

City of Edmonton

ACCESS DESIGN GUIDE

COE-IM-GUIDE-0015

VERSION 04

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Edmonton



PREFACE

INTRODUCTION

A well designed city is inclusive, *accessible*, safe and considers the needs of everyone, regardless of age and ability. In 2010, Edmonton was officially accepted as a member of the World Health Organization's (WHO) Global Network of *Age-Friendly Cities and Communities*, and in 2017 Edmonton received the Rick Hansen Foundation's Accessible Cities award. Using the guiding *principles of Universal Design, Age-friendly* and *Child Friendly cities*, the City of Edmonton is committed to building a more *accessible* city for everyone.

The City of Edmonton's Accessibility for People with Disabilities Policy C602 guides the development and implementation of infrastructure that considers individual needs and diverse abilities. The Access Design Guide aims to promote *accessibility* in *open spaces* and facilities owned, operated or leased by the City of Edmonton by outlining measures that exceed the requirements of 2019 National Building Code – Alberta version. The Guide was created with support from Age-Friendly Edmonton and developed through a GBA+(Gender Based Analysis) lens, with contributions from City of Calgary Access Design Standards, Safety Codes Council – *Barrier-Free Design Guide – Fifth Edition – Summer 2017*, City of Edmonton staff, and external stakeholders, to ensure Edmonton is designed to be inclusive for all ages and abilities.

Additionally, the City has developed many strategic level planning documents including (but not limited to the following):

- [breathe: Edmonton's Green Network Strategy](#)
- [Complete Streets Design and Construction Standards](#)
- [Winter City Design Guidelines](#)
- [Downtown Streetscape Design Manual](#)
- [ConnectEdmonton](#)
- [The City Plan](#)

For a list of reference documents and useful links, see the Appendix of this document.

*Additional reference documents to be used in conjunction with the Access Design Guide can be found in the [Appendix](#). It is encouraged that designers also consider the *Seven Principles of Universal Design* when applying this Guide (see [Glossary](#)).*

APPLICATION OF THIS GUIDE

The Access Design Guide exceeds the 2019 National Building Code – Alberta Version requirements and shall be used in conjunction with the Safety Codes Council – *Barrier-Free Design Guide* – Fifth Edition – Summer 2017, published by Safety Codes Council, to the City's planning, designing and building of infrastructure (facilities, *open spaces*, and transportation) either owned or occupied by the City of Edmonton. This includes City of Edmonton Growth projects, where Growth refers to investments in new assets and projects that add to or enhance components of existing infrastructure assets that improve the type of service provided and/or improves functionality; and large new construction projects completed by Community groups with funding from the City of Edmonton as outlined by the grant parameters and defined in the funding agreements.

Infrastructure includes facilities and *open spaces* owned and operated by the City, as well as those built on City-owned land but operated by another organization subject to lease and/or license agreement terms. This guide shall be used in the planning of new neighbourhoods and to the extent possible for neighbourhood redevelopments.

This guide shall be used as a supporting document when the City of Edmonton has design guidelines for a certain type of infrastructure (e.g. Transit Design Guidelines)

The City of Edmonton is committed to being a model encouraging businesses, institutions, organizations, and community groups to incorporate *accessibility* and universal design in their policies, goods, programs and services, communications and technology, and infrastructure. Design professionals, the building and construction industry, government departments and the community as a whole are encouraged to implement this guide in all projects constructed within the City of Edmonton.

In the event of any conflict in minimum requirements between this Guide and the current version of National Building Code – Alberta Version, the requirement in the latter document shall prevail.

COMPOSITION

- This document is composed of two parts – Exterior Guide and Interior Guide.
- Notes are included, where applicable.
- Supporting illustrations are incorporated throughout the Guide.
- References with links to additional information are provided, where available.
- Descriptions of italicized words can be found in the glossary.
- Links to all references throughout this document are included in the Appendix.

CONTACT

For Building Code enquiries contact Building Technical Advisors at **780-496-3149**.

Additional reference: [3.8 Accessibility Guide, National Building Code-2019 Alberta Edition](#)

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EXTERIOR GUIDE

SECTIONS A-D



A. GENERAL PUBLIC OPEN SPACE DEVELOPMENT

THIS SECTION COVERS:

- A.1. Neighbourhood design
- A.2. Park master planning
- A.3. Outdoor seating
- A.4. Picnic and warming shelters
- A.5. *Amenity* buildings (i.e. washrooms, concessions, lockers, etc.)
- A.6. Exterior signs and wayfinding

A.1. NEIGHBOURHOOD DESIGN

Refer to *breathe* – Edmonton's Green Network Strategy and Designing New Neighbourhoods – Guidelines for Edmonton's Future Residential Communities for additional policy guidance pertaining to connectivity and integration of open spaces at the neighbourhood, municipal and regional level.

- A.1.1 Special considerations must be made while designing public places and spaces to accommodate all ages and abilities.
- A.1.2 *Barrier-free* connections from neighbourhoods shall be provided to City parks and facilities, including but not limited to major attractions, *senior centres*, streets, green spaces, shopping, schools, and transit facilities.
- A.1.3 Community or city level municipal parks (refer to [breathe](#)), civic spaces, and other jurisdictional parkland and public *open spaces* (excluding *pocket parks/greenways* less than 1km in length), shall be located along walking paths *accessible* and not more than 400m from barrier-free transit stops.
- A.1.4 Community gardens shall be available to be used by all ages and abilities including families, for intergenerational activities. They shall be incorporated into the planning of neighbourhood developments and designed with sufficient space to ensure *accessibility*. See Section B.2 Community Gardens for design considerations.

[breathe: Edmonton's Green Network Strategy](#)

[Designing New Neighbourhoods: Guidelines for Edmonton's Future Residential Communities](#)

A.2 PARK MASTER PLANNING

The guidelines for Park Master Planning are intended to be implemented to the extent possible. When designing for natural areas, impact of incorporating all *accessible* design features may be considered.

- A.2.1** *Amenities* and activity areas shall be provided in the supply and development of parkland. Prioritize the provision of *amenities* for parks located near *senior centres*, recreation centres and medium-high density nodes to maximize use and benefit.
- A.2.2** All parks shall be *accessible* by a *barrier-free path of travel* from adjacent communities.
- A.2.3** Scenic outlooks shall be designed to be barrier-free.
- A.2.4** All park *amenities* shall be connected with *barrier-free shared pathways* not less than 1800 mm wide and a cross slope of not more than 1:50 (2%) to reduce puddles and ice build-up. The pathway surfaces shall be made up of materials that are appropriate for all users, particularly for mobility aids that require a firm and stable surface.
- A.2.5** A continuous, preferably circuitous *barrier-free shared trail* with grades not steeper than 1:12 (8.3%) shall be provided through a park area. Best practice would be to provide a slope of 1:20 (5%). Where running or cross slopes exceed 1:20 (5%), provide level rest areas of minimum 1800 mm x 1800 mm every 30m along the pathway.

A.3 OUTDOOR SEATING

- A.3.1** Provide a minimum of one rest area (bench) in all *Pocket parks ecological parks and greenways*.
- A.3.2** *Seating nodes* shall be located every 100 m along *shared pathways and trails* for *Metropolitan, District and Community parks* as per the following recommendations:
 - a.** *Community Parks*: Provide a minimum of one *seating node*.
 - b.** *District parks*: Provide a minimum of two *seating nodes*.
 - c.** *Metropolitan parks*: Provide a minimum of three *seating nodes*.

Note: Providing *seating nodes* at regular intervals accommodate persons who need areas of rest.

A.3.3 Seating shall be located with a view towards activities or vistas.

A.3.4 Scenic outlooks shall be provided with seating and handrails.

A.3.5 A variety of seating options shall be provided. Ensure some seating that is protected from the elements and offer sun in winter and shade in summer. Consider natural elements of protection such as trees.

A.4 PICNIC AND WARMING SHELTERS

A.4.1 Shelters shall be *accessible* by persons using *mobility aids* or those who have *visual impairments*. Provide a paved level walk of minimum 1800 mm width with a cross slope of not more than 1:50 (2%) and a clear path of travel with no obstructions or drop-offs which may pose a hazard.

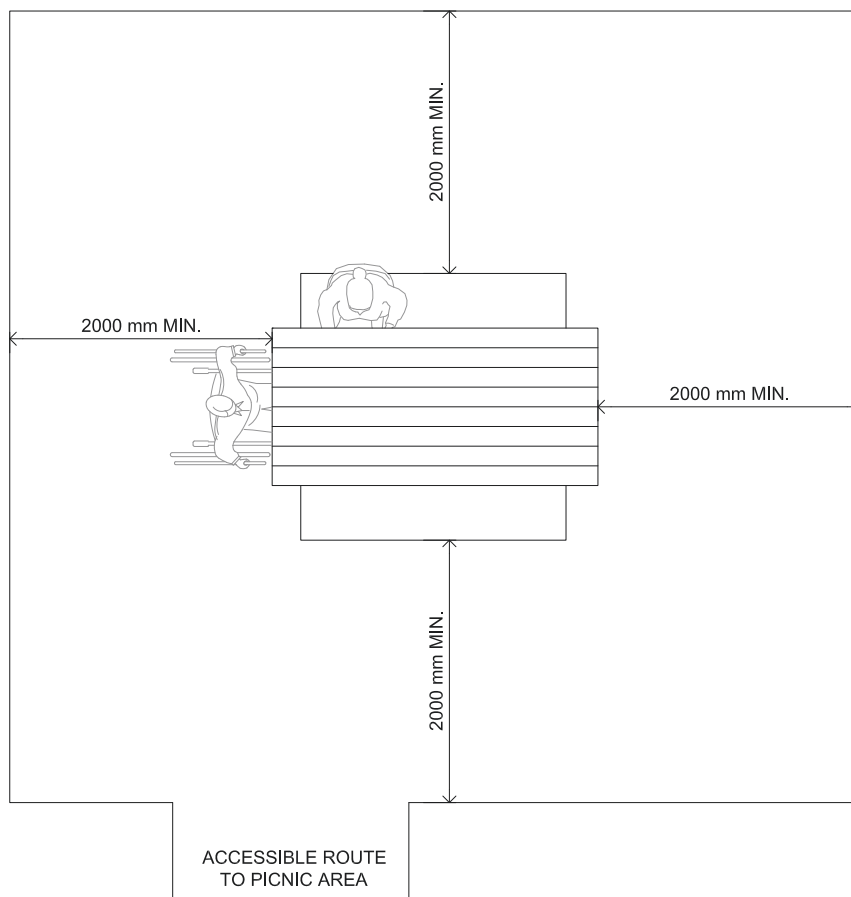


Figure A.4.1

- A.4.2** All picnic areas shall include at a minimum, 20% of the total number of picnic tables and no fewer than one, *barrier-free* (ADA compliant) picnic tables and a variety of seating options to promote socialization.
- A.4.3** Provide a clear space of minimum 2000mm on all sides of the table.
- A.4.4** *Barrier-free* picnic tables shall be *accessible* by a *barrier-free* path or travel.
- A.4.5** Ensure the ground surface leading to and under barrier-free tables are firm, stable, and no steeper than 1:50 (2%).
- A.4.6** These tables shall be located on a level, firm surface and have a minimum knee space of 500 mm deep and 685 mm high. Ensure tables are anchored to the ground to prevent overturning.

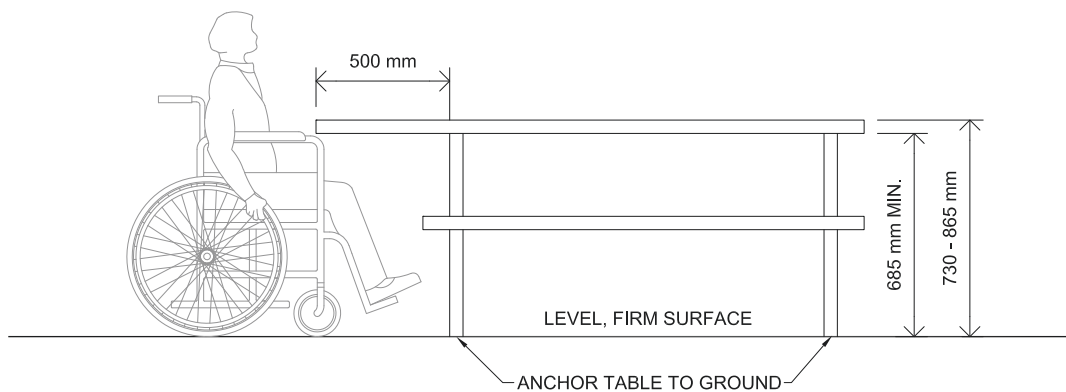


Figure A.4.6

- A.4.7** At least one cooking surface located adjacent to a barrier-free picnic table shall have a minimum clearance of 685mm height under the cooking surface to allow for wheelchair access.
- A.4.8** Where barbecues are provided in outdoor public-use eating areas, ensure that they are placed away from the *accessible* path of travel and on a surface with high tonal and textural contrast with the adjacent surfaces.
- A.4.9** Shelters shall be outfitted with a power outlet to allow for recharging of electric *accessibility* aids. Vandalism shall be a design consideration for these outlets.

A.5 AMENITY FACILITIES (WASHROOMS, CONCESSIONS, LOCKERS, ETC.)

- A.5.1** All amenity buildings should be clearly identified through signage on paths of travel and at destinations with proper signs.
- A.5.2** *Barrier-free public washrooms* shall be available within 400m from major areas of interest/*seating nodes*.
- A.5.3** Entrances to *amenity* facilities shall be on a *barrier-free path of travel* and equipped with power operated doors.
- A.5.4** Interior *barrier-free washroom* entrances shall be either power operated or doorless.
- A.5.5** Public *washrooms* shall provide a minimum of one *barrier-free* stall for each gender, if gender specific *washrooms* are provided. Provide at least one *barrier-free* gender inclusive *washroom*.
- A.5.6** If day lockers and/or bike lockers/racks are available, ensure numbered signage has both tactile and contrast lettering on locker doors.
- A.5.7** Bottle filling stations containing drinking fountains shall generally be provided within high activity areas, well-used public squares/plazas.

A.6 EXTERIOR SIGNS AND WAYFINDING

Wayfinding design organizes the built environment to provide useful information for navigation by ensuring there is the opportunity to use cognitive and perceptual information to arrive independently at the desired destination. There are four basic wayfinding information types: orientation, direction, identification, and general information. There are four primary senses that are used in building information: visual, auditory, tactual, and olfactory. People who have visual disabilities may use any combination of these design elements in wayfinding.

- Logical and intuitive space
- Textural contrasts and tactile cues
- Acoustics
- Colour and brightness contrast
- Signage, including tactile, Braille, and audible signs
- Appropriate, well-designed lighting

Content developed
in conjunction with
[Safety Codes Council
- Barrier-Free Design
Guide - Fifth Edition -
Summer 2017](#)

A.6.1 Signs shall be available to provide information such as slope of *shared pathways*, *barrier-free* paths, location of stairs or other *barriers* to mobility, rest areas, *washroom* locations, location of barrier-free picnic tables, public use eating areas, etc.

A.6.2 All signage including points of interest, directories, warnings and other important information indicated above shall be consistent with [CNIB's Clear Print Guide](#).

A.6.3 *Wayfinding* or interpretive signs shall be oriented vertically or tilted to be easily read by people who use wheelchairs.

Note: It is important to ensure there is adequate lighting to highlight signage when daylight is not available, or to have signs internally lit, where appropriate.

A.6.4 Provide directional signage, tactile maps or digital information boards as appropriate to the context & volume of clientele. Ensure appropriate orientation of the sign while also making sure it is at an *accessible* height. Ensure information about destinations, active mode connections, transit hubs, etc. are included outside the park or facility.

A.6.5 Consider adding pictures or symbols in addition to text to help describe the content of the signage.

A.6.6 Clear signage shall be provided to indicate *accessible* and designated priority seating.

B. SPECIAL PARK AMENITIES

THIS SECTION COVERS:

- B.1.** Activity areas
- B.2.** Community gardens
- B.3.** Outdoor water play areas
- B.4.** Accessible and inclusive play spaces
- B.5.** Temporary events and festivals

B.1. ACTIVITY AREAS

- B.1.1** Active recreation areas shall be located adjacent to passive recreation areas to promote dynamic social environment and observation opportunities.
- B.1.2** Provide a variety of outdoor areas for social gathering such as games (e.g. chess tables, ping pong, etc.), seating areas designed for conversation and a variety of activities (e.g. bocce ball, tai chi, etc.).
- B.1.3** Provide outdoor exercise equipment that can be used for a variety of ages and abilities. Examples of equipment include stationary bikes, a cross-trainer and/or a sit-up bench, spinning foot wheels, double leg press, striders/cross country ski machines, overhead reach (sit bench with curved pipes above). Ensure that ground surfaces around and leading to the equipment are constructed of firm and stable materials. Acceptable surfacing materials are Engineered Wood Fibre and Poured-In-Place Surfacing.
- B.1.4** Locate specialized exercise equipment for *seniors* for active participation in proximity to children's play spaces to allow for concurrent passive surveillance with active use. If active equipment is not provided, add a passive activity area.

B.2. COMMUNITY GARDENS

B.2.1 Design considerations for community gardens include:

- a. raised planting beds
- b. adequate seating
- c. sufficient space within the garden and around planting beds to ensure wheelchair access
- d. hard surfaced or wheelchair friendly pathways/trails

B.2.2 Provide *barrier-free* access to garden beds and ensure that areas surrounding garden beds are constructed of firm and stable materials.

Note: Garden beds shall be designed with ease of access for people who require sitting in a wheelchair while gardening.

B.2.3 Seating areas shall be available within or directly adjacent to the garden. Consider natural elements like trees to offer protection from the elements or provide shade.

B.2.4 Provide raised planting box(es) between 450 mm and 915 mm from the ground to ensure *accessibility* for a variety of ages and abilities.

B.2.5 Watering source shall be located in an appropriate area between 450 mm and 915 mm from the ground. The faucet shall include a lever-style control for ease of use.

B.2.6 Planters shall not be more than 1200 mm in width and must provide adequate *barrier-free shared pathways* around the planting bed and allow for continuous and meaningful access to and from adjacent public sidewalks.

B.3. OUTDOOR WATER PLAY AREAS

B.3.1 Shaded seating areas and/or *barrier-free* picnic tables with clear sightlines to the *water play areas* shall be available.

B.3.2 Surround deck and *water play area* surfaces shall have solid slip-resistant material.

B.3.3 *Colour contrasting Tactile Walking Surface Indicators* for changes in grade or surface material must be incorporated.

B.3.4 Where possible, *barrier-free washroom* and change room facilities shall be provided within 100m. Provide clear *wayfinding signage* to the facility.

B.3.5 Water features and controls shall be *accessible* for all ages and abilities.

B.4. ACCESSIBLE AND INCLUSIVE PLAY SPACES

B.4.1 Ensure that the design of inclusive play spaces and features meet the requirements of CAN / CSA Z614-14, Annex H. Refer to the [City of Edmonton Playspace and Wheeled Sport Facility Design and Construction Standards](#) for specific considerations.

B.4.2 Play spaces shall consider *accessibility* features related to:

- a. The number and types of play structures, equipment, elements, and features provided
- b. Play areas surrounding the play structures
- c. Site *amenities* and features surrounding the play space
- d. Means of access and egress to features

B.4.3 Incorporate *accessibility* features, such as sensory and active play components, for children with various abilities and caregivers into the design of outdoor play spaces.

B.4.4 Ensure wheelchair *accessible* surfacing for outdoor play spaces (e.g. compacted Engineered Wood Fibre and Poured-In-Place surfacing).

Note: This includes a ground surface that is firm, stable, and has impact-attenuating properties for injury prevention and sufficient clearance to provide children with various abilities and caregivers the ability to move through, in, and around the outdoor play space.

B.5 TEMPORARY EVENTS AND FESTIVALS

B.5.1 Electrical wires are a tripping hazard for everyone. Keep electrical wires out of paths of travel, or use cable protectors that are wheelchair *accessible* and are in bright/contrasting colours to alert people with low vision.

B.5.2 When portable toilets are provided for outdoor events on City- owned land, at least 10% of toilets provided shall be *barrier-free*. Provide a minimum of one *barrier-free* toilet if the 10% does not amount to one.

Content developed in conjunction with [Safety Codes Council - Barrier-Free Design Guide - Fifth Edition - Summer 2017](#)

When planning temporary events and festivals refer to [Accessible Temporary Events, A Planning Guide](#) by NC State University Centre for Universal Design.

C. VEHICULAR ACCESS

THIS SECTION COVERS:

- C.1. Off street parking areas
- C.2. On street parking areas
- C.3. Passenger loading and drop off zones
- C.4. Pedestrian interface between parking and buildings
- C.5. Parking Signs

Refer to [Complete Streets Design and Construction Standards](#).

C.1. OFF STREET PARKING AREAS

C.1.1 *Barrier-free* parking shall be located within 50 m of *barrier-free* building entrances. If parking is located within a structure a *barrier-free path of travel* shall be provided to the nearest *barrier-free* entrance.

Note: Close access to *barrier-free* building entrances provides safe and convenient access for persons with limited mobility. To qualify for an *accessible* parking pass, an individual must be unable to walk without assistance for more than 50 m.

C.1.2 Low floor *accessible* vehicles must be considered in the design of speed bumps.

C.1.3 Design considerations shall include a seasonal snow collection area to ensure *accessible* parking stalls are not used for dumping snow. Refer to City Policy C409J Snow and Ice Control.

C.1.4 Where parking is provided, courtesy parking stalls for *seniors* and families with young children shall be provided at all main entrances. Provide three courtesy parking stalls for the first 2500 m² of building floor area and one stall each for every additional 2500 m². In addition to the vertical signs, consider including pavement markings in each stall.

Note: Use and demand for the facility shall be taken into account while determining the number of courtesy parking stalls. More stalls shall be provided for facilities which are expected to be used by a large number of *seniors* and young families.

C.1.5 Courtesy parking stalls, barrier-free stalls and the *access aisles* adjacent to them shall be paved.

Note: A paved (i.e. hard surfaced) stall and access aisle makes it easier for someone to exit safely from a vehicle and travel to the building entrance.

C.1.6 *Barrier-free* parking areas shall be designed so that people do not have to pass behind other parked vehicles.

Note: This increases the safety of persons using mobility aids. One way to achieve this is to have the *barrier-free* parking stalls located adjacent to a walkway that leads directly to the *barrier-free* entrance.

C.1.7 Where feasible, provide *barrier-free* and courtesy parking stalls that are adjacent to the 'building side' of the parking lot to eliminate the need to cross parking drive aisles.

C.1.8 If *barrier-free*/courtesy parking stalls are located across a driveway, a *shared pathway* connecting the parking stalls shall be designed so that a high contrast crosswalk connects the front entrance to the *barrier-free*/courtesy parking stalls.

Note: The connection will allow people to exit their vehicle into an access aisle and enter the *shared pathway* at the front of their vehicle to prevent traveling behind parked vehicles.

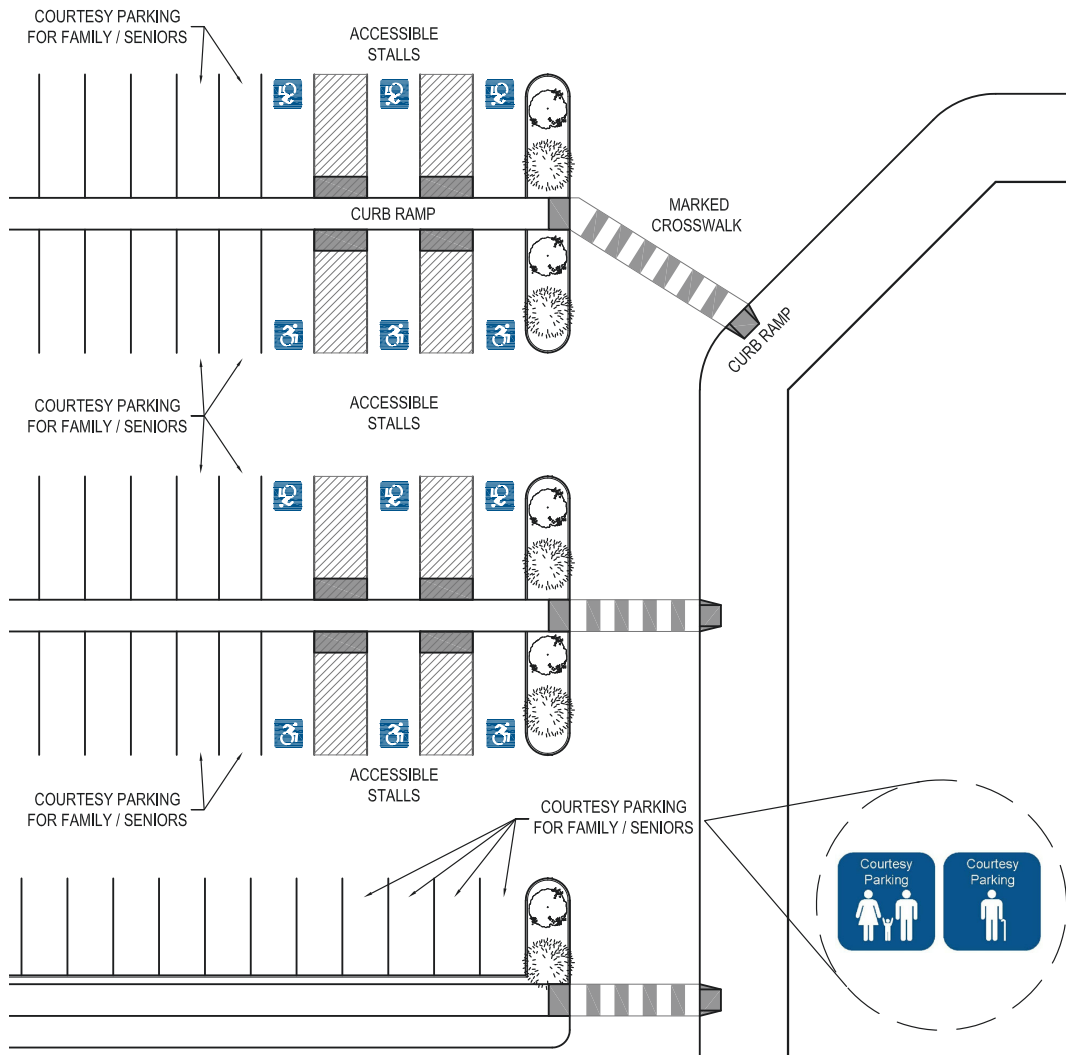


Figure C.1.8

- C.1.9** The *shared pathway* shall connect pedestrians through to the end of the parking lot and connect any other adjacent lots, sidewalks or multi-use *shared trails* leading to the facility. If this *shared pathway* crosses a driveway, pedestrian crossing signs and painted markers shall be provided.
- C.1.10** Parking stalls shall be designed so that vehicles or other obstructions do not encroach on the *barrier-free path of travel* regardless of its width (e.g., providing wheel stops).

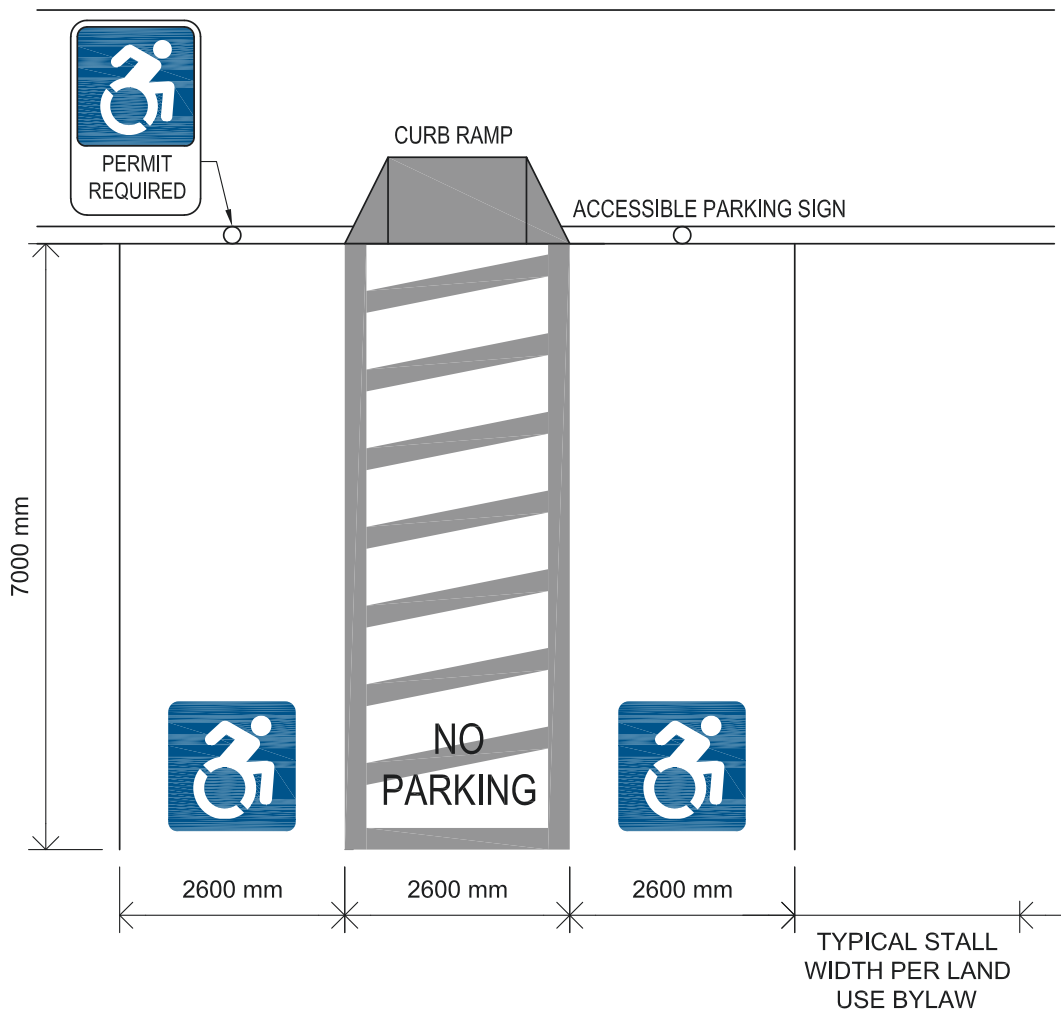


Figure C.1.10

- C.1.11** Level changes between pedestrian and parking areas shall be minimized to ensure that *curb ramp* slopes do not exceed 6%.
- C.1.12** If "staff only" and "visitor only" parking stalls are provided, *barrier-free* staff and/or visitor parking stalls must be considered.

Note: The allocation of parking to staff and visitors with *disabilities* ensures equal access to parking stalls.

C.2. ON STREET PARKING AREAS

C.2.1 On street parking stalls for people with *disabilities* shall be arranged so that they can exit the vehicle in an area that is safe from vehicular traffic.

C.2.2 *Barrier-free* and courtesy parking stalls in parking lots and streets shall be located adjacent to sidewalk *curb ramps*, which are located in a 'no parking' zone.

Note: A *curb ramp* allows for safe and easy travel in a *barrier-free path of travel*.

C.2.3 EPark machines shall be located on a *barrier-free path of travel* and adjacent to parking stalls (designated or public). The operable parts shall be between 800 and 1200 mm above ground.

Note: Universally designed EPark machines ensure everyone can pay for parking easily and conveniently.

C.2.4 Ensure that EPark machines are not placed on raised platforms or obstruct the path of travel along sidewalks.

C.3. PASSENGER LOADING AND DROP OFF ZONES

C.3.1 A dedicated passenger loading zone/lay-by that doesn't conflict with the drive aisle, parking stalls and other loading zones shall be provided for support vehicles.

Note: Design of this space shall consider the use of facility and different types of vehicles (buses, DATS – Disabled Adult Transit Service, rear/side loading vehicles) that will be used for drop off.

