Cross Slope

The surface on which the patron sits or stands while travelling through the ride shall have running and cross slopes that are 1:20 (5%) or less, unless the ride securely attaches the patron in a static position within the ride vehicle so that the patron’s position cannot change with a change in slope, in which case the ride shall meet the slope requirement while the vehicle is stationary and throughout the loading and unloading areas, but does not have to meet this requirement while the ride is in progress and the patron is restrained.

11.2.4.3 Width

11.2.4.3.1 Minimum

The accessible interior route through a ride shall have a minimum width of 1000 mm (39 in), unless the ride securely attaches the patron in a static position within the ride vehicle so that the patron’s position cannot change during the ride, in which case the width requirement does not apply.

11.2.4.3.2 Two Rider Minimum

Where a patron (e.g., a young child) might need to be held by another person the rides width shall comply with Clause 11.2.3.3.2, Two Rider Minimum (for traveling rides).

11.2.4.4 Protruding Objects

Protruding objects along the patron's accessible interior route shall comply with Clause 3.7, Overhanging and Protruding Objects.

11.2.4.5 Surface

The surface on which a patron sits or stands while travelling through the ride shall comply with Clause 11.2.3.6.1, items a) to e).

11.2.4.6 Patron Seating

Patron seating shall

a) have at least one accessible seat per 20 patron seats in use; and

   Note: An access seat can be a seating space suitable for a person using an assistive mobility device, a seat designed for transfer, or a transfer device designed to transfer a person using a wheelchair from the load and unloads area to a ride seat. The ride operator/designer/manufacturer determines which type(s) of access seats will be provided for the ride.

b) have a restraint system that will secure the head, torso, and limbs of the patron in a safe position throughout the ride. Except on rides where restraining a portion of the patron's body would compromise the intended ride experience, the ride operator is responsible for ensuring that patrons understand the potential for injury and the risk to which a paralyzed or uncontrolled body part could be exposed due to sudden changes in movement.

   Note: When designing patron restraint systems, ride designers should bear in mind that some patrons might not have independent control of all body parts.

11.2.4.7 Patron Loading and Unloading

Patron loading and unloading areas shall

a) be designed so that the patron can move on and off of the ride at their preferred speed of movement;
b) have a turning space that complies with Clause 11.2.3.8, Patron Loading and Unloading (for traveling rides);
c) where rides require the patron to transfer into/onto a moving vehicle or surface, have a staged loading/unloading procedure such that the patron's movement onto or off of the moving surface is separate from the transfer into or out of the assistive mobility device; and
d) where rides require the patron to transfer, provide an area to safely store the mobility device while the patron is on the ride and a means for the patron to return to the mobility device at the end of the ride.

11.3 Play Areas

Rationale

Children with disabilities require access to play facilities to provide opportunities for the development of motor skills and cognitive skills. Requiring play facilities to be accessible is the only way to ensure that children with disabilities or the children of a parent with a disability have equal opportunities for peer interaction and the development of socialization skills. Children without disabilities will also benefit from the increased diversity within play areas provided by accessible play facilities.

The integration of universally accessible play features within play areas will also have benefits for parents of children with disabilities. Reducing travel costs to take their children to a “special” accessible play area, and allowing parents and other adults with disabilities better supervision of children in play areas, are two of these benefits.

Where planting beds are provided as part of the play space, consider using raised beds, fragrant planting materials and Braille signage, to provide added value for persons who have no or low vision or for persons using mobility aids.

Functional Description

This section addresses children’s public play structures, the areas around them, and the related site elements and facilities required to accommodate both children with disabilities and their caregivers. It is intended to make play spaces accessible to and usable by persons with physical or sensory disabilities; such as, mobility, hearing, low or no vision, reaching and/or dexterity disabilities.

This Standard applies to accessibility to public-use play spaces and play equipment found in schools, parks, childcare facilities, institutions, multiple-family dwellings, private resort and recreation developments, restaurants, and other areas of public use. It does not cover movable toys, sport facilities and other types of recreational facilities.

Technical Requirements

11.3.1 General

Where provided, play areas shall meet the applicable requirements of the following clauses:

a) Clause 5.1, Accessible Exterior Route;
b) Clause 5.2, Curb Ramps;
c) Clause 7.2, Washrooms, and/or Clause 7.7, Universal Toilet Rooms;
d) Clause 9.10, Parking; and
e) Clause 9.17, Passenger Boarding Areas.

11.3.2 Playspaces

All children's play spaces shall be designed and built to in accordance Annex H of CAN/CSA Z614-07, Children's Play Spaces and Equipment, except that

a) all ground level components of a playspace shall be accessible;
b) ramps shall be used in conjunction with transfer systems for elevated play components; and
c) additional ground-level components shall not be substituted for providing non accessible elevated play components.

Committee Comment

Committee members recognize that play facilities that are not accessible place limits on opportunities for peer interaction for children with physical and sensory disabilities and the development of motor, cognitive and social skills. The absence of universally accessible play features currently means that parents have to travel to "special" accessible play areas which may not be the local play area enjoyed by other children within the neighbourhood.

This Standard applies to public-use play spaces found in schools, parks, childcare facilities, institutions, multiple-family dwellings, private resort and recreation developments, restaurants, and other areas of public use.

The Committee recommends that the CSA Z614-07 Annex H, Children's Play Spaces and Equipment is adopted into regulation and the scope expanded to provide more accessible play components within any given play space in the ways described within Clause 11.3.2. Members did not see an imperative to revise the technical specifications within CSA Z614-07 Annex H but to instead increase the percentage of accessible play components. They noted the possible consequence of fewer play spaces being built in the future because of the higher cost of construction.

11.4 Pools, Spas and Splash Pads

Rationale

Swimming is an important recreational and therapeutic activity for many persons with disabilities. The buoyancy and freedom offered by an immersive water environment can be enabling in themselves. Primary considerations for accommodating persons who have mobility disabilities include accessible change facilities and a means of access into the water. Ramped access into the water is preferred over lift access, as it promotes integration (everyone will use the ramp) and independence. Many persons who have no or low vision will benefit from tonal and textural cues along primary routes of travel and at potentially dangerous locations, such as the edge of the pool, at steps into the

pool and at railings.

