Oakville
Universal Design Standards
for town facilities

Issued August 2018
Acknowledgements

August 2018
Re: Oakville Universal Design Standards for Town Facilities

Dear reader / user of these standards,

On behalf of the Corporation of the Town of Oakville, we are pleased to present the Oakville Universal Design Standards for Town Facilities v2.0 (OUDS) which replaces the Oakville Universal Design Standards for Town Facilities v1.1 issued September 2015. The use of the OUDS is mandatory for all Town facility construction projects.

We would like to thank and recognize the contributions of:

- Staff from Facilities and Construction Management; Strategy, Policy and Communications; Planning Services (Heritage Planning); Building Services; Parks and Open Spaces; Engineering and Construction; Fire Prevention; and Recreation and Culture for their contributions and continued dedication towards the development of this document.
- Human Space, a division of Quadrangle Architects Limited, for their guidance and work in updating the document.
- AccessAbility Advantage (a joint venture between Quadrangle Architects Limited and March of Dimes Canada) for their guidance and work in drafting v1.0 of the Oakville Universal Design Standards for Town Facilities.
- The City of London for the use of the City of London 2007 Facility Accessibility Design Standards as one of the foundation documents and the starting point of the town’s OUDS.
- DesignABLE Environments for their work on the City of London 2007 Facility Accessibility Design Standards and the use of images and drawings from the London standards.
- Members of the Oakville Accessibility Advisory Committee for their input and suggestions.

Nicole Wolfe, OAA
Manager, Capital Projects
Facilities and Construction Management
Town of Oakville

Shelly Switzer, P.Eng
Director
Facilities and Construction Management
Town of Oakville

Anthony Boncori, Dipl. Arch. Tech.
Project Leader, Accessibility
Facilities and Construction Management
Town of Oakville

Nick Valerio, C.E.T.
Senior Supervisor, Capital Projects
Facilities and Construction Management
Town of Oakville
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Introduction

The Town of Oakville is committed to providing accessible facilities, programs and services and to be the most livable town in Canada. The Oakville Universal Design Standards (OUDS) was developed to help staff realize this commitment and provides an innovative and detailed approach for the design of barrier-free and accessible facilities. A made-for Oakville standard, it replaces the Oakville Universal Design Standards for Town Facilities v1.1 and its use is mandatory for all Town new construction projects and extensive renovations falling under the criteria of Part 11 Renovation required by the latest edition of the Ontario Building Code (OBC). The use of the OUDS is mandatory for basic renovation and capital replacement unless it is found impracticable to comply with the OUDS due to structural limitations of the existing area or is financially prohibitive. In this instance, the latest edition of the OBC shall govern.

A working group led by the Facilities and Construction Management (FCM) department worked with Human Space, a consulting division of Quadrangle with extensive experience in accessible and universal design, to update OUDS. FCM solicited comments from key Town staff for consideration and revision to update the standard. The update from v1.1 to v2.0 includes the addition of screen reader user tips, the addition of definitions for extensive renovation, minor renovation, Protected Heritage Property, Heritage attributes, and practicable and the removal of renovation permissions. Significant revisions were made to sections: [8. Tactile Walking Surface Indicators—Attention and Direction], [10. Lighting, Light Sources and Glare], [12. Materials and Finishes], [24. Universal Washroom], [27. Universal Change Room], [35. Fire and Life Safety Systems], [39. Curb Ramps and Depressed Curbs] and [47. Public Swimming Pools, Spas and Saunas].

The OUDS is intended to provide an inclusive, user friendly and accommodating built environment through design and the careful use of materials and equipment. It reconciles legislative changes with respect to accessibility and incorporates recent ergonomic research from Canada and the United States, lessons learned from the town’s barrier removals program and best practices from other municipalities and organizations. All of the design requirements use universal design principles as the core principle.

“The design of products and environments to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design.”

-Ronald Mace,
The Center for Universal Design
Introduction

Screen Reader User Tips

This document has been tested and is compatible with screen reader software. Different software may not have the same functionalities and keyboard shortcuts, refer to the screen reader user guide provided with your screen reader software for additional instructions. Tips for JAWS and NVDA and commonly used keyboard shortcuts are below.

Commonly used keyboard shortcuts for JAWS include:

1. The [H] key will navigate to the next section heading;
2. The [Insert + F6] keys will provide a list of headings in the document;
3. The [Alt + ↑] key will read the prior sentence;
4. The [Alt + Numpad 5] keys will read current sentence;
5. The [Alt + ↓] key will read the next sentence;
6. The [Insert + ↓] keys will read all text from current position;
7. The [→] key will fast forward during read all text;
8. The [←] key will rewind during read all text;
9. The [T] key will navigate to the next table;
10. The [Ctrl + Alt + directional arrow] keys will select the cell to the left, right, below, or above in a table; and
11. The [Ctrl + Alt + Numpad 5] keys will read the current cell in a table.

Commonly used keyboard shortcuts for NVDA include: (note: the NVDA key is set to the [Insert] key by default, but can be changed by the user)

1. The [H] key will navigate to the next section heading;
2. The [↑] or [Numpad 7] key will read the prior line;
3. The [NVDA + ↑] or [Numpad 8] key will read the current line;
4. The [↓] or [Numpad 9] key will read the next line;
5. The [NVDA + ↓] will read all text from current position;
6. The [T] key will navigate to the next table; and
7. The [Ctrl + Alt + directional arrow] keys will select the cell to the left, right, below, or above in a table
The Principles of Universal Design

The Principles of Universal Design is to help guide the design of environments, products and communication about the characteristics of more usable products and environments.

1. **Equitable Use**: the design is useful and marketable to people with diverse abilities.
2. **Flexibility in Use**: the design accommodates a wide range of individual preferences and abilities.
3. **Simple and Intuitive Use**: use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills or current concentration level.
4. **Perceptible Information**: the design communicates necessary information effectively to the user, regardless of ambient condition or the user’s sensory abilities.
5. **Tolerance for Error**: the design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. **Low Physical Effort**: the design can be used efficient and comfortably with a minimum fatigue.
7. **Size and Space for Approach and Use**: appropriate size and space are provided for approach, reach, manipulation and use, regardless of user’s body position, size, posture or mobility.

Note: The Principles of Universal Design were developed by NC State University, The Center for Universal Design.

The Goals of Universal Design

The Goals of Universal Design further develop and complement the Principles of Universal Design. It shifts the focus from product usability to a more people-centric lens to include human performance, health and wellness, and social participation. The Goals is an outcomes-based approach of universal design practice that can be measured within existing recourses, encompassing functional, social, and emotional dimensions through frameworks of anthropometrics, biomechanics, perception, cognition, safety, health promotion and social interaction. The Goals of are:

1. **Body Fit**: accommodating a wide range of body sizes and abilities,
2. **Comfort**: keeping demands within desirable limits of body function and perception,
3. **Awareness**: ensuring that critical information for use is easily perceived,
4. **Understanding**: making methods of operation and use intuitive, clear, ad unambiguous,
5. **Wellness**: contributing to health promotion, avoidance of disease and protection from hazards,
6. **Social Integration**: treating all groups with dignity and respect,
7. **Personalization**: incorporating opportunities for choice and the expression of individual preferences, and

8. **Cultural Appropriateness**: respecting and reinforcing cultural values, and the social and environmental contexts of any design project.

Note: The Goals of Universal Design were developed by Steinfeld and Maisel, 2012, University of Buffalo.

In addition to following the principles and goals of universal design, any changes to building and site elements must consider the intent of the Ontario Human Rights Code towards respecting the dignity of individuals with varying abilities.

“The phrase ‘respect their dignity’ means to act in a manner which recognizes the privacy, confidentiality, comfort, autonomy and self-esteem of persons with disabilities, which maximizes their integration and which promotes full participation in society.”

- Ontario Human Rights Commission
How to use the Standards

The Oakville Universal Design Standards (OUDS) has been formatted specifically to assist the reader by providing a user-friendly document with easy to read language with many images and diagrams. It is compatible with screen readers incorporating Screen Reader User Tips on page 8.

The standard has two major sections:

- Green: Administrative Provisions
- Blue: Design Standards

Administrative Provisions

The Administrative Provisions section includes the scope of the document and how it will be applied to different types of construction (new construction, additions, renovations, and replacements) and a glossary of defined terms which listed alphabetically and further italicized throughout the document.

Design Standards

The Design Standards section is divided into four parts: Common Exterior and Interior Design Elements, Interior Elements and Amenities, Exterior Elements, and Facility Specific Requirements.

The four parts are then divided into building elements. Each element, such as “Entrances” on page 57, has an objective or an important factor to note in the yellow box. Unless otherwise noted, all requirements are to be applied to both interior and exterior elements.

Design consultants must exercise professional judgment and expertise when using the document. OUDS does not release the consultant from liability or the need for due diligence in the design and construction process. The Facilities and Construction Management department will review and / or update this document every five years to reflect changes in legislation, technological advancement, work innovation, and new construction practices.
Administrative Provisions
Scope

The use of the Oakville Universal Design Standards (OUDS) is mandatory for new construction, additions and extensive renovation, as classified under the latest edition of the Ontario Building Code (OBC) Part 11, of all Town owned buildings, including those leased by the Town. The use of OUDS is mandatory, for basic renovations, capital replacement, and minor repairs, unless technically infeasible or not practicable, with compliance to the latest edition of the OBC at a minimum. This includes, but is not limited to, material alterations including the replacement of ceiling, wall, and floor finishes, fixtures, doors, accessories, lighting, signage, millwork and appliances.

When conflict arises between the OUDS and other municipal, provincial, or federal legislation, the requirements that will result in the most accessible environment shall be used but never less than the minimum requirements in the latest edition of OBC and the Accessibility for Ontarians with Disabilities Act (AODA) Design of Public Spaces Standard (DOPS).

Designing and constructing in accordance with this standard will be included as a mandatory requirement in all Town of Oakville Request for Proposals, tender documents, and construction contracts. All Town departments managing construction projects must ensure compliance with this standard during the pre-planning, design, construction documents, preparation, and contract administration phases.

Design departures from the Design Standards section should be carefully assessed with Town staff (for example Facility Construction Management, Heritage Planning) to determine the validity of the application.

Exception:

The OUDS does not apply to service rooms or areas, for example: electrical rooms, sprinkler rooms, janitor rooms, crawl spaces, attics, etc.

The OUDS does not apply to structures that are not occupied such as telephone exchanges, pump houses, etc.

Building Additions

Additions to existing facilities are considered to be new construction and as such must meet all of the requirements in the Design Standards section. The resultant addition must be on an accessible path (interior and exterior) and have an accessible path of travel to existing washrooms, change rooms, drinking fountains, and other amenities if these are also accessible.
Technically Infeasible / Not Practicable

The term ‘technically infeasible’ refers to the renovation or replacement of a building element that cannot meet the requirements of the Design Standards section based on the following:

- Existing structural conditions would require moving or altering a load-bearing member which is an essential part of the structural frame;
- Other existing physical or site constraints prohibit modification or addition of necessary elements, spaces, or features to be in compliance with the Design Standards section; and/or
- Heritage attributes would be removed or adversely impacted.

The term ‘not practicable’ refers to the renovation or replacement of a building element that cannot meet the requirements of the Design Standards section based on overall restrictions of project scope or building elements (for example room size, structural columns), that when altered, would compromise the overall existing conditions of the site.

If the proposed work is technically infeasible or not practicable, contact the Facility and Construction Management (FCM) department for a consultation with staff members.

Heritage Properties

The use of OUDS is mandatory for renovations and replacements to town owned Protected Heritage Property. However, the Ontario Human Rights Code provides allowances for modifications to Heritage attributes of a Protected Heritage Property such that the renovation or replacement should not alter the essential nature of the Heritage attributes. As such, any work on a Protected Heritage Property must be assessed on an individual basis to determine the most effective and least disruptive means of renovation or replacement and the extent to which the property can be made accessible.

Consult with the Heritage Planning department prior to design for all renovations and capital replacements to Protected Heritage Property. As well, all work must consider the following:

- If the work does not affect Heritage attributes of the Protected Heritage Property, it should meet the requirements of the Design Standards section, and
- If the main public entrance to a Protected Heritage Property cannot be made accessible without impacting the Heritage attributes of the facility, every effort must be made to provide an alternative and accessible entrance with directional signage from the main public entrance, subject to heritage approval.
It is desirable to provide a complete experience of a Protected Heritage Property. Where it is not possible to provide access to all interior facilities without impacting its Heritage attributes, alternative formats of communication or equivalent experience must be incorporated into the facility in lieu of access to the exhibit. Alternative formats may include accessible audio and visual observation kiosk. If a property cannot be made accessible, every effort must be made to provide access to as much of the facility as possible while still maintaining the Heritage attributes of the property.

Dimensions

Dimensions used in this standard are in metric units (millimetres) and shown as mm. Dimensions that are not indicated within a range (max or min) are absolute and must be met unless noted otherwise.

Other Town’s Standards

In addition to the mandatory compliance of the Design Standards in OUDS, all Town departments managing construction and design consultants must ensure compliance with applicable Town standards including, but not limited to, corporate identity, sustainability, lighting, signage, and IT.
Defined Terms

The following defined terms and their meanings are provided for clarification. The defined terms are indicated throughout the document in italics.

**Accessible**: Describes design elements of the built environment that comply with the requirements of this standard.

**Accessible path**: A continuous unobstructed path connecting accessible elements and spaces at the exterior of a building and within the interior spaces of a building. Interior accessible paths include corridors, floors, ramps, elevators, and clear floor spaces at fixtures. Exterior accessible paths include parking access aisles, curb ramps, crosswalks, etc.

**Accessible space**: The design of the built environment to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

**Addition**: Adding usable square foot area to a temporary or permanent structure or building.

**A.F.F.**: At Finished Floor

**Area of refuge**: An area which has direct access to an exit, where people who are unable to use stairs may remain temporarily in safety to await further instructions or assistance during emergency evacuation.

**Basic renovation**: When existing interior walls, ceilings, floor, or roof assemblies are maintained during construction by the reuse, relocation, or extension of the same or similar materials or components of the building.

**Building**: A structure occupying an area greater than ten square meters and consisting of walls, roof, and floor or other types of structures designated as buildings under the Ontario Building Code.

**Clear floor space**: The minimum unobstructed floor or ground space required to accommodate a person in a wheelchair, scooter, or other mobility aid.

**Colour / tonal contrast**: A significant contrast (minimum 70%) in colour or tone between an element and its surrounding environment.

**Cross slope**: The slope that is perpendicular to the direction of travel. *(See running slope).*

**Curb ramp**: A short ramp cutting through a curb or built up to a curb to provide access from a driveway / parking area to a sidewalk.

**Depressed curb**: A continuous and gradual ramp through a curb or built up to a curb to provide access from a driveway / parking area to a sidewalk.

**Elevated platforms**: Elevated platforms include, but not limited to, stage areas, speaker podiums and other raised areas.
**Extensive renovation**: Defined in the Ontario Building Code as to when existing interior walls, ceilings, floor, or roof assemblies are substantially removed and new interior walls, ceilings, floor, or roof assemblies are installed.

**Forward approach**: Where a person must make use of a feature, amenity or element of the built environment by positioning their body and/or mobility aid directly in front of and facing the feature, amenity or element.