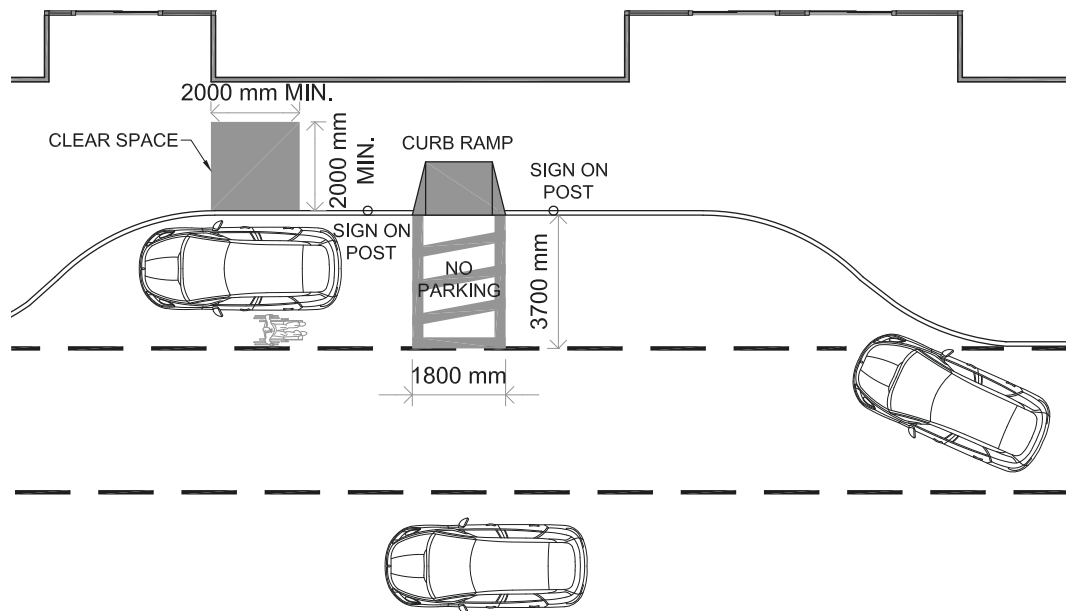


Figure C.3.1

C.3.2 The loading and drop off zone shall be minimum 3700 mm wide, 9000 mm long and located within 50 m of a building's *barrier-free* entrance. Provide *curb ramp* to access sidewalk from the dedicated loading zone and a *Tactile Walking Surface Indicator* with *colour contrast*.

Note: Loading zones are roadside drop-off areas, separated from the flow of vehicular traffic and usually located in front of buildings along busy streets or roads. Their main function is to allow passengers to get in and out of vehicles safely and conveniently. They are especially beneficial for people with mobility limitations, persons with strollers or those loading or unloading large or heavy items.

C.3.3 Where possible, it is recommended that building entrances adjacent to passenger loading zones be covered to provide protection from precipitation and to maintain a slip-free *barrier-free path of travel*.

C.3.4 All loading and drop off spaces dedicated for use by people with *disabilities* shall be clearly marked.

C.3.5 A minimum 3200 mm vertical clearance shall be provided in drop off zones to accommodate oversized vehicles.

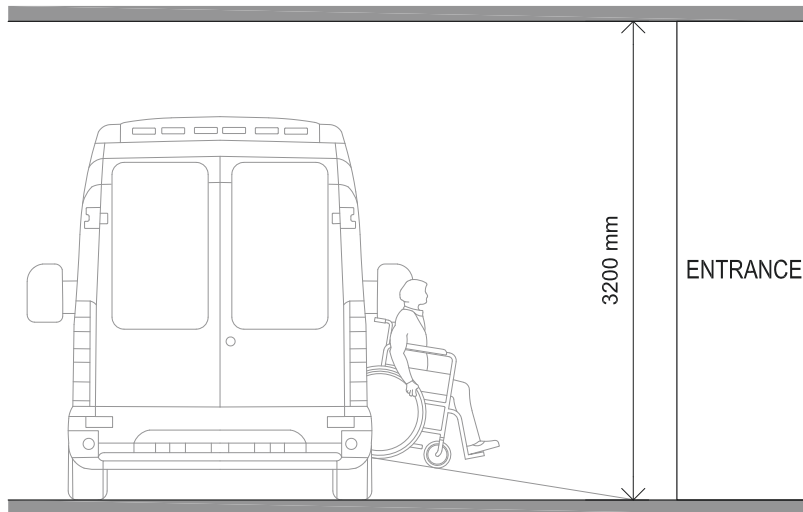


Figure C.3.5

C.3.6 Seating areas with views to drop off/pick up areas, *accessible* to those with limited mobility, shall be provided adjacent to the barrier-free entrance. Best practice is to provide protection from sun, snow, rain and wind.

C.4. PEDESTRIAN INTERFACE BETWEEN PARKING AND BUILDINGS

C.4.1 A *barrier-free path of travel* must be provided from a *barrier-free* entrance or lobby to all levels of a parking structure and shall have *colour contrast* and distinctive patterns where there are changes in level and surface material.

C.4.2 Lighting shall be provided around key areas such as entrances, *shared pathways* and access to parking.

C.5. PARKING SIGNS

C.5.1 Parking stalls dedicated for use by persons with *disabilities* shall be clearly identified using the International Symbol of Accessibility. Signage shall include the words "Permit Required".

Note: The vertical sign shall be located so that it is visible to the driver of a vehicle approaching the space, but does not create a protrusion or a sightline or viewing hazard.

C.5.2 International Symbol of Accessibility shall be marked on the pavement of all barrier-free parking stalls using non-slip paint. The painted pavement signs shall be close to the drive aisle to ensure they are easily visible.

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Note: Proper signs ensure that parking stalls are easily identifiable. It is important that the International Symbol of Accessibility painted on the stall does not occupy the entire area. The more painted surfaces there are, the more likely the parking stall may become slippery.

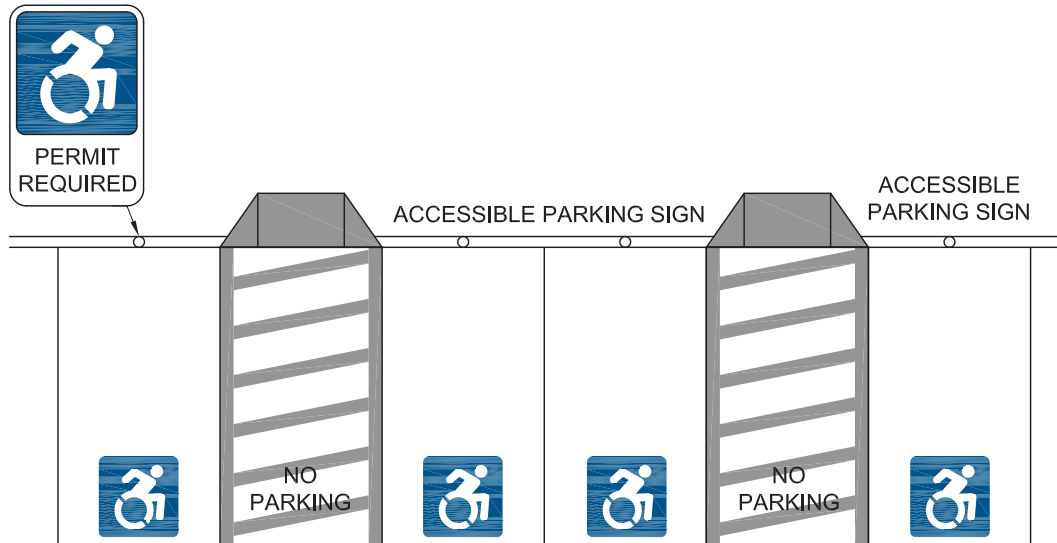


Figure C.5.2

C.5.3 Courtesy parking stalls shall be marked with appropriate signs.

C.5.4 If the location of designated parking stalls is not easily visible from the approach viewpoint, appropriate directional signs showing location of designated stalls shall be provided.

D. EXTERIOR PATHS OF TRAVEL

THIS SECTION COVERS:

- D.1.** Paths of travel
- D.2.** Tactile Walking Surface Indicators
- D.3.** Curb ramps
- D.4.** Raised pedestrian crossings
- D.5.** Obstructions
- D.6.** Benches
- D.7.** Ramps
- D.8.** Stairs
- D.9.** Handrails
- D.10.** Cycle wheel ramps
- D.11.** Bike racks
- D.12.** Patios / balconies
- D.13.** Accessible pedestrian signals at signalized crossings
- D.14.** Service dog relief areas

Refer to [Complete Streets Design and Construction Standards](#).

D.1. PATHS OF TRAVEL

- D.1.1** Exterior *barrier-free paths of travel* shall be minimum 1800 mm wide and the slope shall not exceed 1:20. If the slope exceeds 1:20 refer to Section D.7 Ramps for design parameters.

Refer to [Downtown & The Quarters Downtown Streetscape Design Manual](#).

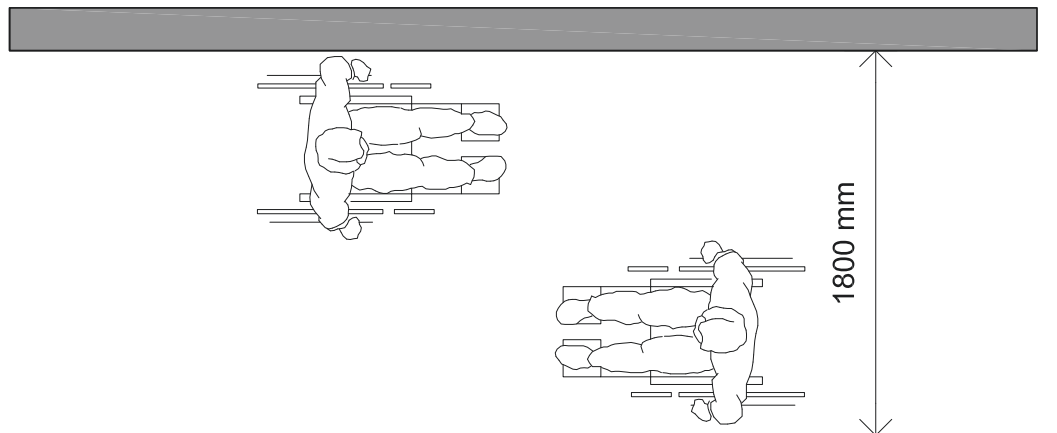


Figure D.1.1

D.1.2 Wherever an exterior *barrier-free path of travel* passes behind a loading or garbage pick-up area, visual warning signals shall be installed.

Note: Visual warning signals alert people of the hazard of vehicles frequently backing up.

D.2. TACTILE WALKING SURFACE INDICATORS

D.2.1 *Tactile Walking Surface Indicators (TWSIs)* shall have a texture that can be felt underfoot and detected by a long cane.

D.2.2 TWSIs shall have bevelled edges to decrease the likelihood of tripping and provide an adequate amount of space between each truncated dome to provide smooth moving for people who use wheelchairs and mobility scooters.

D.2.3 Ensure *colour contrast* of TWSI with the surrounding walking surface.

D.2.4 *Attention TWSIs* shall be set across the entire width of a blended curb's edge (exclusive of flares) and set back 150 mm to 200 mm from the curb's edge, and they shall extend a minimum depth of 610 mm in the direction of travel.

D.2.5 When *guidance TWSIs* are installed, the base surface shall be less than 3mm above the surrounding ground or floor surface so they do not create a tripping hazard.

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D.2.6 TWSIs shall always be adhered firmly so there is no likelihood of the edges lifting.

For more information on specifications of TWSIs, see *Clearing Our Path* at www.cnib.ca.

D.3. CURB RAMPS

D.3.1 *Curb ramps* shall be installed wherever an exterior *barrier-free path of travel* encounters a curb, such as at a roadway.

D.3.2 *Curb ramps* shall be aligned to be across from each other to ensure a direct pedestrian path of travel.

D.3.3 At intersections, a 1500 mm x 1500 mm level surface shall be maintained on the sidewalk behind the *curb ramps*.

Note: 1500 mm x 1500 mm allows adequate space for a wheelchair user to wait for foot traffic to clear, before negotiating the ramp.

D.3.4 Crosswalks shall be at right angles to each other and shall have *Tactile Walking Surface Indicators* in contrasting colour, to provide predictability for individuals with visual impairments.

D.3.5 For intersections with pedestrian scrambles, a separate *curb ramp* shall be provided for all three directions at each corner of the intersection to reduce confusion for users, specifically for those with visual impairments, children and families.

D.3.6 *Curb ramps* shall be aligned with crosswalks and include *Tactile Walking Surface Indicators* of contrasting colour.

Curb ramps shall be constructed in accordance with [The City of Edmonton's 'Design and Construction standards'](#) and [Complete Streets Design and Construction Standards](#).

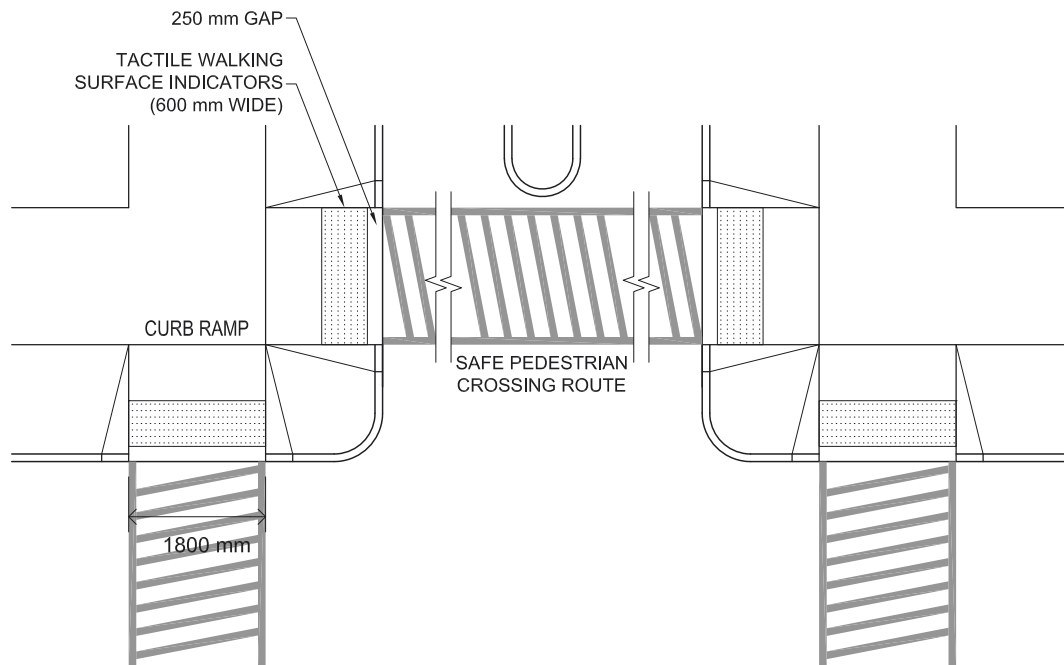


Figure D.3.6

D.3.7 In designated parking areas, *curb ramps* shall be located in the access aisle or to the side of or adjacent to the designated stall. If it is a parallel parking space, the *curb ramp* shall be located behind or in front of the designated stall.

Note: If the *curb ramp* is located in front of the stall, the vehicle will block access to the *curb ramp*, which is a part of the *barrier-free path of travel*.

D.3.8 *Curb ramps* shall contrast in colour and include *Tactile Walking Surface Indicators* to provide contrast from the surrounding sidewalk and road.

Note: Contrast in texture warns pedestrians, especially with low vision before walking onto the street, thereby enhancing the safety of pedestrians.

D.3.9 Drainage should be designed to prevent water and snow accumulation at the bottom of *curb ramps*. Ensure catch basins are not located in front of *curb ramps*.

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D.4. RAISED PEDESTRIAN CROSSINGS

- D.4.1** Low floor *accessible* vehicles must be considered while designing pedestrian crosswalks.
- D.4.2** If raised pedestrian crossings are deemed appropriate for traffic calming (e.g. parking lots, high pedestrian traffic zones), they should be designed one of following ways:
- Raised pedestrian crossing at an elevation that is appropriate to facilitate reduced speeds throughout the corridor. This crossing shall have *curb ramps* at each end.
 - Raised pedestrian crossing at an elevation equal to the sidewalk.
- D.4.3** Ensure *Tactile Walking Surface Indicators* are provided at each end of the walkway and along the edges of the raised crosswalk to indicate a drop off.

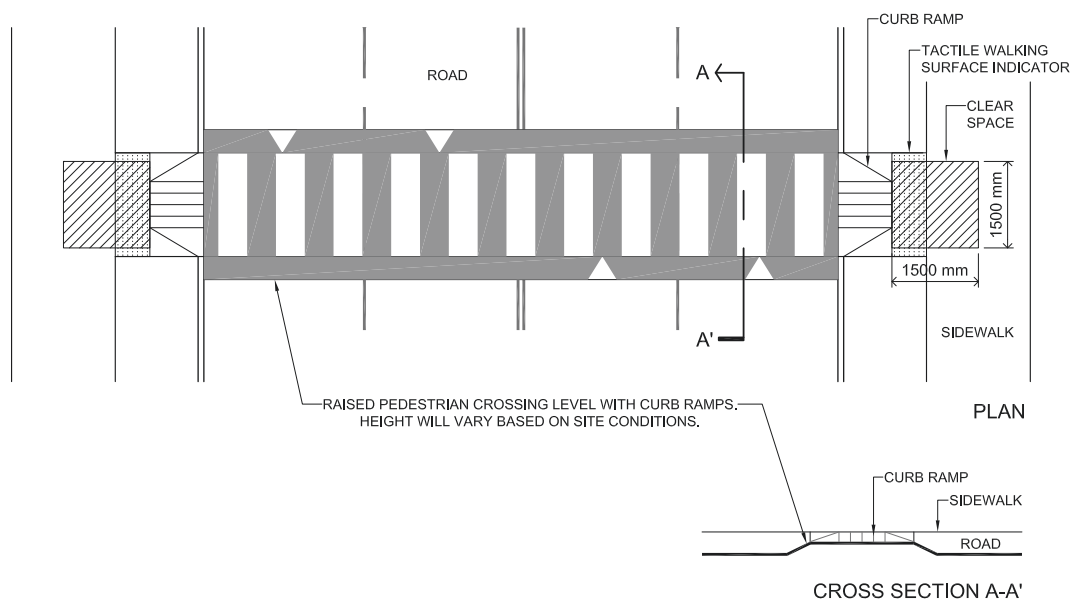


Figure D.4.3

D.5. OBSTRUCTIONS

- D.5.1** Any obstructions such as lamp posts, tree grates, trees, signposts, transformers, mailboxes, newspaper stands, trash containers, planters, bus shelters, benches, "sandwich board" signs and bike racks shall be placed in

the furnishing zone outside the minimum required width of the *barrier-free shared pathway*. Bike racks shall be placed to avoid locked bikes protruding into the minimum required width.

Note: The placement of the above items can present a hazard for persons with limited mobility and/or low vision. Refer to ['Edmonton Main Streets Guidelines'](#) and Complete Streets Guidelines for information on furnishing zones and placement of trees, utilities, street furniture, etc.

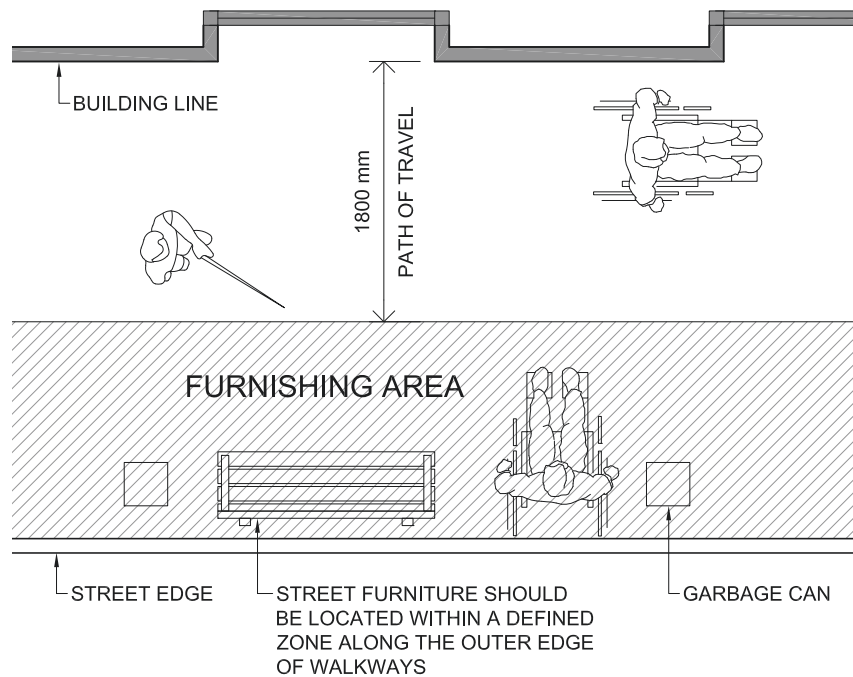


Figure D.5.1

D.5.2 Wherever a furnishing zone or shared use space is located, a different material of color contrast and texture shall be provided for the furnishing zone or a tactile warning strip of minimum 600 mm width shall be provided along the *barrier-free path of travel*.

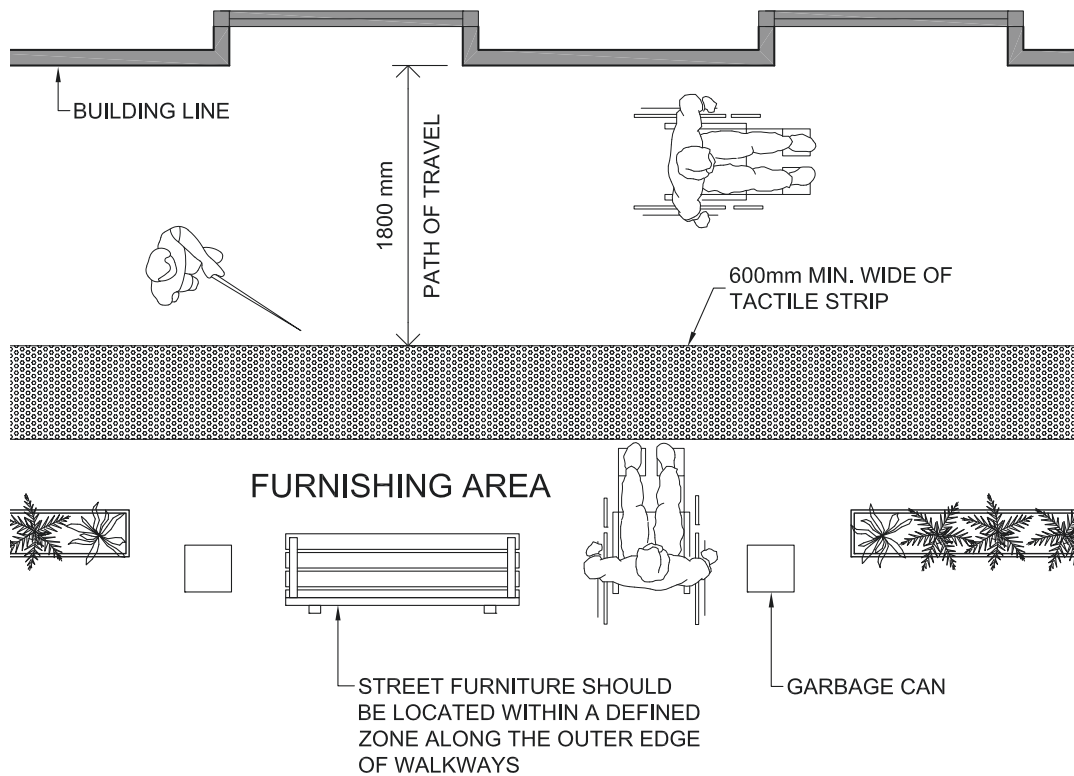


Figure D.5.2

D.5.3 Objects taller than 680 mm and protruding into a *barrier-free path of travel* more than 100 mm from the wall shall extend to within 100 mm from the floor or ground for the entire length of the obstruction, in order to be *cane detectable*.

Note: In general, nothing is allowed to project more than 100 mm into any *barrier-free path of travel*, whether the path of travel is in a corridor, a room, a *washroom* or along any public sidewalk. The exception to this is if the obstruction is designed to be *cane detectable*. This applies to both interior and exterior paths of travel.

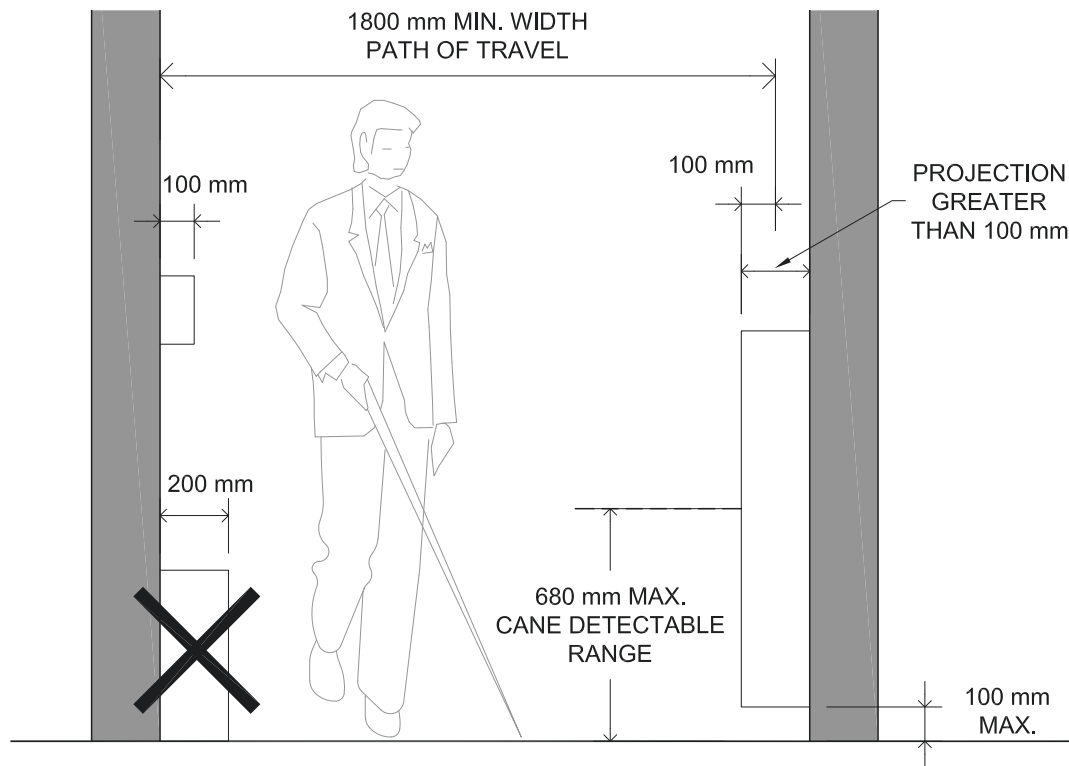


Figure D.5.3

- D.5.4** Patio umbrellas in the open position, planters overhanging guardrails, and/or folding window panels, shutters or any other type of feature, be it temporary or permanent shall not obstruct the *barrier-free path of travel*.
- D.5.5** *Guy-wires*, chains, cables or ropes shall not be installed in *barrier-free paths of travel*.
- D.5.6** Manhole covers, tree grates, electrical vaults and other access covers/grates shall be placed adjacent to walkways, outside of the path of travel, unless necessary due to site constraints). The long dimension of the openings shall be perpendicular to the path of travel. The maximum clear opening of gratings shall not exceed 13 mm.

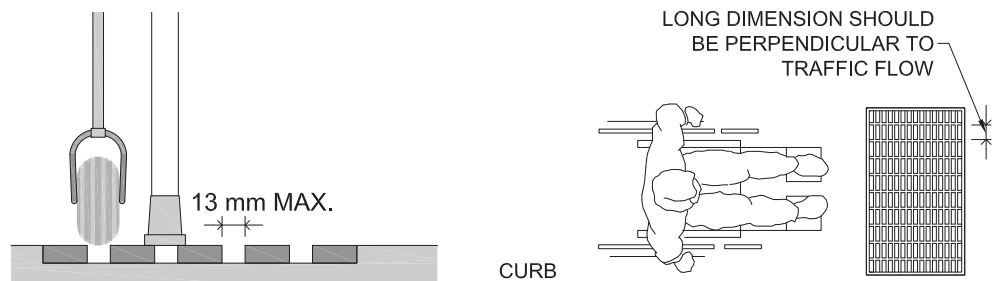


Figure D.5.6

D.5.7 Posts, bollards, maze gates or other devices designed to prevent or restrict vehicular access shall have a minimum clearance of 1200 mm from adjacent obstructions.

Note: A 1200 mm clearance allows access for wheelchair users and adapted or tandem bikes used by people with physical *disabilities* and/or low vision.

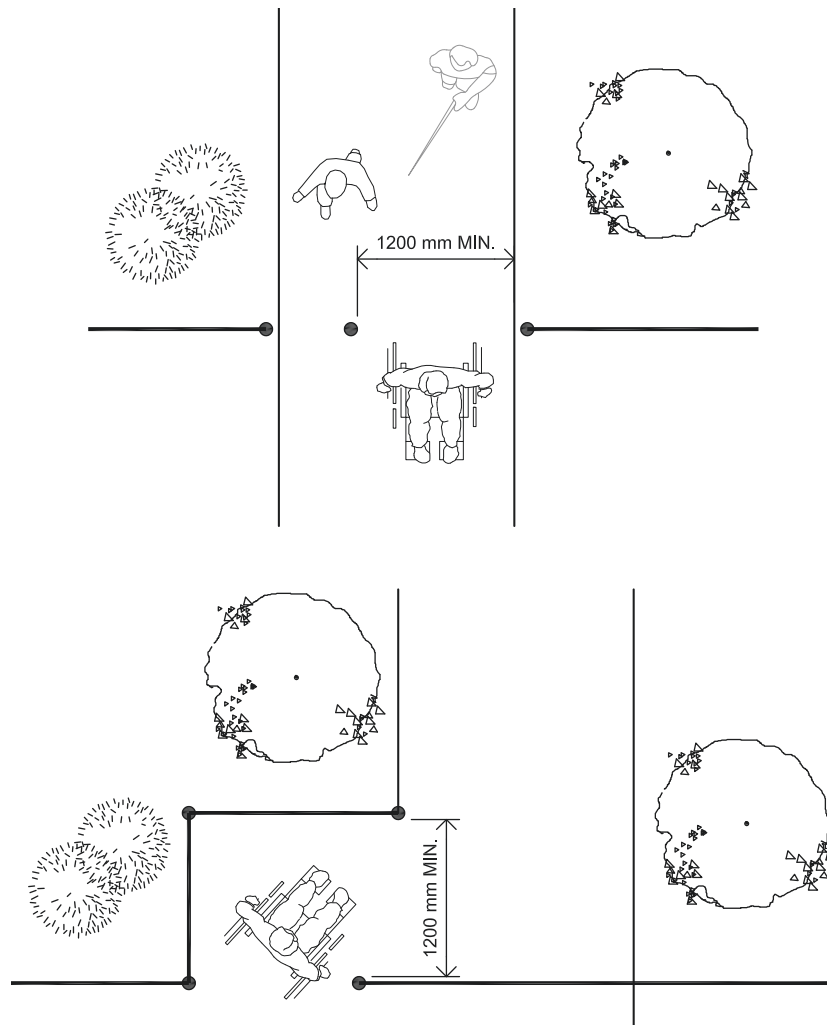


Figure D.5.7

D.5.8 The minimum height of bollards and posts shall be 1200 mm and have *colour contrast* with the surrounding surface. Ensure bollards do not impede into the *barrier-free path of travel* and a minimum clear space of 1200 mm is provided in between.

Note: *Colour contrast* improves visibility and the height requirement ensures the bollard or post is not a hazard for people with low vision.

Refer to the [Canadian National Institute for the Blind \(CNIB\) website](#) for additional direction on colour selection.

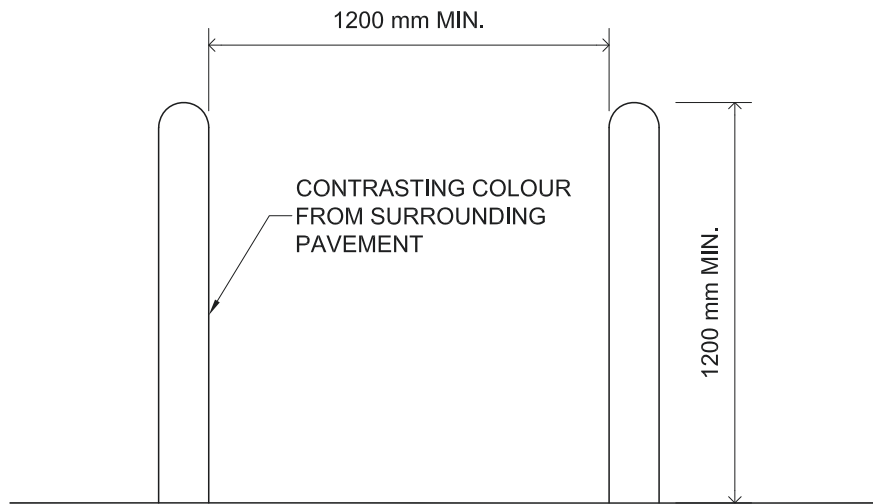


Figure D.5.8

D.6. BENCHES

D.6.1 Ensure a variety of bench types (armrests/armless, backrests/backless) with adequate heel space (minimum 150 mm) below the bench, when benches are provided adjacent to a *barrier-free path of travel*. A variety of middle and end armrests and or handles shall be provided to push off of and keep balance.