Functional Description

This section addresses the accessibility of interior and exterior swimming pools, wading pools, spas (whirlpools, hot tubs) and splash pads intended for general use at public and private recreational facilities and buildings.

It does not apply to pools and spas that are located at private residential dwellings and are not available for public use. It does not address specifications for equipment or other related items such motors, pumps, sprays, slides, and play features.

Technical Requirements

11.4.1 Path of Travel

11.4.1.1 Parking and Drop off

Pools, spas, wading pools, and splash pads shall have an accessible route to and from all parking areas, drop-off zones, etc. that meets the requirements of Clauses: 5.1, Accessible Exterior Route; 5.2, Curb Ramps; and 6.3, Wayfinding.

11.4.1.2 Entrance

Interior and exterior pools, spas, wading pools, and splash pads shall have at least one accessible route from a main building entrance to the water area, and to the change room, showers, and washroom facilities if provided, which meets the requirements of Clauses: 3.1, Entrances, 4.1, Accessible Interior Route and/or 5.1, Accessible Exterior Route; and 6.3, Wayfinding.

11.4.2 Change Rooms

Where change rooms, showers, and lockers facilities are provided, they shall meet the requirements of Clause 9.2, Team Dressing Rooms, Change Rooms, and Fitting Rooms.

11.4.3 Detailed Requirements

11.4.3.1 General

All accessible pools, spas, and splash pads (modified pools) shall comply with Ontario’s Building Code Section 3.11.

11.4.3.2 Perimeter

All pools, spas, and splash pads (modified pools) shall have

a) a clearly demarcated route of travel around the perimeter of a pool deck that is a minimum of 1200 mm (47 in) wide; and
b) a tactile attention surface indicator at the edge of the pool that complies with Clause 8.6.4, Elevated Platforms.

Note: The designated route of travel around the pool deck should be kept free and clear of sunbathers, towels, toys, etc.

11.4.3.3 Storage

All pools, spas, and splash pads (modified pools) shall have an area where mobility aids or assistive devices that are not in use can be stored and secured so as not to obstruct circulation around the pool deck.

11.4.3.4 Deck

11.4.3.4.1

All pools, spas, and splash pads (modified pools) shall have a surrounding deck with a firm, stable, and slip-resistant surface.

11.4.3.4.2

If the surface is graded to drain water the running slope and cross slope shall not exceed 1:50 (2%).

11.4.3.4.3

Surface drains, if present, shall have openings no greater than 13 mm (0.5 in).

11.4.3.5 Service Animals Area

All pools, spas, and splash pads (modified pools) shall have an area where service animals can wait so as not to obstruct circulation around the pool deck.

11.4.4 Entry and Exit Points

11.4.4.1 Minimum

All pools, spas, and splash pads shall have a minimum of two egress points located along an accessible interior route and/or surface deck.

Note: Egress points may include ramps, transfer walls, stairs, and lifts.

11.4.4.2 Ramp, Steps and Transfer Wall

The egress points into a pool shall have a minimum of

a) one ramp, complying with Clause 3.4, Ramps; and
b) one transfer wall or stairs complying with Clause 3.5, Stairs.

11.4.5 Transfer Walls

11.4.5.1 Height

Transfer walls, if provided, shall have a height between 405 mm (16 in) and 485 mm (19 in) measured from the deck.

11.4.5.2 Depth

A transfer wall shall have a depth of 305 mm (12 in) minimum.

11.4.5.3 Surface

Transfer walls shall be slip resistant. Edges shall be rounded and there shall be no sharp corners.

11.4.5.4 Grab Bar

The transfer wall shall be equipped with at least one grab bar that

a) meets the requirements of Clause 7.5.4, Grab Bars, items c), d), e) and f);
b) is perpendicular to the pool wall and extends the full depth of the transfer wall;
c) has the top of its gripping surface 100 mm (4 in) minimum and 150 mm (6 in) maximum above the transfer walls; and
d) has a clearance of 610 mm (24 in) minimum on both sides, or if two grab bars are provided, has a clearance between grab bars of 610 mm (24 in) minimum.

11.4.6 Transfer Platform

11.4.6.1 Location

Where provided, a transfer platform shall be provided at the head of each transfer system.

11.4.6.2 Clear Area

Transfer platforms shall provide 485 mm (19 in) minimum clear depth and 610 mm (24 in) minimum clear width.

11.4.6.3 Transfer Space

A transfer space shall be provided for a user to make a lateral transfer to a platform and leave the mobility device on the deck. The transfer space shall

a) be outside and adjacent to the accessible route;
b) be a clear space of 900 mm (35 in) minimum by 2200 mm (87 in) minimum;
c) have a slope less than 1:50 (2%) provided at the base of the transfer platform surface;
d) be centred along a 610 mm (24 in) minimum side of the transfer platform; and
e) have no obstructions at the side of the transfer platform serving the transfer space.

11.4.6.4 Height

The height of the transfer platform shall be 405 mm (16 in) minimum and 485 mm (19 in) maximum, measured from the deck.

11.4.6.5 Transfer Steps

Transfer steps shall be 180 mm (7 in) high, and the surface of the bottom tread shall be at a depth of 455 mm (18 in) minimum below the stationary water level.

Note: Where possible, the height of the transfer step should be minimized to decrease the distance an individual is required to lift up or move down to reach the next step to gain access.

11.4.6.6 Surface

The surface of the transfer system shall be slip resistant. Edges shall be rounded and there shall be no sharp corners.

11.4.6.7 Size

Each transfer step shall have a tread clear depth of 355 mm (14 in) minimum and 430 mm (17 in) maximum and shall have a tread clear width of 610 mm (24 in) minimum.

11.4.6.8 Grab Bars for Transfer Platforms

11.4.6.8.1

A transfer platform shall have at least one grab bar on each transfer step and on the transfer platform, or a continuous grab bar serving each transfer step and the transfer platform that meets the following requirements:

a) where a grab bar is provided on each step, the tops of gripping surfaces shall be 100 mm (4 in) minimum and 150 mm (6 in) maximum above each step and the transfer platform; or
b) where a continuous grab bar is provided, the top of the gripping surface shall be 100 mm (4 in) minimum and 150 mm (6 in) maximum above the step nosing and transfer platform.