**Heritage attribute**: The principal features or elements that contribute to a protected heritage property's cultural heritage value or interest, and may include the property's built or manufactured elements, as well as natural landforms, vegetation, water features, and its visual setting (including significant views or vistas to or from a protected heritage property), as identified:

a) In the case of a protected heritage property created on or after 26 November 2002, are described in applicable notices, by-laws, designations, or orders under the Ontario Heritage Act; or

b) In the case of a protected heritage property created before 26 November 2002, are described in, or can be reasonably inferred from, applicable notices, by-laws, supporting documentation for a by-law, designations, or orders under the Ontario Heritage Act.

**Max**: Maximum.

**Max to min illuminance ratio**: A ratio to measure the brightest location to the dimmest location to determine the distribution of light across a platform.

**Min**: Minimum.

**Mobility aids**: Refers to a range of assistive equipment used by persons with disabilities to assist with mobility. Examples include crutches, manual or powered wheelchairs, scooters, walkers, and canes.

**New construction**: Site preparation for, and construction of, entirely new structures or buildings and including adjacent and surrounding site area whether or not the site was previously occupied. Development classified as new construction is subject to the full compliance with the latest version of OUDS.

**Operable portion**: A part used to insert or withdraw objects, or to activate, deactivate, or adjust the equipment or appliance (for example coin slot, push button, handle).

**Power door operator**: A power operated mechanism that allows a door to open by activating a push button, bar or automatic sensor.

**Practicable**: The degree of which elements can be successfully altered within the constraints of the environment (for example size, location, budget) without compromising overall conditions.
**Defined Terms**

*Primary path:* An accessible path designed to accommodate two persons in mobility devices. The path is utilized by a frequent flow of people throughout the course of a day.

*Protected Heritage Property:* Real property in the Town, including all buildings, structures, and other features thereon, that:

a) Has been designated under Part IV of the Ontario Heritage Act; By-Law Number: 2018-044 Page 4;

b) Has been designated under Part V of the Ontario Heritage Act; or

c) Is subject to a notice of intention to designate under section 29 of Part IV of the Ontario Heritage Act for having cultural heritage value or interest.

*Public spa:* Identified in the Ontario Building Code as hydro-massage pool, commonly referred to as a ‘hot tub’.

*Ramp:* A sloped surface that provides an accessible connection between changes in ground elevation. The ramp includes all elements and features necessary to provide an accessible path as described in this standard.

*Renovation:* Construction or modifications to existing buildings or site elements but that retains some parts of the existing structure or layout or finishes. The renovation may or may not impact the existing character, structural uniqueness, cultural heritage value, or aesthetic appearance of all or part of the building. Material alterations to walls, ceilings and floors are considered to be a renovation.

*Replacement:* Construction, modification or material alteration of a building element.

*Running slope:* A slope that is parallel to the direction of travel. (See cross slope).

*Screen reader:* A software application that convey the visual information (for example text, pictures, charts) to the user in a non-visual manner (for example text-to-speech, sound icons, Braille device).

*Secondary path:* An accessible path designed to accommodate one person using a mobility device and one ambulatory person. The path is considered a main access path for the building; however, the flow of people using the path is not constant, nor is it considered a high traffic route.

*Service Areas:* Areas within the building that include service rooms, elevator machine rooms, janitor rooms, service spaces, crawl spaces, attic or roof spaces.

*Signage:* Displayed verbal, symbolic and tactile, information and pictorial illustrations.

*Storey(s):* That portion of a building included between the upper surface of a floor and the upper surface of the floor next above. If such portion of a building is not designed to be occupied, it is not considered a storey for the purposes of this standard. There may be more than one floor level within a storey, as in the case of a mezzanine or mezzanines.
**Technically Infeasible**: During the process of renovation or replacement, an improvement required by this standard cannot be met based on existing design conditions and/or constraints and as a result, the design must fall back on the Ontario Building Code.

**TTY**: Teletypewriter. (See text telephone)

**Tactile**: Describes an object that can be perceived using the sense of touch.

**Tactile Attention Indicators (TAI)**: A surface feature consisting of truncated domes designed to warn persons of an upcoming hazard.

**Tactile Direction Indicators (TDI)**: A surface feature consisting of elongated bars designed to help persons navigate the built environment.

**Tactile Walking Surface Indicators (TWSI)**: A standardized surface feature built into or applied to walking surfaces or other elements to warn persons with a visual impairment of hazards on a circulation path. There are two types of TWSI which include **Tactile Attention Indicators** and **Tactile Direction Indicators**.

**Text telephone (TTY)**: Machinery or equipment that employs text-based communication through the transmission of coded signals across the standard telephone network. Text telephones can include, for example, devices known as TDDs (telecommunication devices for persons with hearing impairments) or computers with special modems. Text telephones are also called TTY, an abbreviation for teletypewriter.
Design Standards
Common Exterior and Interior Elements
1. **Space and Reach Requirements**

The following dimensions and diagrams represent space and reach requirements for persons using mobility devices, to assist in the planning stages of construction projects.

1.1 **Clear Floor Space**

An *860 mm x 1480 mm clear floor space* [Diagram 1.A] is recognized as the universal mobility device size that would accommodate 95% of mobility devices utilized in Canada. Unless otherwise specified, the *clear floor space* must be provided in areas that require access to wall mounted controls, *power door operators*, tactile signage, information counters, workstations, or under any table tops, and under lavatories, sinks, or drinking fountains. For *clear space requirements* specific to the various *building* elements, refer to the appropriate part in the *Design Standards* section.

1.2 **Turning Circles**

A *2500 mm turning circle* is recognized as the dimension that would accommodate 95% of mobility devices. Unless otherwise specified, a *2500 mm turning circle* must be provided throughout the *building* [Diagram 1.B]. For turning circle requirements specific to the various *building* elements, refer to the appropriate part in the *Design Standards* section.
1.3 Forward Reach Range
For a front approach to an object or item; the forward reach range requires the object to be between 400 mm and 1200 mm AFF [Diagram 1.C].

1.4 Forward Reach Range over an Obstruction
For a front approach to an object or item over an obstruction with a max of 865 mm in height, the forward reach requires the object to be max 500 mm deep and max 1100 mm AFF [Diagram 1.D].

1.5 Side Reach Range
For a side approach to an object or item, the side reach range requires the object to be between 230 mm and 1200 mm AFF. [Diagram 1.E].

1.6 Side Reach Range over an Obstruction
For a side approach to an object or item over an obstruction with a max of 500 mm in width and 865 mm in height, the side reach range requires the object to be between 865 mm to 1170 mm AFF [Diagram 1.F].
2. Interior Accessible Paths

Interior accessible paths are continuous unobstructed paths that connect accessible elements and spaces of a building or structure.

2.1 Path Widths

1. Accessible paths are required throughout new construction, additions and renovations.

2. Paths must comply with the following:

   a) Primary accessible path min 1800 mm clear floor space [Diagram 2.A],

   b) Secondary accessible path min 1300 mm clear floor space [Diagram 2.B],

   c) Accessible path between workstations min 1100 mm clear floor space,

   d) For 90 degree turns, min 1300 mm clear floor space [Diagram 2.C], and

   e) For 180 degree turns, min 2000 mm clear floor space [Diagram 2.D].

3. For requirements relating to exterior accessible paths, refer to section [38. Exterior Paths].

2.2 Path Slope

1. Slopes are required to conform to the following:

   a) Running slope of max 1 in 25 (4%), and

   b) Cross slope of max 1 in 50 (2%).

2. Accessible paths with a running slope more than 1 in 25 (4%) must be designed as ramps and meet criteria in section [5. Ramps].
2. Interior Accessible Paths

2.3 Passing Area

1. Where the path of travel is less than 1800 mm, provide passing areas that are:
   a) Min 1800 mm x 1800 mm, and
   b) Located every 30 m on an accessible path [Diagram 2.E].

2.4 Changes in Level

1. Edge protection must be provided at changes in level between 200 mm and 600 mm; except at stairs, performance areas, or loading docks.

2. Changes in level greater than 600 mm or within 1500 mm of a drop off greater than 600 mm must be protected by a guard on both sides.

3. Edge protection must consist of a curb min 75 mm on the edge with colour / tonal contrast.


2.5 Exceptions

1. Accessible paths are not required in the following locations:
   a) Service areas or high-hazard industrial occupancies,
   b) Within portions of a floor area with fixed seats in an assembly occupancy not part of an accessible path to spaces designated for mobility device use, or
   c) Within a suite of a residential occupancy.
3. Ground and Floor Surfaces

Ground and floor surfaces are to be continuous with high visual *colour and tonal contrast* from surrounding surfaces.

3.1 Surface

1. Ground and floor surfaces must:
   a) Be level, firm and stable, and
   b) Allow for the easy movement of mobility devices.

2. Where possible, include heating cables on ground surfaces where ice may accumulate at main or service entrances.

3.2 Carpets

1. Carpets must:
   a) Be a max height of 13 mm,
   b) Be securely fixed to the floor,
   c) Have a firm, low level loop,
   d) Have a firm cushion, pad or backing,
   e) Have 10 or 12 gauge non-static fiber, and
   f) Have a non-zipper, cut or uncut pile.

3.3 Gratings and Floor Drains

1. Gratings and floor drains must:
   a) Be max 13 mm wide, and
   b) Have openings in one direction and perpendicular to the dominant direction of travel [Diagram 3.A].

Openings larger than 13 may catch wheelchair wheels or canes

[Diagram 3.A] Gratings

3.4 Finishes and Materials

1. Finishes and materials must:
   a) Have high visual *colour / tonal contrast* between floor surfaces, the surrounding environment and any changes in level, and
   b) Not incorporate disruptive or large scale patterns or designs.
3.5 Floor Mats

1. Floor mats must:
   a) Have a max height of 13 mm,
   b) Have a bevelled edge,
   c) Be non-slip between underside of mat and floor finish,
   d) Be weighted, securely fixed or placed in a depression that is level with the surrounding floor, and
   e) Have colour / tonal contrast from surrounding surfaces.

3.6 Changes in Level and Thresholds

[Table 3.6] identifies the required edge treatment based on the vertical rise of the ground or floor surface [Diagram 3.B].

[Table 3.6] Vertical Rise and Required Edge Treatment

<table>
<thead>
<tr>
<th>Vertical Rise</th>
<th>Edge Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 mm to 6 mm</td>
<td>Vertical – does not require a slope</td>
</tr>
<tr>
<td>6.1 mm to 13 mm</td>
<td>Bevelled – max slope 1 in 2 (50%)</td>
</tr>
<tr>
<td>Greater than 13 mm</td>
<td>Must be treated as a slope</td>
</tr>
</tbody>
</table>

[Diagram 3.B] Changes in Level and Thresholds
4. Headroom - Overhanging and Protruding Objects

When headroom is reduced, a cane detectable guard at floor level helps persons with low or no vision detect an obstruction.

4.1 Clear Width
Protruding objects must not reduce the clear width of an accessible path to less than required in sections [2. Interior Accessible Paths] and [38. Exterior Paths].

4.2 Protruding Objects
Objects protruding on accessible paths must not protrude more than 100 mm unless they are cane detectable at or below 680 mm AFF [Diagram 4.A].

4.3 Headroom
1. Headroom must:
   a) Have a min 2100 mm clear height AFF, and
   b) Be cane detectable at or below 680 mm where headroom is less than 2100 mm [Diagram 4.B].
5. Ramps

Walkways and paths of travel with a slope steeper than 1 in 25 (4%) must be designed as ramps.

5.1 Clear Width

Ramps must have a min 1100 mm clear width [Diagram 5.A].

5.2 Slope

1. Ramps must have a:
   a) Max running slope of 1 in 20 (5%) [Diagram 5.A], and
   b) Max cross slope of 1 in 50 (2%).

5.3 Surface

The ramp surface must meet criteria in subsections [3.1. Surface], [3.3. Gratings], and [3.4. Finishes and Materials].

5.4 Colour Contrast

A visual contrasting strip, which can be a change of material, painted strip, or non-slip tape with colour / tonal contrast must be used to demarcate the beginning and end of a ramp.

5.5 Landing Location

1. Landings must be provided:
   a) At least every 9000 mm [Diagram 5.A],
   b) At the top and bottom of the ramp, and
   c) At any change of direction on the ramp.

5.6 Landing Design

Landings must be:
   a) Min 2500 mm x 2500 mm at the top and bottom of the ramp and at intermediate landing with a 180 degree turn [Diagram 5.B],
   b) Min 1670 mm x 1670 mm at 90 degree turns [Diagram 5.C], and
   c) Min 1670 mm in length for inline landings [Diagram 5.A].
[Diagram 5.A] Landings Required at Every 9 Metres

[Diagram 5.B] 2500 mm x 2500 mm Landings at Top, Bottom and at 180 Degree Turns

[Diagram 5.C] 1670 mm x 1670 mm Landings 90 Degree Turns
5.7 Doors on Landings

Where doors swing into the landing space, there must be a min 2500 mm x 2500 mm of clear floor space [Diagram 5.D].

5.8 Edge Protection

Edge protection is required where ramp surfaces are not at grade or protected with a wall or a guard on both sides. Edge protection must be min 75 mm height. Alternatively, guards can extend to the bottom of the rail to within 75 mm of the ramp surface [Diagram 5.E].

5.9 Handrails

Handrails are required on both sides of a ramp and must meet requirements in section [7. Handrails].
6. **Stairs**

Cues warning a person with no or low vision of an upcoming set of stairs is vitally important and is provided by *tactile walking surface indicators (TWSI)*.

### 6.1 Treads and Risers

1. Treads and risers must:
   
   a) Be uniform in tread depth and riser height [Diagram 6.A],
   
   b) Be made of closed risers,
   
   c) Have a rise between **125 mm** and **180 mm**, and
   
   d) Have a run between **280 mm** and **355 mm**.

2. Risers must be uniform in height in any one flight with a *max* tolerance of **5 mm** between adjacent treads or landings and **10 mm** between the tallest and shortest risers in a flight.

3. Treads must be uniform in depth in any one flight with a *max* tolerance of **5 mm** between adjacent treads and **10 mm** between the deepest and shallowest treads in a flight.

4. The cross slope on treads must not exceed **1 in 50**.
6.2 Nosing
The nosing must have:

a) \( \text{Max} \ 25 \text{ mm} \) projection, sloped at an angle greater than \( 60 \text{ degrees} \) to the horizontal,

b) \( 6 \text{ mm} \) to \( 10 \text{ mm} \) beveled tread edge,

c) \( 50 \text{ mm} \) slip-resistant \( \text{colour / tonal contrast} \) strip, extending the full width of the tread starting \( \text{max} 25 \text{ mm} \) from leading edge of tread, and

d) A visual contrasting strip, which can be a change of material, painted strip, or non-skid tape with \( \text{colour / tonal contrast} \) from the rest of the stair surface [Diagram 6.B].

6.3 Guards
Guards are required on both sides of a stair where the elevation change is greater than \( 600 \text{ mm} \).

6.4 Handrail Location & Design
Handrails must be provided on both sides of a stair and must meet the criteria in section [7. Handrails] [Diagram 6.B].