Note: Seating shall provide adequate clearance underneath for ease of cleaning. Providing adequate heel space makes rising from a seated position easier. This also provides space for people to put their feet and bags underneath and potentially even provide a place for service dogs to rest. Variety of bench types accommodates different abilities. Armless benches facilitate transferring from wheelchair to the bench.

D.6.2 Benches shall be ergonomic to allow comfortable seating for a long period of time and anchored to the ground to avoid overturning.

Note: High backrests, comfortable materials textures and protection from the elements provides for comfortable seating.

D.6.3 The seat height shall be between 450 mm and 500 mm from the ground and the depth of the seat shall be between 400 mm and 450 mm. Height of armrests for benches with backrests shall be 200 mm from top of seat. Lower armrests can be provided for benches without backrests as they are primarily used as handles to push off of.

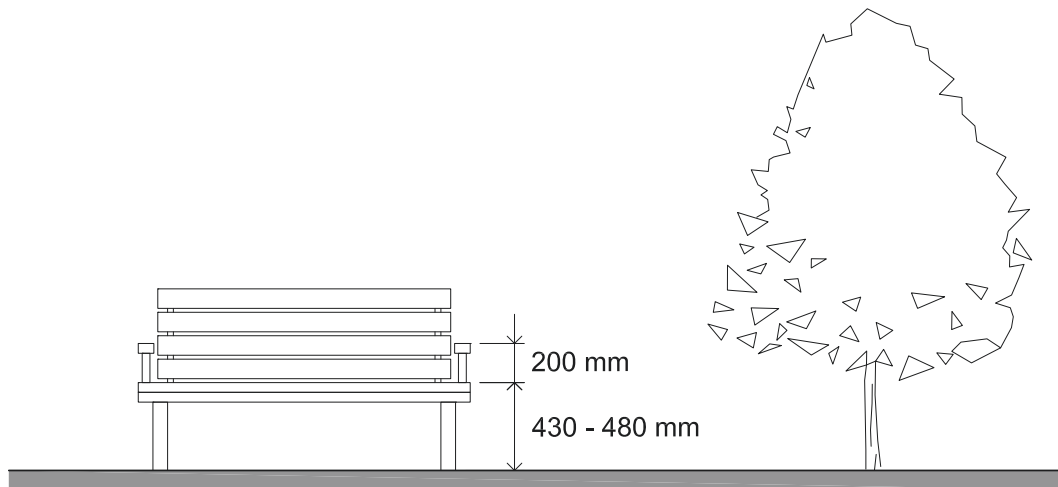


Figure D.6.3

D.6.4 A level and firm ground surface of minimum 850 mm x 1200 mm size shall be available adjacent to the bench to accommodate a wheelchair, scooter or stroller.

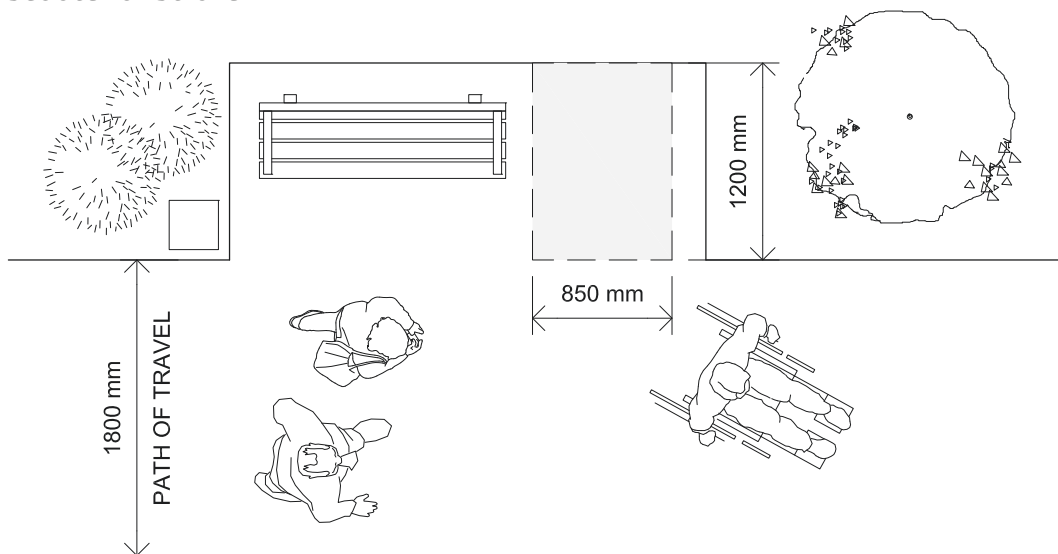


Figure D.6.4

D.6.5 Seat surfaces of benches shall be anti-slip material. Avoid using materials that will stay cold in winter months.

D.6.6 Seat surfaces shall be pitched or perforated to shed water, but shall not drain out onto walking surfaces where surface water or ice may create a hazard.

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D.6.7 Seat surfaces and vertical supports shall be designed to avoid accumulating snow and debris.

D.6.8 Benches shall be of *colour contrast* with the surrounding area.

D.7. RAMPS

D.7.1 Exterior ramps shall be protected from rain, snow and ice, or maintained free of snow and ice through appropriate heating and drainage systems installed beneath the ramp surface, where possible.

D.7.2 Ensure separate stair and ramp access are provided for the same path of travel.

Note: Some people with mobility challenges prefer stairs as ramps can be difficult to climb. Providing both options is optimal, but a ramp would be better instead of just stairs when only one option is possible.

D.7.3 *Non-glare* materials shall be used on the ramp surface.

D.7.4 Width of ramp at any point shall not be less than 1500 mm.

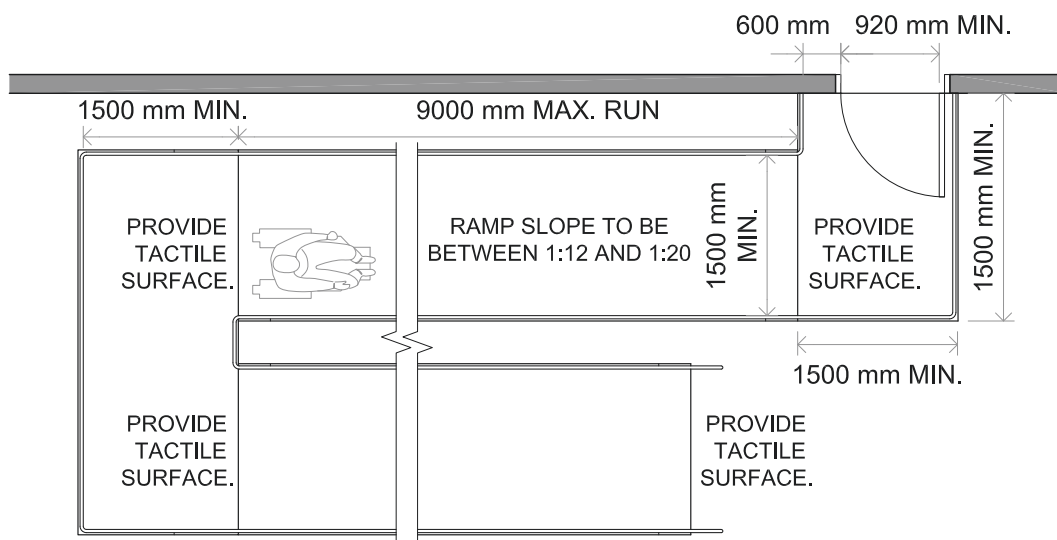


Figure D.7.4

D.7.5 All landings shall be a minimum of 1500 mm long x 1500 mm size.

Note: Landing size of 1500 mm x 1500 mm is applied to accommodate larger wheelchairs and scooters.

D.7.6 *Tactile Walking Surface Indicator of colour contrast* shall be provided to mark the beginning and ending of all ramps and also landings.

D.7.7 Curbs combined with handrails and guards can be used to prevent people using wheelchairs or other mobility aids from accidentally going over the edge of a ramp.

D.7.8 The maximum cross slope of ramp surfaces shall be 1:50 (2%).

D.8. STAIRS

D.8.1 Exterior stairs shall be protected from rain, snow, and ice, or maintained free of snow and ice through regular maintenance or appropriate heating and drainage systems installed beneath the stair surface.

D.8.2 Stair nosings and leading edges of landings shall have a tactile finish with *colour contrast* and distinctive pattern to demarcate the leading edge of the tread and landing.

D.8.3 Risers shall be beveled not more than 60 degrees with respect to the tread surface to ensure the tread edge is clearly visible in descent.

D.8.4 Changes in elevation at stairwells shall be indicated by a *Tactile Walking Surface Indicator*, which is as wide as the stair and has *colour contrast*.

Note: The *Tactile Walking Surface Indicator* alerts a person with low vision that there is a set of stairs ahead and to seek the support of a handrail to safely navigate them.

D.8.5 Where appropriate, include seating on landings (top, bottom, middle) for multiple runs of stairs.

D.9 HANDRAILS

D.9.1 Handrail material shall be splinter and rust proof.

D.9.2 Safety should be a consideration in the spacing of balusters.

D.9.3 Where guardrails are provided at viewing platforms, provide additional handrails between 865 mm and 1070 mm height from the ground as stability for less able users, ensuring placement does not obstruct sightlines for people using wheelchairs.

Note: This additional handrail can be used as a support for stability by less able users. Ensure that sightline is not obstructed by these handrails from wheelchair viewing height.

D.10. CYCLE WHEEL RAMPS

D.10.1 Consider the use of cycle wheel ramps for exterior locations to link *shared pathways* and other *shared trails*, and interior locations within a building or facility (LRT station/interchange etc.).

Note: This type of ramp can make stairs *accessible* to cyclists by enabling them to go up or down staircases without having to physically carry their bikes. While they do provide many benefits to cyclists, if not properly designed, these types of ramps could potentially be very dangerous to people with *disabilities* or the elderly for a variety of reasons. Some options for cycle ramps are shown below.

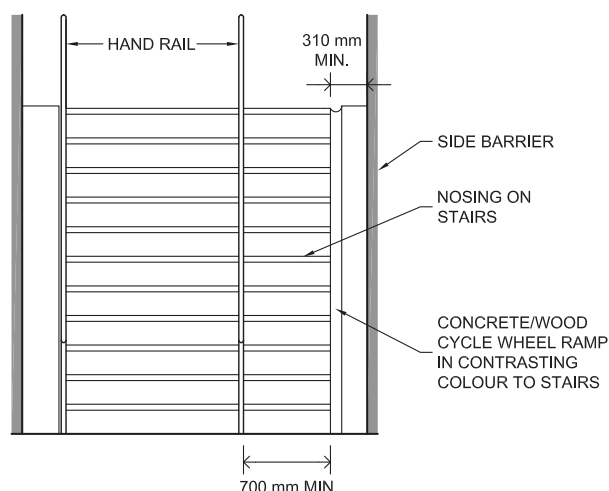


Figure D.10.1

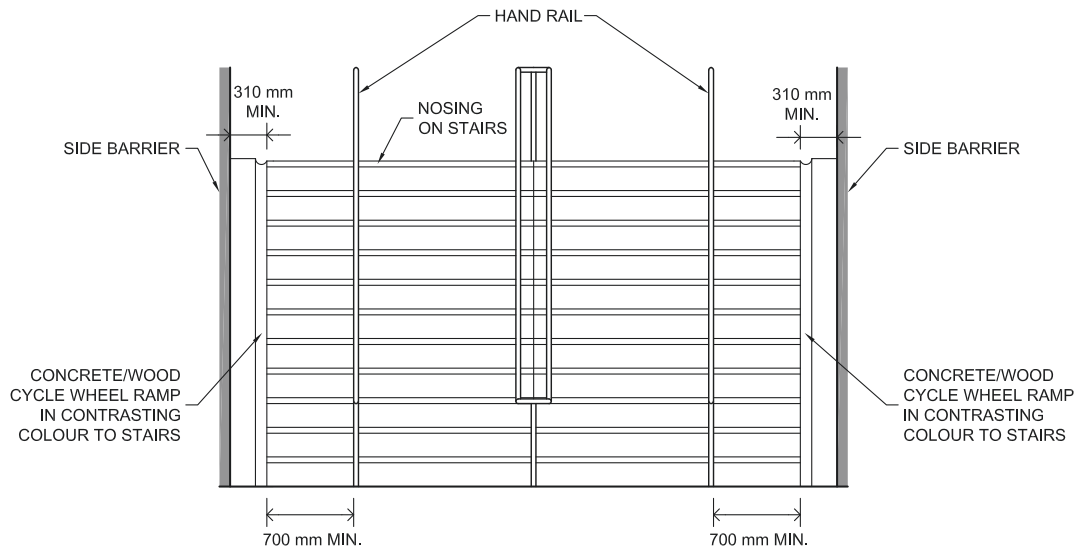


Figure D.10.1

D.11. BIKE RACKS

D.11.1 Design considerations for short stay bike parking includes:

- a. Located as close as practical to the facility entrance but out of any pedestrian thoroughfare
- b. Designed and located in the streetscape to clearly identify itself as bike parking
- c. Sheltered, where possible
- d. Well lit, if in a location likely to be used at night

D.11.2 Racks shall be suitable for leaning a bike against and be strong and of a material that cannot be easily cut through (e.g. steel).

D.11.3 Racks shall be free of sharp or square edges that may scratch a bike paint or dent the tubing and located to avoid hazards to pedestrians, especially those with visual impairments.

D.11.4 The design for short term bike parking shall provide high quality racks that are convenient, easy to maintain and includes a taper plate at the bottom which makes them easy to be identified by people with visual impairments.



Figure D.11.4

D.11.5 Provide sufficient clearance around the racks from walls, cars and pedestrian movement areas. The figure below shows examples of racks in different locations and arrangements in relation to a wall or curb. The same dimensions would be true for separation from curb side parking, traffic lanes and pedestrian movement areas.

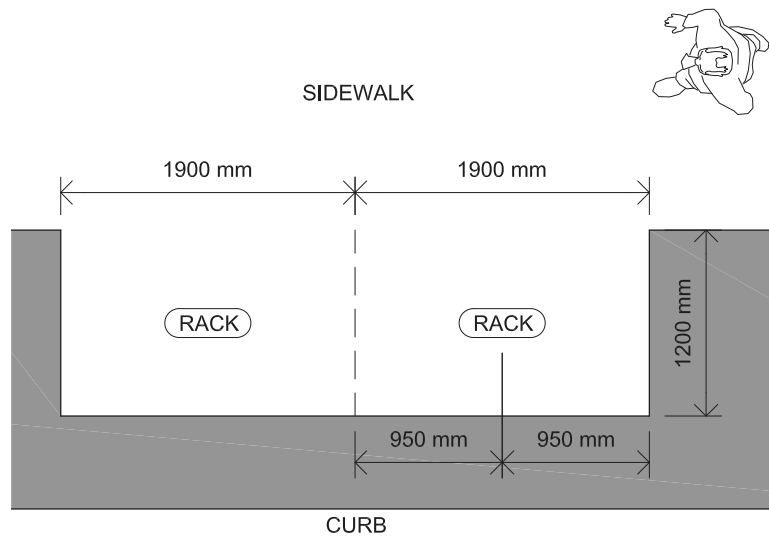


Figure D.11.5

D.12. PATIOS / BALCONIES

D.12.1 Exterior patios and balconies shall be *accessible* from a *barrier-free path of travel*.

D.12.2 A minimum clear turning diameter of 1800 mm shall be provided on a balcony/ patio to ensure a wheelchair user has the ability to change directions.

D.12.3 Planter boxes and other obstructions on a patio or balcony must not project into the *barrier-free path of travel*.

D.13. ACCESSIBLE PEDESTRIAN SIGNALS AT SIGNALIZED CROSSINGS

Well-designed signalized intersections direct pedestrians safely across a road, preventing them from walking into traffic. The *accessible* pedestrian signal acts as confirmation of the traffic flow and as a directional indicator for people with low vision. It also indicates how much time a person has to cross the street.

D.13.1 Push buttons shall have the ability to be activated using any part of the arm or hand.

D.13.2 All traffic signals shall be set to allow sufficient time for pedestrians of all ages and abilities to complete the crossing safely.

D.13.3 Push buttons shall be located at a height of 1000 – 1100 mm above the ground, as site conditions permit. If it is not possible to locate the push buttons on the main pole an additional shorter pole shall be installed to ensure that the push buttons are located as close to the pedestrian waiting area as possible.

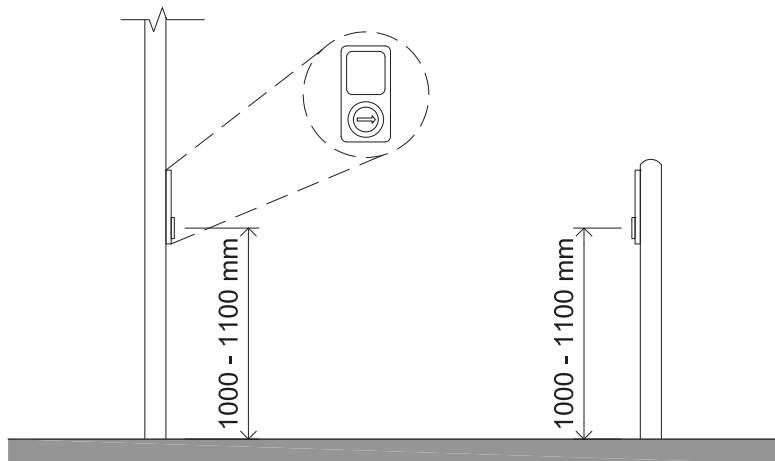


Figure D.13.3

- D.13.4** Best practice is to have push buttons that activate visual pedestrian signals to also operate the audible pedestrian indicators.
- D.13.5** Provide push buttons with tactile directional arrows in standardized locations at crosswalks so people with low vision can readily find them.
- D.13.6** Audible pedestrian signals and countdown timers shall be installed and activated as required, at all new signalized intersections that accommodate pedestrians. The sound cue shall be clearly audible above the ambient noise of the signalized intersection area.
- D.13.7** One audible sound unit shall be installed at each end of a crosswalk which sounds for the full duration of the walk.
- D.13.8** Audible signal posts shall constantly emit a slow, intermittent temporal pattern of sound, which is distinguishable from the crossing signals.

Note: This sound will indicate the presence of the crosswalk and the location of the push button to a person with low vision, and will serve as an audible beacon on the opposite side of the road.

D.14. SERVICE DOG RELIEF AREAS

- D.14.1** Where service dog relief areas are provided, they shall be provided within 50 m from at least one *barrier-free* entrance of a facility and be connected to a *barrier-free path of travel*.
- D.14.2** The dedicated relief area shall be approximately 7.4 m² (3 m in diameter circle).

Note: Service dogs accompanying their owners on trips will reasonably require a relief area at entrances and bus/train terminals where passengers are provided the opportunity to disembark. A 7.4 m² area allows a service dog on a 5 foot leash to circle its handler prior to relieving itself. Organic mulch or grass works well in a relief area, but service dogs are also trained to relieve themselves on hard surfaces like concrete.

- D.14.3** Other design considerations for service dog relief areas include locating the area away from high-traffic areas, providing a garbage can for hygienic disposal of waste, and providing a water source to facilitate the cleaning of the area by building staff.

Refer to CNIB's [Clearing Our Path: Creating accessible environments for people impacted by blindness](#) for more details.

D.14.4 Tactile signage shall be provided which explains what the area is and to remind users to clean up after their dogs.

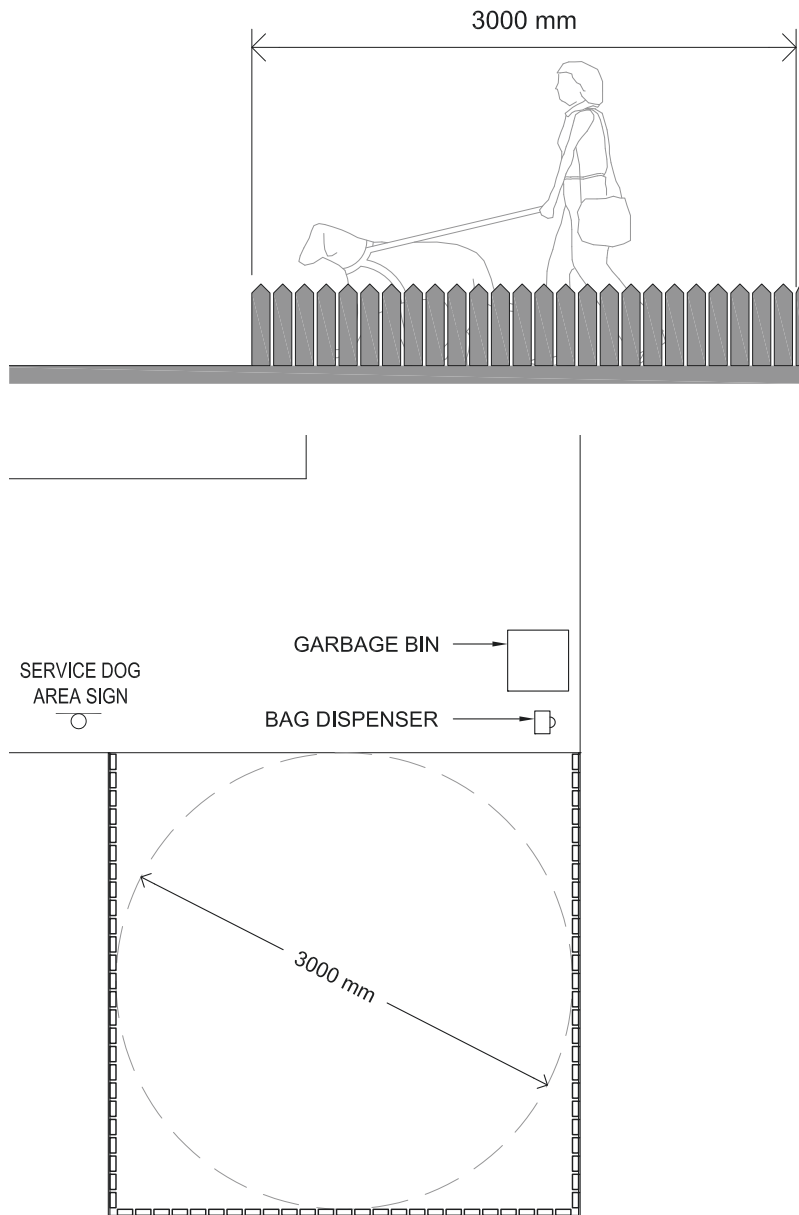


Figure D.14.4

INTERIOR GUIDE

SECTIONS E-L



E. BUILDING ENTRANCES

THIS SECTION COVERS:

E.1. Entrances

E.1. ENTRANCES

- E.1.1** Every entrance intended to be used by the public or by employees shall be *barrier-free*.
- E.1.2** All *barrier-free* entrances must be easily identifiable. Design consideration should include mitigation of seasonal weather conditions, such as strong winds and drifting snow, to ensure normal operation of entrance doors in all weather.
- E.1.3** In an existing building, a sign with both visual and tactile lettering shall be installed far ahead of any obstruction at all non *barrier-free* entrances, to clearly indicate the location of the *barrier-free* entrance.
- E.1.4** Drainage shall be directed away from the entrance.
- E.1.5** All *barrier-free* entrances shall be provided with power door operators. Best practice is to provide automatic sliding doors.
- E.1.6** If an entrance has a power door operator, and there is a vestibule immediately inside the doors, the vestibule doors shall also be equipped with a power door operator.
- E.1.7** Power door operator push buttons shall be installed at 1000 +/- 100 mm above finished floor, measured to the centre line of the device. Wave to open sensors are preferred in interior locations.

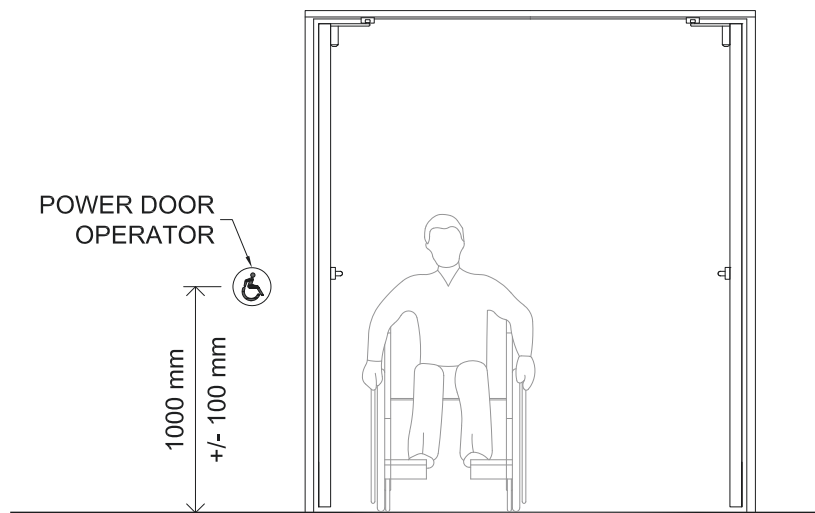


Figure E.1.7

E.1.8 Barrier-free entrance doors shall have a large well marked push button that is easily visible.

E.1.9 Power door operators shall be located on a wall or post 1500mm minimum distance back from the door if it swings outward on approach to the entry so it may not impede the mobility or safety of a person using a wheelchair or other mobility device.

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E.1.10 If two doors are located side by side, use signage to indicate which door opens by the power operator.

E.1.11 If doors are not equipped with power operators in an existing building, doors shall be light weight and easy to pull/push.

Note: This mostly applies to renovation to an existing City of Edmonton facility. Efforts shall be made to install power door operators during renovations.

E.1.12 Entrance vestibule shall have a minimum clear space of 1600 mm between the set of doors in open position to prevent a person using a wheelchair or scooter from becoming trapped within the vestibule. Best practice is to have doors in the same direction of travel rather than perpendicular to each other in the vestibule.

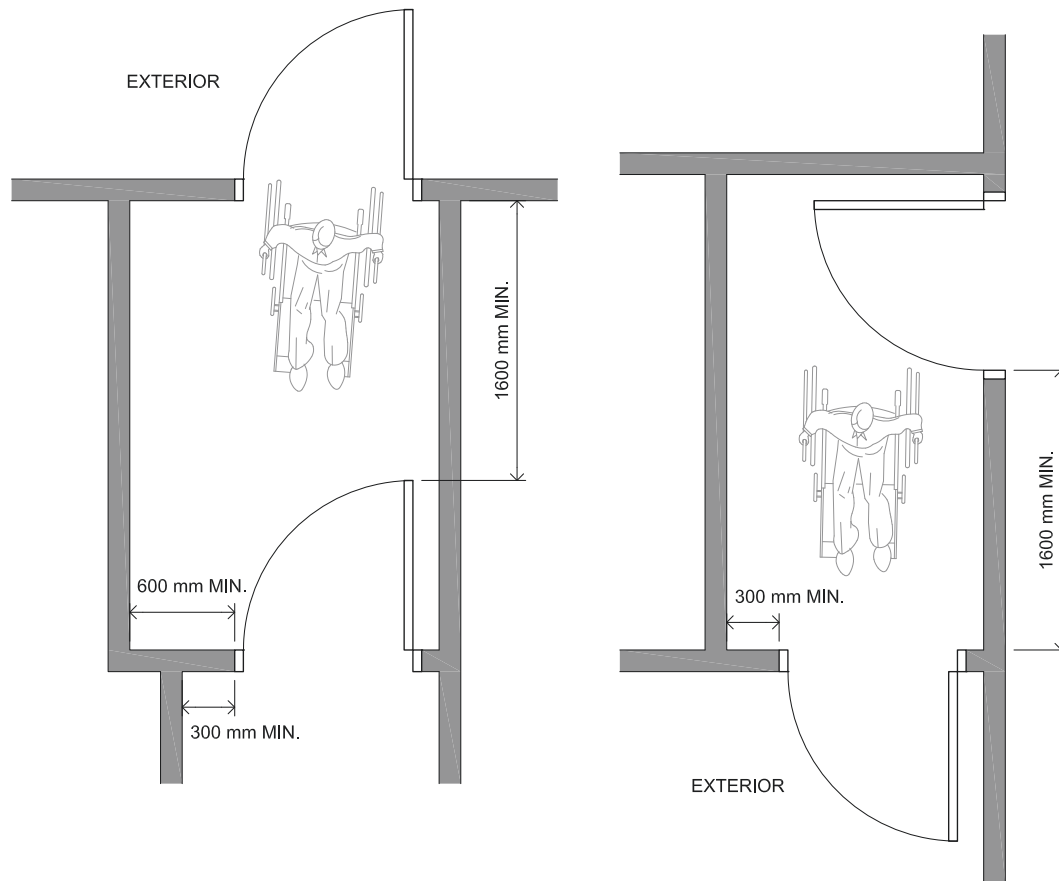


Figure E.112

- E.1.13** Door release hardware shall be installed between 900 mm and 1065 mm above the finished floor.
- E.1.14** In any set of two or more doors or gates side by side, the door opening shall alternate between right and left hand operations to allow a choice depending on the ability of the user.
- E.1.15** Glass doors shall include a warning strip of texture and *colour contrast* (i.e. etched glass or vinyl film) of minimum 150 mm wide for the entire width of the door and at a starting height of 1350 mm from the finished floor. This strip shall be installed on both sides of the glass.

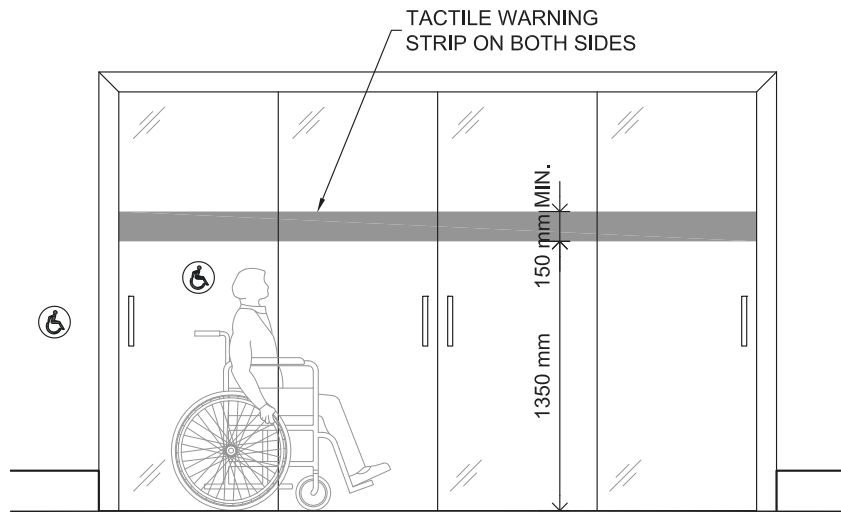


Figure E.1.15

- E.1.16** When turnstiles or revolving doors are provided, a swing door with an automatic door control shall be placed immediately to one side of the revolving door or turnstile.
- E.1.17** Door, threshold and door frames shall have *colour contrast* with floor and wall surface for easy identification.
- E.1.18** Entrances and vestibules should be well lit.

F. INTERIOR PATHS OF TRAVEL

THIS SECTION COVERS:

- F.1. Paths of travel
- F.2. Doors and doorways
- F.3. Stairs
- F.4. Handrails
- F.5. Elevators
- F.6. Areas of refuge

F.1. PATHS OF TRAVEL

F.1.1 An interior *barrier-free path of travel* shall be 1800 mm wide in a public corridor or a corridor used by the public that serves floor areas with an estimated occupant load of more than 200, and in *suites* or rooms with an estimated occupant load of more than 200.

F.1.2 Where a *barrier-free path of travel* turns a corner, the corner shall be designed to allow a person using a *mobility aid* to turn in a clear space that has a diameter of not less than 1800 mm.