11.4.6.8.2

Grab bars shall

a) be located on at least one side of the transfer system;
b) be located at the transfer platform and not obstruct transfer; and
c) comply with Clause 7.5.4, Grab Bars, items c), d), and e).

11.4.7 Pool Lifts

11.4.7.1 Requirements

Where a ramp, transfer wall, or steps are not feasible due to limited space, then a pool lift shall be incorporated and shall comply with the requirements in Clauses 11.4.7.2

through 11.4.7.10.

Note: There are a variety of seats available on pool lifts, ranging from sling seats to those that are preformed or molded. Pool lift seats with backs will enable a larger population of persons with disabilities to use the lift. Pool lift seats that consist of materials that resist corrosion and provide a firm base to transfer will be usable by a wider range of people with disabilities. Additional options such as armrests, headrests, seat belts, and leg support will enhance accessibility and better accommodate people with a wide range of disabilities.

11.4.7.2 Location

Pool lifts shall be located where the water level does not exceed 1220 mm (48 in), except where the entire pool depth is greater than 1220 mm (48 in). Where multiple pool lift locations are provided, no more than one pool lift shall be required to be located in an area where the water level is 1220 mm (48 in) maximum.

11.4.7.3 Seat Location

In the raised position, the centreline of the seat shall be located over the deck and 405 mm (16 in) minimum from the edge of the pool. The deck surface between the centerline of the seat and the pool edge shall have a slope not steeper than 1:48 (2.08%).

11.4.7.4 Clear Deck Space

On the side of the seat opposite the water, a clear deck space shall

a) be provided parallel with the seat;
b) be 915 mm (36 in) wide minimum;
c) extend forward 1220 mm (48 in) minimum from a line located 305 mm (12 in) behind the rear edge of the seat; and
d) have a slope not steeper than 1:50 (2%).

11.4.7.5 Seat Height

The height of the lift seat shall be designed to allow a stop at 405 mm (16 in) minimum to 485 mm (19 in) maximum measured from the deck to the top of the seat surface when in the raised (load) position.

11.4.7.6 Seat Width

The seat shall be 450 mm (18 in) wide minimum.

11.4.7.7 Footrest

Pool lifts equipped with a footrest shall move with the seat.

11.4.7.8 Armrest

If provided, the armrest positioned opposite the water shall be removable or shall fold clear of the seat when the seat is in the raised (load) position.

11.4.7.9 Operation

The lift shall be capable of unassisted operation from both the deck and water levels. Controls and operating mechanisms shall be unobstructed when the lift is in use and shall comply with Clause 8.3, End User Controls and Operating Mechanisms.

Note: The provision for unassisted operation from both the deck and water levels allows the user to call the pool lift when the pool lift is in the opposite position. It is extremely important for a person who is swimming alone to be able to call the pool lift when it is in the up position so he or she will not be stranded in the water for an extended period of time awaiting assistance. The requirement for a pool lift to be independently operable does not preclude assistance from being provided.

11.4.7.10 Submerged Depth

The lift shall be designed so that the seat will submerge to a depth of 455 mm (18 in) minimum below the stationary water level.

11.5 Picnic Areas

Rationale

Picnic tables with an extension of the table surface make them accessible to a person using a wheelchair. A firm, level surface around the table, with an accessible path leading to the table, is required for wheelchair accessibility. A change in texture from a pathway to the picnic table area is an important cue for a person with low or no vision.

Where a number of picnic tables are provided, it is desirable to consider options for different levels of sun, shade and wind protection. This is of benefit to individuals with varying tolerances for sun or heat.

Functional Description

This section addresses areas that are eating and recreational areas for public use which incorporate a picnic table and may include, but are not limited to, benches, cooking grills, fire pits, lighting, picnic tables, public restrooms, shelters, trash receptacles, and water outlets.

Technical Requirements

11.5.1 Access to Picnic Areas

Access to picnic area elements and related facilities shall

a) be provided by an accessible exterior route that complies with Clause 5.1, Accessible Exterior Route, or by a trail complying with Clause 11.1, Paths and

Trails; and
b) be marked with signage that complies with Clause 6.1, Signage, and Clause 6.3, Wayfinding.

11.5.2 Clear Space — General

The clear space on all operating sides of the picnic elements shall

a) comply with Clause 5.1, Accessible Exterior Route, or where the element is on a trail, Clause 11.1, Paths and Trails;
b) not overlap with the accessible exterior route that provides access to the element, except;
    i. at toilets without walls; and
    ii. on all sides of a picnic table except one; and
c) extend a minimum of 2000 mm (79 in) from the edge of a fixed seat or other picnic area element, to the edge of the designated picnic surface.

11.5.3 Clear Space at Heat — Generating Elements

The clear space on all sides of heat-generating elements such as barbeque grills or fire pits shall

a) be a minimum of 1500 mm (59 in) wide; and
b) have a continuous tactile attention surface indicator installed at a minimum of 600 mm (24 in) from the leading edge of the heat-generating element.

11.5.4 Ground Surface

The ground surface of a picnic area shall

a) be firm and stable;
b) be sloped not steeper than 1:50 (2%) for drainage; and
c) have a visual tonal contrast of at least 70% and texture contrast with the surrounding area.

11.5.5 Picnic Tables

Where provided, picnic area tables shall

a) comply with Clause 9.13, Service Counters;
b) be designed to provide a variety of seating options; and
c) have space at the table where a person in a wheeled mobility device may either sit in their device or transfer onto a seat.

11.5.6 Washroom Facilities

Where enclosed washrooms are provided, they shall comply with Clause 7.5, Water Closet Stalls.

11.5.7 Controls and Operating Mechanisms

Controls and operating mechanisms on picnic area elements shall comply with Clause 8.3, End User Controls and Operating Mechanisms, and lighting on controls will be provided where power is available.

11.6 Exercise Equipment Placement

Rationale

Opportunities for recreation, leisure and active sport participation should be available to all members of the community. Access should be provided to sports facilities, including access to the site, all activity spaces, gymnasia, fitness facilities, lockers, change rooms and showers. Persons with a disability may be active participants, as well as spectators, volunteers and members of staff.