6.5 Tactile Attention Indicator (TAI)
TAI must:

a) Be \( \text{min} 610 \text{ mm} \) wide,

b) Be located one tread depth back from the first stair at the top and at any intermediate landings where doors open onto the landing, and

c) Meet the criteria provided in section [8. Tactile Walking Surface Indicators – Attention and Direction].
[Diagram 6.C] Stair Design Criteria
7. Handrails

Handrails help people to avoid tripping or falling down stairs or ramps.

7.1 Handrail Locations

1. Handrails are required on both sides of a ramp or stair.

2. Intermediate handrails are required where stairs or ramps are wider than 2200 mm. The clear width between the intermediate handrail and one set of handrails must be at least 900 mm [Diagram 7.C].

7.2 Handrail Design

1. Handrails must be designed to:
   a) Be continuously graspable along entire length,
   b) Have a circular cross-section with an outside diameter between 30 mm and 40 mm [Diagram 7.A],
   c) Have a min clearance of 50 mm between the handrail and any wall immediately adjacent or 60 mm where adjacent wall is a rough surface [Diagram 7.A],
   d) Be uniform in height ranging 865 mm to 965 mm above surface, measured from the leading edge of the stair nosing to the top of the rail [Diagram 7.D],
   e) Have a continuous inside handrail on switch back stairs [Diagram 6.C],
   f) Extend horizontally 300 mm beyond the top and bottom and return to the post, floor or wall [Diagram 7.B], and
   g) Have colour / tonal colour between handrail and surrounding wall.

2. Loading properties for the guard and handrail design must meet the latest edition of the OBC requirement and sustain a concentrated load min 0.9kN/m and a uniform load min 0.7kN/m.
Handrails 7.

- Handrail returns to post
  - 865 - 965
  - 300 Min

- Handrail returns to floor
  - 865 - 965
  - 300 Min

- Handrail returns to wall
  - 865 - 965
  - 300 Min

[Diagram 7.B] Horizontal Handrail Extensions

[Diagram 7.C] Intermediate Handrail

[Diagram 7.D] Height of Handrail over Tread
8. Tactile Walking Surface Indicators – Attention and Direction

Applying paint to a concrete surface is not appropriate for a Tactile Walking Surface Indicator (TWSI).

8.1 TWSI Design

All TWSI must meet the requirements in ISO 23599:2012.

8.2 Types of TWSI

1. TWSI are used to inform persons who are walking over them of two possible situations:
   
a) Tactile attention indicators (TAI), consisting of truncated domes, signal a need for caution at a change in elevation or the location

of a vehicular route [Diagram 8.A], and

b) Tactile direction indicators (TDI), consisting of linear bar surface, facilitate wayfinding in open areas and indicate a possible path that may be taken [Diagram 8.B].

[Diagram 8.A] Tactile Attention Indicators

[Diagram 8.B] Tactile Direction Indicators

2. Refer to ISO 23599 for detailed information on spacing and sizing of both TAI and TDI.
8.3 Locations for Tactile Direction Indicators (TDI)

TDI should be considered to facilitate wayfinding to major destinations and along the primary path within a building and throughout the site.

8.4 TDI Surface

TDI must:

a) Be consistently used throughout a facility,

b) Be slip-resistant,

c) Not exceed a glare factor of 15-matte finish,

d) Have a colour / tonal contrast from adjoining surfaces,

e) Be detectable when walked upon by being different in texture from adjoining surfaces,

f) Have edges bevelled or level with the surrounding surface, and

g) Be installed in a manner that avoids interference from an irregular walking surface, does not create a tripping hazard, and is slip-resistant.

8.5 Locations for Tactile Attention Indicators (TAI)

TAI must be installed:

a) At the tops of all stairs and escalators, and on landings where a door opens onto the landing. TAI must extend the full width of the stair or escalator and be min 610 mm deep, commencing one tread depth back from the stair or escalator edge [Diagram 8.C],

b) At curb ramps and depressed curbs identified in section [39. Curb Ramps and Depressed Curbs]. TAI must extend the full width of the curb ramp or depressed curb and be min 610 mm deep commencing 150 mm to 200 mm back from the edge of the curb [Diagrams 39.A to F], and

c) At elevated platforms not protected by a guard with the TAI being min 610 mm deep, flush from the open edge and meeting criteria in section [30. Elevated Platforms] [Diagram 8.D].
8. Tactile Walking Surface Indicators – Attention and Direction

[Diagram 8.C] TAI on Stairs

- Depth of one tread
- Visual contrast on top and front face of nosing
- Same length as stair

[Diagram 8.D] TAI on an Elevated Platform

- Depth of one tread
- 610 Min Tactile attention indicator
- >600 guard required
- Visual contrast on top of nosing

Oakville Universal Design Standards
9. Operable Controls and Mechanisms

Examples of elements with controls and mechanisms that must be made accessible include (but are not limited to): electrical switches, remote controls, intercom switches, window operating devices, wall outlets, alarm pulls, thermostats, door hardware, faucets, and vending and ticket machines.

9.1 Operable Controls and Mechanisms

Controls must be accessible and intuitive. Where possible, operating controls must have multiple forms of feedback (audible, visual, tactile, etc.).

9.2 Clear Floor Area

A clear floor space min 860 mm wide x 1480 mm long must be maintained adjacent to controls.

9.3 Hand Operated Mechanisms

1. Hand operated mechanisms must:
   a) Be capable of operation with one closed fist hand,
   b) Not require tight grasping, pinching or twisting of the wrist,
   c) Require a max force 22N, and
   d) Have colour / tonal contrast from their surrounding environment.

9.4 Emergency Exit Controls

Emergency alert controls must be linked to a central and manned monitoring location and have a visual and audible signal indicating help is on the way.

9.5 Encoded-Entry/Exit or Card-Entry Systems

Encoded or card entry/exit systems must:
   a) Have operable portions 900 mm to 1100 mm AFF,
   b) Have operable features such as card slots, key pads, or buttons illuminated or have colour / tonal contrast from the mounting plate to surrounding wall, and
   c) Be distinctive in colour, texture, or raised graphic lettering. If numerals or letters are required, they must be tactile and raised.
9. Operable Controls and Mechanisms

9.6 Reach Requirements

1. *Operable portions* must be between 900 mm and 1100 mm **AFF** [Diagram 9.A] with the exception of thermostats and manual pull stations which must be 1200 mm **AFF** measured at the centerline of the operable portion.

2. Electrical outlets and receptacles must be *min* 400 mm **AFF** measured at the base of the outlet [Diagram 9.A].

3. Reach requirements to any operable controls must consider section [1. Space and Reach Requirements].

[Diagram 9.A] Required Range for Mounting Heights
10. Lighting, Light Sources and Glare

Lighting levels are to be measured at floor or ground level unless otherwise required in Tables 10.3 or 10.4. Caution must be taken to avoid light pooling and shadows.

10.1 Lighting Design
1. Provide even light distribution at floor level for all occupied floor areas, including at the leading / trailing edge of stairs, ramps, and escalators.
2. Reduce pools of light and areas of shadow.
3. Fixtures must shield light sources.
4. Lighting in meeting rooms and assembly areas must be adjustable.
5. Provide lighting that will comply with light trespass by-law.
6. Exterior lighting must direct light only where needed to minimize disruption to nocturnal animals.

10.2 Reflective Glare
1. Any frosting applied to glass must not enhance the reflective properties of the glass.
2. Consideration must be given to avoid creating a reflective glare of surfaces.

10.3 Exterior Illumination Levels
[Table 10.3] identifies the required min exterior lighting levels for the specified locations. Exterior lighting must be uniform such that the max to min illuminance ratio is no greater than 10 to 1.

<table>
<thead>
<tr>
<th>Location</th>
<th>Lighting Level (Lux)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Parking Areas and Circulation Driveways</td>
<td>10</td>
</tr>
<tr>
<td>Main Driveway</td>
<td>30</td>
</tr>
<tr>
<td>Secondary Entrances, Service Doors, and Fire Exits; Accessible Paths (pathways, walkways, stairs, ramps); Accessible Parking; Accessible Path from Accessible Parking; and Passenger Drop-Off Area.</td>
<td>50</td>
</tr>
<tr>
<td>Main Entrance</td>
<td>100 below canopy or within 3 m of the door, whichever distance is greater</td>
</tr>
<tr>
<td>Exterior Signage (building sign, directional and traffic)</td>
<td>General area lighting + 30 measured at the sign face</td>
</tr>
</tbody>
</table>
10.4 Interior Illumination Levels

[Table 10.4] identifies the min required interior lighting levels along a min 80% of the floor area for specified locations. Locations not identified in [Table 10.4] must accommodate a min lighting level as prescribed by Illuminating Engineering Society of North America (IESNA) or OBC, whichever requires the higher level of lighting.

[Table 10.4] Required Lighting Levels – Interior Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Lighting Level (Lux)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance; Elevator Lobby; Elevator Cab; and Operating Controls.</td>
<td>100</td>
</tr>
<tr>
<td>Areas of Refuge; Interior Paths; Ramps; Waiting / Rest Areas; Meeting Spaces; Lounges; Offices; Washrooms; Dressing Rooms; Locker Rooms; Shower Rooms; and Kitchen / Kitchenette.</td>
<td>200</td>
</tr>
<tr>
<td>Stairs and Escalators; Reception, Service Counters, and Help Desks; and Storage Rooms, Dressing Rooms, Sanitary Facility, and Service Areas serving food preparation areas.</td>
<td>300</td>
</tr>
<tr>
<td>Signage</td>
<td>General area lighting + 30 (min 200) at the sign face</td>
</tr>
<tr>
<td>Operating Controls</td>
<td>200 at the operating control where reading is required</td>
</tr>
<tr>
<td>Public Telephone</td>
<td>200 at keypad, directory, and shelf</td>
</tr>
<tr>
<td>Library Stacks; and Storage Shelving.</td>
<td>200 at front face at the bottom of the shelves</td>
</tr>
<tr>
<td>Computer Workstations; and Study Carrels</td>
<td>300 at work surface</td>
</tr>
<tr>
<td>Office Workstation</td>
<td>350 at work surface</td>
</tr>
<tr>
<td>Reception, Service Counters, and Help Desks</td>
<td>500 at counter surface</td>
</tr>
<tr>
<td>Kitchen / Kitchenette</td>
<td>500 at counter surface</td>
</tr>
</tbody>
</table>
11. Signage and Information Systems

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

11.1 Accessible Signage

1. *Signage* at town facilities must meet the requirements of the “Town of Oakville Interior Sign Standard” available through the Facilities and Construction Management department.

2. Signs that provide direction to or information about functional spaces must meet the requirements in this section.

3. Facility directories, menus, and temporary signs do not need to comply.

11.2 Permanent Signage

Permanent rooms or spaces must have wall mounted signs that include *tactile* characters and numbers.

11.3 International Symbol of Access

1. Spaces or elements that require the International Symbol of Access *[Diagram 11.A]* are:
   a) Parking spaces, designated as reserved for individuals with disabilities,
   b) *Accessible* passenger-loading zones,
   c) *Accessible ramps* located on an *accessible path* serving a *building* entrance,
   d) *Accessible* entrances when not all are *accessible*. Entrances that are not *accessible* must have directional *signage* to indicate the path to the nearest *accessible* entrance,
   e) *Accessible* toilet and bathing facilities,
   f) *Accessible* telephones,
   g) *Accessible* elevators and other elevating devices, and
   h) *Accessible* means of egress; and *areas of refuge*.

*[Diagram 11.A]* International Symbol of Access
11.4 Design Requirements
1. Letters and numbers on signs must
   a) Be Frutiger [Diagram 11.B],
   b) Have Arabic numbers,
   c) Have a width-to-height ratio between 3 in 5 and 1 in 1, and
   d) Have a stroke-width-to-height ratio between 1 in 5 and 1 in 10.

2. The character height of lettering is dependent on the viewing distance of character. Refer to [Table 11.4] for information on minimum character heights based on viewing distance.

[Table 11.4] Character Height Requirements

<table>
<thead>
<tr>
<th>Min character height, mm.</th>
<th>Max viewing distance, mm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>6000</td>
</tr>
<tr>
<td>150</td>
<td>4600</td>
</tr>
<tr>
<td>100</td>
<td>2500</td>
</tr>
<tr>
<td>75</td>
<td>2300</td>
</tr>
<tr>
<td>50</td>
<td>1500</td>
</tr>
<tr>
<td>25</td>
<td>750</td>
</tr>
</tbody>
</table>

11.5 Location of Room Signs
1. Signs must be located with centre line at 1200 mm AFF, mounted on the wall at 150 mm from the leading vertical edge to the door frame adjacent to the latch side. Where there is no wall space on the latch side of the door, including at the double leaf doors, signs must be placed on the nearest adjacent wall.

11.6 Tactile Sign Requirements
1. Permanent signage must be tactile.
2. Where signs are required to be tactile, the text must be:
   a) Raised min 0.8 mm,
   b) 16 to 50 mm tall,
   c) Smooth edged,
   d) Frutiger font, and
   e) Accompanied by Grade 2 Braille.

11.7 Sign Finishes
Signs must have:
   a) A matte or glare-free finish for characters symbols and backgrounds,
   b) Colour / tonal contrast, and
   c) Either light characters on a dark background or dark characters on a light background.
The most visible colours on signs are white or yellow on black, charcoal, dark blue, dark green or purple. Black lettering on white is also acceptable, although less readable as white lettering on black.

### 11.8 Pictograms
1. Pictograms must be a min 150 mm tall and accompanied with equivalent visual and tactile text and placed directly below the pictogram [Diagram 11.C].
2. Refer to the “Town of Oakville Interior Sign Standard” for details on pictograms.

### 11.9 Electronic Signage
1. Alternate formats must be provided for any type of electronic signage. For example, video display terminals must provide alternative formats, such as audio, Braille and min 16 pt large-text print on highly contrasting background. Consideration must be given to the future use and requirements, such as wire drops of infrared and digital audible signs.
2. Touch screens and any buttons must be mounted 900 mm to 1200 mm AFF, be clearly identifiable by colour from background, where required have tactile text and meet requirements in section [9. Operable Controls and Mechanisms].

[Diagram 11.C] Pictograms
12. Materials and Finishes

Appropriate selection of finishes can aid in the physical, visual, and auditory navigation of the built environment. Bright colours should be used to assist with wayfinding strategies.

12.1 Finishes

1. Tiles must be laid flush.

2. Design joints in walking surfaces must be no greater than 6 mm wide, with variations in level not more than 3 mm. Exterior joints must be laid to prevent the accumulation of rain water.

3. Hard surfaces must be non-glare, firm and finished with a non-slip material.

4. Provide wayfinding through the use of colour contrast and TDI for primary paths and public spaces.

5. Carpets must be a low-level loop of 10 or 12 gauge non-static fibre, non-zippered, and anti-microbial. Carpets must be directly glued to the subfloor.

6. Floor patterns must not be visually confusing.

12.2 Texture and Colour

Heavy or distinct patterns can cause visual confusion. Simple, repetitive, non-directional patterns that use monochromatic or low-colour contrast must be used.

12.3 Colour Contrast

1. Min colour / tonal contrast is required for signage, see section [11. Signage and Information Systems].

2. Colour / tonal contrast must be used as a safety measure to define edges or boundaries of objects.

3. End or return walls in long corridors must have visual definition at the end of the space to also identify a change in direction.