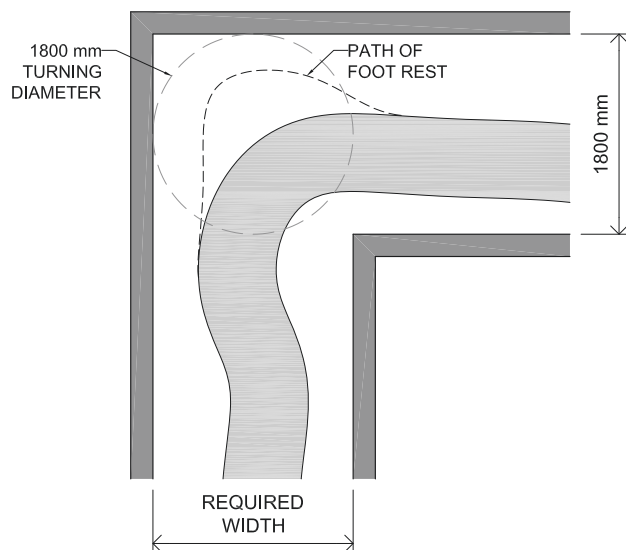


Figure F.1.2

F.1.3 All columns in a *barrier-free path of travel* shall have *colour contrast* with the adjacent surfaces to ensure high visibility.

F.1.4 All floor finishes shall be stable, slip-resistant, non-glossy and designed to reduce glare. Pattern design shall be kept to a minimum. The coefficient of friction shall be no less than 0.5 when wet or dry.

Note: Slip-resistant, non-glossy and stable surfaces make for an easier *pathway* for all users, in particular people with low vision who may be negatively impacted by high-gloss and unstable surfaces. Surface glare and busy patterns can distort perception and generate confusion.

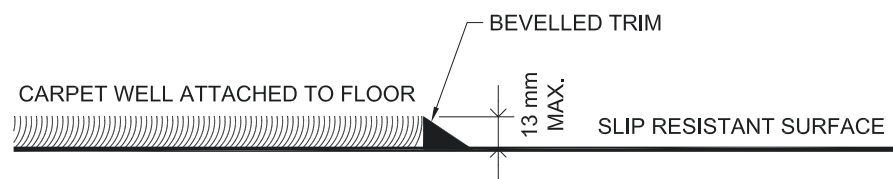


Figure F.1.4

F.1.5 Carpet on floor surfaces shall be securely attached. Carpets with a tight weave, low pile and firm underlay are recommended.

Note: Surface finishes along circulation routes shall not impede pedestrian movement, particularly for persons using mobility aids.

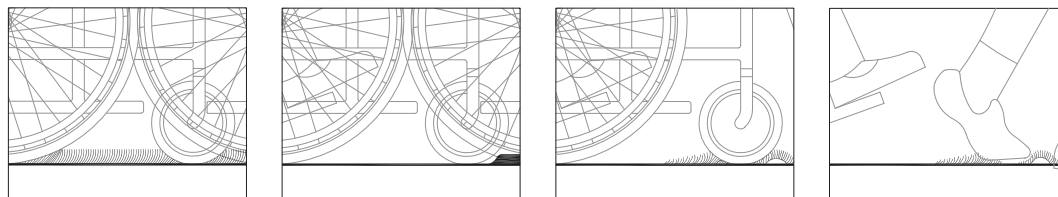


Figure F.1.5

F.1.6 All changes in elevation including ramps, landings and treads shall be indicated using tactile and *colour contrast*.

F.1.7 Where wall surfaces include mirror or glass, a horizontal warning strip (e.g. vinyl film) or graphics of minimum 150 mm width shall be provided at 1350 mm above floor level.

Note: This contrasting warning strip helps prevent collision of users with the wall surface.

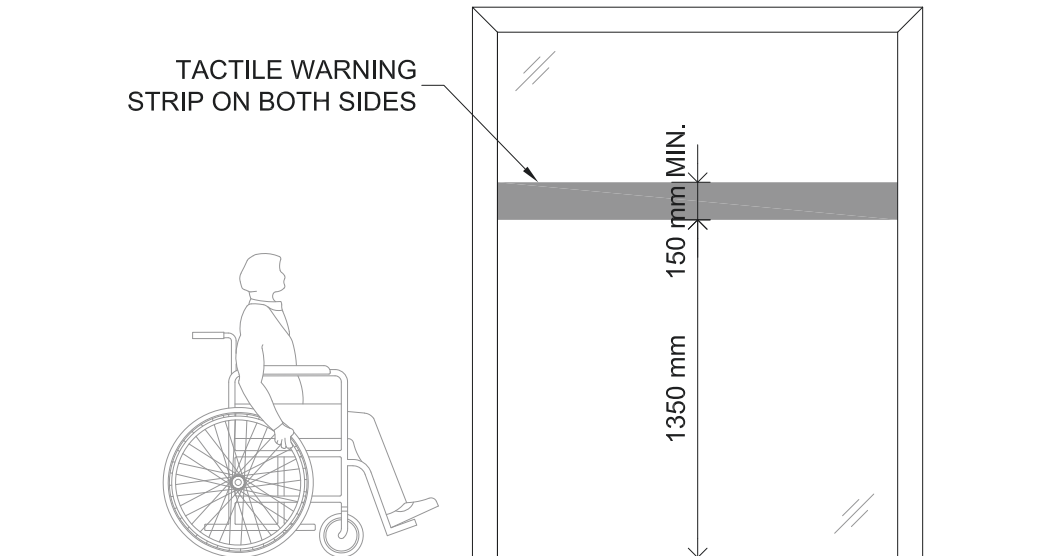


Figure F.1.7

F.1.8 All storeys and mezzanines, where public are permitted, must be reachable by a *barrier-free path of travel* served by an elevator or other elevating device.

Note: For example, it is considered unnecessary to provide a *barrier-free path of travel* to the upper floor of a fire hall where spaces are for firefighters only. However, if the public are permitted into these areas from time to time (e.g. school tours, etc.), a *barrier-free path of travel* shall be provided.

F.2. DOORS AND DOORWAYS

F.2.1 Where a door swings into a *barrier-free path of travel*, it shall be recessed so that it does not reduce the minimum required width of the *barrier-free path of travel*.

Note: Door impeding into the minimum *barrier-free path of travel* can create a hazard for people with low vision, especially automatic swing doors. The *barrier-free path of travel* may be made wider to accommodate the width of the door that swings into the path.

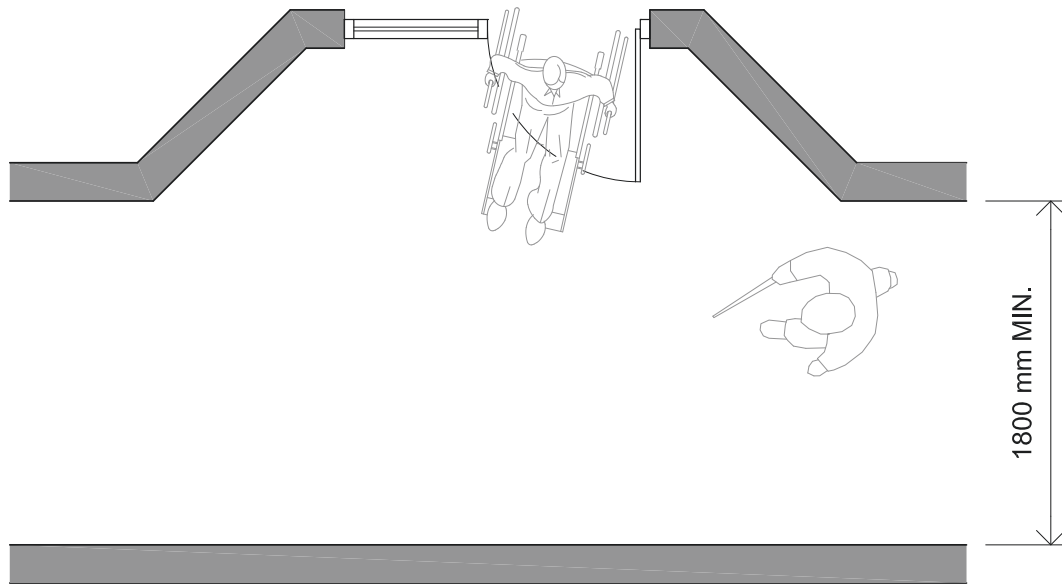


Figure F.2.1

F.2.2 Door release hardware shall be mounted at a height of 900 to 1065 mm from the finished floor. Best practice is to provide automatic or power operated doors to all public spaces/amenities.

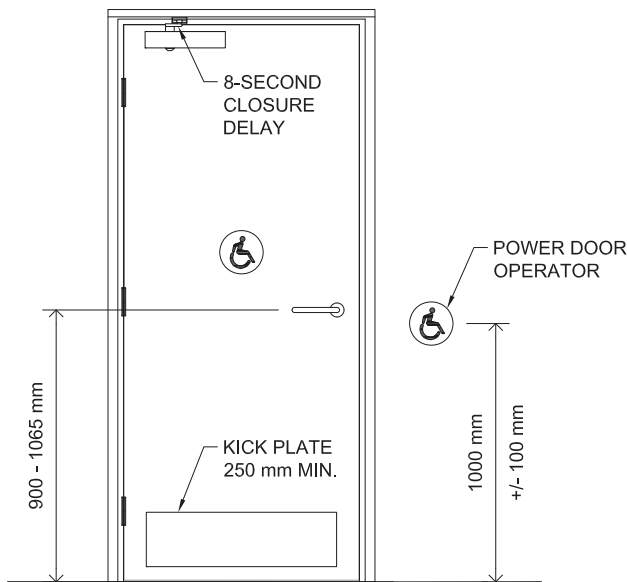


Figure F.2.2

F.2.3 Doors which are not equipped with power operators, shall have lever type handles.

Note: Lever type handles are preferred by people with limited strength or ability to grasp with their hands and/or to turn their wrists/arms. Knob-type handles are difficult to manipulate. Lever handles with the ends turned toward the door are less of a hazard than are other handle designs with sharp or abrupt edges, because people with low vision often trail wall or door surfaces with their hands.

Content developed in conjunction with [Safety Codes Council - Barrier-Free Design Guide - Fifth Edition - Summer 2017](#)

F.2.4 Automatic doors shall have a master control that can control the door closers, keeping the door open for a minimum of eight seconds, with the door held at an angle between 70 – 90 degrees.

Note: Master controls also allow the door function to reverse, if an object interrupts the door's closing motion.

F.2.5 In cases where security is required, the doors may be activated by a key card or remote. The devices shall be installed on an adjacent wall or a floor-mounted post at a minimum distance of 1200 mm back from the door in order to allow proper access. In the event of a power failure, power-operated doors shall be manually operable.

F.2.6 Kick plates shall have *colour contrast* with the door panel.

F.2.7 Glass doors shall include a warning strip of texture and *colour contrast* (i.e. etched glass or vinyl film) of minimum 150 mm wide for the entire width of the door and at a starting height of 1350 mm from the finished floor. This strip shall be installed on both sides of the glass.

F.3. STAIRS

F.3.1 A flight of stairs shall have uniform dimensions and no open risers.

Note: Light can shine through open risers causing glare and can be more difficult to detect with a cane making it difficult for people with low vision to negotiate.

F.3.2 Nosings and leading edge of landings shall have a tactile finish with *colour contrast* and distinctive pattern to demarcate the leading edge of the tread and landing.

F.3.3 Illumination shall be positioned to minimize glare and shadow.

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F.3.4 If the overhead clearance is reduced, or open areas under hanging stair landings and escalators exist, then a *cane detectable* barrier (e.g., planters, fencing, benches, railings) extending within the entire associated floor area shall be provided for safety reasons. Best practice would be to enclose the open areas beneath hanging stair landings and escalators.

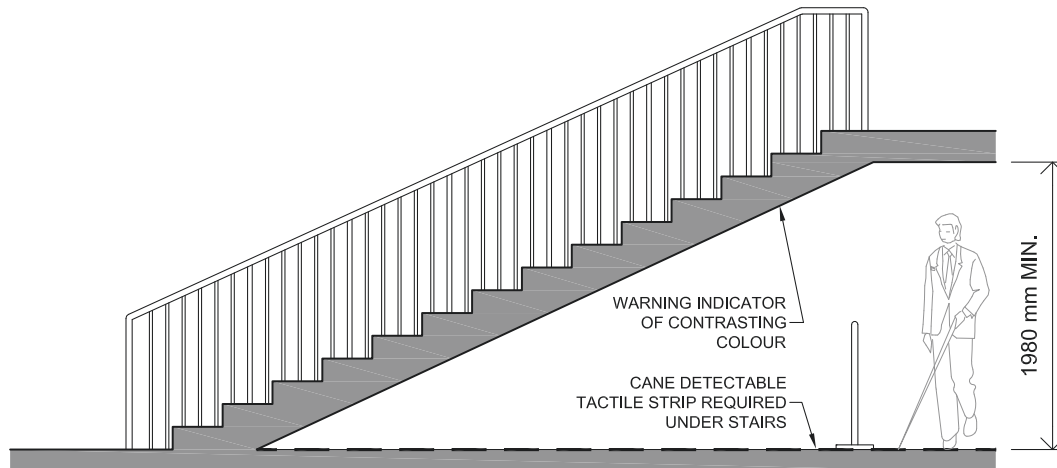


Figure F.3.4

F.3.5 Wherever backs of stairwells are in the public area, there shall be a warning indicator of contrasting colour to alert a potential safety hazard.

F.3.6 Changes in elevation at stairwells shall be indicated by a *Tactile Walking Surface Indicator* of colour contrast.

Note: The tactile surface serves to warn a person with low vision that there is an elevation change and possible tripping or fall hazard with the walking surface.

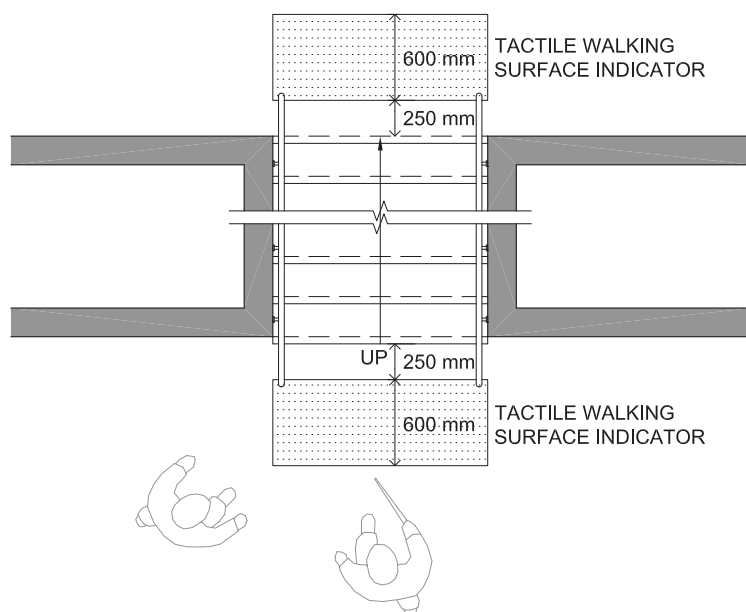


Figure F.3.6

F.3.7 If provided, carpet on stairs shall be securely attached.

F.4. HANDRAILS

F.4.1 Handrails shall be splinter and rust proof, located on both sides of stairs and ramps and shall have *colour contrast* with the wall or surrounding area.

Note: Handrails on both sides of a stairway or ramp allow for safe travel in both directions. *Colour contrast* makes the handrail easier to see and navigate for all users, especially people with low vision.

F.4.2 All handrails shall terminate to the wall or ground and have a consistent system of tactile cues, such as notches, dimples, grade 1 braille, raised numbers or other texture changes within the last 300 mm at both ends of the handrail before it changes direction to the ground or wall.

Note: This indicates to people with low vision that they are approaching the beginning or end of the stairway or ramp.

F.4.3 Ensure guards and/or handrails are installed at viewing platforms and windows with views. At areas without fixed seating, provide guards to lean on to.

F.5. ELEVATORS

F.5.1 Provide a minimum clear space of 1800 mm x 1800 mm in front of elevator doors.

F.5.2 The interior dimensions of at least one elevator shall be a minimum of 1828 mm x 2032 mm to allow for a larger turning radius of the wheelchairs and the transportation of a stretcher with two caregivers (e.g., for emergency services).

F.5.3 Call buttons shall be installed at 1000 +/- 100 mm above the finished floor, measured to the centre of the panel.

[Elevator Requirements for Persons with Physical Disabilities \(CSA B44\) Barrier Free Design Guide Appendix 2](#)

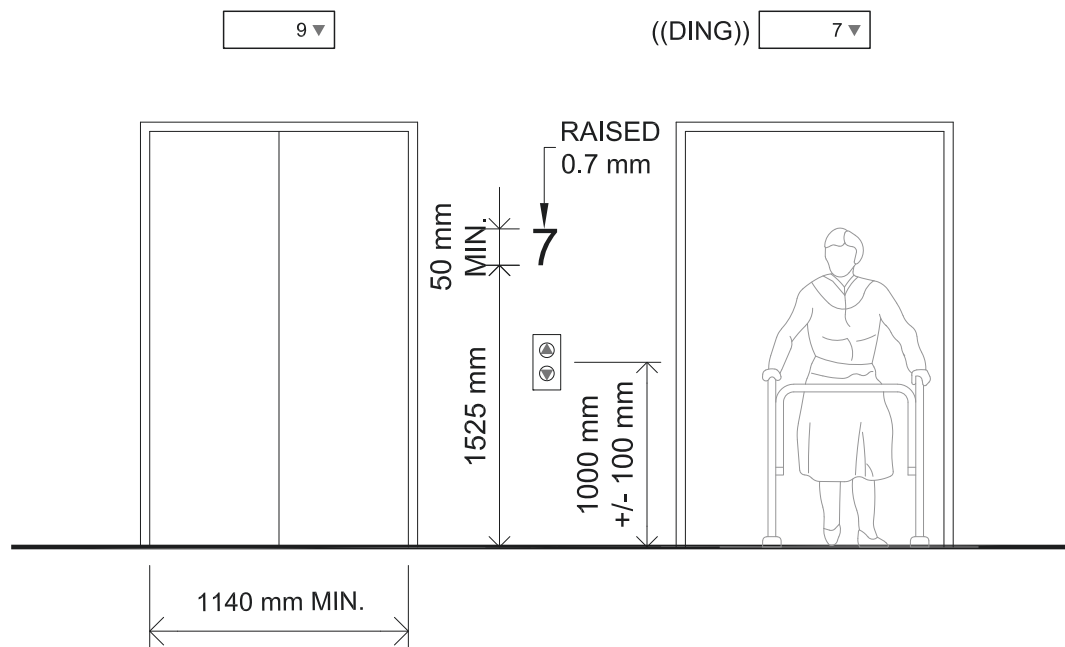


Figure F.5.3

- F.5.4** Call buttons shall be located on each wall between elevators and shall be easily identifiable by *colour contrast* and raised symbols.
- F.5.5** Call buttons shall protrude to enable a user to push easily.
- F.5.6** Make elevator door clearances as large as possible (and a minimum of 1140 mm).
- F.5.7** Elevator doors shall begin to close after a minimum of 8 seconds from the fully open position.
- F.5.8** Audible communication system shall be available for the visually impaired for accessing elevators. Inside the elevator car, audible announcements identifying the direction of travel shall be provided.
- F.5.9** *Colour contrast* shall be used to differentiate the floor registration button panel from the elevator car background or wherever it is located.
- F.5.10** All elevator waiting areas must have choices for seating in close proximity. Signs showing priority seating for people with limited mobility shall be provided.

F.6. AREAS OF REFUGE

F.6.1 An area of refuge shall be provided in all buildings where there is a *barrier-free path of travel* above or below the first storey. A plan to evacuate persons with *disabilities* must be developed and approved by the local fire authorities. This is a mandatory requirement as cited in the Alberta Fire Code.

Note: An area of refuge is a safe waiting area for evacuation. In the event of a fire, an area of refuge provides a well-known place for firefighters to help anyone unable to use stairs to exit the building.

F.6.2 Areas of refuge shall be designed to accommodate not less than 1.5 m² of area for each person using a wheelchair and 0.5 m² for accompanying ambulatory attendant. Assume 10% of the total occupant load of the floor to be *mobility aid* users.

Note: Areas of refuge include safe zones and elevators (and adjoining safe zone) intended for use by firefighters to evacuate persons with *disabilities*. Although the sizing of the area of refuge is based on the number of *mobility aid* users and their ambulatory attendants, the area of refuge is also intended to be used by people who do not use a *mobility aid* but are nonetheless unable to use exit stairs. It is acknowledged that many people using *mobility aids* do not have an attendant with them at all times, and therefore it is assumed that all the space allotted for ambulatory attendants might not be used in a real emergency.

F.6.3 An elevator meeting CSA-B44-04 Safety Code for Elevators and Escalators shall be installed. The electrical system serving the elevator shall be protected against the effects of fire, and a safe zone be created around the elevator doors by means of a vestibule or corridor that is protected by fire resistive construction. This protected elevator is intended to be used by firefighters to evacuate persons with *disabilities*. It is not intended that this elevator be used without the assistance of firefighters.

F.6.4 Direct exit with zero grade to the exterior of the building is preferred. However, a ramp leading to the exterior ground level is also acceptable.

F.6.5 The area of refuge shall be identified by directional and identification signage and the International Symbol of Access for disabled persons.



Figure F.6.5

G. INTERIOR SPACES

THIS SECTION COVERS:

- G.1. General
- G.2. Amenities
- G.3. Rest / waiting areas
- G.4. Places of assembly

G.1. GENERAL

G.1.1 Provide storage for mobility equipment and strollers near main *barrier-free* entrances of public facilities.

Note: This storage area shall be located clear of the *barrier-free path of travel*.

G.1.2 Ensure that services are easily *accessible* and *barrier-free* counters are provided, including tenant spaces which serve the public. Best practice is to locate services on the main level of a facility.

Note: Where possible, the path of travel from the front entrance area to the service counter/ambassador shall be as clear and short as possible.

G.1.3 Sound mitigating materials and strategies (e.g. materials with high noise absorption on walls, ceilings, etc.) shall be included in the design for areas where excessive noise may be generated and within larger areas such as reception and lobby (e.g. children's play areas, choir, fitness rooms, games rooms, etc.).

Note: Best practices include at least one enclosed area preferably with a lowered ceiling for social activities, sound absorbing material within games/choir rooms, and minimized use of sound reflecting materials within entry/waiting areas.

G.1.4 Hearing loop technology shall be added to major activity zones.

G.1.5 Provide at least one designated quiet area with seating within each public facility.

G.1.6 Provide day lockers with tactile contrast lettering.

G.2 AMENITIES

- G.2.1** Activity rooms designed to accommodate various functions using furniture that is easy to set up in a variety of configurations to meet specific user needs shall be provided in *senior centres*, recreational facilities, and community centres. Ensure adequate acoustic separation from adjacent spaces. These rooms are ideally located adjacent to other *amenity* spaces (e.g. kitchen).
- G.2.2** Activity rooms shall be located on the main level or shall be easily *accessible* by an elevator or *barrier-free* entrance.
- G.2.3** Ensure fitness areas are combined with a variety of seating/social areas and locate *barrier-free washrooms* and change rooms nearby.

G.3 REST / WAITING AREAS

- G.3.1** Provide seating areas within the building particularly on long paths of travel to *amenity* spaces.
- G.3.2** Ensure waiting areas are *accessible* to those with limited mobility and provide a variety of seating options including seating with high backrests, a variety of side arms (two, one, none), etc. to accommodate all abilities.
- G.3.3** Waiting area(s) with priority seating for patrons with limited mobility shall be provided with an unobstructed view towards drop-off and pick-up areas near *barrier-free* entrance.
- G.3.4** Provide clear signs for designated *accessibility* seating and priority seating.
- G.3.5** Provide clear floor space of 920 mm x 1220 mm adjacent to seating to accommodate a *mobility aid* or stroller.

G.4 PLACES OF ASSEMBLY

- G.4.1** Places of assembly shall be designed to limit glare for the audience.

Note: If a speaker/presenter is in front of a window or have lights shining from behind, this will create glare for the audience.

G.4.2 All places of assembly shall be designed to enhance hearing ability, preferably by providing an *induction loop system*.

G.4.3 Provide designated spaces for persons using wheelchairs as per the table below for all assembly spaces including spectator seating in recreation centres.

NUMBER OF FIXED SEATS	DESIGNATED SPACES FOR WHEELCHAIR USERS
2-100	4
101-200	5
201-300	6
301-400	7
401-500	8
501-900	9

If the number of fixed seats exceeds 900, the number of wheelchair designated spaces shall be equal to 1% of total fixed seating spaces.

Table G.4.3

G.4.4 Each wheelchair designated space shall be provided with a minimum of one companion seat, which is removable, beside it.

G.4.5 Provide priority seating along the aisles for *seniors* and for persons with various *abilities*.

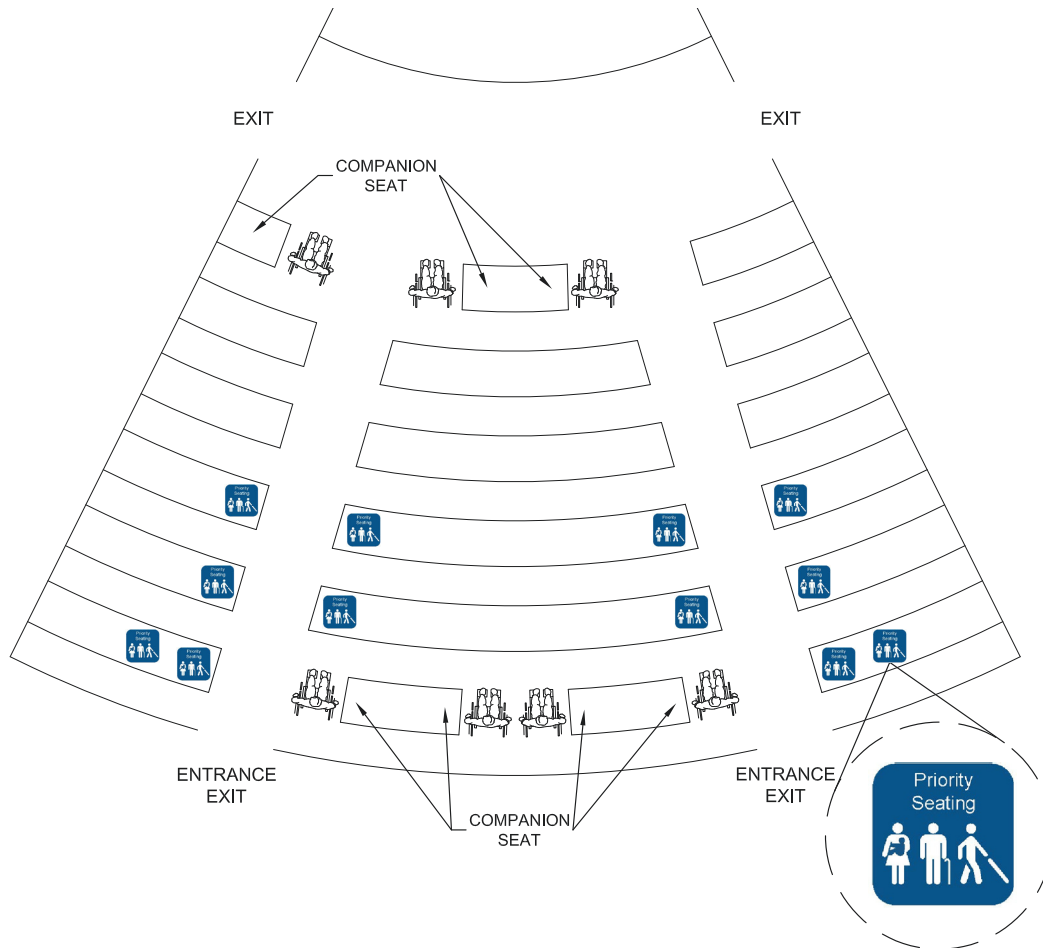


Figure G.4.5

G.4.6 Seating and armrests shall have contrast colour with surrounding surfaces.

G.4.7 Provide lighting in aisles for *wayfinding*.

H. RECREATION FACILITIES

THIS SECTION COVERS:

- H.1. Exercise areas
- H.2. Aquatic pools
- H.3. Ice rinks
- H.4. Golf courses and driving ranges
- H.5. Athletic parks

H.1. EXERCISE AREAS

H.1.1 *Inclusive fitness equipment* shall be provided that is usable by people with varying abilities. Provide low-impact active equipment within existing fitness areas and buildings (e.g. *senior centres*, *community centres*).

Note: Examples include exercise equipment that does not require transferring from wheelchair to machine (cables, dumbbells etc.), swing away seating, lightest setting on weight machines suitable for individuals who are not used to exercising or may have low strength levels (2.5–5 lbs.), portable wheelchair blocks, hand hooks/grips, combination of upper extremity and lower extremity options for cardio equipment, alternative formats used for descriptions of controls on exercise equipment (raised buttons, audible cues on equipment, large print, pictures).

H.1.2 Any *inclusive fitness equipment* that could reasonably be used by a person using a wheelchair shall be *accessible* by a 1500 mm wide *barrier-free path of travel* and shall have a clear floor space of not less than 920 mm x 1220 mm beside the equipment.

Note: If handrails are provided, they shall be properly positioned to facilitate transfer to and from exercise equipment. A level 1500 mm wide *barrier-free path of travel* ensures there will be sufficient wheelchair clearance to get to the exercise equipment and a clear floor space beside it facilitates the transfer process.

H.1.3 Raised exercise mats at a recommended height of 450 mm from finished floor shall be available as an alternative to stretching on the floor for wheelchair users and others with reduced mobility.

- H.1.4** Ensure there are programs/diagrams to clearly identify the safe use of all equipment.
- H.1.5** Floor surfaces shall be designed to be low impact with adequate cushioning.
- H.1.6** Where tracks are provided, ensure clear lane markings and one lane of minimum 1500 mm width around the perimeter of the exercise area. Include benches at regular intervals to provide areas of rest.

H.2. AQUATIC POOLS

Barrier-free swimming pools, hot tubs, saunas and steam rooms can be essential for people of all ages and abilities who may rely on aquatic activities as a form of rehabilitation or exercise to benefit their health and well-being.

- H.2.1** A zero depth/sloped entry or ramp, wide enough to accommodate a large wheelchair, with handrails shall be provided for entering the swimming pool. Alternate means of pool entry is acceptable if demonstrated to be inclusive in daily practice.

Note: Sloped access is the ideal means of entering/ exiting all new pool basins. A ramp is preferred over pool lift because it will better serve the varying needs of people getting into and out of a swimming pool.

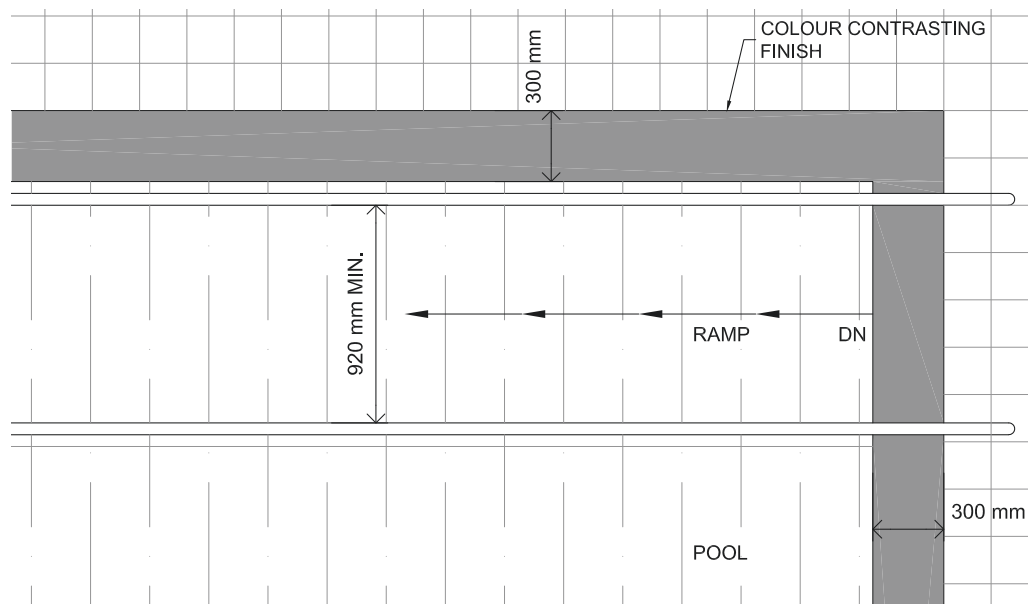


Figure H.2.1

H.2.2 If a ramp is installed, it shall be installed at the shallow end of the pool with a minimum clear width of 920 mm between handrails.

H.2.3 Pool markings shall have contrast colour and texture.

Note: This tactile feature offers swimmers with low vision an additional level of information.

H.2.4 A colour contrasting finish of 300 mm width shall be provided around pool edges.

H.2.5 If a pool has a hot tub, a ramp shall be provided for entry into the hot tub. If a ramp is not feasible, a lift must be provided.

Note: All *amenities* shall be available for use by people of all abilities to allow universal access into the body of water.