Appropriate access to exercise equipment primarily relates to providing a clear path of travel to reach the equipment, as well as sufficient clear floor space adjacent to the equipment for transfer or for use of the equipment by an individual seated in a wheelchair.

Functional Description

This section addresses access to exercise machines and other types of exercise equipment.

Note: Internationally accepted accessibility standards for the operation and use of exercise equipment are currently being developed through a joint European and North American initiative.

Technical Requirements

11.6.1 Accessible Routes and Clear Floor Space

11.6.1.1 Accessible Route

The route of travel to exercise equipment areas shall comply with Clause 4.1, Accessible Interior Route, and Clause 6.3, Wayfinding.

11.6.1.2 General

Exercise equipment areas shall

a) have floor surfacing along the route of travel comply with Clause 3.6, Ground and Floor Surfaces (i.e., it shall be slip resistant and non-glare); and
b) have lighting that complies with the interior lighting requirements of Clause 8.4, Interior Lighting.

11.6.1.3 Clear Space

Exercise machines and equipment shall

a) be positioned for ease of transfer and for use by an individual using a mobility aid; and
b) have a clear floor space of 810 mm (32 in) wide by 1370 mm (54 in) long, which may overlap with the clear floor or ground space of adjacent equipment.

11.7 Other Recreational Areas

Committee Comment

Sport and recreation facilities and outdoor spaces/venues are critical components of the built environment that must be accessible to people with disabilities. The list of recreational facilities/elements for which accessible built environment standards have been developed only addresses only a small portion of the sport and recreation built environment.

While the importance of ensuring that recreation facilities and outdoor spaces/venues are accessible to people of all abilities cannot be in dispute, it is equally important that the unique features that often characterize recreation facilities be recognized. These unique features, such as steep inclines, ice, water or sand, typically cannot comply with "traditional" accessibility standards for the built environment and yet are essential to the recreation activity and experience. Until additional standards are developed, the only recreation facilities subject to the current Standard will be recreation trails, amusement parks, play areas, pools/spas/splash pads, picnic areas and the placement of exercise equipment placement.

Members of the Committee drafted a proposal to develop standards for other sports and recreation facilities/elements by the end of 2011.

12.0 Transportation Elements

Committee Comment

The Committee is of the view that transit stations, bus stops and shelters should be accessible for persons with disabilities as part of an integrated accessible transit system.

13.0 Multi Unit Housing

13.1 Scope

The requirements of this Clause address multi-unit residential housing, including student residences.

Committee Comment

This Section does not apply to “houses” as described within Ontario’s Building Code: single; semi-detached; town and row houses; duplexes; triplexes; and apartments over small commercial occupancies.

This Section represents a broad-based framework that requires more detailed work to develop the concepts of visitability and adaptability.

13.2 Common Use Spaces

In multi-unit residential housing, the exterior route, building entrances, and all common use spaces and services shall comply with Clauses 3.0, 4.0, 5.0, 7.0 and 8.0 of this Standard.

13.3 Visitable Dwelling Units

13.3.1 General

All units in newly constructed multi-unit residential housing shall be visitable and the suite entry shall have a zero step entry.

13.3.2 Interior Circulation

The visitable level shall include at least one living space and a washroom as described in 13.3.5. On the visitable level, corridors shall be at least 920 mm wide and have no level changes requiring steps.

13.3.3 Doors

All doors, except for closet and pantry doors shall have a clear opening width in accordance with Clause 3.2.3, Clear Opening.

13.3.4 Washroom

On the visitable floor, a washroom shall be provided with

a) a door that swings outward or is sliding; and
b) a clear floor area of at least 920 mm wide by 1200 mm long.

Note: On a visitable floor, a washroom containing only a lavatory and toilet is acceptable, while a full bathroom is preferable.

13.3.5 Emergency Alarms

All emergency alarms (e.g., smoke and carbon monoxide) shall have an auditory and visual mode.

13.3.6 Electrical Wiring

Adjacent to the main entrance door of the unit, there shall be an electrical rough-in to accommodate the future installation of a power door, when needed.

13.4 Adaptable Housing

13.4.1 General

All multi-unit residential housing units greater than or equal to 46.5 m^2 (500 ft^2) shall be adaptable. Fifty percent (50%) of units that are less than 46.5 m^2 (500 ft^2) in a multi-unit residential building shall be adaptable.

Committee Comment

A standard approach for the calculation of square footage is required. Area shall be calculated in accordance with Tarion Builder Bulletin 22. Bulletin 22 is the standard used for new units in Ontario.

13.4.2 Interior Walls

An adaptable unit shall have the ability, where possible, to enlarge rooms through the removal of non-structural walls.

Note: The intent of this clause is to allow rooms within the living space (e.g., bedroom) to be enlarged to accommodate a mobility device through the easy removal of non-structural wall (i.e., non-cement walls).

13.4.3 Washrooms

An adaptable unit shall have a washroom that is designed to provide the ability to

a) make it larger to accommodate a mobility device; and
b) install a zero threshold roll-in shower.

13.4.4 Grab Bars

An adaptable unit shall provide blocking at appropriate locations for the future installation of grab bars.

13.4.5 Level Ceilings

An adaptable unit should consider the provision of a level ceiling to allow for the potential installation of a patient lift track.

14.0 Glossary and Units

14.1 Glossary and Definitions

Note: This glossary contains terms used in the Standard provided for clarification.