12.4 Textural Cues

Textural cues on floors, as noted in section [8. Tactile Walking Surface Indicators – Attention and Direction] or a change in materials can help define the junction between spaces.
12.5 Acoustics

1. The sound transmissions of different areas can be used as an orientation cue and help to navigate a space.

2. Floor, wall, and ceiling surfaces must aid in reducing unnecessary sound levels within a space.

3. It is recommended that accessible paths in large facilities vary materials used for primary and secondary paths so they can be differentiated by feel and sound.

4. When designing spaces, consideration must be given to the acoustic requirements of the space in order to reduce echoing and sound distortion.

12.6 Wayfinding - Using Materials and Finishes

Wayfinding strategies must be considered when selecting exterior and interior finishes. Texture, colour, and acoustics are elements that can aid in wayfinding.

Hard surfaces such as marble or terrazzo amplify sounds, such as footsteps, and add another level of confusion for persons who are hearing or visually impaired.
Interior Elements and Amenities
13. Entrances

An entrance is any access point into a building or facility used for the purposes of entering.

13.1 Entrance Requirements

1. 100% of entrances for buildings must be accessible.

2. The main entrance must be located as close as possible to accessible parking and to passenger loading zones.

13.2 Vestibules

Entry vestibules must have a min 2500 mm clear turning circle plus the width of the door swing [Diagram 13.A].

13.3 Ground Floor Entrances

At least 1 in 2 (50%) but not less than one accessible entrance must be provided to every space or suite located on the ground floor.

13.4 Gates

Gates must have a min clear width of 900 mm [Diagram 13.B].

13.5 Controlled Entrances

Turnstiles, mullions, revolving doors, or other barriers used to control access must have an adjacent accessible gate or door. The clear width for the adjacent accessible gate or door must be min 900 mm [Diagram 13.B].
13.6 Other Access Points

1. Provide an interior accessible path to entrances and exits within a building and an exterior accessible path leading away from the exits at grade. The exterior path must meet the requirements in section [38. Exterior Paths] and must lead to a public thoroughfare.

2. Where access is provided for pedestrians from a pedestrian tunnel, walkway or pedestrian bridge, at least one entrance to the facility from each tunnel, walkway, or bridge must be accessible.

3. Loading docks are not considered an entrance and are not required to be accessible.

4. If the only entrance to a facility or tenancy is a service entrance, that entrance must be accessible.

5. Accessible paths must be provided from transit stops, parking lots, or pedestrian paths to all accessible entrances of a building.

13.7 Signage

1. Signage must:

   a) Have directions indicating the nearest accessible entrance where building entrances and exits are not accessible, and

14. Doors

Revolving doors are not considered an accessible means of entry into a building.

14.1 Door Specifications

1. All doors in a building must:
   a) Have a min 900 mm clear width [Diagram 14.A], and
   a) Have colour / tonal contrast to differentiate the door frame from the adjacent wall and floor. The door and the door frame can be the same colour. If there is no closer provided on the door, the edge of the door must have colour / tonal contrast from the door face.

2. Doors not requiring full user passage, such as shallow closets, must have a min 510 mm clear width and meet all space and reach requirements.

3. Where panic hardware is provided on a door, the clear width must be measured from the face of the panic hardware to the face of the door stop.

![Diagram 14.A] Clear Door Width

14.2 Maximum Opening Force of Doors

1. Max opening force of 38N for exterior doors.

2. Max opening force of 22N for interior doors and sliding doors.

14.3 Latch Side Clearances

1. Sliding doors must have 300 mm latch side clearances on both sides of the door.

2. Swing doors must have latch side clearances meeting the requirements in [Table 14.3] [Diagram 14.D].

[Table 14.3] Latch Side Clearances

<table>
<thead>
<tr>
<th></th>
<th>Min Latch Side Clearances</th>
<th>Min Manoeuvring Space at Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push Side</td>
<td>300 mm</td>
<td>1300 x 1300 mm</td>
</tr>
<tr>
<td>Pull Side</td>
<td>600 mm</td>
<td>1600 x 1600 mm</td>
</tr>
</tbody>
</table>
14.4 Vision Panels in Doors

1. Vision panels must:
   a) Be min 75 mm wide,
   b) Have the bottom edge of the panel max 760 mm AFF,
   c) Have the side edge of the panel max 250 mm from latch side [Diagram 14.B], and
   d) Where part of a wall assembly requiring fire resistance (e.g., Area of Refuge), comply with the requirements in the latest edition of OBC for fire resistance.

14.5 Door Hardware

1. Door hardware must:
   a) Be operable by a closed fist [Diagram 14.C],
   b) Not require fine finger control, tight grasping, pinching, or twisting of the wrist, such as lever hardware, and
   c) Be mounted 900 mm to 1000 mm AFF.

2. Colour / tonal contrast must be used to differentiate the door operating mechanism from the door itself.
14.6 Guards for Doors

1. Where doors swing into a path of travel, a cane detectable guardrail or other warning barrier must be located at right angles to the wall containing the door, extending 300 mm beyond the full length of the door [Diagram 14.E].

2. Door guards shall have a height of 865 mm to 965 mm AFF with a portion of the guard located at max 680 mm AFF for cane detection.

14.7 Door Closers

Closing period for a door must not be less than 3 seconds, measured when the door is in an open position of 70 degrees to the doorway to when the door reaches a point 75 mm from the closed position.

14.8 Glass Doors & Vision Strips

1. When frameless glass doors are provided, a colour / tonal contrasting strip is required on the full height of the outer edge of the door.

2. Vision strips are required on glass doors and must meet the criteria in subsection [16.1. Vision Strips].
14.9 Doors in Series

Where there are two doors in series, they must be designed to accommodate a clear floor space at least 2500 mm [Diagrams 14. F and G].


15. Power Door Operators

*Power door operators* increase the level of accessibility of an entire building, enabling all to enter.

### 15.1 Types

1. There are two types of *power door operators*.
   a) An elongated single activation device (push panel) \( \text{min } 150 \text{ mm} \times 700 \text{ mm} \) [Diagram 15.B], and
   b) A circular device (push button) \( \text{min } 150 \text{ mm} \) in diameter [Diagram 15.C].
2. In high traffic areas provide automatic sliding doors.

### 15.2 Required Locations

1. *Power door operators* must be installed at:
   a) All *accessible* entrances,
   b) Interior doors along *accessible paths*, except for doors with an electromagnetic hold-open device,
   c) Doors entering into *accessible* washrooms and change rooms,
   d) Doors entering into all public meeting rooms,
   e) 10% of staff utilized meeting rooms, and
   f) Doors entering into publicly accessed reception areas.

[Diagram 15.A] Locations of Power Door Operators and Required Clear Floor Space
15. Power Door Operators

15.3 Placement

1. Power door operators must be:
   a) Clearly visible on the push and pull side of the door,
   b) Located min 600 mm from any inside corner or door [Diagram 15.A], and
   c) Located max 1500 mm beyond the door swing [Diagram 15.A].

2. If an elongated power door operator panel is installed, it must be located with the bottom edge max 200 mm AFF and the top edge min 900 mm AFF [Diagram 15.B].

3. If a circular power door operator is installed, it must be located between 900 mm to 1100 mm AFF [Diagram 15.C].

15.4 Additional Design Requirements

1. A clear floor space of 860 mm x 1480 mm must be maintained in front of the power door operator [Diagram 15.A]. Refer to [Diagram 14.D] for latch side clearance and maneuvering space and [Diagram 14.E] for doors opening into an accessible path.

2. The power door operator (button or panel) must incorporate the International Symbol of Access.

3. Each power door operator must have colour/tonal contrast from its surroundings.

4. It must take the power door operator a max of 3 seconds to move from the closed position to a fully open position.

5. A max force of 66N is required to stop door movement.

6. Where door operators are activated by proximity scanning sensors or pressure mats, they must be capable of detecting individuals using mobility aids.

7. Wireless power door operator must be used for window mullions. Batteries must be replaced annually or as required.
16. Windows and Glazing

Design consideration for windows and glazing allows for viewing by all building occupants.

16.1 Vision Strips

1. Where glazing starts below 680 mm AFF, windows, glazed screens or vision panels must be marked with vision strips unless equipped with a mullion that has colour/tonal contrast with the surrounding environment [Diagram 16.A].

2. Vision strips must:
   a) Be located at 1350 mm to 1500 mm and at 1170 mm to 1200 mm AFF,
   b) Span across the full length of the glazed area,
   c) Be min 50 mm wide,
   d) Be primarily solid, and
   e) Have colour/tonal contrast.

[Diagram 16.A] Vision Strips

16.3 Glazed Vision Panels

Where provided, full height glazed vision panels must meet criteria in subsection [14.4. Vision Panels in Doors].

16.4 Operable Windows

1. Operable windows must:
   a) Have opening hardware mounted 400 mm to 1200 mm AFF, and
   b) Be operable using one hand.

2. It is recommended to provide hardware that does not require fine finger control, tight grasping, pinching, or twisting of the wrist.
17. Passenger Elevators and Escalators

17.2 Elevator Doors
Elevators doors must:

a) Have a min 915 mm clear width [Diagram 17.A],

b) Slide horizontally only,

c) Have a matte finish to reduce glare,

d) Be capable of operating independently, and

e) Open and close automatically.

17.3 Door Reopening Device/Sensor
1. The elevator car door must automatically open if an object or a person obstructs the door.

2. Physical contact with an obstruction is not required for the doors to reopen automatically.

3. Reopening devices located 125 mm ± 25 mm to 735 mm ± 25 mm AFF.

4. If door closes it must reopen automatically if an object or person is still in the doorway.

17.4 Door and Signal Timing
Door and signal timing must be:

a) Min 5 seconds hall call notification time, and

b) Min 10 seconds for elevator doors to remain open.

17.1 Elevator Design
This section is adopted from the CSA B651-12 Annex E and includes only some of the requirements within the CSA standard. For a complete understanding of all requirements for the design of passenger elevators refer to the CSA Standard and the latest edition of the OBC.
17.5 Elevator Cab Design
1. Cabs must be min 2030 mm x 1295 mm cab size with a centre door or 1725 mm x 1295 mm cab size with an off-centre door.

2. Handrails must be on the cab interior wall except where the elevator door is located, and meet requirements in section [7. Handrails].

3. Mirrors must be provided on the wall opposite the door, angled downwards at the top of the cab. Mirrors must not be used elsewhere within the elevator cab.

4. The cab interior must have a glare free finish.

5. Floor surface must be firm, level, and slip resistant.

17.6 Colour Contrast in Elevator Cabs
1. Colour / tonal contrast must be provided:
   a) Between control buttons and control panel,
   b) Between floor surface and elevator car walls, and
   c) Between elevator lobby floor and car walls and floor.

17.7 Manoeuvring Space in Elevator Lobbies
1. Provide a min clear floor space of 2500 mm x 2500 mm in front of elevator doors.

2. Elevator lobbies must be connected to an accessible path.

17.8 Elevator Signage
1. Elevator signage must be:
   a) Placed on door jamb 1525 mm above floor to the centre of number [Diagram 17.A],
   b) Min 50 mm high, and
   c) Repeated in Braille [Diagram 17.B].

2. The main floor level must be indicated by a raised “star” symbol [Diagram 17.B].

17.9 Visual & Audible Signals
1. Audible and visual signals must be provided in the elevator cab interior and every elevator lobby and must:
   a) Indicate which elevator car is answering the call,
   b) Indicate the direction of travel,
   c) Be visible within the elevator lobby,
   d) Be located above the elevator door in the elevator lobby, and
   e) Have voice annunciation [Diagram 17.B].

2. Audible signals must be a min 10% above the ambient noise level to max 80dBA.
17.10 Elevator Operation and Levelling

Elevator operation and level must be automatic. The elevator cab must be equipped with an automatic self-levelling device to maintain a max floor level difference of 13 mm.

d) Have a raised collar surrounding button min 1.5 mm,

e) Have raised tactile characters,

f) Have Braille located immediately adjacent to which they apply,

g) Have an alarm button located at the bottom of the panel, directly connected to monitor system,

h) Have operable portions of card access readers located 900 mm to 1100 mm AFF,

i) Have visible signals that show when a call has been registered, and

j) Provide hands free emergency signaling and communications.

17.11 Elevator Car Control Buttons

1. Elevator car control buttons must:

a) Be located 890 mm to 1200 mm AFF, [Diagram 17.B]

b) Be min 19 mm in diameter,

c) Have numbers arranged in ascending order from left to right on panel,
17.12 Escalator Requirements
1. Escalators are not considered accessible; therefore, where escalators are used, an alternative accessible path of travel must be provided.

2. The path of travel must be conveniently located adjacent or near the escalator and signage must clearly identify access to the accessible path.

17.13 Escalator Contrast and Finish
1. Tread edges, nosing and handrails must have colour/tonal contrast from their surrounding environment.

2. Matte finish must be used to minimize reflected glare.

17.14 Tactile Attention Indicators (TAI) Location
Escalator landings must have TAI at the top and bottom of the escalator and must meet the requirements in section [8. Tactile Walking Surface Indicators – Attention and Direction].

In addition to escalators, consideration must be given to install elevators or ramps to floor levels as persons utilizing mobility devices, or persons pushing children in strollers may not be able to navigate an escalator.
18. Service Counters and Related Areas

18.1 Service Counters

1. At least 10%, but not less than one, of every type of service counter must be accessible and must:

   a) Be clearly identified with signage,

   b) Be located on an accessible path, and

   c) Have a min 860 mm x 1480 mm clear floor space where a max of 500 mm can be below counter if front approach is required [Diagram 18.B and C].

18.2 Speaking Ports

Any speaking ports provided must have the open portion between 900 mm to 1200 mm AFF and meet requirements in section [1. Space and Reach Requirements].

18.3 Accessible Service Counter Dimensions

1. Accessible service counters must:

   a) Have a max 800 mm height to the counter surface [Diagram 18.A],

   b) Have a knee space that is 700 mm tall x 900 mm wide x 500 mm deep, and

   c) Have a toe space that is 350 mm tall at a min 600 mm from the front edge of the desk for toe clearance.

2. Ensure any design features available are designed in accordance with section [1. Space and Reach Requirements].
[Diagram 18.A] Clear Floor Space at Service Counters

[Diagram 18.B] Clear Floor Space at Service Counters (Front Approach)

[Diagram 18.C] Clear Floor Space and Reach Range at Service Counters (Side Approach)
18.4 Waiting Areas
1. At least 10% of waiting area spaces must accommodate a person using a mobility device.

2. Accessible waiting areas must be located on an accessible path, with a min 860 mm x 1480 mm clear floor space, located outside the path of travel and integrated into the seating [Diagram 18.D].

18.5 Queuing Guides
1. A clear width min 1100 mm must be provided between fixed queuing guides such as ropes, bars, or solid barriers. Guides must be laid out in parallel lines [Diagram 18.E].

2. Queuing guides must have colour / tonal contrast to surroundings.

3. Directional indicating TWSI meeting the requirements of section [8. Tactile Walking Surface Indicators – Attention and Direction] are required if queuing guides are permanent.