H.2.6 If a pool has a sauna/steam room, a 1500 mm diameter of clear space shall be provided inside.

Note: People using a sauna/steam room with a wheelchair may transfer onto the bench and park the wheelchair outside the room so it does not become hot. The 1500 mm clear floor space inside must be positioned to allow a transfer. If feasible, provide grab bars to facilitate transfer. A space to park the wheelchair outside in close proximity to the sauna entrance must not impede into the barrier-free path of travel.

H.2.7 Provide warm pool areas suited for wading and light activity.

H.2.8 Warm, shallow pools shall be located adjacent to *washrooms* and changerooms and on a *barrier-free path of travel*.

H.2.9 Provide space for pool users to leave their mobility devices, if they choose to transfer into a water chair or commode.

H.2.10 A commode and water/shower wheelchair shall be provided for use in the *barrier-free* shower/self-contained changeroom and be available to provide access from the changeroom shower area to the pool deck and ramp access into swimming pools, as needed. Storage space for these shall be included in the design.

H.3. ICE RINKS

This section applies to arena designs in general with a focus on elements to support sledge hockey. It is important that ice rinks that are designed for sledge hockey consider the needs of people with various abilities including players, spectators, families, visitors and staff.

Refer to [Sledge Hockey Accessibility: Design Guidelines for Arenas \(Hockey Canada\)](#).

H.3.1 Barrier-free access to player's benches, penalty boxes and timekeeper's box shall be provided in ice rinks.

H.3.2 Player's benches, penalty boxes and timekeeper's box shall have clear acrylic in the lower part of the boards.

Note: A clear acrylic in place of white boards in front of the player's benches, penalty boxes and timekeeper's box ensures ice is visible to everyone.

H.3.3 A removable flooring surface, such as acrylic, shall be installed from changeroom through to space between the player's bench and outer board and run the entire length in front of the bench.

Note: This will allow sledge hockey players the ability to glide from the changerooms to the ice surface.

H.3.4 The player's benches must have two doors which open fully, each having a minimum 920 – 1200 mm clear width in open position, leading onto the ice surface.

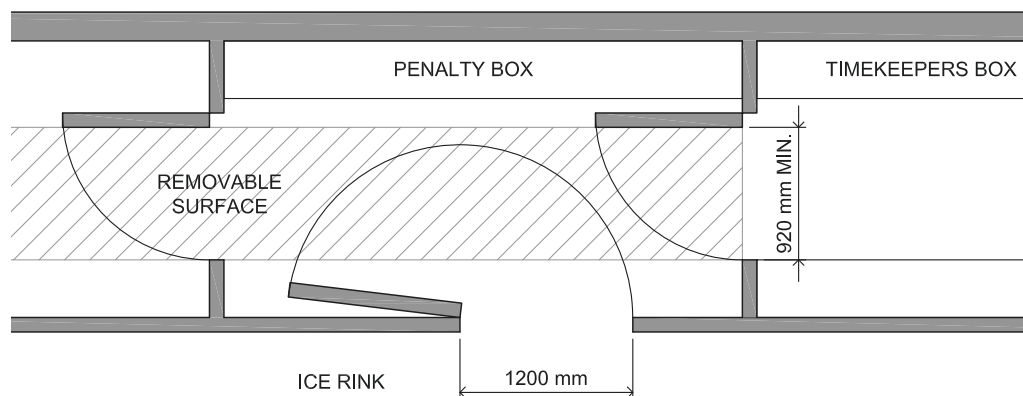


Figure H.3.4

H.3.5 The player's bench areas shall be designed to have removable benches or shall have a minimum of 920 mm between the bench and surrounding boards or walls.

Note: Removable benches provide room to maneuver sledges.

H.3.6 Minimum 1500 mm clear space shall be provided between the changeroom and bench within the player's box.

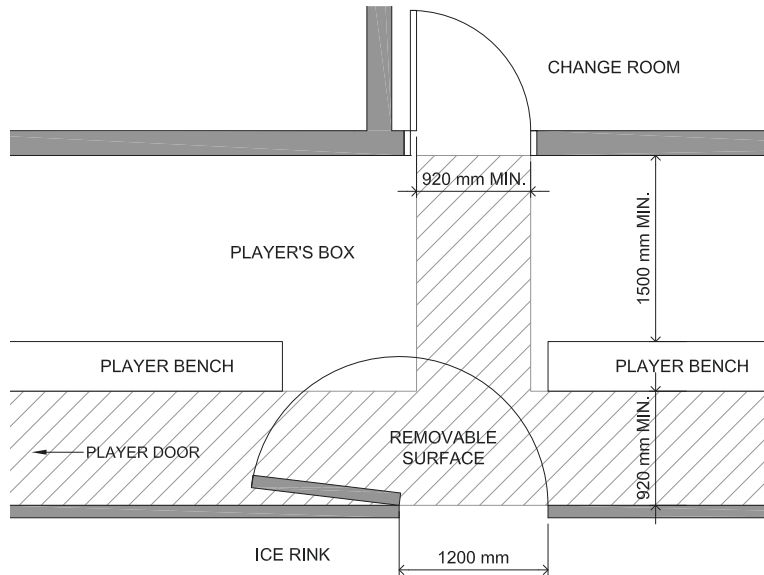


Figure H.3.6

H.3.7 Where a corridor is provided between the changeroom and player's box, the corridor shall be minimum 1500 mm wide.

Note: This space allows coaches or parents using a wheelchair to maneuver within the corridor.

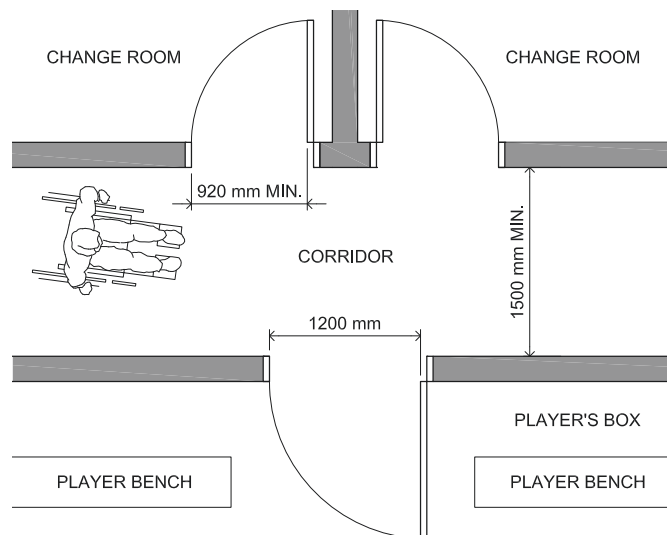


Figure H.3.7

H.3.8 Level access onto the ice surface shall be provided from player's benches, penalty boxes and other access points.

Note: A minimal threshold onto the ice allows for quick access and egress, required when changing players, without needing assistance or lifting by another person.

H.3.9 Design consideration for changeroom size shall include accommodating wheelchairs, sledges and hockey equipment bags.

H.4. GOLF COURSES AND DRIVING RANGES

H.4.1 A *barrier-free shared pathway* of minimum 1800 mm width shall connect all key elements of the golf course, such as from the parking lot to the clubhouse, to adjacent cart paths between tee boxes, fairways, putting greens and driving range.

Note: A *barrier-free path of travel* designed to provide access to all the elements, spaces and buildings within the site boundaries of the golf course ensures that people with limited mobility can participate in playing golf.

H.4.2 The surface of the *shared pathway* shall be firm and stable.

Note: Generally, outdoor surfaces such as pavement, stones, crushed and compacted stone and rubberized surfaces are considered to be firm and stable. Alternate products that demonstrate the same properties (does not compress or shift underfoot and endures weather conditions) are acceptable. Sand, pea gravel and wood chips/mulch are not firm and stable.

H.4.3 If there's curbing on the golf cart path to prevent golf carts from entering certain portions of the fairway or to reduce erosion, openings of at least 1800 mm wide shall be provided at safe intervals.

H.5. ATHLETIC PARKS

H.5.1 A *barrier-free shared pathway* of minimum 1800 mm wide shall connect all elements of an athletic park, including the parking, sports fields, baseball diamonds, running tracks, spectator areas and *washrooms*.

Note: A *barrier-free path of travel* designed to connect all the elements, spaces and buildings within the site boundaries of the athletic park ensures people of all ages and abilities can access the outdoor sport(s) *amenities*.

I. EDMONTON TRANSIT

The following City of Edmonton documents should be followed for all Edmonton Transit projects. This Guide shall be used as a supporting document outlining *accessibility* requirements.

- ‰ [Transit Oriented Development Guidelines](#)
- ‰ [LRT Design Guidelines:](#)
 - ‰ High Floor LRT Design Guidelines
 - ‰ High Floor, Urban Style LRT: Design Guidelines for Sustainable Urban Integration
- ‰ [Edmonton's Transit Strategy](#)
- ‰ [City of Edmonton Road Safety Strategy – Vision Zero](#)
- ‰ [Complete Streets Design and Construction Standards](#)
- ‰ Transit Centre Design Guide
- ‰ Graphic Standard Manual – LRT Signage
- ‰ Tactile Guidance Design Guide

THIS SECTION COVERS:

- I.1.** General
- I.2.** Connectivity to adjacent streets, sidewalks and pathways
- I.3.** Loading and circulation areas
 - ‰ Specific to LRT station platforms
 - ‰ Specific to transit centres
 - ‰ Specific to bus stops
 - ‰ Specific to DATS loading areas
- I.4.** Tactile warning indicators
- I.5.** Shelters and station buildings
- I.6.** Seating
- I.7.** Public washrooms

I.1. GENERAL

Efforts should be made to exceed the minimum requirements outlined herein.

- I.1.1** Transit service may be accessed via Bus Stop, Transit Centre or LRT station. All transit service access points shall provide a *barrier-free path of travel* to, through and from the facility.
- I.1.2** All transit service access points shall provide a firm, stable and slip-resistant surface with a straight face curb.
- I.1.3** Clear signage indicating the following shall be provided:
 - a.** Location of barrier-free entrance to the station and platform
 - b.** *Barrier-free path of travel* throughout the station including to elevator
 - c.** Emergency and information help phones
- I.1.4** All handrails shall have *colour contrast* from the wall and be installed in accordance with Section F.4.
- I.1.5** Glass partitions, panels and shelters (bus stops, transit centres and LRT stations) shall be provided with a minimum 150 mm wide horizontal warning strips for the full width of the panel. This can include corporate branding decals and shall be at a minimum height of 1350 mm from the finished floor.
- I.1.6** Clear width along platform loading areas (LRT and bus) shall meet requirements outlined in the Transit Centre and LRT Design Guidelines.
- I.1.7** All interior and exterior lighting shall minimize glare and backlit areas, and meet relevant requirements outlined in the Transit Centre and LRT Design Guidelines.

I.2. CONNECTIVITY TO ADJACENT STREETS, SIDEWALKS AND PATHWAYS

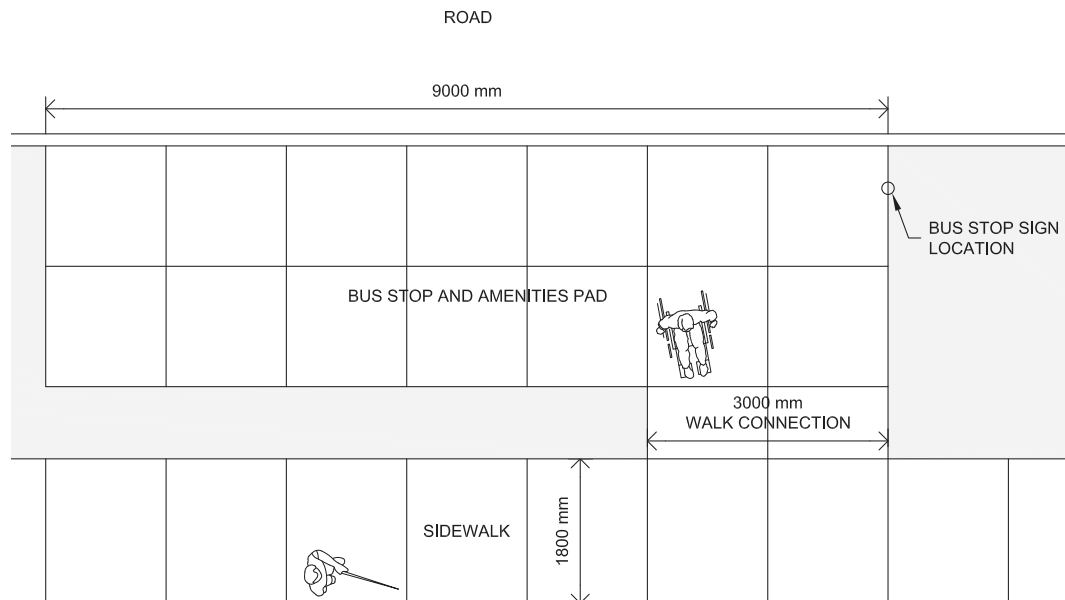


Figure I.2. Amenity boulevard pad connected to sidewalk
(Ref: Complete Streets Std Plan 4110)

- I.2.1** Ensure stations, platforms and bus stops are interconnected to adjacent streets, signalized intersections, zebra crossings, sidewalks and pathways. *Curb ramps* should be present.
- I.2.2** Effort should be made to incorporate *accessible* paths of travel to all access points to stations, platforms and bus stops. Provide a minimum of two *accessible* paths of travel to each station, transit centre platform or bus stop.
- I.2.3** Where there is no safe and *accessible* path of travel from the sidewalk to the bus stop area, such as a boulevard amenity pad that is not connected to the adjacent sidewalk, at least one paved connection from the sidewalk to the bus stop area shall be provided which:
 - a.** is aligned with the edge of the bus stop area;
 - b.** is at least 1500 mm wide;
 - c.** has a firm, stable and slip resistant surface; and
 - d.** is clear of all protruding obstacles (including trees, newspaper boxes, waste and recycling receptacles) and overhead obstacles within 2100 mm of the travel surface.
- I.2.4** Pedestrian pathways at level rail crossings shall be smooth and level across the tracks and provide visual, tactile and auditory cues.

I.3 LOADING AND CIRCULATION AREAS

- I.3.1** Ensure a platform grade with no slope steeper than 1:50 (2%).
- I.3.2** Ensure shelters, street furniture and equipment, including benches, signage, garbage receptacles, bike racks, newspaper stands, etc. do not obstruct the barrier-free path of travel to, through and from the station, transit centre or bus stop.

SPECIFIC TO LRT STATION PLATFORMS:

- I.3.3** A minimum of 1800 mm clear width is required between the near-edge of the tactile warning strip and any obstructions. Tactile warning tiles are not included in clear width. (See Figure I.3.3 for placement of tactile warning indicator tiles on platforms.)

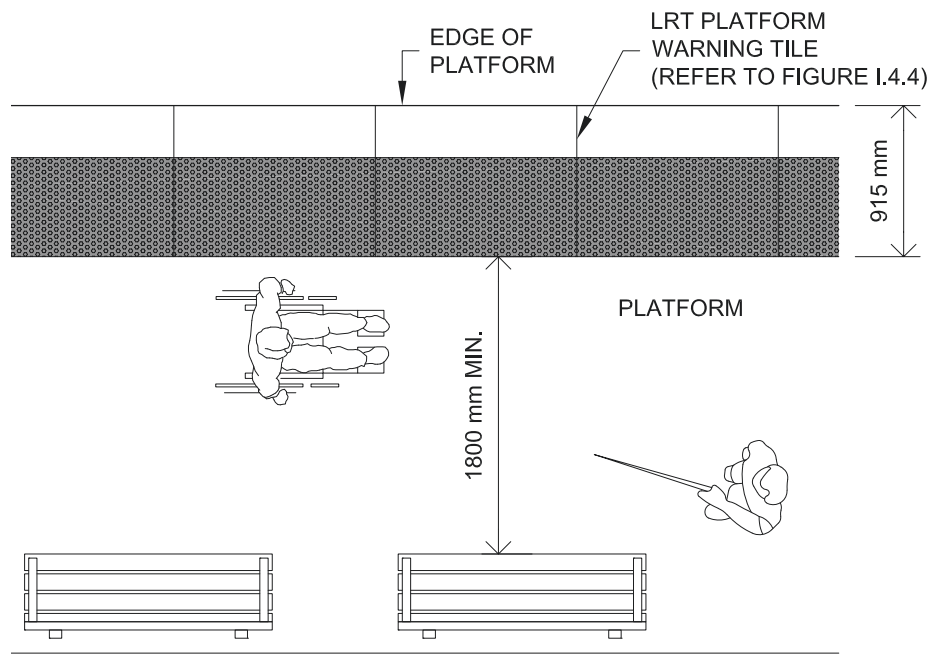


Figure I.3.3. LRT platform clear travel path width to near edge of tactile warning tile

- I.3.4** At sites where smaller obstructions (less than 1500 mm in length) that are essential to transit operations such as fare validators, emergency phones, information boards or garbage receptacles) protrude into the path of travel, the clear path from the obstruction to the near edge of the tactile warning strip may be reduced to, but not be less than 1500mm. Every effort should be made to maintain 1800mm clear width whenever possible and to ensure that there are not a series of such obstructions in succession causing a continuous reduction of the clear path.
- I.3.5** All furniture shall be located outside of the clear travel path and placed such that any protrusions related to their use, such as feet extending beyond a bench, do not reasonably intrude into the clear travel path.

SPECIFIC TO TRANSIT CENTRES:

- I.3.6** The clear width at the head of the bus stop, along the bus stop and adjacent to any major vertical obstructions, such as a building, windows or walls, shall be 3.0m measured from the face of curb to the vertical obstruction to accommodate a barrier-free travel path that supports platform mobility, bus *accessibility*/ramp deployment and reduced tripping hazard when the bus ramp is deployed.
- I.3.7** The platform clear width shall be free of all minor stationary obstructions, such as gas meters.

I.3.8 For greater detail regarding clear width requirements on platforms at transit centres, please refer to ETS' Transit Centre Design Guide.

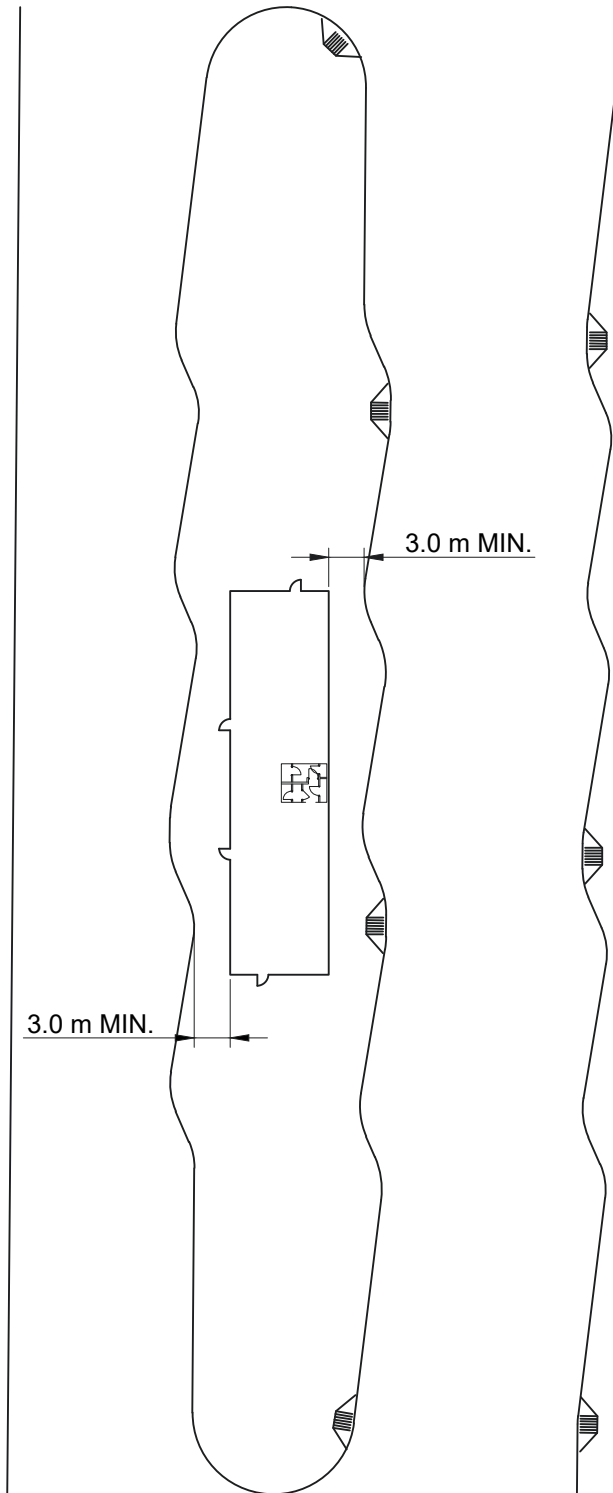


Figure I.3.8. Transit Centre Island platform

SPECIFIC TO BUS STOPS:

I.3.9 All on-street bus stops shall have a firm, stable and slip-resistant surface with *accessible* hard surfaced connection to the adjacent sidewalk or pathway network.

I.3.10 Where bus stop amenity pads are provided:

- a. Bus stop amenity pads shall be designed and constructed per Section 4000 – *Transit Details Standard Drawings, Complete Streets Design and Construction Standards*.
- b. Where possible, the loading area shall have a clear length of at least 2400 mm, measured perpendicular to the curb or vehicular route edge and a clear width of at least 2000 mm, measured parallel to the vehicular route.

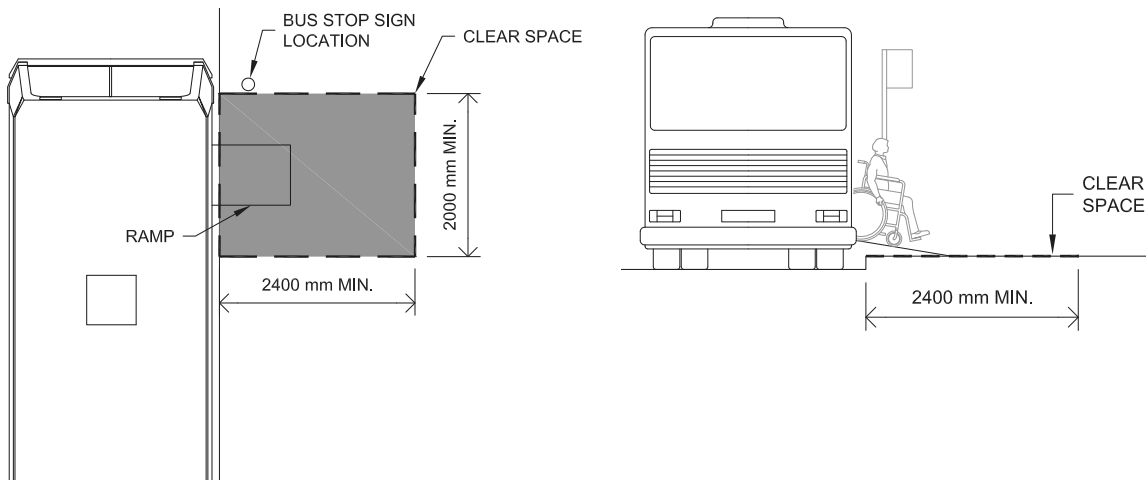


Figure I.3.10. Bus Stop Platform: Boarding and ramp clear space dimensions; top and side view.

- c. All bus stop *amenities*, including shelters, benches, garbage bins and newspaper boxes, shall be clear of the *accessible* loading and circulation routes.
- d. Ensure a minimum 2100 mm (minimum) overhead clearance to bus stop signage.

I.3.11 Where amenity pads are not provided and the bus stop is on a monowalk:

- a. The monowalk shall be designed and constructed as articulated in the Complete Streets Design and Construction Standards.

- b. If an existing monowalk is less than 2.1m wide, the back of the walk shall be extended for the length of the bus stop to accommodate *accessible* boarding, alighting and circulatory needs at the bus stop, to be design-dependent and per context of adjacent land use.

BUS STOP FURNITURE LAYOUT GUIDELINES

LEGEND	
	SHELTER
	HEAD OF STOP
	GARBAGE CAN
	BENCH

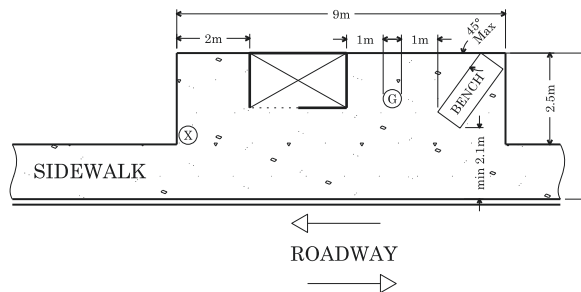
Notes:

Bench angle max 45 degrees.

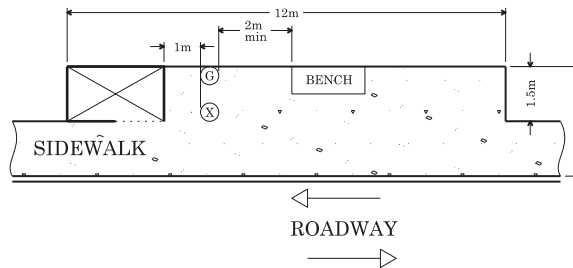
Bench cannot block view of shelter.

Bus pad minimum 2.1m wide to be considered for a shelter.

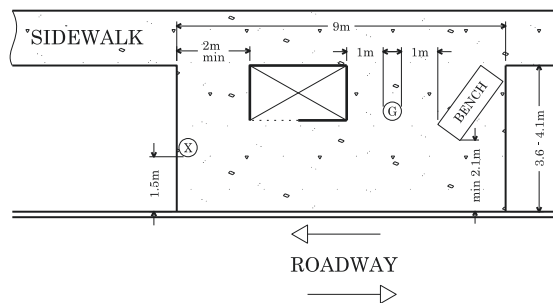
1. MONO WALK WITH ADEQUATE ROW



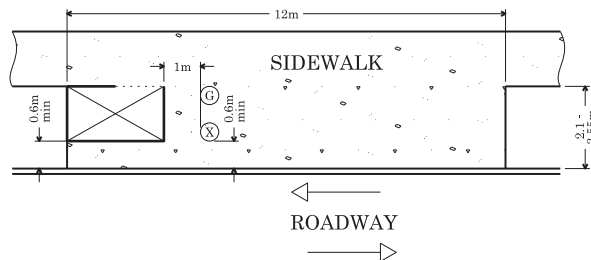
2. MONO WALK WITH REDUCED ROW



3. BOULEVARD WALK WITH ADEQUATE ROW



4. BOULEVARD WALK WITH REDUCED ROW



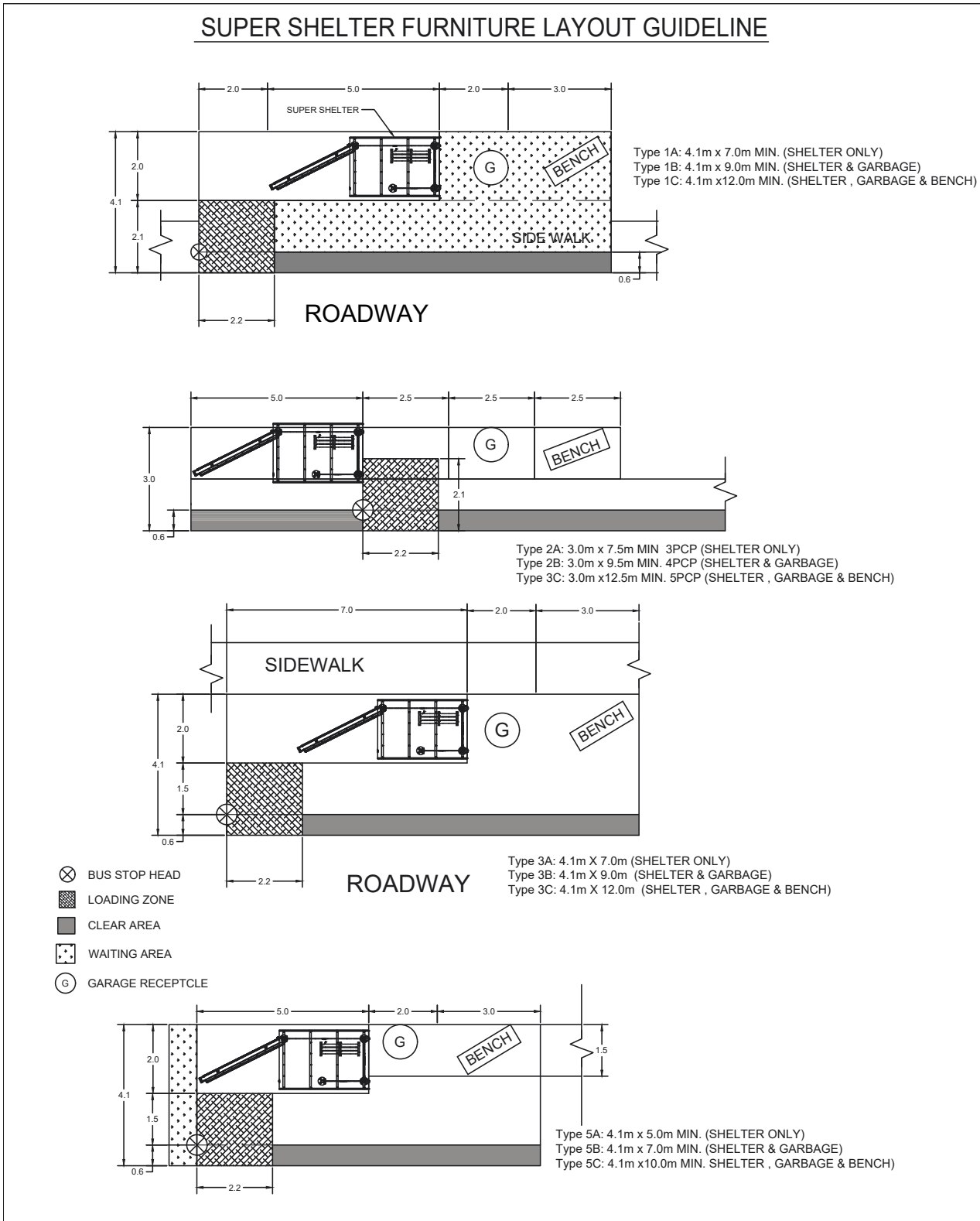


Figure I.3.11. Bus stop amenity configurations

SPECIFIC TO DATS LOADING AREAS:

- I.3.12** Be located to allow for longer boarding/alighting operations, upwards of 5 to 10 minutes in duration.
- I.3.13** Have a minimum clear straight face curb length of 8500 mm along the stop area.
- I.3.14** Have a minimum clear approach length of 2500 mm behind the stop area and a minimum clear departure length of 2500 mm in front of the stop to facilitate vehicle access/egress, where required to support a parallel pull-out bay configuration.
- I.3.15** Have a clear width of 3000 mm along the entire length of the stop area and be free of all obstructions, such as bike racks, newspaper boxes, vegetation or decorative surface treatments that may result in a hazardous traversable surface (i.e. tree grates, etc.). A minimum clear width of 2100 mm may be accepted but requires ETS review and approval.

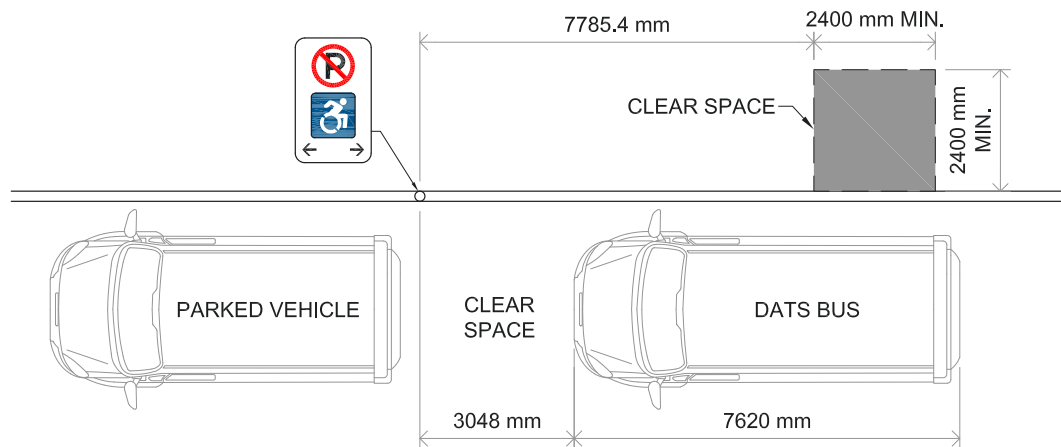


Figure I.3.15. DATS on-street stop requirements/dimensions

I.4 TACTILE WARNING INDICATORS

- I.4.1** LRT Platforms: Tactile Warning Surface Indicators (TWSIs), such as truncated dome plates, should not be included in *accessible* clear travel path width specifications.
- I.4.2** LRT platform edges shall have a warning tile/plate of total width of 915 mm consisting of an offset with 305 mm high contrast colour (white) to ballast with non-slip surface and 585 mm wide truncated dome and 25 mm transition in contrasting (preferably yellow) tactile warning tile. See Figure 8.