The following definitions apply in this Standard:

accessible exterior route – a route or path of travel that can be used by persons with physical or sensory disabilities outside of a building

accessible interior route – a route or path of travel that can be used by persons with physical or sensory disabilities within a building

accessible route – refers to both an accessible interior route and an accessible exterior route

adaptable housing – The mandatory features include

- barrier-free access to all suites and amenity areas,
- wider doorways,
- manoeuvring room at suite entries and corridors, access to a main-floor bathroom,
- reinforcement of bathroom walls for future installation of grab bars
- accessible door handles, switches, and outlets

assembly area – an area where a group of people can gather and be addressed audibly or visually as a group

automatically operable – to be operable without human interaction

barrier – anything that prevents a person with a disability from fully participating in all aspects of society because of his or her disability, including physical, architectural, information or communications, attitudinal, technological, policy or practice barriers

barrier-free – when applied to a building and its facilities, that the building and its facilities can be approached, entered and used by persons with physical or sensory disabilities

bevelled threshold – the sloped edge of a threshold

Braille (grade 1) – the Braille alphabet where each letter has a corresponding Braille sign

building systems – a combination of elements or components that form a complete major division of construction in the design of a building or part of a building (e.g.,

roofing, corridor, stair systems)

built environment – all public and private sector:

- buildings (including all features that would impede persons with disabilities from fully accessing or using the building or its facilities or circulating within it);
- site development (built elements, external parcels of land bounded by property lines);
- public ways (portions of land such as a street, road, highway, public square or other built area not designated as of a private nature); and
- public parks, trails and playgrounds.

circulation zone – An open area or space identified between fixed buildings, elements or components that is designated for the purposes of unrestricted pedestrian movement

clear- – a qualifier that, when added to 'floor area', 'width' (or similar expressions), refers to a space which is free and unobstructed by anything which may impede the passage of any wheeled mobility device.

closed fist test – ability to open and close locks and/or doors using one hand held in a fist

collapsible – to suddenly lose force and give way under a specific weight

common-use – areas available for use by the public

community mailbox – a grouping of many individual mailboxes provided to a community within the public realm or public street where mail can be picked up by an individual residents/businesses or may also apply to mailboxes within a multi-residential building or commercial mailbox facility

cross slope – The gradient change in level that runs perpendicular to an accessible route

dressing/change room – team/guest-team locker rooms that are not for the general public, but dedicated to the group using the playing field (e.g., hockey arena, basketball court). Generally contains showers, benches and cubby holes, hooks, etc.

disruptive patterns – heavily contrasted multi-directional surface design used in flooring and wall materials that can be confusing to individuals with low vision

element – are parts of buildings, facilities, or exterior as described in Clauses 3.0 to 13.0 of this Standard.

elevating device – A mechanical piece of equipment that is used to transport people and equipment vertically over varying levels, in a building or facility

elevator lobby – area in front of an elevator

exterior walk – A hard surface area that is used for exterior pedestrian circulation purposes and may extend beyond a facility's property limits

Note: Ontario's Building Code uses exterior walks only to refer to walks that are attached to a building and are not part of a public way. Since the Committee is using a different meaning, it would be helpful to make this clear in the glossary.

firm – a firm surface does not deform under the vertical forces exerted by permitted users

fitting rooms – a gender based change room generally provided in a clothing store to try on clothes

fixture – a receptacle, plumbing appliance, apparatus or other device that discharges sewage or clear water waste, and includes a floor drain
Note: Ontario's Building Code does not address or define other types of fixtures and fittings that are addressed in the Standard, such as pre-manufactured restaurant, retail or library shelving, displays and service fixtures or furnishings.

FlexHousing™ – is a concept in housing that incorporates, at the design and construction stage, the ability to make future changes easily and with minimum expense, to meet the evolving needs of its occupants.

forward approach – where a person will make use of a service counter, drinking fountain, etc. with themselves (and/or a mobility device) facing the item (service counter, drinking fountain, etc.)

freight elevator – an elevator designed for carrying freight

galley kitchen – A full kitchen in which there are two sides, and one would walk through the centre

guards – a protective barrier, with or without openings through it, that is around openings in floors or at the open sides of stairs, landings, balconies, mezzanines, galleries, raised walkways or other locations to prevent accidental falls from one level to another.

Note: Ontario's Building Code definition.

glazed – to be fitted with glass

handrail – Handrails are typically used to define the horizontal rail installed at stairs, ramps, escalators, elevators and some level changes to guide and assist the users of those elements. Handrails may be attached to a wall or guard. See definition of guard

heritage – any property that is
a) listed in a municipal register as being of cultural heritage value or interest as per section 27 of the Ontario Heritage Act;
b) designated by a municipality under section 29 of the Ontario Heritage Act;

c) included in a heritage conservation district designated by a municipality under section 41 of the Ontario Heritage Act;
d) designated by the Minister of Culture under section 34.5 of the Ontario Heritage Act; or
e) designated as of national historic significance by the Minister of the Environment for Canada on the advice of the Historic Sites and Monuments Board of Canada

hoistway – A passage through which an object may be raised; for example, an elevator shaft

hotel – floor areas, a floor area or part of a floor area that contains four or more suites and that provides sleeping accommodation for the travelling public or for recreational purposes

Note: Ontario's Building Code definition.

inclined platform lift – a device with a flat space that can fit a wheelchair and can transport people up and down inclines (e.g., Stairs)

kitchenette – a small room, not a full working kitchen

lavatory – a washbasin or sink used for personal hygiene

limited spectrum – weak lighting intensity

locker room – locker rooms for the general public. Generally contains showers, benches, lockers, hooks, etc. Sports teams will use a dressing/ change room.

lux – measurement of illuminance

main entrance – primary entrance

mobility devices– includes a range of devices used by persons with disabilities in order to aid mobility and may include wheelchairs, scooters, walkers, canes and other mobility devices

monitored security system – a security system that has a person monitoring the system

newton (N) – measurement of force

non-glare – non-reflective surface

nosing – The horizontally projecting edge of a stair tread or the shield covering this edge

off-gassing – the evaporation of volatile chemicals in non-metallic materials at normal atmospheric pressure. This means that building materials can release chemicals into the air through evaporation

park – land that is privately or publicly held that has been developed for multiple recreational and leisure-time uses

particulates – tiny particles of solid or liquid suspended in gas

Note: Particulates have the ability to impact an individual's health.

passenger drop off zones – an area designated for cars to drop off their passengers without idling or parking

pedestrian entrances – public, employee and service entrances

performance level – the level of performance under which all or part of an existing building functions with respect to its building systems

pictogram – a pictorial sign or symbol representing a word or idea

planar elevation – the level of height of a flat surface

pool lift – a seated device used to lower and raise people into and out of pools

public corridor – a corridor that provides access to an exit from more than one suite

Note: Ontario's Building Code definition.

public use – when applied to plumbing fixtures, fixtures in general washrooms of schools, gymnasiums, hotels, bars, public comfort stations and other installations in which fixtures are installed so that their use is unrestricted