4. Provide a clear floor space of 2500 mm x 2500 mm at points where there is a change in direction [Diagram 18.E].

5. Visual and auditory signals must be provided at service counters to indicate when service is available and at what location.
Service Counters and Related Areas

Signals for available service shall be visual as well as auditory.

Direction indicators area required if queuing guides are permanent.
Guides must be cane detectable at or below 680 mm AFF.

Clear Floor Space at Queuing Guides

Oakville Universal Design Standards
19. Millwork, Storage and Shelving

If fixed or built-in storage units such as cabinets, closets, shelves and drawers, are provided in accessible spaces, at least one of each type provided must be accessible.

19.1 Accessible Storage, Shelving and Display Units Design Requirement

1. Accessible storage, shelving, and display units must meet the following:

   a) **860 mm x 1480 mm clear floor space** for forward or parallel approach,

   b) **Max 1200 mm AFF** for collapsible hooks or closet rods [Diagram 19.A],

   c) **230 to 1200 mm AFF** for shelves [Diagram 19.A], and

   d) Touch latches or u-shaped pulls must be used. Any hardware used must meet criteria in section [9. Operable Controls and Mechanisms].
20. Multi-Stall Washrooms

Accessible multi-stall washrooms and accessible universal washrooms are required on each floor.

20.1 Amount of Accessible Water Closet Stalls

1. The number of accessible water closet stalls is required to comply with [Table 20.1].

20.2 Accessible Water Closet Stall Door

1. Stall doors for accessible water closet stalls must:
   a) Be min 900 mm in clear width [Diagram 20.8],
   b) Swing outward,
   c) Be equipped with gravity hinges, and
   d) Have colour / tonal contrast from the stall walls.
20.3 Accessible Stall Door Hardware

1. Accessible stall door hardware must:
   a) Have “D type” door pulls,
   b) Be min 140 mm long and have a depth between 30 mm to 50 mm,
   c) Have one door pull mounted on both sides vertically with the centreline 120 mm to 220 mm from the latch,
   d) Have one door pull mounted horizontally 200 mm to 300 mm from the hinge side of the door,
   e) Be mounted 900 mm to 1200 mm AFF, and
   f) Have locks operable with a closed fist hand and not require fine finger control, tight grasping, pinching, or twisting of the wrist [Diagram 20.A].

2. Collapsible coat hooks must be provided, projecting a max 50 mm outward, with a height between 900 mm and 1200 mm AFF.

20.4 Accessible Water Closet Stall

Where required, the accessible water closet stall must:

a) Have min 1500 mm turning circle [Diagram 20.B]. In a change area where a universal change room is not provided, have min 2500 mm turning circle,

b) Have min 900 mm x 1500 mm clear transfer space on one side of the water closet [Diagram 20.B],

c) Have a water closet conforming to subsection [20.6. Accessible Water Closets], and

20.5 Accessible Urinals

Where more than one urinal is provided, at least one urinal must be accessible. Accessible urinals must:

a) Have a 860 mm x 1480 mm clear floor space, without any steps in front of the accessible urinal [Diagram 20.C],

b) Have min 920 mm clearance between privacy screens or walls,

c) Privacy screens must be min 460 mm from the centre line of the urinal, min 50 mm from the leading edge of the grab bar and have a colour / tonal contrasting edge [Diagram 20.C],

d) Be max 375 mm AFF to the urinal rim or located on the floor [Diagram 20.C],

e) Have min 345 mm depth [Diagram 20.D],

f) Have automatic flush controls, mounted 1200 mm AFF, and

g) Have grab bars meeting criteria in subsection [21.4. Urinal Grab Bars] [Diagram 20.C].
4. Where seat covers are not provided, a back support must be installed.

20.7 Multi-Stall Washroom
Accessible multi-stall washrooms must:

a) Incorporate a clear floor space of 1800 mm x 1800 mm [Diagram 20.G],

b) Have min 1700 mm clearance between inside face of an in-swinging entrance door and the outside face of adjacent toilet stall [Diagram 20.G], and

c) Have min 1400 mm clearance between outside face of the accessible stall and any wall-mounted fixture or obstruction [Diagram 20.G].

20.8 Signage
Where accessible water closets are not provided in a gender specific washroom and the universal washroom is not visible from the entrance to the common or multi-stall washroom, directional signage must be provided and meet requirements in section [11. Signage and Information Systems].

20.6 Accessible Water Closets
1. The accessible water closet must be 460 mm to 480 mm from the centreline of the water closet to the adjacent wall [Diagram 20.B].

2. The seat of an accessible water closet must be located 430 mm to 460 mm AFF, must be securely mounted and not spring activated [Diagram 20.E].

3. Flush controls must be automatic or operated with a push button. Automatic sensors must be located such that when the seat cover is open, it will not block the sensor. Push buttons must be located on the transfer side and operable using a closed fist with minimal effort.

20. Multi-Stall Washrooms

860 x 1480 500 Max permitted under lavatory

Power Door Operator

460 Min

600 Min

1400 Min

1700 Min

1800

1800

Urinal Screen 680 AFF Max

1500

Clear transfer space for water closet stall 900 x 1500

460-480

460-480

460 Min

Clear floor space for urinal 860 x 1480


Every accessible water closet and accessible urinal must have grab bars, which must be securely attached to the wall to support the weight of a person.

21.1 Grab Bar Dimensions

1. Grab bars must have:

   a) A diameter between 35 mm and 40 mm [Diagram 21.A],
   
   b) A 50 mm clearance between the grab bar and the wall,
   
   c) No sharp or abrasive elements, and
   
   d) A slip-resistant surface.

21.2 Water Closet Grab Bars

1. Two grab bars are required to be mounted adjacent to an accessible water closet. They are as follows:

   a) One 750 mm long grab bar mounted behind toilet, between 840 mm and 920 mm AFF. Where a water tank is provided, mounted 150 mm above the tank [Diagram 20.E and 21.A], and
   
   b) One 750 mm by 750 mm L-shaped grab bar on the wall beside the water closet, with the horizontal component mounted 750 mm AFF, and the vertical component located 150 mm from edge of water closet [Diagram 20.F and 21.A].
21.3 Toilet Paper Dispenser

1. The toilet paper dispenser must
   a) Be located below the grab bar,
   b) Be inline or max 300 mm in front of toilet seat to operable portions of the toilet paper,
   c) Dispense toilet paper at 600 mm AFF, and
   d) Have a min 25 mm to 50 mm clearance from the grab bar to any part of the dispenser [Diagram 20.F].

21.4 Urinal Grab Bars

Accessible urinals require two grab bars 600 mm long, vertically mounted 380 mm from the centreline of the urinal with the lowest end mounted 600 mm to 650 mm AFF [Diagram 21.B].
22. Lavatories

If consistency is intended in design, provide all lavatories at an accessible height with clear knee and toe space.

22.1 Application

Provide at least one accessible lavatory in every accessible washroom.

22.2 Knee and Toe Clearance

1. Knee and toe clearance must be provided for every accessible lavatory and conform to the following:

   a) \text{Max} 840 \text{ mm} \text{ AFF} \text{ to top of vanity} \ [\text{Diagram 22.A}],

   b) 920 \text{ mm} \text{ wide} \times 500 \text{ mm} \text{ deep} \times 735 \text{ mm} \text{ high from the underside of the lavatory},

   c) Have a knee space that is 685 \text{ mm} high at \text{min} 205 \text{ mm} from the front edge of lavatory, and

   d) Have a toe space that is 350 \text{ mm} high at \text{min} 300 \text{ mm} from the knee space.

22.3 Lavatory Clear Floor Space and Location

1. \text{Min} 860 \text{ mm} \times 1480 \text{ mm} clear floor space in front of the lavatory, where \text{max} 500 \text{ mm} can be below the lavatory \ [\text{Diagram 22.B}].

2. Lavatory must be \text{min} 460 \text{ mm} from the centreline of the lavatory to the adjacent wall \ [\text{Diagram 22.B}].

[Diagram 22.A] Lavatory Design
22.4 Other Design Considerations

1. Faucet handles must be lever type or automatic sensors.

2. Exposed pipes must be insulated to prevent burns or the water temperature must be limited to max 43°C.

3. Soap and towel dispensers must be located max 610 mm from the front edge of the lavatory and meet criteria in section [23. Washroom Accessories].

4. Consider providing plumbing trim in finishes darker and less mirror-like than polished chrome to which can be more easily seen.
23. Washroom Accessories

Washroom accessories include (but are not limited to): paper towel dispensers/disposal receptacles, shelves, hand dryers, paper towels, soap dispensers, and vending machines. Grab bars and toilet paper dispensers have specific mounting requirements and can be found in section [21. Grab Bars and Toilet Paper Dispensers]

23.1 Washroom Accessories

1. A clear floor space of 860 mm x 1480 mm is required in front of controls and operating mechanisms for washroom accessories.

2. The dispensing height and operable portion of washroom accessories must be between 900 mm and 1100 mm AFF [Diagram 23.A].

3. A max of 100 mm can protrude into the accessible path within the washroom, otherwise, the item must be cane detectable at max 680 mm AFF.

4. Accessories must be automatic or operable with one closed fist.

5. Waste receptacles must be open topped, and located out of the accessible path.

6. Mirrors must be max 1000 mm AFF. Full length mirrors must start max 175 mm AFF.

24. Universal Washroom

Universal washrooms benefit persons with attendants of opposite gender, families, and persons who prefer alternatives to multi-stall washrooms.

24.1 Amount
At least one universal washroom must be provided on every floor in addition to any accessible multi-stall washrooms and no further than 45 m from multi-stall washrooms.

24.2 Clear Floor Space
1. Min 2500 mm turning circle, clear of obstruction [Diagram 24.B].
2. Min 900 mm x 1500 mm clear transfer space on one side of the water closet.

3. Provide at least one min 1000 mm x 2000 mm space for an adult change table with an 860 mm x 1500 mm clear floor space parallel to the long side of the adult change table and meet the requirements in subsection [24.5. Adult Change Table].

24.3 Washroom Door
1. The door must be equipped with a power door operator that must coordinate with an automatic locking system.
2. The door must be capable of being locked from inside and must be able to be released from the outside in case of emergency.

24.4 Fixtures
1. Provide at least one collapsible coat hook, max 1200 mm AFF and max projection 50 mm from the wall.
2. Provide a shelf max 1200 mm AFF and located not to create an obstruction.
3. An optional fold-down grab bar min 750 mm in length, mounted 390 mm to 410 mm from the centreline of the water closet on the transfer side, 750 mm AFF.
4. The following sections and subsections also apply to the Universal Washroom:
   a) Subsection [20.6. Accessible Water Closets],
   b) Section [21. Grab Bars and Toilet Paper Dispensers],
   c) Section [22. Lavatories], and
   d) Section [23. Washroom Accessories].
24.5 Adult Change Table

Min one adult change table must be provided in a building and must:

a) Be a min 810 mm x 1830 mm in size inclusive of the motor for height adjustment.

b) Change table surface be electrically adjustable with a height from 450 mm AFF to 900 mm AFF.

c) Have a reinforced wall to sustain a load of 1.33 kN, and

d) Change table controls with operable portions max 1100 mm AFF.

Where space is provided for the future installment of an adult change table, reinforcement supports must be installed. Additional consideration must be given to providing electrical supply for electric powered height adjustment.

24.6 Emergency Call System

1. A visual and audible signal device must be located inside and outside of the universal washroom and connected to an occupied reception or security desk.

2. Signage must be provided to read “In the event of an emergency, push emergency call button or strip and audible and visual signal will activate.” Letters must be min 25 mm tall, with a 5 mm stroke that is posted above the emergency call button or strip. Tactile and Braille signage must also be provided and meet the criteria in section [11.6. Tactile Sign Requirements].

3. The emergency call system must consist of a call button located within reach of the water closet but not be located to be accidentally pushed when reaching for the toilet paper or using any grab bars. The button is to be mounted between 900 mm and 1200 mm AFF.

4. A vertical emergency call strip can be provided in lieu of the call button. A horizontal emergency call strip can be provided in addition to a call button or vertical call strip. An emergency call strip allows the activation of the call system for a person who has fallen. Verify the proposed call system prior to specifying or installing the components with the Building Department for approval. The call strip must be activatable by pushing anywhere along its length and mounted:

   a) Vertically with the lower edge max 200 mm AFF and with the upper edge min 900 mm AFF [Diagram 24.A], or

   b) Horizontally with the lower edge 200 mm to 400 mm AFF [Diagram 24.A].

5. The signal must be located directly above the washroom door on both sides.

[Diagram 24.A] Vertical and Horizontal Emergency Call Strip
24. Universal Washroom

24.7 Occupied Notification

The occupied signal must:

a) Be located on the outside of the universal washroom, mounted between 900 mm and 1200 mm AFF, and

b) Be illuminated when the “Push to Lock” button on the inside of the universal washroom is activated to verify that the room is occupied.

[Diagram 24.8] Universal Washroom
25. Accessible Shower

Any additional enclosures for the shower stall must not obstruct transfer from a mobility device onto the shower seat.

25.1 Showers

1. 1 in every 7 showers but no less than one must be accessible.

2. The interior shower space must be a min 1500 mm wide x 900 mm deep. [Diagram 25.A]. The clear floor space in front of the shower must be min 900 mm deep and the same width as the shower.

3. The threshold for the roll-in shower must be max 13 mm high.

25.2 Shower Accessories and Controls

1. A shower seat must be provided that is 450 mm wide x 400 mm deep, mounted 450 mm AFF, designed and installed to carry load of 1.3kN [Diagram 25.A].

2. Controls must be automatic, lever type or both, and must be accessible from the seated position. Consideration must be given to the primary users of the space and provide controls that are accessible to the users. Automatic sensor provides ease of access but may not be suitable for children or little persons when mounted at higher heights.

3. Shower controls must be a pressure equalizing or thermostatic mixing valve.

4. The shower head must be hand held with a flexible hose min 1500 mm long, reachable from the shower seat, mounted max 1000 mm AFF, and located max 685 mm away from seat, while not obstructing the L-shape grab bar [Diagram 25.A].

5. Provide a recessed soap holder located within reach of the seat, mounted with the centreline between 900 mm and 1200 mm AFF.

6. Ensure all shower accessories meet the requirements in section [1. Space and Reach Requirements].
25. Accessible Shower

25.3 Shower Grab Bars

1. One vertical grab bar must be installed min 1000 mm long, 700 mm to 800 mm AFF, 80 mm to 120 mm from the outside edge of the shower, adjacent to the bench [Diagram 25.A].

2. One L-shaped grab bar must be installed min 750 mm x 920 mm long, 850 mm AFF, located on wall opposite the entrance to the shower, with the horizontal component not less than 250 mm of its length at one side of the seat, mounted min 150 mm from the side wall.


[Diagram 25.A] Accessible Shower
26. Change Rooms

Accessible change rooms allow for social inclusion and all individuals can equally access all amenities pre and post activities.

26.1 Clearances and Clear Floor Space
1. A primary accessible path, min 1800 mm, must be maintained throughout the space and must meet criteria in sections [4. Headroom - Overhanging and Protruding Objects] and [14. Doors].

26.2 Lockers and Storage
1. A min 10% of all lockers (full height and half height) must be accessible and evenly dispersed throughout the room.