1.4.3 Tactile Walking Surface Indicators of colour contrast shall be provided at entrance locations to the LRT pedestrian crossing covering the entire width of the crossing entrance.

1.4.4 Transit Centres: Reference ETS' *Transit Centre Design Guide* for direction regarding TWSIs within transit centres.

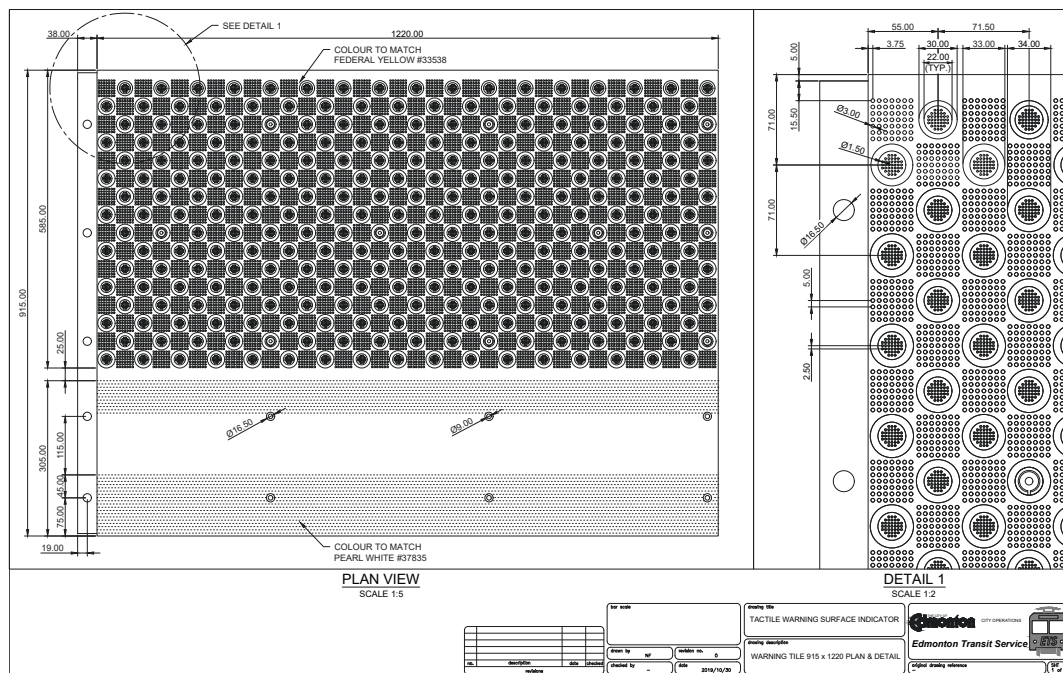


Figure I.4.4. LRT station platform warning tile (Drawing included for reference only. See CITY OF EDMONTON HIGH FLOOR LRT DESIGN GUIDELINES for more details)

1.5 SHELTERS AND STATION BUILDINGS

1.5.1 Shelters and station buildings shall be located on a uniform concrete pad.

1.5.2 Level access to the adjacent sidewalk, walkway or accessible route shall be provided.

1.5.3 A clear unobstructed view of oncoming traffic shall be provided.

1.5.4 Shelters shall have an unobstructed clear floor area of 1500 mm by 1500 mm diameter outside the entrance of the shelter.

1.5.5 Doors and/or clear openings shall be at least 920 mm wide.

- 1.5.6** If a bench is provided within a shelter, ensure it is clear of the immediate area inside the entrance and
 - a.** with a seat height between 450 mm and 500 mm from ground;
 - b.** with armrests and a backrest; and
 - c.** with tonal contrast with surroundings to enhance visibility.
- 1.5.7** All glazed panels surrounding shelters and station buildings shall incorporate decals and other safety features, including:
 - a.** a horizontal continuous decal strip, minimum 25 mm wide, mounted with its centre line at a height of 1040 mm from the floor or ground;
 - b.** where frameless glass panels are used, identify exposed edges with a vertical moulding of high tonal contrast (e.g., safety yellow), applied to cap the end glass panel; and
 - c.** If applicable, provide a roof that is designed to prevent rain, snow, or ice accumulation at the entrance and adjacent routes.
- 1.5.8** If a system/route map or any other type of transit information is to be provided at a shelter, it should be located on the exterior of the shelter and not within the 1500 mm by 1500 mm clear area inside the shelter.

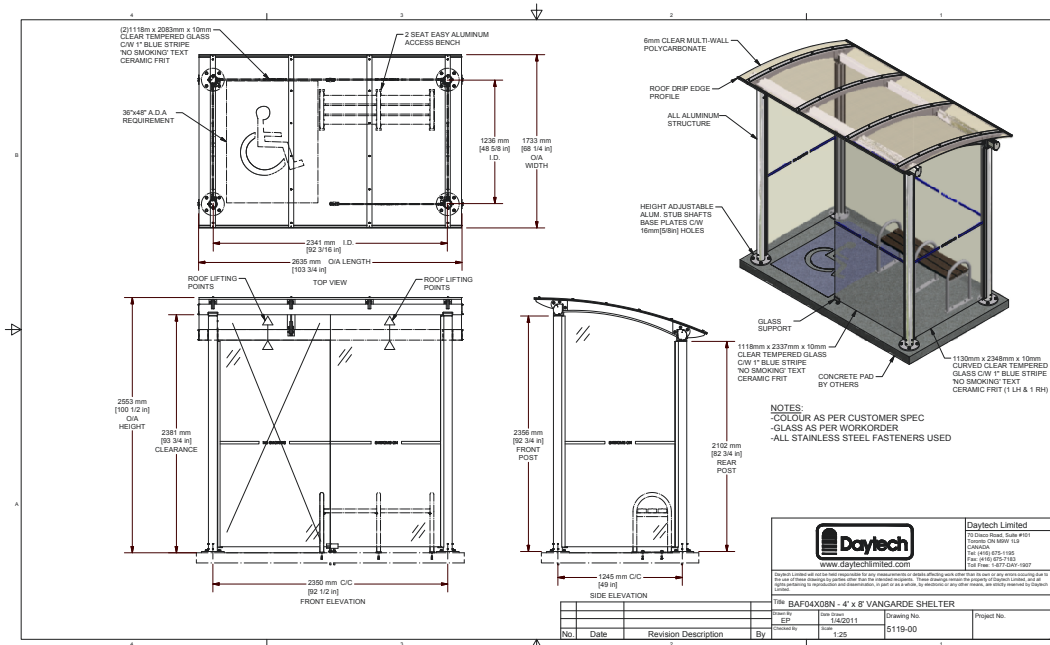


Figure 1.5.8. Standard shelter plan, accessible entrance, bench placement, panel glazing/decals

- 1.5.9** LRT station and transit centre doors shall be outfitted with automated opening mechanisms to minimize physical effort and reduce need for physical contact with door surfaces to enter and exit buildings.

I.6 SEATING

- I.6.1** All seating shall be consistent with requirements in the Access Design Guide Section D.6.
- I.6.2** Seating and benches shall face transit activity.
- I.6.3** Bench placement should allow for a clear path of travel along adjacent walkways.

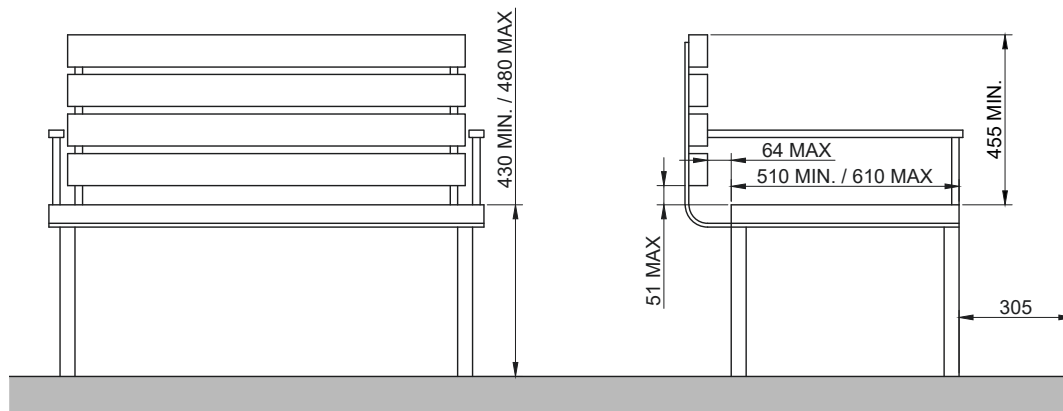


Figure I.6.3. Standard ETS bench

I.7 PUBLIC WASHROOMS

- I.7.1** Safety shall be a design consideration for location of the *washrooms*.
- I.7.2** All public *washrooms* are to be barrier-free, gender inclusive *washrooms*.
- I.7.3** *Washrooms* are to be access controlled using a call button phone located on the wall directly beside the *washroom* at an *accessible* height.
- I.7.4** *Washroom* access instructions are to be posted on the wall beside the call button.
- I.7.5** *Washrooms* will have a power-operated door that is operated remotely when someone requests access to the *washroom*.
- I.7.6** *Washrooms* will have an emergency push button phone on the inside, and an automatic door operator button on the inside.

- 1.7.7** Washrooms will have an “Occupied” LED sign on outside of the *washroom* above the door, connected to a motion sensor inside the *washroom*. The door will have a thumb turn deadbolt with the word “Occupied” displayed when the deadbolt is in the locked position.
- 1.7.8** When required, heat detectors shall be used instead of smoke detectors to reduce unnecessary calls to the Fire Department.
- 1.7.9** A CCTV camera shall be placed such that there is a clear line of sight of exterior of the *washroom* doors for user safety and security.

J. WASHROOMS AND CHANGEROOMS

THIS SECTION COVERS:

- J.1. General
- J.2. Washroom and stall entrances
- J.3. Washroom fixtures
- J.4. Barrier-free washroom stalls
- J.5. Gender inclusive self-contained changerooms
- J.6. Public change areas
- J.7. Barrier-free shower stalls

J.1. GENERAL

- J.1.1 If public washrooms are present, ensure adequate wayfinding signage is provided outside of the building to indicate that there are washrooms located inside which are available to the public.
- J.1.2 *Barrier-free washrooms* shall be provided on every *barrier-free accessible* floor.
- J.1.3 *Barrier-free washrooms* shall be located along the *barrier-free path of travel*.
- J.1.4 Provide gender inclusive *washrooms* for all occupants and a minimum of two self-contained *barrier-free washrooms* on every *barrier-free accessible* floor.
- J.1.5 If only gender-specific *washrooms* are provided, a minimum of one self contained barrier-free gender-inclusive *washroom* shall be provided in addition to the required barrier-free stalls.

Note: A significant barrier for people with *disabilities* is gender specific *washrooms* if they have a support worker of an opposite sex.
- J.1.6 Changerooms in all facilities shall include a self-contained *barrier-free* changeroom.

- J.1.7** Baby change tables shall not be located inside *barrier-free* stalls but shall be provided in both gender inclusive and/or gender specific *washroom* common areas.
- J.1.8** A minimum clear turning space of 1800 mm diameter shall be provided inside the *barrier-free washroom* stall.

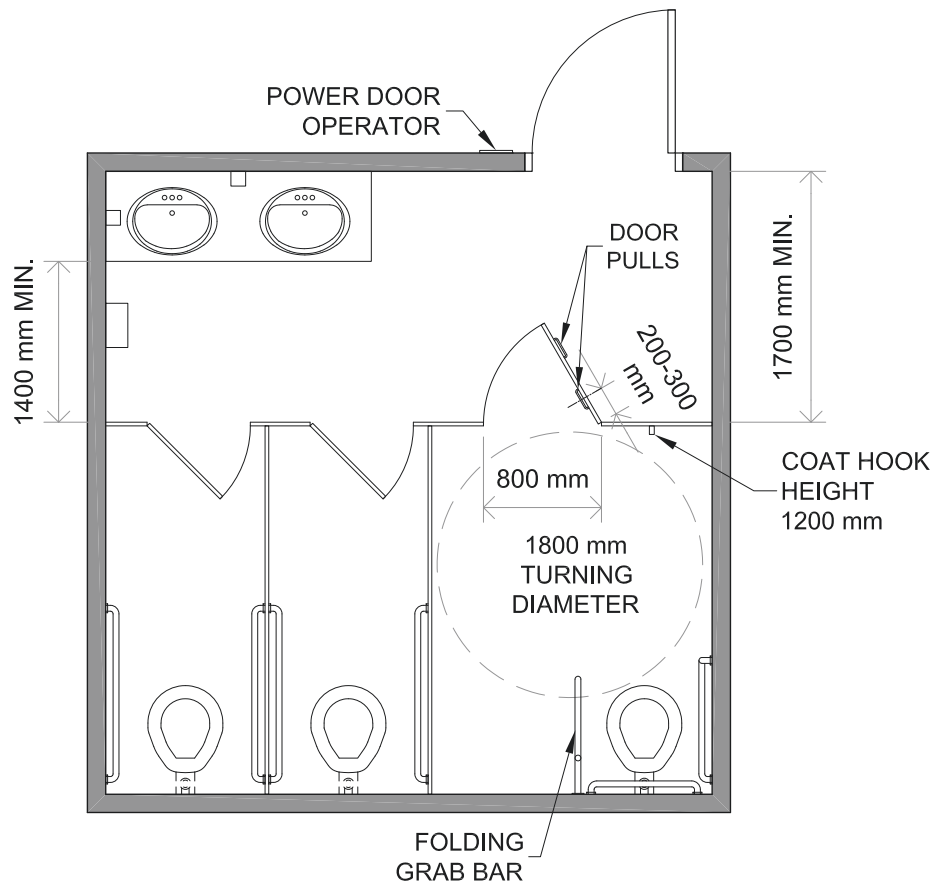


Figure J.1.8

J.2. WASHROOM AND STALL ENTRANCES

- J.2.1** Provide doorless entrance to the *washroom* facility (e.g. L-shaped entrance), where possible.
- J.2.2** Doorless entrances with an L-configuration shall have only one turn with a clear corner and a minimum depth of 1200 mm. Where a maze entrance exists for a public *washroom*, the floor finish shall be slip-resistant and be high in *colour contrast* to the wall finish.

Note: L-shaped entrances shall be as wide as possible to enable easy wheelchair access/egress. Minimizing the number of turns will reduce the risk of people with low vision from getting disoriented.

J.2.3 Doors leading into *washroom* facilities containing *barrier-free* stalls and self-contained gender inclusive *washroom* stalls shall be equipped with power door operators. Avoid providing two doors in quick succession.

Note: *Washroom* doors shall be wide and easy to approach (not recessed in a narrow hallway).

J.2.4 Doors of *barrier-free washroom* stalls shall be designed to swing outwards and shall be equipped with spring or gravity hinges that slowly close the door.

J.2.5 Where doors to water closet stalls swing outward, it is preferred that they swing against a side wall so as not to impede the flow of traffic or cause injury to a person passing by on the other side of the stall door. If the door of the stall swings inward, there shall be an additional 900 mm of space to allow an occupant in a wheelchair to close the door from within the stall.

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J.2.6 The door pull shall be a D-shaped handle at least 140 mm in length and mounted in a horizontal position to allow for optimal leverage. The midpoint of the handle shall be located not less than 200 mm from the edge of the door on the hinged side. As well, measured from the midpoint to the floor, the handle shall not be less than 900 mm and not more than 1000 mm.

J.2.7 Doors and stall partitions shall have *colour contrast* to the floor and wall finishes.

J.2.8 A minimum of 920 mm clear space shall be provided from the leading edge of stall doors, when a stall door is in open position.

J.3. WASHROOM FIXTURES

J.3.1 Depending on the expected facility usage, ensure there are a variety of heights of toilets, lavatories, soap, towel and dryer fixtures to suit people with various heights and abilities. If the lavatories are located on a counter, the *barrier-free lavatory* shall be located near the wall with soap and paper towel dispenser/dryer located on the adjacent side.

- J.3.2 Ensure *washroom* fixtures like waste receptacles are either recessed or located such that it does not obstruct use of other fixtures.
- J.3.3 Waste receptacles shall be installed such that the opening to the receptacle is at a height of 1000 +/- 50 mm to the finished floor.
- J.3.4 *Washrooms* provided for public use shall provide a wall-mounted sharps disposal container with opening at a height of 1000 +/- 50 mm above the finished floor and within 450 mm forward reach of a person using a wheelchair.
- J.3.5 Soap and paper towel dispensers/hand dryers shall be mounted at 1000 +/- 50 mm above floor level and within 500 mm horizontal reach from the front edge of the *lavatory*, or on a wall adjacent to the *lavatory* within 500 mm forward reach of a person using a wheelchair.
- J.3.6 The towel dispenser/hand dryer shall be automatic or single-function so that only one hand and one movement is required to release the towel.
- J.3.7 Provide *colour contrast* between faucets and surfaces in which they are installed.
- J.3.8 Counters shall have *colour contrast* with the wall to be easily recognizable.
- J.3.9 Automatic faucets shall be used.
- J.3.10 There shall be no sharp or abrasive surfaces under *barrier-free* lavatories. Hot-water and drain pipes under lavatories shall be insulated to prevent the pipes from becoming a burn hazard to persons who use wheelchairs.

Note: Not all individuals have the ability to sense heat or prevent prolonged contact with the pipes.
- J.3.11 Provide a fold down shelf near the *lavatory*.
- J.3.12 Tilt mirrors are preferred to lowered mirrors that are mounted above the *lavatory*. The mirror shall be mounted no more than 200 mm above the *lavatory* when measured from the surface of the *lavatory* or counter.

Note: If no tilt mirror is provided, a wall-mounted full length mirror, in addition to having the mirror mounted above the *lavatory* is an alternative.

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J.3.13 Grab bars provided in *washroom* stalls, universal toilet rooms, changerooms, showers, and bathing areas shall resist a load of 1.3 kN (132 kg) applied vertically or horizontally.

J.3.14 Grab bars for stability of patrons shall be provided in all *washroom* stalls, where possible.

J.4. BARRIER-FREE WASHROOM STALLS

J.4.1 Ensure higher toilets that align to the top of a wheelchair's seat height are installed within the *barrier-free* stall.

J.4.2 Provide suitable room for a side transfer to the toilet.

Note: If a *lavatory* is located on the same wall, ensure there is adequate space between the *lavatory* and toilet.

J.4.3 Wall-mounted water closets or floor models with recessed bases are preferred because they provide the least amount of obstruction for a person using a wheelchair to manoeuvre in front of or beside the toilet.

J.4.4 Sufficient backing is required for the installation of vertical and horizontal grab bars, towel bars, etc.

Note: Backing of at least a 19 mm sheet of plywood or reasonable alternative behind the cement board from floor to ceiling is preferred for optimum strength and placement.

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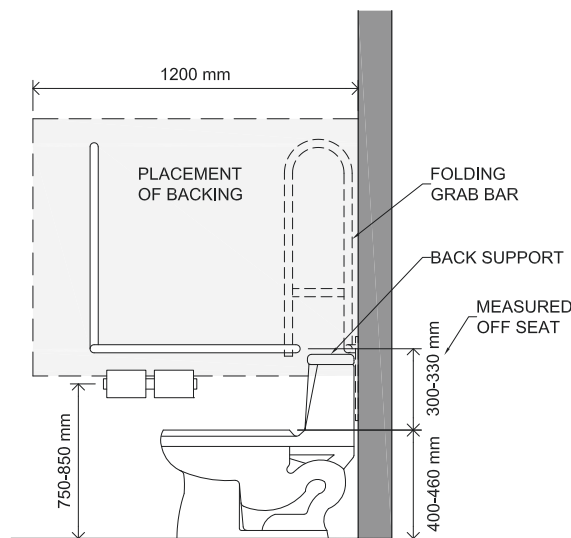


Figure J.4.4

- J.4.5** In addition to the L-shaped grab bar on one side of the toilet, provide a drop down grab bar on the opposite side to provide options for people with various mobility.
- J.4.6** Grab bars shall have a diameter of 30 – 40 mm and shall be able to resist up to 300 lbs. vertically or horizontally.
- J.4.7** The toilet paper dispenser shall be installed below the grab bar such that the centre of the toilet paper holder is between 750 mm and 850 mm above the finished floor.

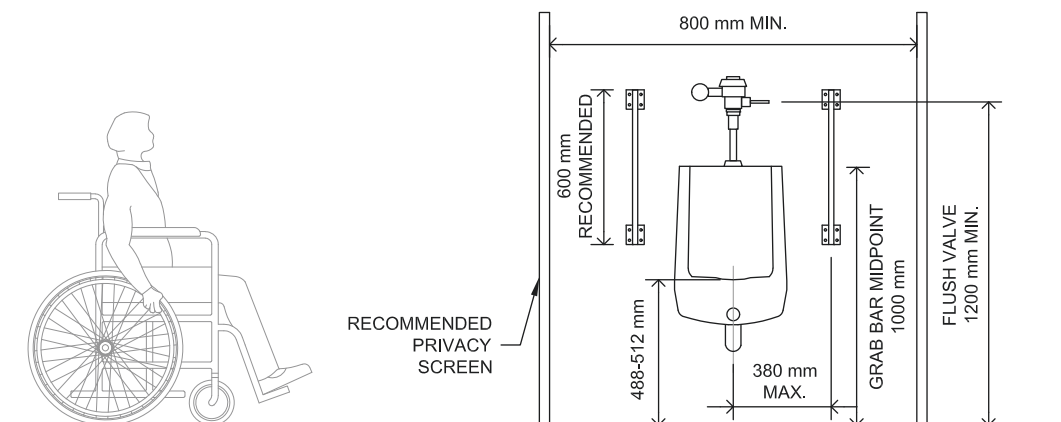
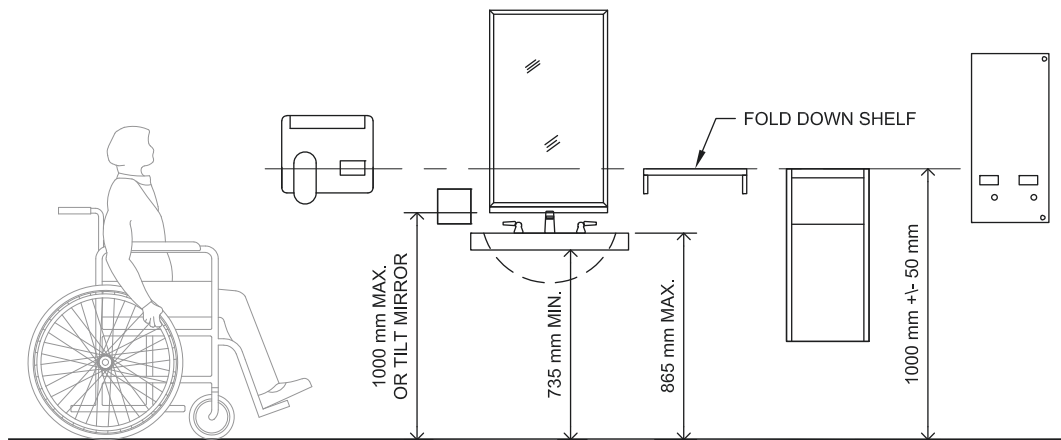


Figure J.4.7

- J.4.8** In all cases, the toilet paper roll shall be positioned so that the farthest edge of the dispenser is positioned within 500 mm horizontal reach of a person seated on the toilet.

Note: A person shall be able to reach toilet paper roll without leaning too far off the toilet.

J.4.9 Provide automatically operated flush valves for toilets and urinals. Back up flush shall be easily *accessible*.

J.4.10 Call buttons shall be installed in all barrier-free *washroom* stalls for facilities which are staffed with security during open hours.

Note: Call buttons enable a washroom user to call security in the event that the washroom user falls or encounters some other situation that requires assistance.

J.4.11 Where call buttons or pressable strips are installed, they shall be installed at 480mm above the finished floor on the same wall below the side grab bar within 600 mm of the toilet. They shall be connected to an audible and visual alarm system. Ensure the call button is operable with one hand and with minimal force and does not require fine finger control, tight grasping, pinching, or twisting of the wrist.

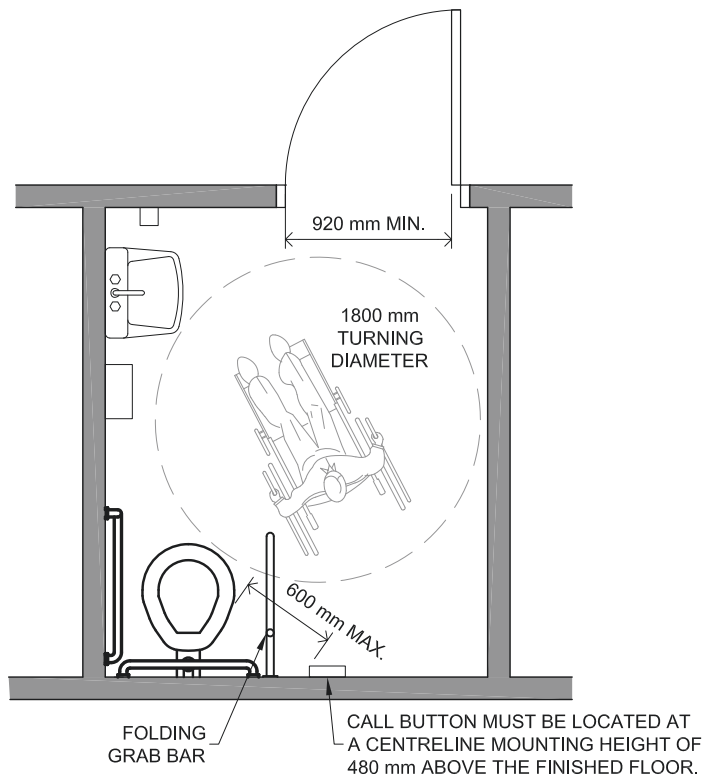


Figure J.4.11

J.5. GENDER INCLUSIVE SELF-CONTAINED CHANGEROOMS

Individual change and/or shower rooms for people of all ages, abilities and genders allow anyone including family members or caregivers of the opposite gender to provide assistance. These spaces may also be used by people who prefer additional privacy than what the gender specific changerooms provide. The gender inclusive self-contained changeroom shall be planned as an integral part of the changing area and located in proximity to the other changerooms.

J.5.1 At least one gender inclusive self-contained changeroom shall be provided in all public changerooms.

Note: Gender inclusive self-contained changerooms are required in all City facilities, not limited to, staff areas, gymnasias, arenas, indoor swimming pools and exercise/fitness centres.

J.5.2 Gender inclusive self-contained changerooms shall have a toilet, *lavatory*, shower, shower bench, waste disposal, and hand washing/drying facilities. Where required, based on use of the facility, a height adjustable and movable adult changing table shall be provided.

J.5.3 Where an adult changing table is provided, install a motorized ceiling mounted lift that accesses the elevated changing platform, shower, and toilet.

J.5.4 Provide a wide tear-off paper roll to cover the adult changing table or provide the options to sanitize the table.

J.5.5 Provide a clear *open space* of not less than 1800 mm in diameter.

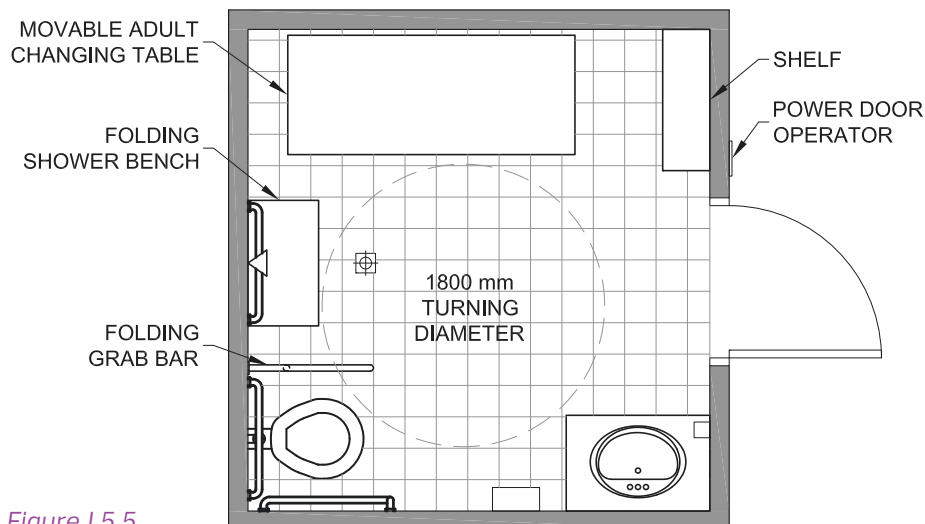


Figure J.5.5

J.5.6 The shower seat shall be height adjustable and either freestanding or wall mounted.

Note: Shower design shall take into account separation of wet and dry areas of the changeroom (e.g. shower curtain). Ensure curtain/partition does not interfere with overhead lift operation.

J.5.7 The slope of the shower floor to drain shall be a maximum 1:20 (5%).

J.5.8 A coat hook of a button (or similar) design shall be located at a height of not less than 1100 mm from the floor, and measured to the centre line of the hook.

J.5.9 Soap dispenser shall be located at the front or side of the *lavatory* for ease of access.

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J.6. PUBLIC CHANGE AREAS

J.6.1 A minimum 1200 mm wide *barrier-free path of travel* shall be provided throughout the changeroom.

Note: Changerooms have different use areas (e.g. lockers, changing areas, *washrooms*, showers). This minimum 1200 mm wide path of travel ensures access to all areas and enables two people (one person using a *mobility aid* and one ambulatory person) to pass each other easily.

J.6.2 At least one private *barrier-free* change cubicle shall be provided in each public change area for those desiring more privacy.

Note: This is in addition to the gender inclusive self-contained changeroom described in the previous section.

J.6.3 The inside measurement of a *barrier-free* change cubicle shall be at least 2000 mm × 2000 mm with slip-resistant flooring.

J.6.4 Provide a wall-mounted bench inside the *barrier-free* change cubicle.

Note: Wall mounted benches ensure that legs or brackets do not interfere with a person's ability to turn easily.

J.6.5 If lockers are provided, *barrier-free* lockers with raised numbering and good *colour contrast* shall also be provided and installed with latches that are easily

operable with one hand and are within 400 – 1200 mm vertical reach of a person using a wheelchair.

Note: Lockers shall be available for persons using wheelchairs and the lower height ensures access. Providing contrast between locker identification numbers and surface ensures people with low vision are able to locate the lockers. Latches that are easy to manipulate allows people with limited hand strength to use them.

J.6.6 If the total number of lockers is 10 or more, a minimum of 10% *barrier-free* lockers shall be provided. If the total number of lockers is less than ten, a minimum of one *barrier-free* locker shall be provided.

J.6.7 A 1500 mm wide path shall be provided within each section of lockers and shall have a clear floor space of 1800 mm turning diameter directly in front of the *barrier-free* lockers in closed position.

Note: Benches in front of lockers block the access, so a clear space in front of the *barrier-free* lockers provides an area large enough for wheelchair maneuvering.

J.6.8 Benches shall be located adjacent to *barrier-free* lower lockers and shall be minimum 1065 mm long, 450 – 500 mm high, and 510 – 610 mm deep.

Note: Benches that are wide enough may assist people who use wheelchairs to transfer onto the bench and stay upright. Grab bars, may also be installed but shall not interfere with transfer to the bench.

J.7. BARRIER-FREE SHOWER STALLS

J.7.1 Where individual showers are provided, at least one *barrier-free* shower stall shall be provided.

J.7.2 The clear space at the entrance to a barrier-free shower shall not be encroached upon by fixtures such as wall-hung lavatories, fixed benches, island counters, trash receptacles, etc.

J.7.3 The inside measurements of a *barrier-free* shower stall shall be a minimum of 1500 mm in length and a minimum of 900 mm in depth with a slip-resistant floor finish, and shall have a bevelled threshold of not more than 13 mm.

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J.7.4 The barrier-free shower stall shall be equipped with a hinged seat, grab bar, pressure-balancing single-lever water control, handheld shower head, and coat hooks.

Note: An acceptable alternative to a hinged seat is portable shower chair or seat. If vandalism is a concern, the use of a fixed shower head is acceptable, as long as it is located near the seat.