Note: Ontario's Building Code definition**.**

public way – a sidewalk, street, highway, square or another open space to which the public has access, as of right or by invitation, expressed or implied

Note: Ontario's Building Code definition.

ramp – a sloped surface having a gradient between of 1:15 (6.67%), used to overcome changes in ground level

Notes:
(1) Slopes should be consistent with the Standard or the reference to the gradient range should be removed altogether.
(2) Ramps incorporate wheeling/walking surfaces, landings, edge protection elements, and handrails.

random access plans – used in food service facilities and cafeterias where different products are displayed and accessed from independently located stations within the facility rather than a single linear service line

renovations, alterations, remodelling, rehabilitation, restoration, resurfacing, rearrangement, reconstruction - terms for construction within an existing building or

its site

rest areas – an area for someone to sit or stop on an accessible route

return curb – a curb cut which provides a hard, detectable edge on both sides of the curb ramp that prevents people from unintentionally moving off the curb ramp surface and provides directional guidance to people with low or no vision.

riser – the vertical part of a stair step

rolling resistance– the resistance that occurs when a round object rolls on a flat surface, typically caused by the deformation of the object, surface or both

run – the horizontal distance between successive risers on a flight of steps or a staircase

running slope – straight line slope of travel pertaining to a ramp, curb ramp, or walkway

sans serif – a style of typeface that does not have the small feature of a line at the beginning or end of a letter stroke. These small lines are called “serifs”

seasonal affective disorder – a mood disorder in which people who have normal mental health throughout most of the year experience depressive symptoms because of a change of season

sick building syndrome – a cluster of symptoms experienced by individuals, caused by a building with indoor climate problems (e.g., air quality)

specular reflection – the perfect, mirror-like reflection of light from a surface, in which light from a single incoming direction is reflected into a single outgoing direction

service counters – a raised surface on which business is transacted

Note: Service counters can comprise of either built-in (e.g., kiosks) or loose furniture (e.g., podiums). Examples of service counters include: ATMs, checkout counters, self service kiosks, food vendors, and information counters).

service lanes (in cafeterias) – a linear service line where different products are displayed and accessed in food service facilities and cafeterias

side approach – where a person will make use of an item (e.g., service counter, drinking fountain, etc.) with themselves (and/or a mobility device) parallel to the item

service elevator – an elevator designed for carrying large or heavy items, or service people

splash pad – an area for water play that has no standing water usually used by children

stable – a stable surface does not deform or erode under the angular forces of permitted users traveling in a straight line or turning

stage / dais – a raised platform, located inside a building or in the exterior environment that is intended for use in performances and presentations

Notes:
(1) Traditionally, stages are provided in auditoria, theatres and in lecture halls.
(2) Stages are raised to allow for easy viewing by an audience.

stair system – a set of stairs including its: treads and risers, landings, edge protection elements; and handrails

storage element – a storage unit used for food and/or beverages in a cafeteria and/or restaurant

street – any highway, road, boulevard, square or other improved thoroughfare that is 9 m (29.5 ft) or more in width, that has been dedicated or deeded for public use and that is accessible to fire department vehicles and equipment

Note: Ontario's Building Code definition.

suite – a single room or series of rooms of complementary use, operated under a single tenancy, and includes
a) dwelling units,
b) individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories, and
c) individual stores and individual or complementary rooms for business and personal services occupancies.

Note: Ontario's Building Code definition.

text telephone – a device that uses text instead of voice to communicate via telephone lines

threshold – the sill of a door; that forms the bottom of a doorway and offers support when passing through a doorway. Not just wood or stone

touch-type – to type by means of a touch system.

trails and pathways – a path of travel used for recreational purposes

transfer system – a device used to move a person from point to another without substantial agitation of the body

transition zone (escalators) – the flat portion at the top or bottom of moving escalator stairs

transition threshold (escalators) – the horizontal edge marking the top and bottom of

an escalator

tread – the horizontal upper surface of a step in a stair, on which the foot is placed

truncated domes – a type of textured floor surface material used as a detectable warning surface consisting of raised discs set in a regular pattern that can be detected underfoot or using a cane or mobility device

type A parking space – **mobility-aided** – or people who need larger parking spaces for larger vehicles (such as vans), as well as clear access space for entering and exiting the vehicle (such as lifts to assist wheeled mobility aids)

type B parking space – **distance-limited** – For people who have difficulty travelling a great distance to the building entrance, but do not necessarily have a larger vehicle. There is also a need for adequate access to exit the vehicle by opening the door sufficiently wide to manage a mobility aid such as a walker or manual wheelchair

understandable – capable of being understood by the intended audience

universal toilet room – a fully accessible room that contains at a minimum a water closet and a lavatory

utility room – a room used for keeping large appliances (washer/dryer) and/or cleaning supplies

vestibule – an enclosed area between doors

visitable – refers to a newly constructed dwelling unit, with at least the following minimum features:

- A zero-step entrance at the front, back or side entrance of the house to the main floor (located on an accessible route from the street)
- Wider accessible doorways on all main floor doors
- A half bath on the main floor (minimum requirements include a sink, toilet and a wider doorway) home.

washroom – a facility provided to allow use of a toilet by members of the public, or by patrons or customers. At a minimum, a washroom can be a single unit featuring a toilet and hand basin for hand washing. Washrooms can also be larger facilities, which may also include bathing facilities or showers, changing rooms and baby facilities

water closet – a toilet

wayfinding – encompasses all of the ways in which people and animals orient themselves in physical space and navigate from place to place

wear resistant – resistance to wear due to hard particles or hard protuberances forced against and moving along a solid surface

14.2 Units of Measure

Measure	Unit
Time	**s** – seconds
Force	**N** – newton **kN** – kilonewtons
Length	**mm** – millimetre **m** – metre
Luminance	**lx** – lux

Appendix A Building and Property Maintenance

Maintenance

Rationale

Property maintenance is important to ensure an accessible environment that is safe and useable by everyone. Snow and ice removal is an important component of property maintenance.

Functional Description

This section addresses property maintenance. Accessibility can be compromised by poor maintenance. Property maintenance involves the proper care, cleaning and repair of a facility, maintaining it in good order and safe condition.