2. A min 860 mm x 1480 mm clear floor space must be provided in front of accessible lockers. Fixed benches must not overlap the clear floor space.

3. Each accessible locker must have at least one shelf with a height 400 mm to 1200 mm AFF.

4. Locks, hooks and any operable portions of lockers must be 900 mm to 1200 mm AFF.

5. Numbers or names on lockers must be tactile surfaces mounted on a colour / tonal contrast background.

6. Any storage racks must be max 680 mm AFF and have a continuous colour contrasting strip on the edge.

26.3 Additional Requirements
1. Shower facilities must meet the criteria in section [25. Accessible Shower].

2. Water closet and lavatory facilities must meet criteria in sections [20. Multi-Stall Washrooms] and [22. Lavatories].

3. Dressing stalls must meet criteria in section [28. Accessible Dressing Stalls].

4. Fixed hair dryers must be located in a separate room or an alcove that meets the min clear floor space requirements in section [1. Space and Reach Requirements]. Hair dryers must be in close proximity to mirrors and electrical outlets. Shelves must be provided for personal grooming equipment.

5. Full length mirrors must start max 175 mm AFF.

6. Handrails can be used along circulation routes from change rooms to activity areas and meet the criteria in section [7. Handrails].

7. Flooring must be slip resistant and meet criteria in section [3. Ground and Floor Surfaces].
27. Universal Change Room

Universal change rooms are accessible, gender neutral, single use spaces that accommodate for privacy and assistance from persons of the opposite gender.

27.1 Design

1. At least one universal change room should be provided in a team, family, or gender specific change area. The change area must provide the following rooms, in close proximity to each other, and must not require users to leave the enclosed change area to access all rooms:

   a) Universal change room designed to meet the requirements in section [24. Universal Washroom] and section [25. Accessible Shower] [Diagram 27.A],

   b) A minimum of 3 accessible lockers provided outside of and in close proximity to each universal change room that meet the requirements in subsection [26.2. Lockers and Storage],

   c) Accessible washroom stall in the change area that meet the requirements of subsection [20.4. Accessible Water Closet Stall], and

   d) Accessible dressing stall in the change area that meet the requirements of section [28. Accessible Dressing Stalls] except that the clear turning circle can be designed as 1800 mm to 2500 mm.

[Diagram 27.A] Universal Change Room
2. If a universal change room is not provided in a team, family, or gender specific change area. The change area must provide the following rooms, in close proximity to each other, and must not require users to leave the enclosed change area to access all rooms:

   a) Accessible dressing stalls that meet the requirements in section [28. Accessible Dressing Stalls], and

   b) Accessible washroom stalls that meet the requirements in subsection [20.4. Accessible Water Closet Stall] except that the turning circle in the stall must be designed with a min 2500 mm clear turning circle.

28. Accessible Dressing Stalls

An accessible dressing stall is intended to accommodate two people and a mobility device, along with benches and accessories.

28.2 Accessible Dressing Stalls

1. Accessible dressing stalls must have a clear turning circle of 2500 mm. In a change area where a universal change room is provided, can have a clear turning circle of 1800 mm to 2500 mm.

2. A door with a clear width of 900 mm [Diagram 28.A].

[Diagram 28.A] Accessible Dressing Stall (Plan)

28.3 Bench and Other Accessories

1. An accessible dressing stall must have a bench that meets the following requirements:

   a) Min 760 mm x 1830 mm, mounted 450 mm to 500 mm AFF [Diagram 28.A],

   b) Designed to carry a min load of 1.33 kN, and

   c) Min 860 mm x 1480 mm clear floor space adjacent to the bench.
2. Two coat hooks must be provided that are collapsible-style, projecting not more than 50 mm, mounted max 1200 mm AFF and max 500 mm from the bench [Diagram 28.B].

3. Mirrors must be full length, mounted with the bottom at 175 mm AFF.

4. Provide two vertical grab bars min 600 mm long on each side of the bench, located 80 mm to 120 mm from the outside edge of the bench mounted 600 mm to 650 mm AFF [Diagram 28.B].

28.4 Surfaces

Accessible dressing stalls near wet areas must have slip resistant floors that must also prevent the accumulation of standing water.

29. Public and Staff Kitchens and Kitchenettes

A forward approach to work surfaces and appliances is preferred, with the exception of refrigerators.

29.1 Kitchen Design

1. Min 1800 mm clear width for galley or L-shaped kitchens [Diagram 29.A] [Diagram 29.B].

2. Min 2500 mm x 2500 mm clear floor space in a U-shaped kitchen [Diagram 29.C], and min 2500 mm turning circle at dead end conditions.

3. A min of 50% of shelf space in for kitchens must be accessible.

29.2 Colour and Tonal Contrast

Colour / tonal contrast must be provided:

a) Between counter tops and cabinets and walls [Diagram 29.D], and

b) Between operable hardware on cabinets and cabinet surfaces.

29.3 Dishwashers

When provided, a dishwasher door in the open position must not obstruct the clear floor space for the cooktop or the sink. A clear floor space of 860 mm x 1480 mm must be provided in front of the dishwasher when in the open position [Diagram 29.C].
29.4 Cabinet Hardware, Faucets and Appliance Controls

1. Any operable portions on cabinetry or appliances must be mounted 900 mm to 1200 mm AFF and must meet criteria in section 9. Operable Controls and Mechanisms [Diagram 29.D].

2. Faucet handles must be lever type or automatic.

3. Max 500 mm from the centre line of the faucet basin to front edge of sink [Diagram 29.C].

4. Exposed pipes must be insulated to prevent burns or the water temperature must be limited to max 43°C.

29.5 Sink and Countertop Knee Clearances

1. Clear knee space must be provided for both the sink and countertop. They must be:

   a) 710 mm to 856 mm AFF to top of counter [Diagram 29.E],

   b) 920 mm wide x 500 mm deep [Diagram 29.F],

   c) 735 mm high at the front edge [Diagram 29.D],

   d) Knee space of 685 mm high at 205 mm from the front edge of counter [Diagram 29.E], and

   e) Toe space of 350 mm high at 300 mm from the knee space [Diagram 29.E].

2. Where two sinks are provided, one for prep and one for sanitary purposes, both sinks must be accessible as they serve different purposes [Diagram 29.C].
29. Public and Staff Kitchens and Kitchenettes

Safety switches must be provided to deactivate appliance controls for ranges, cooktops, and ovens in facilities with children’s programs.

29.7 Ovens

1. Provide a side-hinged door oven with an adjacent work surface positioned to the latch side of the door, at a max height of 1200 mm AFF.

2. Controls must be mounted no higher than 1200 mm AFF.

3. Incorporate a pull-out shelf below the oven for easy removal of hot items [Diagram 29.H].
A parallel approach to the countertop is accepted where there is no cook top provided.

29.8 Refrigerators and Freezers
1. Refrigerators and freezers in accessible kitchens must be configured with a min of 50% of shelving max 1200 mm AFF. This is typically accommodated by a side-by-side fridge / freezer or a fridge with a freezer drawer located on the bottom.

2. An 860 mm x 1480 mm clear floor space must be provided for parallel approach offset 600 mm from the front face of the refrigerator [Diagram 29.1].

29.9 Additional Requirements
Kitchens must also comply to the following:

a) Section [1. Space and Reach Requirements],
b) Section [3. Ground and Floor Surfaces],
c) Section [9. Operable Controls and Mechanisms],
d) Section [10. Lighting, Light Sources and Glare], and
e) Section [12. Materials and Finishes].
30. Drinking Fountains and Bottle Filling Stations

Provide accessible drinking fountains and accessible bottle filling stations in close proximity to each other.

30.1 Amount
There must be at least one accessible drinking fountain and bottle filling station in every building.

30.2 Drinking Fountains or Bottle Filling Locations
1. Both drinking fountains and bottle filling stations must be provided with a clear floor space of 860 mm x 1480 mm.

2. When non-recessed drinking fountains project into the accessible path more than 100 mm, cane detection must be provided to a max of 680 mm AFF.

30.3 Clear Floor Space
1. Clear floor space must not overlap the min space requirements of the accessible path and must be:
   
a) Min 1480 mm wide x 860 mm long with one unobstructed side adjoining an accessible path for side approach [Diagram 30.A], or

b) Min 860 mm wide x 1480 mm long for forward approach [Diagram 30.B].
30.4 Knee and Toe Clearance

1. Drinking fountains are required to be provided with clear knee space. Bottle filling stations do not require clear knee space, provided the max reach required to access the bottle filling station is not more than 600 mm. Knee and toe clearances for drinking fountains must be:

   a) Min 735 mm AFF and 900 mm wide x 500 mm deep below fountain [Diagram 30.C and D],

   b) Have a knee space that is min 735 mm AFF, 205 mm from the front edge of the fountain [Diagram 30.C], and

   c) Have a toe space that is min 350 mm high at min 300 mm from the knee clearance.

2. The clear floor space requirements can overlap with knee and toe clearance below a drinking fountain.

30.5 Water Spout

1. The water spout must be

   a) Max 915 mm AFF,

   b) Max 125 mm from front of fountain, and

   c) Project water min 100 mm high.

2. Water stream must be provided at either an angle of 30 degrees max where water spouts are located less than 75 mm from the front or 15 degrees max where water spouts 75 mm to 125 mm from front edge.

30.6 Contrast

The water fountain must have colour/tonal contrast from the background.

30.7 Controls

1. Controls must be

   a) Max 915 mm AFF,

   b) Located in front of fountain,

   c) Not foot operated, and

   d) Automatic or require max force of 22N to activate.

[Diagram 30.C] Knee and Toe Clearance (Elevation)

[Diagram 30.D] Knee and Toe Clearance (Plan)
31. Public Telephones

31.1 Amount of Accessible Phones
1. Where public telephones are provided, at least one telephone unit must be *accessible* and must meet [Table 31.1].

2. A *min* of one *TTY* telephone must be provided where interior *accessible* phones are located.

3. All *accessible* phones and a *min 25%* of all phones must be equipped with volume control.

[Table 31.1] Number of *Accessible* Telephones Required

<table>
<thead>
<tr>
<th>Number of telephones provided on each floor</th>
<th>Number of <em>accessible</em> telephones required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or more single units</td>
<td>1 per floor</td>
</tr>
<tr>
<td>1 bank</td>
<td>1 per floor</td>
</tr>
<tr>
<td>2 or more banks</td>
<td>1 per bank</td>
</tr>
</tbody>
</table>

One bank of telephones = 2 or more telephones.

31.2 Dimensions
1. Public telephones must have:
   a) *Min 2100 mm* clear height above telephone area,
   b) *Max 1200 mm AFF* to operable portions [*Diagram 31.A and B*], and
   c) *Min 1000 mm* handset cord length.

31.3 Knee and Toe Clearance
Provide knee and toe clearance for the *accessible* phone that is *min 735 mm AFF* and *860 mm wide* [*Diagram 31.A and C*].
31.4 Clear Floor Space
1. Provide a clear floor space in front of every accessible telephone that is:
   a) Min 860 mm wide x 1480 mm long for forward approach [Diagram 31.A and C], or
   b) Min 1480 mm wide x 860 mm long with one unobstructed side connected to an accessible path for parallel approach [Diagram 31.A and C].
2. The clear floor space must not overlap the min space requirements of accessible path for the building.
3. Centre the clear floor space within counter section.

31.5 Shelf
1. Provide a shelf at every accessible telephone that complies with the following:
   a) Min 900 mm wide x 350 mm deep,
   b) 775 mm to 875 mm AFF, and
   c) Min 250 mm clear space above [Diagram 31.B].

31.6 Signage
1. The accessible telephone must be identified with the International Symbol of Access [Diagram 31.B].
2. Signage must be provided when the accessible telephone is not visible from the bank of telephones.

31.7 Text telephones (TTY)
1. TTY phones must be provided for public phones and must be:
   a) Independent from phones used for individuals using wheeled mobility devices,
   b) Identified with the International Symbol of Access for Hearing Loss [Diagram 31.B], and
   c) Permanently affixed within or adjacent to the telephone enclosure.
31. Public Telephones

[Diagram 31.B] Public Telephone Elevation

[Diagram 31.C] Public Telephone Floor Plan
32. Interior Elevated Platforms

All interior elevated platform areas must be accessible and meet the requirements below.

32.1 Design

Elevated platforms must:

a) Be located on an accessible path,

b) Illumination must meet requirements in section [10. Lighting, Light Sources and Glare],

c) Be sized to safely accommodate mobility devices in compliance with section [1. Space and Reach Requirements], and

d) Have TAI as specified in section [8. Tactile Walking Surface Indicators – Attention and Direction] along the perimeter of open platform edges [Diagram 32.A].

32.2 Temporary Platforms

Where possible, temporary platforms must meet the requirements in subsection [32.1. Design].
33. Accessible and Adaptable Fixed Seating

Adaptable seating is designed to accommodate persons who require flexibility within a fixed seat, along a barrier-free path of travel. 
*Accessible* seating is a *clear floor space* capable of accommodating a mobility device.

### 33.1 Number of Adaptable and Accessible Seating

Areas with fixed seating must provide the number of *accessible* and adaptable seating identified in [Table 33.1].

[Table 33.1] Number of *Accessible* and Adaptable Seating Spaces

<table>
<thead>
<tr>
<th>Number of Fixed Seats in Seating Area</th>
<th>Min Number of <em>Accessible</em> Spaces</th>
<th>Min Number of Adaptable Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 20</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>21-40</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>41-60</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>61-80</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>81-100</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Over 100</td>
<td>3% of the seating capacity</td>
<td>5 seats or 5% of the aisle seating capacity</td>
</tr>
</tbody>
</table>

### 33.2 Location

1. Adaptable and *accessible* spaces must be located on an *accessible path* without infringing on the egress of other seating spaces.

2. Adaptable and *accessible* spaces must be provided at the front, middle, and top of the public seating areas to allow for a choice of admission prices and sight lines [Diagram 33.A].

### 33.3 Signage

*Signage* must be located at the ticket office to notify patrons of the availability of *accessible* and adaptable seating and must meet criteria in section [11. Signage and Information Systems].
33.4 Adaptable Seating

1. Adaptable seating must consist of a fixed aisle seat with no armrest on the aisle side or must have a removable or folding armrest on the aisle side and the ability to remove the seat adjacent to the adaptable fixed seat.

2. At least two storage spaces that are min 860 mm x 1480 mm are required in close proximity to the accessible seating spaces. This can be achieved by providing an alcove outside the path of travel or by the provision of a separate storage room that is close to the seating area.

33.5 Accessible Seating

1. Accessible seating must have the following:
   
   a) Min 920 mm wide x 1525 mm long for side approach entry [Diagram 33.A], or
   
   b) Min 920 mm wide x 1480 mm long for front or rear entry [Diagram 33.B].

2. For front or rear entry accessible seating, a 2500 mm diameter clear floor space must be provided in front or behind the accessible seat.

3. At least one companion seat must be provided adjacent to every accessible space.

The companion seating is to be calculated in addition to the required number of accessible seating spaces.
34. Office Areas and Meeting Rooms

34.1 Circulation and Clear Floor Space

1. An accessible path must be provided throughout the office area.

2. A primary and secondary accessible path must be provided throughout the office areas. Refer to section [2. Interior Accessible Paths].