J.7.5 The handheld shower head shall be located in the centre of the long wall (i.e. 1500 mm) adjacent to the fixed seating.

Note: This allows a person in a seated position to reach the handheld shower head and controls, or to use the same shower head as a fixed shower from a seated position.

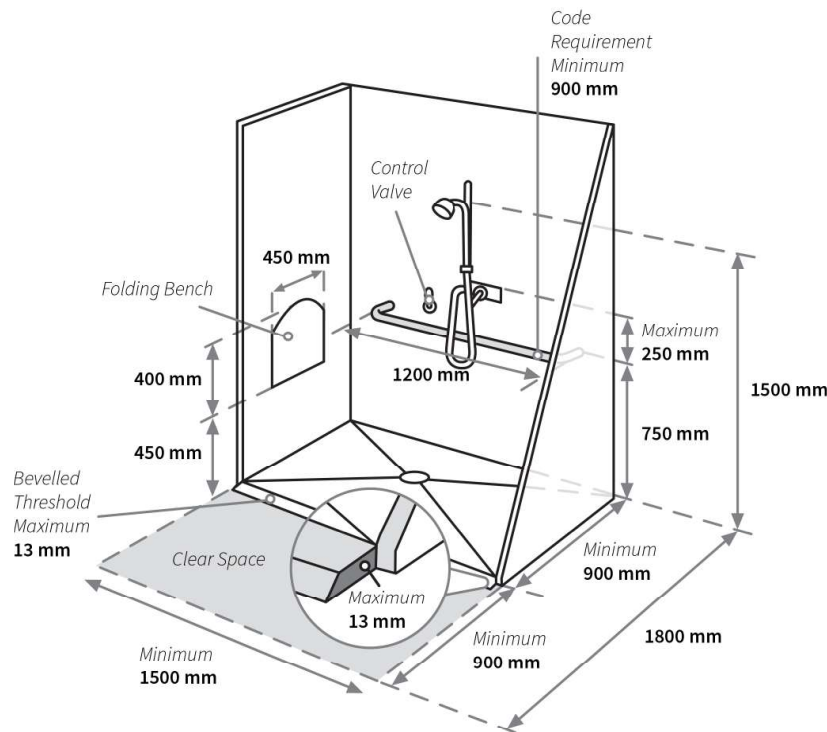


Figure L.7.5
(Ref: Barrier-free Design Guide - Fifth Edition - Summer 2017)

J.7.6 Coat hooks of a button (or similar) design shall be mounted adjacent to the fixed seating.

J.7.7 Grab bar must be installed on the wall adjacent to the seat.

Note: If the grab bar is located on the wall opposite the seat, it cannot be reached safely from a seated position. A grab bar behind the seat will interfere with being seated. It is preferred that a single horizontal continuous grab bar be installed in the shower to provide stability and safety for those who prefer to stand or need assistance to walk to the other end of the shower area. The seat itself may be used in conjunction with the bar to assist with transfers.

J.7.8 The shower stall control and the handheld shower head shall be located to provide easy access for the person seated on the shower seat.

Note: Preferred location is on the wall adjacent to the seat.

J.7.9 At least one pull down bench shall be provided in the general shower area.

K. SPECIAL INTERIOR FEATURES

THIS SECTION COVERS:

- K.1. Controls
- K.2. Counters
- K.3. Furniture
- K.4. Drinking fountains
- K.5. Public communications and Alarms
- K.6. Self-Service Machines
- K.7. Assistive listening devices
- K.8. Interior signs and wayfinding
- K.9. Directories
- K.10. Exhibits and displays
- K.11. Lighting
- K.12. Acoustics

K.1. CONTROLS

The design and location of controls is essential to accommodate people with limited mobility. Controls shall be *accessible* to everyone who needs to use them. The controls referred to in this section include light switches, electrical outlets, thermostats, intercoms and fire alarms.

- K.1.1 Controls shall be installed at a height of 1100 +/- 50 mm above the floor.

Note: The above requirement does not apply to fire alarm pull stations which are to be installed as per the latest CSA standard.

- K.1.2 Electrical outlets shall be mounted between 650 mm and 900 mm above the finished floor measured to the underside of the outlet.

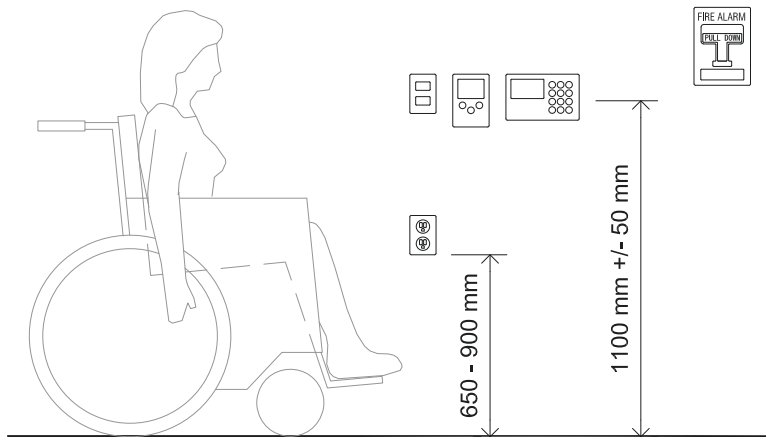


Figure K.1.2

K.1.3 Where lights are not sensor-activated, rocker-type light switches shall be used.

K.2. COUNTERS

K.2.1. To be *accessible*, the products in a self-serve counter shall be within 450 mm from the edge of the counter and between 600 mm and 1000 mm above the finished floor.

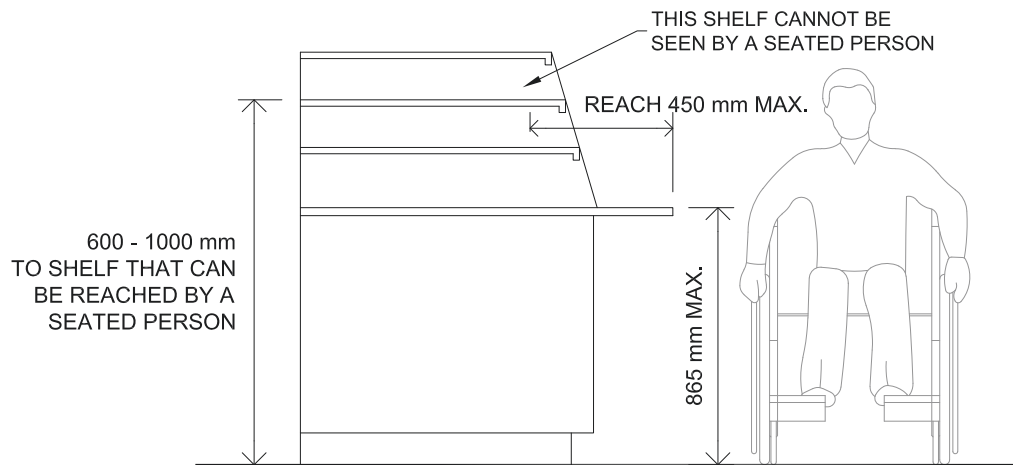


Figure K.2.1

K.2.2. Counters that serve the public shall contrast in colour/tone from their surroundings, and surfaces shall have a *non-glare finish*.

Note: *Colour contrast* and *non-glare finishes* can help people with low vision to locate and use counters.

K.2.3. Where a glass partition separates customers from the service personnel at a counter, a speaker system and an *assistive listening device* (e.g. an *induction loop system*, a *FM radio frequency system* or *infrared system*) shall be installed.

K.2.4. Service counters equipped with an induction loop should be identified with signage using the internationally recognized symbols for accessibility and induction loop technology. See Figure K.2.4, and K.8.

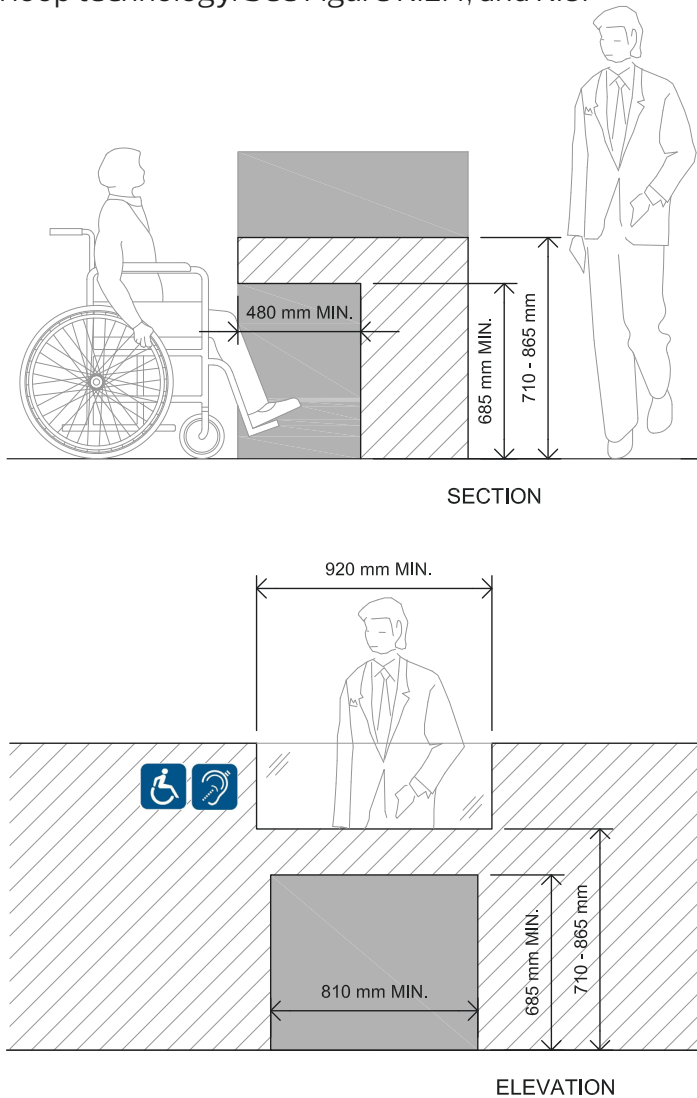


Figure K.2.4

K.2.5. Design consideration shall include providing *barrier-free* sections for staff in all counters that serve the public.

K.3. FURNITURE

K.3.1. Furniture design and placement in a room shall accommodate an 1800 mm clear turning diameter between the entrance and furniture when people are seated. A minimum clear space of 920 mm shall be provided behind occupied chairs at tables.

K.3.2. Dining tables shall have a minimum clearance of 720 mm from the finished floor to the underside of tabletop, with a clear minimum depth (knee space) of 485 mm under the table.

Note: Dining tables with these dimensions provide adequate knee space for persons using a wheelchair. A variety of dining table heights is encouraged to accommodate different mobility devices.

K.3.3. Tables on raised platforms are not preferred, but if it is required then a minimum of 50% shall be *barrier-free accessible*.

Note: Tables on raised platforms impede access for people with mobility issues and those using wheelchairs.

K.4. DRINKING FOUNTAINS

K.4.1. In each drinking fountain location, a water bottle filling station or combination fixture shall be provided.

K.4.2. Where a drinking fountain or fountains are installed, at least one fountain shall be barrier-free.

K.4.3. Barrier-free drinking fountains shall have a spout opening between 750 mm and 915 mm above the finished floor, and have lever or push controls located either on the front or on both sides. Push bar is preferred over the push button.

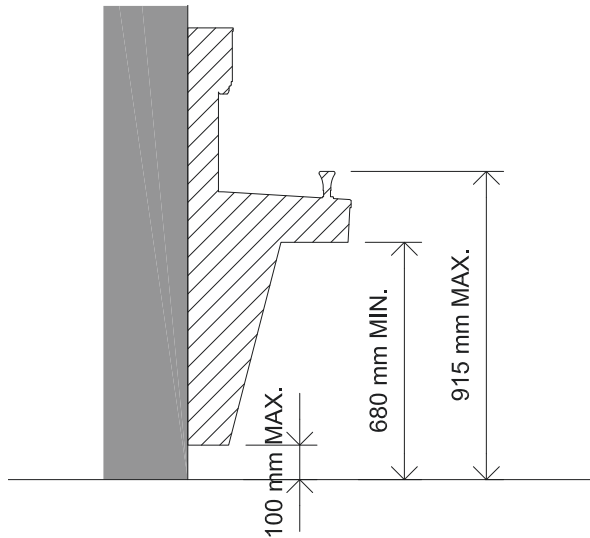


Figure K.4.3

K.4.4. Where the drinking fountain is located in an alcove, the alcove shall be not less than 920 mm wide, and the fountain shall be wall-mounted with clearance beneath the drinking fountain.

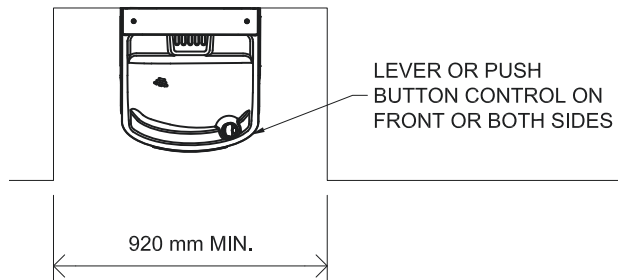


Figure K.4.4

K.4.5. Where a drinking fountain projects more than 100 mm into the *barrier-free path of travel*, this shall be designed to extend to within 100 mm from the floor for the entire length of the obstruction, in order to be *cane detectable*.

Note: There shall be adequate space under or adjacent to the drinking fountain for people using wheelchairs or scooters. When the fountain is located in a *barrier-free path of travel*, a partition or *cane detectable* barrier on each side of the wall-mounted drinking fountain will ensure cane detectability for a person using a white cane. Enough space shall still be provided between the partitions for persons who use wheelchairs or scooters.

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K.5. PUBLIC COMMUNICATIONS AND ALARMS

In order for spaces to be safe and universally *accessible*, buildings shall be designed to be easy to navigate during both regular use and in emergency situations.

- K.5.1** Whenever audible public communication is provided (e.g. narrated videos on screens or announcements on speakers), the same information shall be provided visually by *closed captioning* or digital signage.
- K.5.2** Visual signal devices for fire alarm systems shall be installed so that the signal from at least one device is visible throughout all normally occupied floor areas including *washrooms*.

K.6. SELF-SERVICE MACHINES

- K.6.1** When self-service machines are provided, at least 10% shall be *barrier-free*, with a minimum of one *barrier-free* self-service machine.
- K.6.2** The highest operable part of a barrier-free self-service machine shall be 1000 +/- 50 mm above the finished floor with a knee space of no less than 700 mm high x 500 mm deep below the machine.
- K.6.3** Text and audio messages shall be installed in interactive transaction machines, such as point-of-sale machines.

K.7. ASSISTIVE LISTENING DEVICES

- K.7.1** An *assistive listening system*, preferably *induction loop system* shall be installed at all information and transaction counters.

Note: Many people who use hearing aids have difficulty functioning in noisy environments, especially when the speakers are at a distance. Many systems are available that can overcome the combined problems of distance and background noise. FM radio frequency, infrared, and *induction loop systems* are examples of assistive listening systems. All three of these systems assist people who require aid in hearing, without disturbing the listening enjoyment of other people.

- K.7.2** Assistive Listening Devices shall be installed in all areas of any building where occupancy might be 50 persons and more. The appropriate number of devices required for each area can be determined with the assistance of the Canadian Hard of Hearing Association.

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- K.7.3** Signage with the symbol for *assistive listening device* shall be provided. Reference to the T-switch shall also be made on the sign where *infrared* or *induction loop systems* are provided.



Figure K.7.3

- K.7.4** *Infrared systems* shall be installed, where secure transmission of audio is a requirement.
- K.7.5** Public areas that require public address systems for reasons of safety shall be equipped with magnetic *induction loop systems*.
- K.7.6** Where an *induction loop system* is deployed, the building shall have 1 loop receiver for every 50 occupants so that people without hearing aids or with hearing aids that do not have a “t coil” will be able to receive the audio using the loop receiver and a hearing appliance.
- K.7.7** Hard-wired systems (where a jack is provided at a particular seat) require special individual volume control provisions to accommodate people with varying degrees of hearing impairment.

K.8. INTERIOR SIGNS AND WAYFINDING

Signs and symbols are an essential consideration when designing spaces for people to navigate. Good signage provides people with cognitive and sensory challenges direction to a variety of services and spaces. Tactile maps and audio map systems are helpful for people with low vision. Good locations for these include the lobbies of buildings. These maps enable users with low vision to identify their location and get an accurate sense of distance and direction. Tilted directional maps allow persons using a wheelchair to read them easily. In addition to this section, it is recommended that Canadian National Institute for the Blind (CNIB) standards for contrasts, colours, fonts and text sizes as per the [CNIB's Clear Print Guide](#) and the Canadian Standards Association (CSA) B651-12 be consulted for the design of signage and placement of signs.



Figure K.8

K.8.1 Signs shall be located near the entrance of all buildings and along the *barrier-free path of travel* to direct people upon entering and navigating through the building. Clear *wayfinding* shall be provided to designated service areas.



Figure K.8.1

- K.8.2** Directional signs showing location of barrier-free *amenities* with the international symbols of access shall be located at focal points on main traffic routes.
- K.8.3** The international symbols of access shall be used to identify all *barrier-free amenities* within a building.

Note: Use of the international symbols of access ensures signage can be understood by all.
- K.8.4** Various forms of communication shall be provided (e.g. visual cues, auditory cues, large print information sheets, ambassadors/guides etc.) or shall be available upon request.
- K.8.5** Ensure that safety is promoted by providing informative signage in multiple formats. (e.g. direction and safety information).
- K.8.6** The level of illumination on signs shall be at least 200 lux.
- K.8.7** Provide clearly labeled signs for dedicated sharp disposal units.
- K.8.8** *TTY (Teletypewriter)* shall be identified with the associated international symbols.

K.8.9 Washrooms, kitchens, stairwells, print/copy rooms and bookable spaces that can be booked through The City of Edmonton shall provide tactile signage, including room names and numbers conforming to [CNIB's Clear Print Guide](#).

K.8.10 Lettering and numbers shall have a width-to-height ratio between 3:5 and 1:1, and a stroke-width-to-height ratio between 1:5 and 1:1.

K.8.11 The character height of letters and numbers shall be relative to the intended viewing distance as per CAN/CSA B651-12.

K.9. DIRECTORIES

K.9.1 A tactile directory/map shall be provided at all main entrances of a facility.

K.9.2 Building directories shall be conveniently located, tactile in nature, and located on a sloping plane 760 mm to 900 mm above the floor.

K.9.3 Provide characters that are raised at least 0.7 mm.

K.9.4 Persons who are blind can be given directions by the use of tactile maps, signs or pre-recorded messages.

K.10. EXHIBITS AND DISPLAYS

K.10.1 Exhibition areas shall be *barrier-free* and an alternative method of interpreting the message such as audio-visual presentations, large print text and/or tactile signage shall be provided.

K.10.2 Exhibits and labels shall be placed at an elevation that makes viewing comfortable and possible for all visitors.

K.10.3 Exhibits shall be supplemented with tactile signage conforming to [CNIB's Clear Print Guide](#).

K.10.4 Exhibits and display lighting fixtures shall be designed and located to minimize glare and reflection.

K.10.5 Displays and labels shall be located between 1000 mm and 1500 mm above the finished floor surface or ground level.

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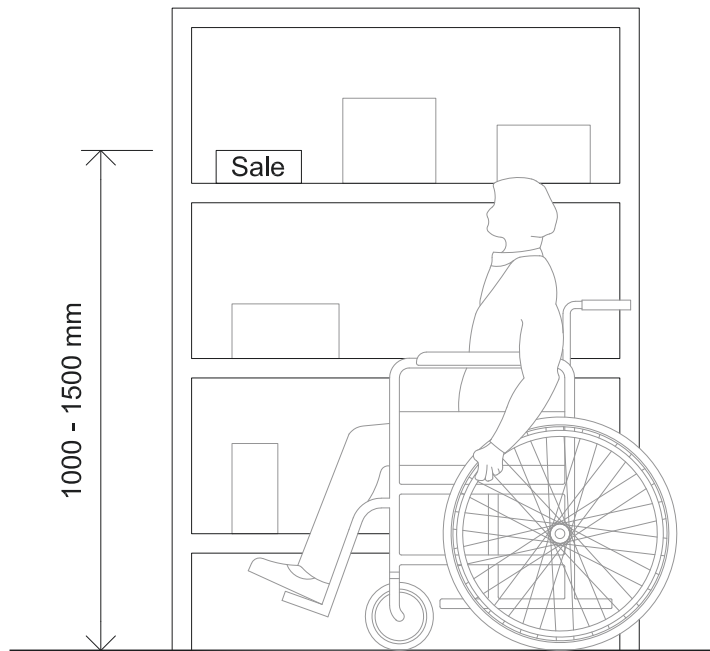


Figure K.10.5

K.10.6 Labels on horizontal surfaces higher than 1200 mm shall be tilted to allow for better viewing.

K.10.7 Table displays shall be located between 1100 mm and 1300 mm above the finished floor.

K.10.8 Wall-mounted exhibits and displays shall be located between 1200 mm and 1500 mm above the finished floor or ground level.

K.11. LIGHTING

K.11.1 Ensure that light is evenly distributed to minimize shadow on all indoor circulation routes, workstations, and worksurfaces. Lighting levels shall be increased to emphasize areas of potential hazard and information (entrances, exits, stairs, ramps, escalators and signage).

K.11.2 At best ensure all light sources minimize direct and indirect glare from nearby reflective surfaces. Avoid high intensity lighting as they can add unnecessary glare and leave an image on the retina of individuals with low vision.

K.11.3 Natural daylight shall be used where possible to illuminate entrances, corridors and workspaces, however design must include glare mitigation strategies (e.g. blinds).

K.11.4 Provide multi-level lighting in activity rooms.

K.12. ACOUSTICS

K.12.1 Acoustic properties shall be a design consideration for materials used in interior barrier-free paths of travel.

Note: Some sound reverberation aids people with low vision by providing a sense of the size of the space and the location of walls or openings, while some sound absorption helps people who have hearing loss by reducing background noise. Consideration for the intended use of the space, safety and the basic *principles of universal design* shall guide design decisions that affect the acoustics of a room or space.

K.12.2 Spaces shall be acoustically designed to reduce background noise and echoes.

Note: The minimization of ambient noise and reduction of layering of different sounds improves ability to hear for persons with hearing loss.

K.12.3 The heating ventilation and air conditioning system (HVAC) shall be designed to consider the acoustic needs of the space.

K.12.4 Speakers (except those required for the fire alarm system) shall not be placed near important areas of in-person communication, such as information or service desks.

L. INCLUSIVE DESIGN FOR DWELLING UNITS

It is essential that residential *suites*, including single and multi family homes, are livable for all people, regardless of their mobility. *Inclusive design* allows people to move around and live without any restrictions within their space. A universal home shall be flexible enough to accommodate people with all types of abilities, and provide a diverse comfort level for any of its occupants and visitors. Home design should consider providing future flexibility to accommodate all abilities with minimum changes.

Refer to homeforlife.ca and [Edmonton's Zoning Bylaw Section 93: Inclusive Design](#) for more details.

Refer to www.VisitAbleHousingCanada.com

In partnership with the City of Edmonton and *Age-Friendly Edmonton*, "[Home for Life](#)" has emerged as an initiative leading the way for life-long residential home design. Through advocacy, education, and technical leadership, [Home for Life](#) provides home-owners and builders with a framework for designing homes that are aesthetically pleasing and remain functional and *barrier-free* through all stages and ages. Edmonton's Zoning Bylaw includes [Section 93: Inclusive Design](#), which sets out regulations to achieve *accessible* design. These regulations mirror the requirements of the [Home for Life](#) initiative. Content in this section was developed in conjunction with [Safety Codes Council - Barrier-Free Design Guide - Fifth Edition - Summer 2017](#)

THIS SECTION COVERS:

- L.1. General
- L.2. Entryways
- L.3. Closets
- L.4. Bedrooms
- L.5. Kitchens
- L.6. Bathrooms
- L.7. Common and in-suite laundry rooms
- L.8. Alarms
- L.9. Windows

L.1. GENERAL

- L.1.1** Provide zero or ground level threshold throughout the dwelling unit unless the level difference is accommodated by an elevating device or ramp.
- L.1.2** Doorways shall have a minimum width of 850 mm and be located on a *barrier-free path of travel* (hallways) of minimum 1200 mm width.
- L.1.3** Provide 1500 mm turning diameter in all areas of the dwelling unit, including entry and laundry areas.
- L.1.4** Electrical outlets shall be no lower than 600 mm when measured from the centre line of the plate to the finished floor.
- L.1.5** Light switches shall be mounted between 1200 mm – 1400 mm when measured from the centre line of the plate to the finished floor.
- L.1.6** Controls, like thermostats shall be mounted at 1400 mm when measured from the centre line of the plate to the finished floor.
- L.1.7** Provide *colour contrast* between the door trim, door and wall.
- L.1.8** Provide tactile differentiation between living areas for *wayfinding* and safety.
- L.1.9** All doors that latch shall be equipped with lever-handle hardware.
- L.1.10** If pocket doors are provided, make the doorway wider and add a D-handle.
Note: Pocket doors are discouraged as they are difficult to pull or push.
- L.1.11** Automatic or lever faucets shall be used.
- L.1.12** Audio wall thermostats are preferred as they are easy to use by people with low vision.
- L.1.13** Window operator hardware shall be installed within 450 mm forward reach of a person using a wheelchair.
- L.1.14** Telephone jacks shall be installed between 450 mm and 1200 mm above the finished floor.

L.2. ENTRYWAYS

- L.2.1 Provide no step entrance at the front (preferred), back, or side.
- L.2.2 Exterior doorways shall have a clear opening width of minimum 900 mm.
- L.2.3 If the door includes a glass insert or a door security viewer, it shall be located at a height of 1150 mm from the finished floor.

Note: The ability to view the exterior entrance from the inside is necessary from a safety ([Crime Prevention Through Environmental Design - CPTED](#)) perspective. Windows with lowered sills also allow a person using a wheelchair to view the exterior before opening the door to callers.

L.3. CLOSETS

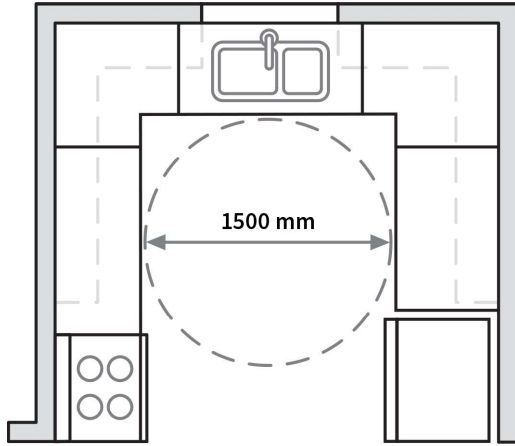
- L.3.1 Provide *barrier-free* closet spaces for outerwear and shoes.
- L.3.2 Closets doors shall have D-shaped handles.
- L.3.3 Closet rods shall be 1000 +/- 50 mm above the finished floor.
- L.3.4 Closet shelves shall be 1200 mm above the finished floor.

L.4. BEDROOMS

- L.4.1 A minimum 920 mm clearance on both sides and at the foot of the bed shall be provided.
Note: 920 mm wide clearance ensures a *barrier-free* path of travel.
- L.4.2 Closets shall have a clear opening of minimum 850 mm, with a 1500 mm turning diameter in front.
- L.4.3 If shelves are provided inside the bedroom closet, they shall be mounted between 400 mm and 1200 mm above the finished floor.
- L.4.4 If using a sliding closet door, D-shaped handles shall be provided.
- L.4.5 Closet rods to hang clothing shall be provided at a height of 1200 mm from the finished floor.

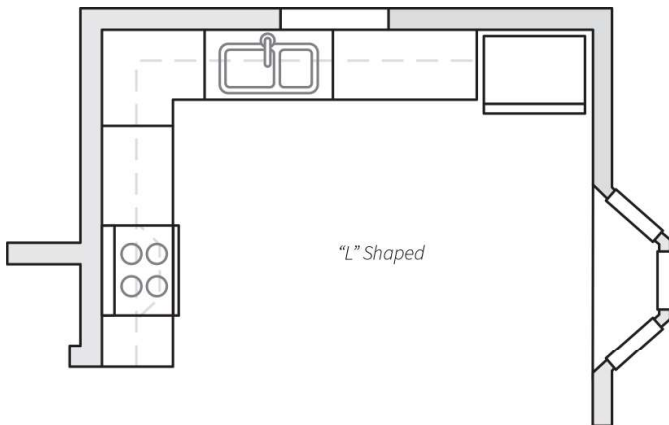
L.5. KITCHENS

L.5.1 Turning diameter of 1500 mm or greater shall be provided in the kitchen.



"U" Shaped

Figure L.5.1(a) (Ref: Barrier-free Design Guide - Fifth Edition - Summer 2017)



"L" Shaped

Figure L.5.1(b) (Ref: Barrier-free Design Guide - Fifth Edition - Summer 2017)

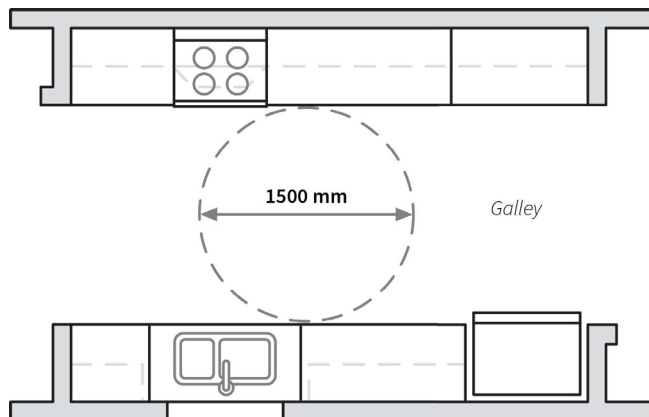


Figure L.5.1(c) (Ref: Barrier-free Design Guide - Fifth Edition - Summer 2017)

L.5.2 Provide height adjustable cooktop with controls located in front.

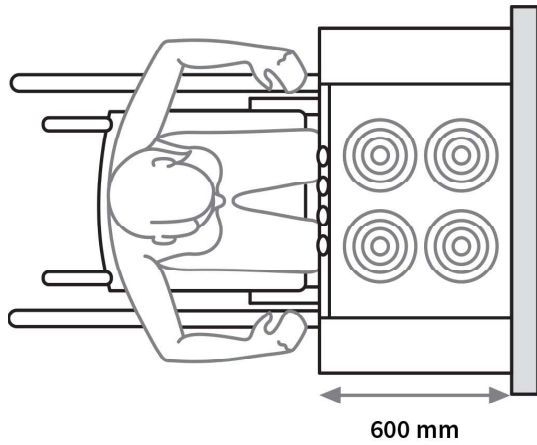


Figure L.5.2 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.5.3 Provide at least two heights for counter tops at 915 mm and 760 mm with knee space beneath.

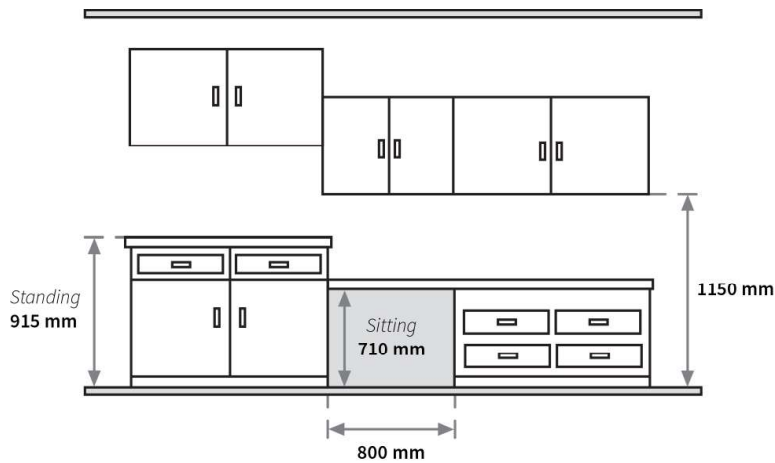


Figure L.5.3 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.5.4 Provide a height-adjustable sink with a single lever or automatic faucet.