General Maintenance

The accessible interior route, accessible exterior route and curb ramp should be maintained, and kept free of objects, debris, snow, ice and/or not accumulate water. The timely removal of snow, winter sand, wet leaves and other debris from curb ramps shall become a priority of the local municipality.

Elements installed on or adjacent to an accessible interior route and an accessible exterior route shall be maintained and kept in operable condition. These elements can include, but are not limited to,

a) elevating devices;
b) power door operators;
c) signage;
d) lighting; and
e) controls.

Elevator Maintenance

Elevating devices need to be maintained to ensure a safe operating environment and be operable at all times. Maintenance includes a barrier free safe access to and inside the elevator. Examples are snow removal, excess water, debris and maintenance of slip resistant walking surfaces.

Maintenance of Accessible Routes

When a portion of an accessible exterior route is temporarily closed to users, a continuous alternative accessible exterior route that complies with Clause 5.1, Accessible Exterior Route, should be provided. The alternative accessible exterior route should be separated from vehicular routes, and the location and direction of the alternative accessible exterior route shall be clear and easy to detect for individuals of all abilities.

Schedule 1 Committee Members

(This schedule item is for information only.)
This is referenced by Clause 1.2, Background.

ACCESSIBLE BUILT ENVIRONMENT STANDARDS DEVELOPMENT COMMITTEE MEMBERS

CHAIR

Mary Kardos Burton

VOTING MEMBERS

Disability Community Representatives

1. Jo-Ann Bentley, Canadian Hearing Society (Toronto)
2. Brian Dunne, Participation House Support Services – London and Area (London)
3. Geoffrey Fernie, Toronto Rehabilitation Institute (Toronto)
4. Joan Gallagher-Bell, Individual (Burlington)
5. David Grightmire, Individual (Kingston)
6. Collinda Joseph, Individual (Stittsville)
7. Patricia Longmuir, Get Active Now (Port Perry)
8. Doug Millman (Burk's Falls) Individual
9. Brent Page, Ontario March of Dimes/March of Dimes Canada (Toronto)
10. Greg Papp, Individual (Toronto)
11. Nancy Bradshaw, Women's College Hospital, Environmental Health Clinic (Toronto)
12. Scott Pigden, Individual (Oshawa)
13. Warren Rupnarain, Individual (Toronto)
14. Suzanne Share, Individual (Toronto)
15. Lynda Staples, Canadian Paraplegic Association (Toronto)
16. Richard Théberge, Individual (Ottawa)
17. Catherine Topping, MS Society (St. Thomas)
18. Stacey Headey Komenda, Canadian National Institute for the Blind (St. Catharines)

Representatives of Private/Not for Profit Organizations

Private Sector

19. Rocky Cerminara, Ontario Society of Professional Engineers (London)
20. Pamela Cluff, Ontario Association of Architects (Toronto)
21. Randal Froebelius, Building Owners and Managers Association (Toronto)
22. Stuart Johnston, Ontario Chamber of Commerce (Toronto)
23. Terry Mundell, Greater Toronto Hotel Association (Erin)

24. Susan Ruptash, Individual (Toronto)
25. Albert Schepers, Ontario Home Builders' Association (Windsor)

Not-for-Profit

26. Wayne Morgan, Community Heritage Ontario (Sutton West)
27. Lindsey Reed, Social Housing Services Corporation (Toronto) Alt: Hugh Lawson

Broader Public Sector and Municipal Representatives

Broader Public Sector

28. Tony Humphries, Ontario Hospital Association (Toronto)
29. Bob Mahony, Ontario School Boards' Association and the Ontario Catholic School Trustees' Association (St. Catharines)
30. Richard Merrill, Ontario Professional Planners Institute (Toronto)
31. Jule Mycan, Council of Ontario Universities (Toronto)
32. Elizabeth Moskal, Ontario Long-Term Care Association (St. Catharines)

Municipal

33. Chuck Donohue, City of Toronto (Toronto)
34. Leo Grellette, Ontario Building Officials Association and the Large Municipalities Chief Building Officials (Vaughan)
35. Susan Reed Tanaka, Toronto Transit Commission (Toronto)
36. Diana Simpson and Wendy Goss, Association of Municipalities of Ontario (Toronto)

ADVISORY MEMBERS

Ontario Ministry Advisors

37. Maggie Allen, Ministry of Energy and Infrastructure
38. Israel Lyon, Ministry of Economic Development and Trade
39. Robert Taylor, Ministry of Municipal Affairs and Housing
40. Coty Thompson, Ministry of Health and Long-Term Care

Schedule 2 Occupancies

(This appendix item is for information only.)

Ontario's Building Code A-3.1.2.1(1) Major Occupancy Classification.
To ensure the correct classification, refer to the definitions for each occupancy in Part 1 of Division A of Ontario's Building Code.

Group A, Division 1

- Motion picture theatres
- Opera houses
- Television studios admitting a viewing audience
- Theatres, including experimental theatres

Group A, Division 2

- Art galleries
- Auditoria
- Bowling alleys
- Child care facility
- Churches and similar places of worship
- Clubs, non-residential
- Community halls
- Courtrooms
- Dance halls
- Exhibition halls (other than classified in Group E)
- Gymnasia
- Lecture halls
- Libraries
- Licensed beverage establishments
- Museums
- Passenger stations and depots
- Recreational piers
- Restaurants
- Schools and colleges, non-residential
- Undertaking premises

Group A, Division 3

- Arenas
- Indoor swimming pools
- Rinks

Group A, Division 4

- Amusement park structures (not elsewhere classified)
- Bleachers
- Grandstands
- Reviewing stands
- Stadia

Group B, Division 1

- Jails
- Penitentiaries
- Police stations with detention quarters
- Prisons
- Psychiatric hospitals with detention quarters
- Reformatories with detention quarters

Group B, Division 2

- Facilities for developmentally handicapped residents
- Homes for the aged
- Hospitals
- Infirmaries
- Long term care
- Nursing homes
- Psychiatric hospitals without detention quarters
- Reformatories without detention quarters
- Sanatoria without detention quarters

Group B, Division 3
(See also Sentence 3.1.2.5.(1).)
- Children's custodial homes
- Convalescent homes
- Group homes for developmentally handicapped residents
- Residential care facilities
- Sanatoria without detention quarters