3. A min 1100 mm accessible path is required between workstations and meeting access requirements as specified in sections [2. Interior Accessible Paths], [4. Headroom - Overhanging and Protruding Objects], and [14. Doors].

4. A 2500 mm x 2500 mm clear floor space must be provided at main access points.

34.2 Office Furniture & Equipment

1. Accessible office furniture must have a max 800 mm height to the countertop and a 700 mm tall x 900 mm wide x 500 mm deep knee clearance.

2. An 860 mm x 1480 mm clear floor space must be in front of all equipment, such as photocopiers.

3. Storage and shelves must be accessible and meet criteria in section [19. Millwork, Storage and Shelving].

34.3 Meeting Rooms

1. 10% of all meeting rooms but not less than one in every department must be accessible.

2. A min 1100 mm accessible path around the perimeter of the accessible meeting room table is required.

3. A 2500 mm x 2500 mm clear floor space must be provided at the main access point of the meeting room.

4. In all meeting rooms, use wall or ceiling finishes that dampen sound and aid the reduction of ambient noise.

Tables with adjustable heights provide flexibility to users who require different height levels of table top surfaces.
35. Fire and Life Safety Systems

Fire safety elements and systems must be useable by any individuals with disabilities in emergency situations. Signals intended to notify the public must consist of both visual and audible components.

35.1 Locations of Visual and Audible Fire Alarm Devices

1. This section applies to buildings required by the OBC to have a fire alarm system.

2. Locate visual and audible fire alarm devices in:
   a) A building or portion of a building intended for use primarily by persons with hearing loss,
   b) Public corridors and all general use areas such as lobbies, offices, meeting rooms and all washrooms, including single use washrooms, and
   c) Mechanical rooms where there is a concern with noise levels.

35.2 Mounting of Visual Fire Alarm Strobes

1. Visual fire alarm strobes must be placed so that the signal from at least one device is visible throughout the floor area or compartment where they are installed.

2. Mounting heights of fire alarms must meet the requirements in the OBC and the Ontario Fire Code, as amended.

35.3 Signal Requirements of Visual Fire Alarm Strobes

1. Visual signalling components must conform to the requirements in the OBC.

2. Signals must meet the requirements in the latest edition of the OBC and the Ontario Fire Code, as amended.

35.4 Eye Wash Stations

1. Where eye wash stations are provided they must be accessible and located at a max height of 850 mm AFF.

2. Eye wash stations must meet the requirements found in section [1. Space and Reach Requirements].

35.5 Fire Safety Plan and Emergency Evacuation Maps

1. Fire Safety Plans must meet the requirements in the Ontario Fire Code and must be:
   a) Provided at the annunciator panel,
   b) Identify all areas of refuge, and
   c) List persons whom have identified themselves as requiring assistance for first responders.

2. Emergency evacuation maps must meet the requirements in the Ontario Fire Code and must be:
   a) Located max 1100 mm AFF,
   b) Provided at accessible building entrances and on each floor area in an easily accessible and prominent area,
   c) Identify the accessible evacuation path to accessible exits and areas of refuge, and
35. Fire and Life Safety Systems

d) Consideration should be provided to supplementing emergency evacuation maps with raised tactile profiles, characters, and Grade 2 Braille that meet the requirements in section [11. Signage and Information Systems].

3. Directional signage must be provided along the main accessible path to direct occupants to the nearest exit or area of refuge.

35.6 Areas of Refuge

1. Within a building, areas of refuge must be provided on the following floors:
   a) Floor levels above and below the entrance level served by an accessible path, and
   b) At the entrance level without accessible exits connecting to an exterior accessible path.

2. On floors that require areas of refuge, they must be:
   a) Located on an accessible path,
   b) Equal to the number of exits, and
   c) Meet one of the following:
      I. Have a direct connection to an exit stair [Diagram 35.A],
      II. Located in a room immediately adjacent to an exit stair, with a door connecting to the corridor and a door connecting to the exit stair, incorporating a vision panel and sidelight of Georgian wire glass and must meet the requirements in the latest edition of the OBC [Diagram 35.B and C], or
      III. Have a direct connection to a fire fighter’s elevator.

3. Each area of refuge must meet the following requirements:
   a) Have doors equipped with a fire-rated self-closing device matching to that required for an exit, designed to return the door to the closed position,
   b) Min clear floor space of 860 mm x 1480 mm per non-ambulatory occupant on the floor, but no less than two [Diagram 35.A],
   c) Must be separated from the floor area by a fire separation having a fire-resistance rating at least equal to that required for an exit,
   d) Incorporate a 2-way voice communication system, mounted between 900 mm and 1100 mm AFF, for use between each area of refuge and the buildings annunciator panel,
   e) Designated as an area of refuge for persons with disabilities on the facility fire safety plan,
   f) Provide signage indicating the location of the area of refuge,
   g) Identified with signage that must meet criteria in section [11. Signage and Information Systems], and
   h) If the area of refuge is located in a room immediately adjacent to an exit stair, provide signage that contain the words “This room is an Area of Refuge and must not be repurposed for storage”.
[Diagram 35.A] Area of Refuge with Direct Connection to Exit Stair

[Diagram 35.B] Area of Refuge in Room Adjacent to Exit Stair (option 1)
[Diagram 35.C] Area of Refuge in Room Adjacent to Exit Stair (option 2)
36. Assistive Listening Devices

Assistive Listening Devices (ALDs) are an important design feature in areas where audible communication is integral to the use of the space.

36.1 Assembly Areas
For areas where audible communication is integral to the use of the space, provide assistive listening devices (ALDs). Concert theatres, meeting rooms, classrooms and auditorium are examples of rooms where ALDs are required.

36.2 Locations
1. Permanently installed listening systems/ALDs must be included for:
   a) Rooms that accommodate at least 50 persons,
   b) Rooms that have audio amplification systems greater than 100 square metres, or
   c) Rooms that have fixed seating.

36.3 Portable Assistive Listening Devices
1. Rooms must provide access to electrical outlets or supplementary wiring to support a portable device.
2. A min 4% of the total number of seats, but no less than two, shall have receivers.

36.4 Types of Assistive Listening Systems
Induction loops, infrared systems, and FM radio frequency systems are acceptable types of ALDs.

36.5 Design Requirements
1. Where an FM loop system or other ALDs exist, portable headsets that are compatible with personal hearing aids must be made available.
2. Where an induction loop system is utilized, at least 50% of the seating area shall be encompassed.
3. Where ALDs serve individual seats, these seats must be within 15 m viewing distance of the stage.
4. **Signage** must be provided to notify patrons of the availability of the listening system and comply with section [11. Signage and Information Systems].

### 36.6 Interference with Assistive Listening Systems

1. Please note the following:
   
   a) Dimmer switches or any controls with transformer coils can interfere with the audio induction loop, and
   b) Overhead incandescent lights can cancel out the infrared signal at the receiver.

2. These items should be located where they cannot interfere with the transmission of sound of the ALDs.
37. Public Address Systems

Public address systems must be easy to hear above the ambient background noise and there must be no distortion or feedback.

37.1 Location
1. Public address systems must be mounted meeting the requirements in section [4. Headroom - Overhanging and Protruding Objects].

2. Mount in common use areas such as: corridors, offices, assembly and meeting rooms; recreational and entertainment facilities, training areas, washrooms, and any other common areas.

37.2 Controlled Broadcast
1. Public address systems must be zoned to allow for targeted broadcast and serve the entire facility.

2. Paging systems for staff or other key persons must be discreet and low volume.

3. Paging must be targeted to devices or locations where such persons might be expected to be located.
Exterior Elements
38. Exterior Paths

All exterior paths, excluding paths to maintenance doors, serving a building must be accessible. Unit pavers are accessible if they meet the requirements of section [3. Ground and Floor Surfaces]. Permeable pavers are not accessible and do not provide an accessible path.

38.1 Clear Path Width

1. Primary and secondary exterior paths require a clear width min 1500 mm.

2. Where the path of travel is less than 1800 mm provide passing areas min 1800 mm x 1800 mm and located every 30 m on an accessible path.

38.2 Exterior Edge Protection

1. Exterior edge protection is required at changes in grade between 200 mm and 600 mm, except at stairs [Diagram 38.A].

2. Exterior edge protection is not required where there is no change in adjacent ground level for a min of 1500 mm wide [Diagram 38.B].

3. Must be min 75 mm high and 50 mm wide. Ensure width does not allow for someone to walk along edge protection.

4. Must have colour / tonal contrast from the walkway surface. Contrast must be on the edge and not on the walkway surface.

5. The path surface must be designed to allow drainage.

6. A change in level greater than 600 mm on exterior paths must be protected by a guard meeting criteria in the latest edition of the OBC.

7. Exterior gates must maintain a clear width of 900 mm and meet the requirements in subsection [13.4. Gates].
38.3 Alternative Accessible Paths

Where stairs are located on exterior paths, an alternative accessible path must be provided immediately adjacent to the stairs. This may include either a ramp or another accessible means of negotiating an elevation change.

38.4 Path Slope

1. The running slope must be max 1 in 20 (5%).

2. The cross slope must be min 1 in 50 (2%) but need not exceed the running slope.

38.5 Additional Requirements

For additional requirements, refer to the following:

a) Section [1. Space and Reach Requirements],

b) Section [3. Ground and Floor Surfaces],

c) Section [4. Headroom - Overhanging and Protruding Objects],

d) Section [5. Ramps],

e) Section [6. Stairs],

f) Section [8. Tactile Walking Surface Indicators – Attention and Direction],

g) Section [10. Lighting, Light Sources and Glare], and

h) Section [12. Materials and Finishes].
39. Curb Ramps and Depressed Curbs

*Curb ramps and depressed curbs must be designed to minimize water accumulation on the accessible path.*

39.1 Clear Width
1. Exclusive of flared sides, the min width of a curb ramp is 1500 mm [Diagram 39.8].
2. Depressed curbs do not have a min width.

39.2 Ground Surface
1. Exterior paths must meet the criteria in section [3. Ground and Floor Surfaces].
2. TAI must meet the criteria in section [8. Tactile Walking Surface Indicators – Attention and Direction].

39.3 Running Slope
1. Slope of curb ramps must be:
   a) Max 1 in 8 (12.5%) where elevation is less than 75 mm, and
   b) Max 1 in 10 (10%) where elevation is 75 mm to 200 mm [Diagram 39.C].
2. Slope of depressed curb must be max 1 in 20 (5%) [Diagram 39.D].

39.4 Cross Slope
1. Min slope required for drainage must not exceed the ratio of 1 in 50 (2%) on paved surface or 1 in 20 (5%) on unpaved surfaces.

2. Max difference between a curb ramp or depressed curb and all surrounding surfaces must not be more than 10%.

39.5 Slope
1. Slope of flared sides of a curb ramp must be max 1 in 10 (10%) [Diagrams 39.B].
2. Counter slope of gutters and road surfaces immediately adjacent to the bottom of the curb ramp or depressed curb max 1 in 20 (5%).
3. Colour / tonal contrast must be used on the outside of the return curbs.

[Diagram 39.A] Curb Ramp Transition at Pavement

[Diagram 39.B] Curb Ramp at Mid-Block Crossing
39. Curb Ramps and Depressed Curbs

[Diagram 39.C] Curb Ramp (Section)

[Diagram 39.D] Depressed Curb (Section)
Curb Ramps and Depressed Curbs 39.


39. Curb Ramps and Depressed Curbs

[Diagram 39.G] Curb Ramp at Narrow Sidewalk

[Diagram 39.H] Curb Ramp at Wide Median Sidewalk Crossing
40. Passenger Loading Zones

Passenger-loading zones must be provided when passengers transfer from vehicles or Para-transit to a pedestrian area. Bus stops and bus shelters are not considered passenger-loading zones.

40.1 Location of Passenger Loading Zones

Passenger Loading Zones must be:

a) Located on an accessible path,

b) Designed with a depressed curb that meets the criteria in [39. Curb Ramps and Depressed Curbs],

c) Removed from the flow of traffic, and

d) As close as possible to the main entrance.

40.2 Access Aisle

1. A min 2440 mm wide x 7400 mm long access aisle must be provided adjacent and parallel to the vehicle pull up space [Diagrams 40.A and B].

2. A clear path of travel min 1500 mm wide must connect to an accessible exterior path that meets the criteria in section [38. Exterior Paths] adjacent to the access aisle [Diagram 40.A and B].

40.3 Height Clearance

A min vertical clearance of 3600 mm is required for the passenger loading zone and the vehicle access path leading to it.

40.4 Additional Requirements

Passenger Loading Zones must also meet the requirements in the following:

a) Section [3. Ground and Floor Surfaces],

b) Section [4. Headroom - Overhanging and Protruding Objects],

c) Section [8. Tactile Walking Surface Indicators – Attention and Direction],

d) Section [10. Lighting, Light Sources and Glare],

e) Section [11. Signage and Information Systems],

f) Section [12. Materials and Finishes],

g) Section [38. Exterior Paths],

h) Section [39. Curb Ramps and Depressed Curbs], and

i) Section [45. Landscaping and Community Gardens].
[Diagram 40.A] Passenger Loading Zone (Depressed Curb with Bollards)

[Diagram 40.B] Passenger Loading Zone (Curb Ramp for Existing Condition)
41. Accessible Parking

There are three types of accessible parking spaces:
Type A Parking: Van Accessible
Type B Parking: Car Accessible
Type C Parking: Courtesy/Limited Mobility and Caregiver Parking

41.1 Dimensions
Accessible parking spaces must be
a) Type A min width 3650 mm [Diagram 41.A],
b) Type B min width 2700 mm [Diagram 41.A],
c) Type C min width 3200 mm [Diagram 41.A],
d) Min height clearance 2750 mm for exterior and 2590 mm for interior, and
e) Min length of 5700 mm.

41.2 Accessible Parking Routes
1. Accessible paths must be provided from the accessible building entrance to the accessible parking.
2. The path must not enter vehicle traffic and should be as short as possible.
3. Curb ramps or depressed curb must be provided if there is a change in level to the sidewalk or accessible path and must meet the requirements in section [39. Curb Ramps and Depressed Curbs].

41.3 Amount
1. The amount of accessible parking must be 50% Type A and 50% Type B. Wherever an uneven amount of parking is required, the remaining spot is permitted to be a Type B parking space. The required number of accessible parking spaces are identified in [Table 41.3].
2. Type C - Courtesy/Limited Mobility and Caregiver parking must also be provided as outlined in [Table 41.3].
3. Ensure parking meets the Town’s Zoning By-law requirements.

<table>
<thead>
<tr>
<th>Total Number of Parking Spaces</th>
<th>Amount of Accessible Parking Spaces Required Type A and B</th>
<th>Amount of Courtesy/Limited Mobility and Caregiver Parking Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 12</td>
<td>1 Type A</td>
<td>1</td>
</tr>
<tr>
<td>13 to 100</td>
<td>4% of total</td>
<td>2</td>
</tr>
<tr>
<td>101 to 200</td>
<td>3% of total plus 1</td>
<td>2</td>
</tr>
<tr>
<td>201 to 1000</td>
<td>2% of total plus 2</td>
<td>4 plus 1 (for each 100 over 201)</td>
</tr>
<tr>
<td>Greater than 1000</td>
<td>1% of total plus 11</td>
<td>4 plus 1 (for each 100 over 201)</td>
</tr>
</tbody>
</table>
41. Accessible Parking

41.4 Access Aisle Design

1. Access aisles must be:

   a) A min width 1500 mm [Diagram 41.A and B],

   b) A min width of 2020 mm for parallel spaces plus a 1500 mm access aisle,

   c) Connected to an accessible path and must be clearly marked,

   d) A full length extension of the parking space it serves,

   e) Must not cross a vehicular route, and

   f) Located on the passenger side when driving into a min of 1 Type A parking space to allow the deployment of a vehicular ramp.

2. Access aisles are not required for Type C Parking [Diagram 41.A and B].

[Diagram 41.A] Accessible Parking with Depressed Curb
In a renovation where a depressed curb is technically infeasible, provide curb ramp at shared access aisle.

Note: where there is a curb directly in front of the type “A” & “B” barrier-free parking spots a curb ramp will be required at the shared access aisle.

41.5 Parking Surface

1. Accessible parking spaces, access aisles and the accessible path to the building must:
   a) Be on a firm, stable and slip resistant surfaces and must meet criteria in subsection [3.1. Surface], [3.3. Gratings], and [3.4. Finishes and Materials],
   b) Have a running slope max 1 in 20 (5.0%),
   c) Have a cross slope max 1 in 50 (2.0%), and
   d) Be painted blue with the International Symbol of Access painted white [Diagram 41.D].
41. Accessible Parking

41.6 Accessible Parking Signage
1. *Signage* must:
   a) Be mounted 1500 mm to 2500 mm from centre of sign to ground surface and in front of each accessible parking space, and
   b) Include the International Symbol of Access painted on pavement in white measuring *min 1560 mm by 1290 mm* [Diagram 41.C].

2. Parking lot *signage* must also meet the requirements in the section [11. Signage and Information Systems].

3. Type C parking spaces must include parking *signage* indicating Limited Mobility and Caregivers [Diagram 41.D].

4. Type A parking spaces must include 2 parking *signages*, one indicating by Permit Only and the second indicating Van Accessible [Diagram 41.E].

5. Type B parking spaces must include parking *signage* indicating by Permit Only [Diagram 41.F].

41.7 Additional Requirements

Parking lots must also meet the requirements in the following:

a) Section [3. Ground and Floor Surfaces],
b) Section [4. Headroom - Overhanging and Protruding Objects],
c) Section [8. Tactile Walking Surface Indicators – Attention and Direction],
d) Section [10. Lighting, Light Sources and Glare],
e) Section [12. Materials and Finishes],
f) Section [38. Exterior Paths], and
g) Section [39. Curb Ramps and Depressed Curbs].
[Diagram 41.D] Courtesy Parking/Limited Mobility and Caregivers Parking Signage

[Diagram 41.F] Type B Parking Signage

[Diagram 41.E] Type A Parking Signage
42. Site Furniture

Site furniture includes, but is not limited to, waste receptacles, light standards, signs, planters, mailboxes, vending machines, picnic tables and any furniture located outside of facilities.

42.1 General

1. Site furniture must be cane-detectable and have colour/tonal contrast from the surrounding environment.

2. Furniture must be securely mounted to firm, stable ground and must meet criteria in section [2. Interior Accessible Paths].

3. Furniture must not reduce the width of an accessible path and must meet criteria in sections [2. Interior Accessible Paths] and [4. Headroom - Overhanging and Protruding Objects].


42.2 Benches

1. 20% of benches must be accessible with no less than 1. Accessible benches must be located adjacent to an accessible path and must meet the criteria in section [38. Exterior Paths].

2. Accessible benches must have a clear floor space of 860 mm x 1480 mm for a mobility device to rest adjacent to the bench. For accessibility, the armless side of the bench must be adjacent to the clear floor space [Diagram 42.A].

3. The seat of a bench must be 450 mm to 500 mm from the ground and have a seat dimension between 460 and 510 mm deep by min 500 mm wide [Diagram 42.B].

4. Accessible benches must have a back and must vary between having arm rests and being armless.

5. Accessible benches must have colour/tonal contrast from the adjacent ground surface.

[Diagram 42.A] Bench and Adjacent Clear Floor Space (plan)

[Diagram 42.B] Accessible Bench
### 42.3 Picnic Tables

1. At least 20% of picnic tables must be accessible, but not less than one for each group of picnic tables.

2. Accessible picnic tables must be located on an accessible path and must meet the criteria in section [38. Exterior Paths].

3. Knee space must be provided under the accessible picnic table and must be min 900 mm wide, 500 mm deep and 700 mm high [Diagram 42.C and D].

4. The picnic tabletop surface must be located between 710 mm to 865 mm above the ground surface.

5. Accessible picnic tables must have colour / tonal contrast from the adjacent ground surface.

6. The ground floor surface should extend a min 2000 mm where accessible space is provided at the picnic table and must meet criteria in section [3. Ground and Floor Surfaces] [Diagram 42.D].
43. Exterior Elevated Platforms

Exterior *Elevated platforms* include, but are not limited to, stage areas, speaker podiums and other raised areas.

43.1 Design

1. *Elevated platforms* must:
   a) Be located on an *accessible path*,
   b) Illumination must meet requirements in section [10. Lighting, Light Sources and Glare],
   c) Be sized to safely accommodate mobility devices in compliance with section [1. Space and Reach Requirements], and
   d) Have TAI as specified in section [8. Tactile Walking Surface Indicators – Attention and Direction] along the perimeter of open platform edges [Diagram 43.A].

2. Where possible, temporary *elevated platforms* must meet the requirements above.
44. Porches, Balconies, Terraces and Patios

Porches, balconies, and terraces must be designed to be accessible to all.

44.1 Design Porches, Balconies, Terraces and Patios

1. Porches, balconies, terraces, and patios must be located on an accessible path and have a min depth of 2500 mm.

2. Publicly used porches, balconies, and terraces should also be equipped with power door operators to improve access to the space.

3. Porches, balconies, terraces, and patios must meet the requirements in the following sections and subsections: [3. Ground and Floor Surfaces], [3.6. Changes in Level and Thresholds], [13. Entrances], and [38. Exterior Paths].

44.2 Railings and Guards

Guardrails protecting occupants from heights greater than 600 mm above grade must meet criteria in the OBC. The railing must have colour / tonal contrast with the adjacent floor / ground surface.

44.3 Exterior Seating

Any site furniture used must meet criteria in section [42. Site Furniture].
45. Landscaping and Community Gardens

45.1 Landscaping

1. In locations where plant beds are on an accessible route, they must be cane detectable and have curbs that are min 75 mm high.

2. Shrubs and thorns and sharp edges must be planted min 920 mm away from the accessible path and seating areas.

3. Tree branches along an accessible path must be cut to a min height of 2100 mm from the ground [Diagram 45.A].

4. Trees that drop large seed pods must not overhang or be positioned near accessible paths.

5. Any paths circulating landscaping must meet the requirements in section [38. Exterior Paths].

45.2 Accessible Plant Beds at Community Gardens

1. 10% of community garden plots in an area, but not less than one must be accessible.

2. Accessible plant beds must be 1000 mm wide and 400 mm AFF [Diagram 45.B and C] and follow the guidelines in sections [1. Space and Reach Requirements] and [38. Exterior Paths].

[Diagram 45.A] Clearance Height for Branches
[Diagram 45.B] Accessible Plant Bed (Elevation)

[Diagram 45.C] Accessible Plant Bed (Plan)
Facility Specific Requirements
46. Libraries

Libraries must provide flexible, accessible spaces for people to read, write, meet and focus.

46.1 Accessible Paths

1. Accessible paths to and within the library must meet criteria in sections: [1. Space and Reach Requirements], [2. Interior Accessible Paths], [3. Ground and Floor Surfaces], and [4. Headroom - Overhanging and Protruding Objects].

2. Min of 1800 mm must be provided for primary paths and card catalogues / computer catalogues.

3. Min of 1300 mm must be provided between stacks is required [Diagram 46.A].

4. Min of 1100 mm must be provided between fixed seating, tables, and study carrels.

5. Min of 2000 mm must be provided wherever 180 degree turns occur, following the requirements in section [2.1. Path Widths].

6. Security gates must be min 900 mm wide and meet the requirements in subsection [13.4. Gates] [Diagrams 46.B and C].

46.2 Accessible Libraries

1. 50% of fixed seating, tables, and study carrels provided must be accessible.

2. One moveable chair must be provided at every information service counter, computer catalogue, or workstation.
46. Libraries

[Diagram 46.C] Accessible Gate in Floor Plan

46.3 Study Carrels and Work Stations

1. Study carrels and workstations must have:

   a) Max 800 mm to the height of the surface,

   b) Max 915 mm of table depth,

   c) Knee clearance of 700 mm tall x 900 mm wide x 500 mm deep, and

   d) Toe clearance of 350 mm tall at a min 600 mm from the front edge of the desk.

2. Ensure any design features available to the user must consider section [1. Space and Reach Requirements].

3. An electrical outlet must be provided within the study carrels and must be at min 400 mm above the study carrel desktop.

46.4 Shelving

50% of shelving must be located 400 mm to 1200 mm AFF [Diagram 46.D].

46.5 Book Drop Slots

Book drop slots must:

   a) Be located on an accessible path,

   b) Have clear floor space of 2500 mm by 2500 mm,

   c) Be operable using one hand, and

   d) Be located 900 mm to 1100 mm AFF.

46.6 Lighting Requirements

Lighting must meet min requirements in section [10. Lighting, Light Sources and Glare].

[Diagram 46.D] Accessible Shelving in Libraries
46.7 Acoustics

1. Acoustic quality must be designed to minimize unnecessary background noise to allow for comprehension by persons with limited hearing.

2. Where CD’s, tapes, talking books etc. are available as part of the library resource materials, or for loan purposes, a separate space should be provided for reviewing this material without disturbing other library users.

46.8 Additional Requirements

1. Libraries must also meet the requirements in the following:

a) Section [1. Space and Reach Requirements],

b) Section [2. Interior Accessible Paths],

c) Section [3. Ground and Floor Surfaces],

d) Section [4. Headroom - Overhanging and Protruding Objects],

e) Section [9. Operable Controls and Mechanisms],

f) Section [10. Lighting, Light Sources and Glare],

g) Section [12. Materials and Finishes],

h) Section [16. Windows and Glazing], and

i) Section [18. Service Counters and Related Areas].
47. Public Swimming Pools, Spas and Saunas

Ensure public swimming pools, public spas, and wading pools meet the requirements in the latest edition of the OBC.

47.1 Access

1. Access to the public pool deck and public spa must be provided by means of a primary accessible path through the change rooms and onto the pool deck. The path must meet requirements of section [2. Interior Accessible Paths].

2. Accessible access into a public pool must be provided either by a ramp or a pool lift meeting the requirements in the latest edition of the Ontario Building Code.

3. Accessible access into a public spa must be provided by a transfer wall, a ramp or a pool lift meeting the requirements in the latest edition of the Ontario Building Code.

47.2 Pool Deck

1. The pool perimeter must be clearly delineated by a tactile attention indicator that meet the requirements of section [8. Tactile Walking Surface Indicators – Attention and Direction].

2. Any headroom protrusions greater than 2100 mm above floor must meet criteria in section [4. Headroom - Overhanging and Protruding Objects].

3. The pool deck surface must be firm and slip-resistant.

4. Diving boards, pool and lane markers, signage, starting blocks, life guard chairs, slides and other pool related structures must have colour / tonal contrast from their surrounding environment and not create a tripping hazard.

47.3 Pool / Spa Lifts

The clear deck space located parallel with the seat and on the side of the seat opposite the water must be at least 915 mm wide and extend forward min 1500 mm from a line located 305 mm behind the edge of the seat.

[Diagram 47.A] Pool / Spa Lift Clear Floor Space

47.4 Wading Pools

Wading pools must be safe and gradual with a slope of 1 in 20 so that a child with a disability can be assisted into the water easily and/or use a mobility device to enter.
47.5 Public Spas

Public spas must meet all the requirements for emergency provisions as set out in the latest edition of the OBC under subsection 3.12.5. Emergency Provisions for All Public Spas.

47.6 Transfer Wall

1. A transfer wall from the pool deck into the spa must have two grab bars that are perpendicular to the spa [Diagram 47.B and C].

2. The transfer grab bars must be:
   a) Located 100 mm to 150 mm above the transfer wall,
   b) Min 610 mm clearance between the grab bars and on each side,
   c) Extend the full width of the transfer wall,
   d) 35 mm to 40 mm in diameter, and
   e) Installed in strict accordance with the manufacturer recommended installation guidelines.

3. A min 900 mm x 2200 mm clear deck space to make a lateral transfer, that is outside and adjacent to the accessible path, must be provided with a max 1 in 50 (2%) slope at the base of the transfer wall surface [Diagram 47.C].
47.7 Saunas

1. Saunas must:

   a) Be connected to an accessible path and meet the requirements of section [2. Interior Accessible Paths],

   b) Have a door that swings outwards meeting the requirements in section [14. Doors],

   c) Have a threshold at the door that is flush with the remainder of the floor,

   d) Have a min 2500 mm turning circle within the sauna,

   e) Provide a clear floor space of 860 mm by 1480 mm within the seating area,

   f) Have benches with smooth edges that have colour / tonal contrast to the adjacent surroundings,

   g) Have an emergency call system located on the interior of the sauna that meet the requirements of section [24.6. Emergency Call System], and

   h) Have colour / tonal contrast between the walls and floor.

2. At least one bench within the sauna must be accessible and:

   a) Be between 610 mm to 762 mm deep,

   b) Be a min 1100 mm wide,

   c) Be 430 mm to 482 mm AFF,

   d) Have a backrest,

   e) Have an armrest within the middle of the bench, and

   f) Have an adjacent clear floor space of 860 mm by 1480 mm.
48. Arenas

Every person should have equal access to participate in recreational sporting activities.

48.1 Accessible Paths

1. Arenas must be provided with an accessible primary path to all main activities with a min clear width of 1800 mm.

2. The threshold between the rink and the arena floor surface can be max 13 mm beveled at a slope of 1 in 2.

48.2 Additional Requirements

1. 10% of change rooms but no less than 1 type of each change room (team change room, family change room, and referee change room) must be accessible and meet the requirements in subsection [28.2. Accessible Dressing Stalls].

2. At least one universal change room must be provided in every arena building in close proximity to the team / gender specific change rooms and meet the requirements in section [27. Universal Change Room].

3. Arenas must meet the requirements in:
   a) Section [1. Space and Reach Requirements],
   b) Section [2. Interior Accessible Paths],
   c) Section [3. Ground and Floor Surfaces],
   d) Section [4. Headroom - Overhanging and Protruding Objects],
   e) Section [5. Ramps],
   f) Section [6. Stairs],
   g) Section [8. Tactile Walking Surface Indicators – Attention and Direction],
   h) Section [9. Operable Controls and Mechanisms],
   i) Section [10. Lighting, Light Sources and Glare],
   j) Section [12. Materials and Finishes],
   k) Section [13. Entrances],
   l) Section [16. Windows and Glazing],
   m) Section [18. Service Counters and Related Areas], and
   n) Section [33. Accessible and Adaptable Fixed Seating].