Group C
- Apartments
- Boarding houses
- Camps for housing workers
- Clubs, residential
- Colleges, residential
- Convents
- Dormitories
- Group homes
- Halfway houses, drug and alcohol treatment
- Hostels
- Hotels
- Houses
- Lodging houses
- Monasteries
- Motels
- Open and semi-secure detention for youth
- Recreational camps
- Rooming houses
- Schools, residential
- Shelters for homeless
- Shelters for women

Group D
- Banks
- Barber and hairdressing shops
- Beauty parlours
- Dental offices
- Dry cleaning establishments, self-service, not using flammable or explosive solvents or cleaners
- Laundries, self-service
- Medical offices
- Offices
- Police stations without detention quarters
- Radio stations
- Small tool and appliance rental and service establishments

Group E
- Department stores
- Exhibition halls
- Markets
- Restaurants with an occupant load not more than 30 persons consuming food and drink
- Shops
- Stores
- Supermarkets

Group F, Division 1

- Bulk plants for flammable liquids
- Bulk storage warehouses for hazardous substances
- Cereal mills
- Chemical manufacturing or processing plants
- Distilleries
- Dry cleaning plants using flammable or explosive solvents or cleaners
- Feed mills
- Flour mills
- Grain elevators
- Lacquer factories
- Paint, varnish and pyroxylin product factories
- Rubber processing plants
- Spray painting operations

Group F, Division 2

- Aircraft hangars
- Cold storage plants
- Dry cleaning establishments not using flammable or explosive solvents or cleaners
- Electrical substations
- Freight depots
- Helicopter landing areas on roofs
- Laboratories
- Laundries, except self-service
- Planing mills
- Printing plants
- Repair garages
- Self-service storage buildings
- Service stations
- Storage rooms
- Television studios not admitting a viewing audience
- Tire storage
- Warehouses
- Woodworking factories

Group F, Division 3

- Creameries
- Laboratories
- Power plants
- Storage garages, including open air parking garages
- Storage rooms
- Warehouses

Schedule 3 Community Noise Guidelines

(This item is for information only.)
This is referenced by Clause 8.2.2, Accessible Interior Route.

Online Source: World Health Organization Guidelines For Community Noise, 1999

World Health Organization (WHO) Guideline Values (excerpt from Chapter 4)

The WHO guideline values in Table 4.1 are organized according to specific environments. When multiple adverse health effects are identified for a given environment, the guideline values are set at the level of the lowest adverse health effect (the critical health effect). An adverse health effect of noise refers to any temporary or long-term deterioration in physical, psychological or social functioning that is associated with noise exposure. The guideline values represent the sound pressure levels that affect the most exposed receiver in the listed environment.
The time base for LAeq for "daytime" and "night-time" is 16 h and 8 h, respectively. No separate time base is given for evenings alone, but typically, guideline value should be 5 –10 dB lower than for a 12 h daytime period. Other time bases are recommended for schools, preschools and playgrounds, depending on activity.
The available knowledge of the adverse effects of noise on health is sufficient to propose guideline values for community noise for the following:

a. Annoyance;
b. Speech intelligibility and communication interference;
c. Disturbance of information extraction;
d. Sleep disturbance; and
e. Hearing impairment.

The different critical health effects are relevant to specific environments, and guideline values for community noise are proposed for each environment. These are:

a. Dwellings, including bedrooms and outdoor living areas;
b. Schools and preschools, including rooms for sleeping and outdoor playgrounds;
c. Hospitals, including ward and treatment rooms;
d. Industrial, commercial shopping and traffic areas, including public addresses, indoors and outdoors;
e. Ceremonies, festivals and entertainment events, indoors and outdoors;
f. Music and other sounds through headphones;
g. Impulse sounds from toys, fireworks and firearms; and
h. Outdoors in parkland and conservation areas.

It is not enough to characterize the noise environment in terms of noise measures or indices based only on energy summation (e.g., LAeq), because different critical health effects require different descriptions. Therefore, it is important to display the maximum values of the noise fluctuations, preferably combined with a measure of the number of

noise events. A separate characterization of noise exposures during night-time would be required. For indoor environments, reverberation time is also an important factor. If the noise includes a large proportion of low frequency components, still lower guideline values should be applied.

Supplementary to the guideline values given in Table 4.1, precautionary recommendations are given in Section 4.2 and 4.3 for vulnerable groups, and for noise of a certain character (e.g., low-frequency components, low background noise), respectively. In Section 3.10, information is given regarding which critical effects and specific environments are considered relevant for vulnerable groups, and what precautionary noise protection would be needed in comparison to the general population.

Table 4.1
Guideline values for community noise in specific environments.

Specific environment	Critical health effect(s)	LAeq [dB]	Time base [hours]	LAmax, fast [dB]
Outdoor living area	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55 50	16 16	- -
Dwelling, indoors Inside bedrooms	Speech intelligibility and moderate annoyance, daytime and evening Sleep disturbance, night-time	35 30	16 8	 45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60
School class rooms and pre-schools, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	-
Pre-school bedrooms, indoors	Sleep disturbance	30	sleeping-time	45
School, playground outdoor	Annoyance (external source)	55	during play	-
Hospital, ward rooms, indoors	Sleep disturbance, night-time Sleep disturbance, daytime and	30 30	8 16	40 -

Specific environment	Critical health effect(s)	LAeq [dB]	Time base [hours]	LAmax, fast [dB]
	evenings			
Hospitals, treatment rooms, indoors	Interference with rest and recovery	#1		
Industrial, commercial shopping and traffic areas, indoors and outdoors	Hearing impairment	70	24	110
Ceremonies, festivals and entertainment events	Hearing impairment (patrons:<5 times/year)	100	4	110
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Music through headphones/ earphones	Hearing impairment (free-field value)	85 #4	1	110
Impulse sounds from toys, fireworks and firearms	Hearing impairment (adults) Hearing impairment (children)	- -	- -	140 #2 120 #2
Outdoors in parkland and conservation areas	Disruption of tranquillity	#3		

Legend

#1: as low as possible;
#2: peak sound pressure (not LAmax, fast), measured 100 mm from the ear;
#3: existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low;
#4: under headphones, adapted to free-field values.