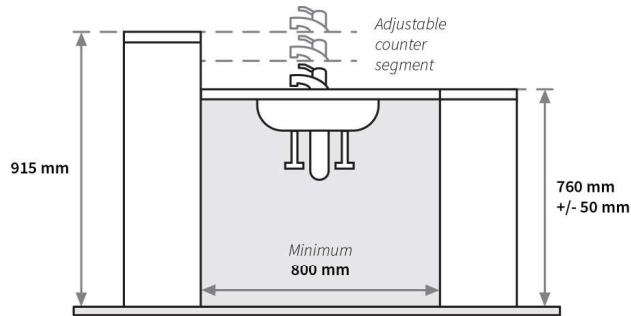


Figure L.5.4(a) (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

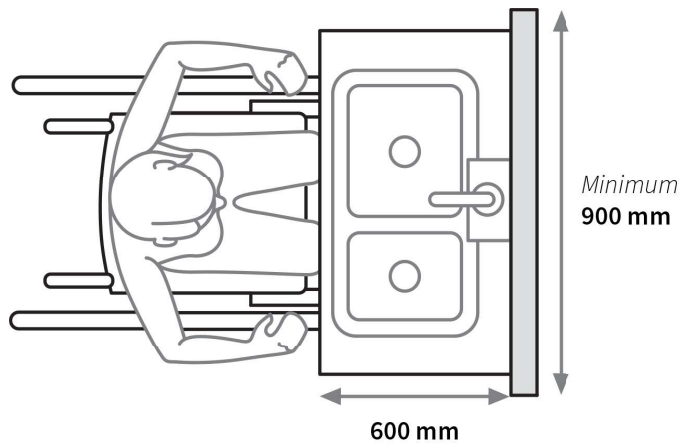


Figure L.5.4(b) (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.5.5 A barrier-free oven with a door that opens toward the side, where the bottom of the door is mounted between 400 mm and 860 mm above the finished floor and a pull-out shelf below the oven on full-extension glides shall be installed.

L.5.6 A heat resistant shelf shall be installed under the oven. The shelf shall be the same width as the oven and pull out at least 250 mm.

L.5.7 Choose a refrigerator with a door that swings 180 degrees and with a bottom or side by side freezer. Side-by-side fridges or bottom mount freezers are preferred.

L.5.8 Space for a microwave shall be provided at counter height with knee space below, or in a shelf located so that the microwave door will be between 400 mm and 860 mm above the finished floor.

L.5.9 A heat resistant shelf shall be installed under the microwave. The shelf shall be the same width as the microwave and pull out at least 250 mm. Additional counter or shelf space must be provided to allow food items to be removed from the microwave safely.

L.5.10 Electrical outlets and light switches shall be located at the front of counters. At least two electrical outlets shall be mounted on the lower cabinetry.

L.5.11 A work surface on at least one side of the cooktop, sink, dishwasher and oven shall be provided. Include a pull-out work surface.

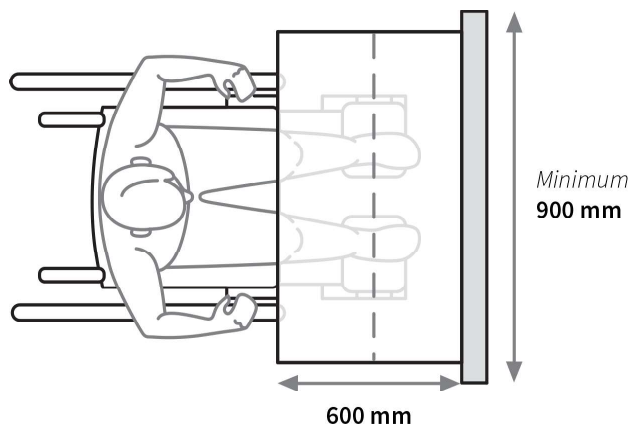


Figure L.5.11 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.5.12 Upper cabinets shall be mounted on a track system that will allow for adjustability, and lower cabinets with drawers shall be installed on full-extension glides. All cabinets shall have D-handles.

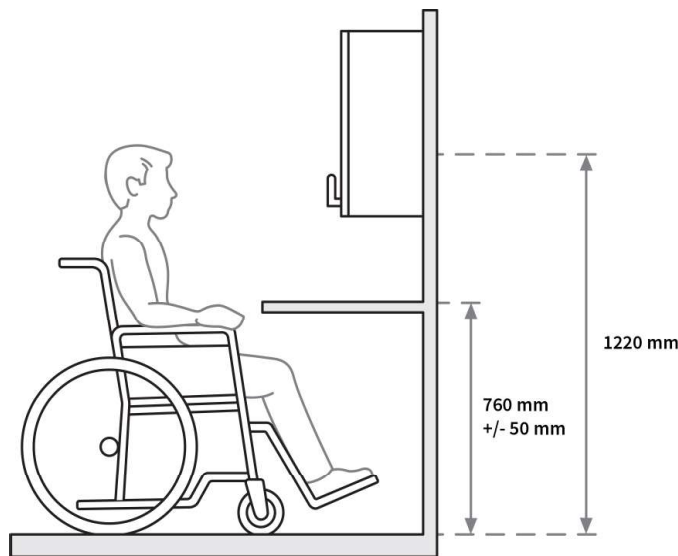


Figure L.5.12 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.5.13 Lighting shall be installed under upper cabinets to reduce shadows and glare. This lighting shall be on a separate switch from the general lighting in the kitchen.

L.6. BATHROOMS

L.6.1 Provide a minimum clear turning diameter of 1500 mm inside *bathrooms*.

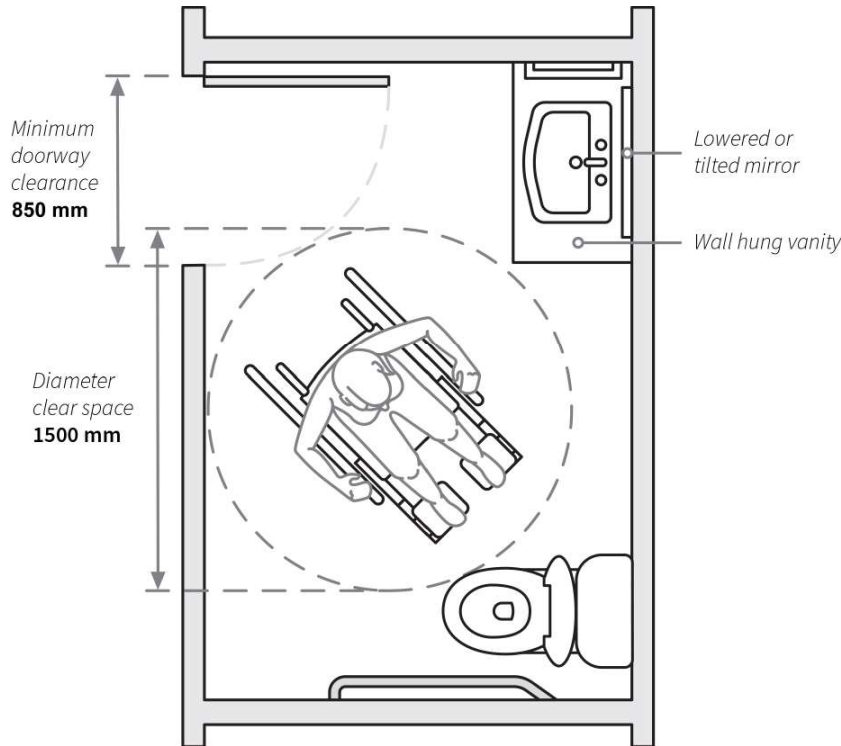


Figure L.6.1 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.6.2 An adjustable mirror that is not less than 610 mm wide shall be provided.

L.6.3 Shower of minimum 1500 x 1500 mm with no lip, and/or a bathtub shall be provided.

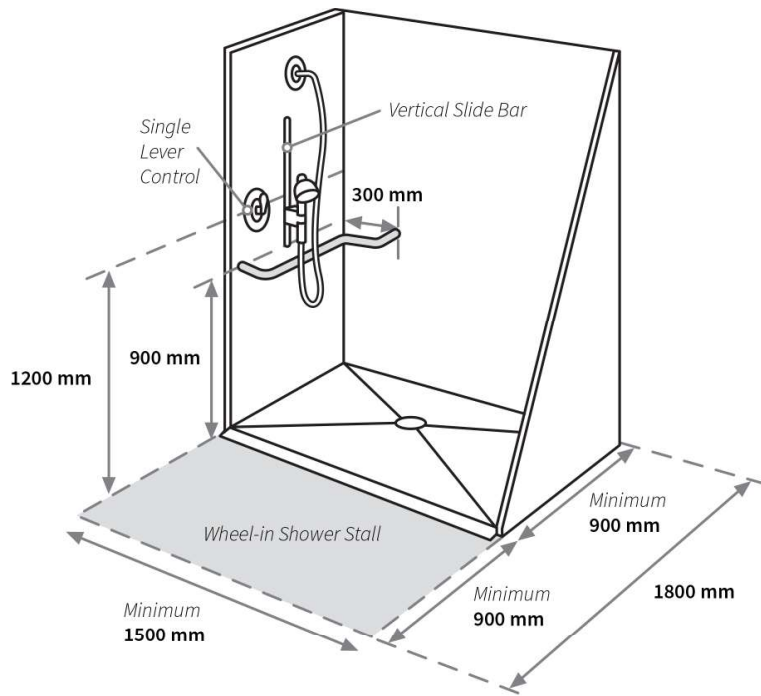


Figure L.6.3 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.6.4 The lavatory counter shall be a minimum of 915 mm wide and a maximum of 610 mm deep with colour contrast to the wall.

L.6.5 Provide shallow sinks with knee space beneath. Exposed plumbing must be insulated to prevent burns.

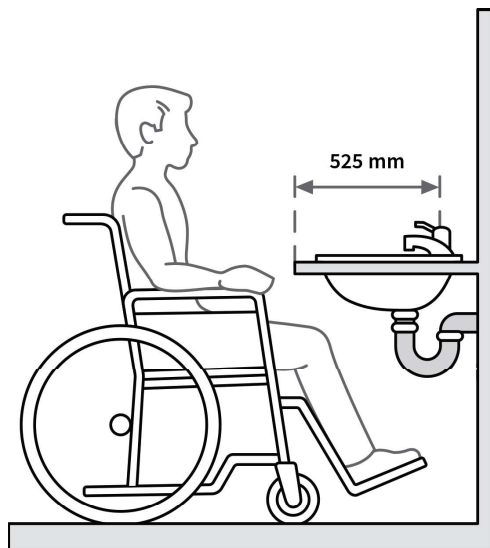


Figure L.6.5 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

- L.6.6** Provide single lever faucet control for the sink, shower and/or bathtub.
- L.6.7** Provide grab bars for the toilet, shower and bathtub.
- L.6.8** A transfer space (for those who use wheelchairs) of 900 – 1000 mm shall be located beside the toilet.
- L.6.9** Toilet flush handles shall be installed on the mount/dismount side of the toilet.
- L.6.10** Toilet paper dispenser, towel bar and light switches shall *colour contrast* with the background finish.
- L.6.11** Towel bars shall be installed not more than 1100 mm above the finished floor and must be within a clear reach of 450 mm from where a wheelchair can be positioned.
- L.6.12** Ensure that bathtubs have slip-resistant surfaces. If feasible, add a non-slip, waterproof seating area of minimum 400 mm deep and located at the end of the bathtub to provide easier and safer transfers in and out of the tub.
- L.6.13** Bath tubs shall be equipped with a hand-held shower head mounted on a vertical slide bar not less than 760 mm long and with the bottom of the slide bar at a height not less than 1200 mm above the floor, and controls and flexible hose.
- L.6.14** Notwithstanding the presence of a water closet or a *lavatory*, bathtubs shall have a clear floor space of at least 900 mm wide along its length.
- L.6.15** Provide grab bars that are 1200 mm long located vertically at the end of the bathtub that is adjacent to the clear floor space, with the lower end between 180 mm and 280 mm above the bathtub rim, and are 1200 mm long located horizontally along the length of the bathtub at 180 mm to 280 mm above the bathtub rim.

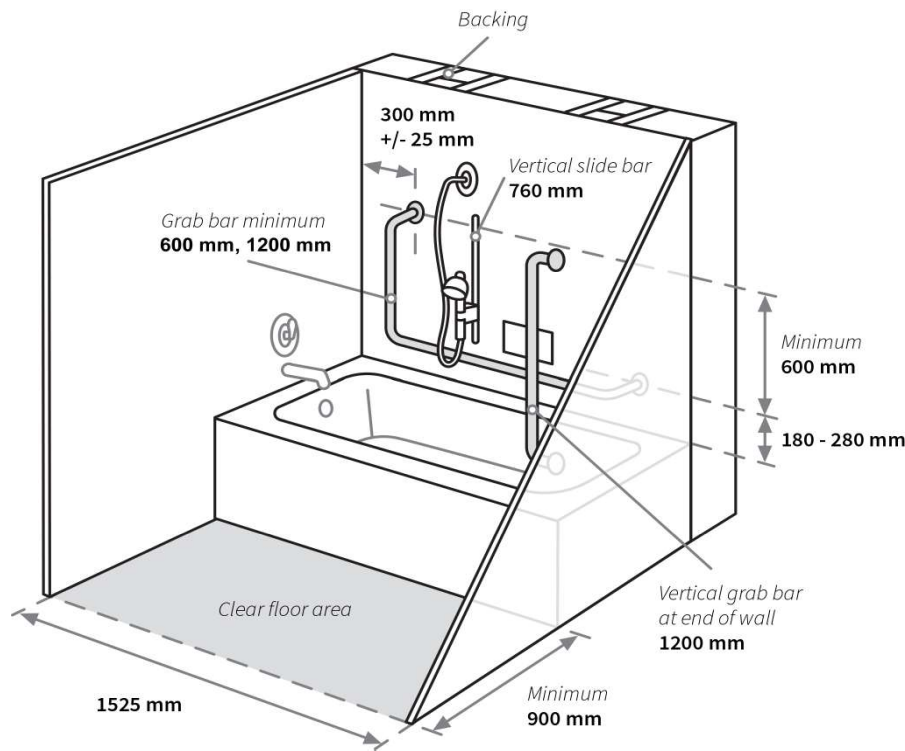


Figure L.6.15 (Ref: Barrier-free Design Guide – Fifth Edition – Summer 2017)

L.7. COMMON AND IN-SUITE LAUNDRY ROOMS

- L.7.1** Consider a washer and dryer which have front-mounted controls, with side-hinged doors and door swings of 180 degrees.
- L.7.2** Working spaces of 600 mm deep x 765 – 850 mm high, with knee space below to allow wheelchair users the ability to conveniently fold laundry shall be provided in common laundry rooms.
- L.7.3** At least one dryer shall be installed at floor level in common laundry rooms.
- L.7.4** Space shall be provided to store laundry supplies at no more than 1200 mm above the finished floor.

L.8. ALARMS

- L.8.1** Visual and audible signal devices shall be installed for fire alarm systems (when provided), security gate indicators (when provided) and doorbells.

L.9. WINDOWS

- L.9.1** Window sills in living and dining rooms shall be no higher than 600 mm from the finished floor.
- L.9.2** For bedroom, *bathroom* and other windows (except kitchen), the window sills shall be no higher than 750 mm when measured from the finished floor.
- L.9.3** Windows shall be easy to open and close, with controls placed between a height of 750 mm to 1000 mm from the finished floor.

GLOSSARY

TERM	DEFINITION
Accessibility	A concept integral to human rights that refers to the absence of barriers that prevent individuals and/or groups from fully participating in all social, economic, cultural, spiritual and political aspects of society. The term is often linked to people with disabilities and their rights to access, and also refers to universal design characteristics of products, devices, information, programs, services, infrastructure that enable independent use, or support when required, and access by people with a variety of disabilities.
Accessible	If a place or building is accessible to people, it is easy for them to reach it or get into it. If an object is accessible, it is easy to reach. The concept of accessible design ensures both direct and indirect access (compatibility with assistive technology).
ADA	The Americans with Disabilities Act of 1990 prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. www.ada.gov provides information and technical assistance on the ADA, including the 2010 ADA Standards for <i>Accessible Design</i> .
Age-friendly	In an age-friendly community, policies, services and structures related to the physical and social environment are designed to support and enable older people to “age actively”.
Amenities	Washrooms, rooms for public use, bus stops, playgrounds, picnic areas, day lockers, bike lockers and / or racks, etc.

Assistive listening devices

Devices that may amplify sound and transmit audio information. The overall goal is to improve the sound to noise ratio and assist a deaf or hard of hearing person in receiving audio content. Assistive listening devices may include FM systems, *infrared systems*, and *induction loop systems*. Each system has its own strengths and best-case scenarios for application.

Barriers

Means anything, including any attitudinal, systemic, physical, communication and technology barrier; anything that is the result of a policy or a practice that hinders the full and equitable participation in society of persons with a physical, mental, intellectual, learning, communication or sensory impairment or a functional limitation.

- **Attitudinal Barriers** are behaviours, perceptions, and assumptions that discriminate against persons with disabilities. These barriers often emerge from a lack of understanding, which can lead people to ignore, to judge, or have misconceptions about a person with a disability.
 - **Communications Barriers** occur when sensory disabilities, such as hearing, seeing, or learning disabilities, have not been considered. These barriers relate to both the sending and receiving of information.
 - **Physical Barriers** are obstacles that make it difficult for some to easily access a place. These include elements of buildings or outdoor spaces that create barriers to persons with disabilities.
 - **Systemic Barriers** are policies, procedures, or practices that unfairly discriminate and can prevent individuals from participating fully in a situation. Systemic barriers are often put into place unintentionally.
 - **Technology Barriers** occur when a device or technological platform is not accessible to its intended audience and cannot be used with an assistive device. Technology can enhance the user experience, but it can also create unintentional barriers for some users. Technology barriers are often related to information and communications barriers.
-

Barrier-free Absence of obstacles, allowing persons with physical, cognitive or sensory impairments safer or easier access to *pathways*, open spaces, amenities, facilities, services or activities.

Barrier-free path of travel A path of travel is an interior or exterior path a person might reasonably be expected to move through to get from one point to another. A *barrier-free path of travel* is one that is designed to accommodate all users.

Bathroom For the purposes of this document, a *bathroom* is defined as a room for personal hygiene activities in a residential building and generally containing a toilet, a lavatory (basin) and either a bathtub, a shower, or both.

Cane detectable An object that protrudes from walls or freestanding supports by more than 100 mm can be said to be *cane detectable* when it is located 680 mm above the walking surface, or below this level. If an object protrudes at a level higher than 680 mm and below 2030 mm, it can be made *cane detectable* if there is a railing, planter, or other *cane detectable* barrier placed at or below 680 mm from the walking surface.

Clearing Our Path The CNIB online document "[Clearing Our Path](#)" provides information on creating *accessible* environments for people with low vision. This second edition of "[Clearing Our Path](#)" is enhanced with new research, new international standards and new technology advancements. See Appendix for a link to the document.

Closed captioning A process of displaying text on a screen or visual display to provide someone who is Deaf or hard of hearing with audio content that they would otherwise be unable to access. Closed captioning may also include descriptions of non-speech elements.

Colour contrast	The degree of difference between one colour and another on the colour wheel. The more visually different the colours, the greater the contrast.
Community park	Community parks are the basic units of the park system. They are intended to be frequent in the landscape, and flexible enough in programming to meet the social and recreational needs of most people in their catchment area. Some community parks are co-located with Community leagues or schools (usually elementary schools) and may be managed under a joint-use agreement or occupancy license.
Curb ramp	A solid (usually concrete) ramp graded down from the top surface of a sidewalk to the surface of an adjoining street.
Disability(ies)	Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations (World Health Organization).
District park	District parks are designed to meet the needs of multiple communities, such as a City quadrant or collection of neighborhoods under an Area Structure Plan. They may be more specialized than community parks, but may also provide multifunctional amenities. Some district parks contain unique attractions (e.g. Argyll Park Velodrome, Muttart Conservatory). The size and programming depends on the community where they are located, and the provision of amenities in the larger community.

Ecological park Ecological Parks are public open spaces specifically intended to protect an area of land or water (or both) that is dominated by native vegetation in naturally occurring patterns. Ecological parks are managed for the primary purpose of preserving natural processes, species and habitat elements. Human activities are primarily passive (e.g. nature interpretation, nature appreciation, etc.) with the exception of shared trails for walking, bicycling and jogging where those uses do not compromise the primary purpose of protection. (breathe)

FM radio frequency system Frequency Modulation (FM) systems transmit sound on a specific frequency. The transmission is received by a small device that can be connected directly to a person's hearing aid via a Direct Audio Input. FM systems are generally used for large public facilities, such as airports and other transport terminals. When clearly marked, the FM broadcast area provides the traveler with an easily located listening zone so all information, especially important announcements, is readily available.

Greenway *Greenways* are linear, publicly accessible open spaces that are large enough to operate as parkland, providing opportunities for active transportation, recreation or social encounters in addition to their role as connectors. (breathe)

Guy-wire A tensioned cable designed to add stability to a freestanding structure.

Inclusive Design *Inclusive Design*, when used in respect to a dwelling or sleeping unit, is a design approach that allows the unit to be used as a primary residence for any resident, regardless of that person's age, or existing or potential physical limitations (City of Edmonton Zoning Bylaw).

Inclusive fitness equipment

Equipment that enables people with various abilities to benefit from a full body, cardiovascular and resistance based workout.

Induction loop system

Induction loop systems work with hearing aids. An induction loop wire is permanently installed, (typically under flooring or in the ceiling), and connects to a microphone used by a speaker. The person talking into the microphone generates a current in the wire which creates an electromagnetic field in the room. The hearing aid telecoil picks up the electromagnetic signal when the T-switch is turned on. The volume of the signal is managed through the hearing aid volume control setting. Hearing loops provide the benefit of individuals not requiring to request or wear any additional equipment.

Infrared system

Instead of using sound frequencies, infrared technology uses infrared radiation to deliver sound from a transmitter to the hard of hearing or deaf person. The hard of hearing person wears a receiver or headset which works in conjunction with a loop or a T-switch in his/her hearing aid. The infrared signal will not transmit to the listener through walls or when the signal is interrupted by a moving object or person. *Infrared systems* are suitable for listening in both large and small groups while watching TV, listening to the radio, in meetings or other public venues. Both FM and *infrared systems* are available as personal listening devices, or may be provided in public venues such as meeting rooms, lecture halls, places of worship and theatres. The infrared rays are contained within an enclosed space in which they are being used for transmission. *Infrared systems* shall be shielded from the sun to avoid a decrease in transmission strength.

Lavatory

A sink or wash basin located in a washroom or bathroom.

Metropolitan park Metropolitan parks are large feature parks intended to provide value to residents and visitors throughout Edmonton and the greater metro region. Metropolitan parks have a variety of functions and uses, but usually contain features and amenities that are not available elsewhere in the City.

Open space An area of outdoor land (hard or soft surface) or water that is publicly owned or publicly *accessible*, including municipal parks, civic spaces, provincial or federal parkland, institutional campuses, and other public spaces.

Pocket park Pocket parks are small open spaces meant to serve the nearby neighbourhood and may contain only one *amenity* or serve one of the functions of open space (e.g. a playground, adult fitness, or seating area).

Principles of universal design The concept of universal design was developed by Ronald Mace, the founder and former program director of The Center for Universal Design at North Carolina State University. Universal design can be thought of as a living, evolving approach to design that considers the varied abilities of users. A working group of architects, product designers, engineers and environmental designers defined seven principles of universal design in 1997. The seven principles are:

- 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 conditions or the user's sensory abilities.
-

Principles of universal design
(continued)

- 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 efficiently and comfortably with minimum fatigue.
- 7. Size and Space for Approach and Use:** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.

Seating node

A *seating node* is a minimum of two benches or equivalent to provide a variety of seating options to accommodate various abilities. The options include a combination of armrests/ armless and backrests / backless.

Senior

Refers to people generally ages 55 years and older.

Senior centre

A type of community centre where older adults can congregate to fulfill many of their social, physical, emotional and intellectual needs.

Shared Pathway (Paved)

Paved, off-street paths made for many activities. You can bike, walk, run and more, except where otherwise indicated by signage. This is the highest level of shared use infrastructure. These are key connectors in many areas and across the City.

Shared Trail (Unpaved)

Trails are typically hard-packed granular, gravel or dirt. They are shared use, except where otherwise indicated by local signage. Shared use generally includes walking and cycling, but also includes horses in designated areas.

Suite

A room or series of rooms of similar use, under a single tenancy, and includes residential dwelling units (houses), motel/hotel rooms, stores, offices, etc.

Tactile Walking Surface Indicator (TWSI)

(Content from Safety Codes Council – Barrier-Free Design Guide – Fifth Edition – Summer 2017)

Tactile walking surface indicators (TWSIs), sometimes known as detectable warning surfaces, are standardized walking surfaces that convey information to people with low vision through texture, and, occasionally, through sound.

There are two types of TWSI:

1) Attention TWSIs, sometimes called warning TWSIs, call attention to key hazards, such as the start of a staircase or the edge of a platform in a subway station.

CNIB recommends attention TWSIs consist of circular, flat-topped domes installed on a walking surface.

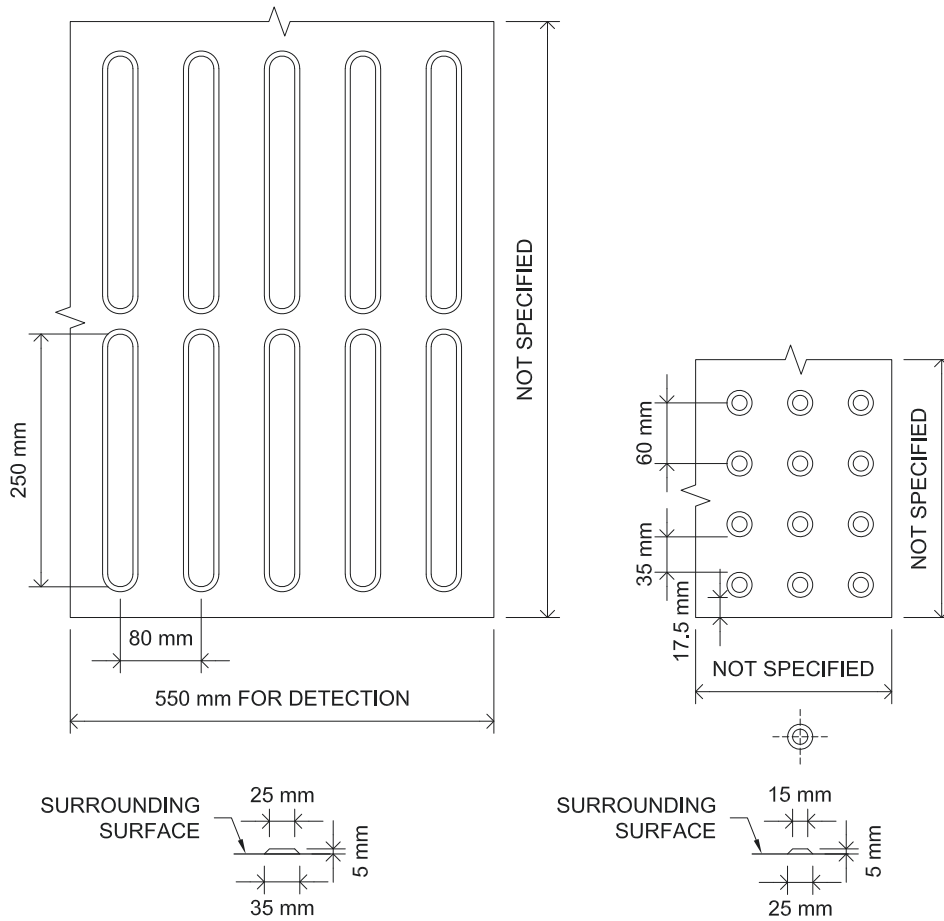
Attention TWSIs shall have the following specifications:

1. The height of the flat-topped domes shall be 5mm +/- 1mm.
 2. The diameter of the top of the flat-topped domes shall be between 12 mm and 20mm.
 3. The diameter of the lower base of the flat-topped domes shall be 10mm +/- 1mm more than the diameter of the top.
 4. The distance between the bases of adjacent domes shall be a minimum of 15mm.
-

Tactile Walking Surface Indicator (TWSI)

(continued)

- The spacing between adjacent flat-topped domes shall be adjusted depending on the size of the domes, as shown in the table below. The larger the individual domes, the farther the space between them:



Tactile Walking Surface Indicator (TWSI)*(continued)*

2. Guidance TWSIs, also known as *wayfinding* TWSIs, provide information about the direction of travel through open spaces. They are designed to guide a person on a designated path of travel. CNIB recommends guidance TWSIs consist of a guiding pattern constructed of parallel flat topped elongated bars that extend in the direction of travel. CNIB recommends guidance TWSIs have the following specifications:

They shall be a minimum width of 250mm and a maximum of 550mm.

- They shall have a minimum clearance of 600mm on either side of them.
- The height of the bars shall be 5mm +/- 1mm.
- The width of the top of the flat-topped elongated bars shall be between 17 mm and 30 mm.
- The width of the base of the bars shall be 10mm +/- 1mm wider than the top.

The spacing between adjacent flat-topped bars shall be adjusted depending on the size of the bars, as shown in the table below. The larger the individual bars, the farther the space between them: When used to cross the path of travel, in locations such as bus shelters, guidance TWSIs shall be a minimum width of 550mm to ensure detection.

TTY (teletypewriter)

A device that allows a user to communicate over a phone line by typing a message. This device was formerly known as a TDD, a Telecommunications Device for the Deaf and hard of hearing. The acronym TTY can also refer to a Text Telephone. A TTY is required at both ends of a conversation. If a TTY is unavailable on the receiving end, Telecommunication Relay Services are also available from telephone service providers. A deaf or hard of hearing person, or person with a speech impediment may use a TTY to type their conversation to a relay agent who then reads the typed conversation to the other party. The relay agent then types the other party's spoken words back to the TTY user.

Washroom For the purposes of this document, a washroom is defined as a room with a toilet and a place to wash your hands in it, in a public facility.

Water play areas External play areas with water features such as spray spouts, interactive fountain, wet deck, splash pad, spray pad, spray park, etc. for recreation and refreshment.

Wayfinding Signage, cartographic materials and design techniques that provide information about location, orientation and surroundings in order to support navigation.

APPENDIX – REFERENCE DOCUMENTS AND LINKS

[3.8 Accessibility Guide, National Building Code–2019 Alberta Edition](#)

City of Edmonton

[Accessibility for People with Disabilities, City of Edmonton Administrative Directive A1472](#)

[Accessibility for People with Disabilities, City of Edmonton Administrative Procedure](#)

[Accessibility for People with Disabilities, City of Edmonton Policy C602](#)

[Accessible Canada Act](#)

[Accessible Design for the Built Environment](#)

The Canadian Standards Association B651-12 (R2017)

[Accessible Temporary Events, A Planning Guide](#)

NC State University The Center for Universal Design

[Alberta Building Code](#)

National Research Council Canada latest edition

[breathe: Edmonton's Green Network Strategy](#)

City of Edmonton

[Child Friendly Design – “Planning for Children in New Vertical Communities”](#)

City of Toronto

[City Design and Construction Standards](#)

City of Edmonton

[City of Edmonton Road Safety Strategy – Vision Zero](#)

City of Edmonton

[**City Policy C573A: Complete Streets**](#)

City of Edmonton

[**City Policy C576: Light Efficient Community Policy**](#)

City of Edmonton

[**Clear Print Accessibility Guide**](#)

CNIB

[**Clearing Our Path: Creating Accessible Environments for People with Vision loss**](#)

CNIB

[**Complete Streets Design and Construction Standards**](#)

City of Edmonton

[**Construction Hoarding, City of Edmonton Policy C580A**](#)

City of Edmonton

[**Crime Prevention Through Environmental Design – Design Guide for a Safer City**](#)

City of Edmonton

[**Dementia Strategy for Canada**](#)

Government of Canada June 2019

[**Designing New Neighbourhoods**](#)

Guidelines for Edmonton's Future Residential Communities

[**Downtown & The Quarters Downtown Streetscape Design Manual**](#)

City of Edmonton

[**Edmonton Main Streets Guidelines**](#)

City of Edmonton

[**Edmonton's Transit Strategy**](#)

City of Edmonton

[**Geometric Design Guide for Canadian Roads**](#)

Transportation Association of Canada

[Home for life](#)

[Inclusive Design: Edmonton Zoning Bylaw 12800 Section 93 bylaws 15998 and 18171](#)

[LRT Design Guidelines](#)

City of Edmonton

[Playspace and Wheeled Sport Facility Design and Construction Standards](#)

City of Edmonton

[Procedures for On-Street Construction Safety](#)

City of Edmonton

[Safety Codes Council – Barrier-Free Design Guide – Fifth Edition – Summer 2017 latest edition](#)

Alberta Government publication by Safety Codes Council

[Sledge Hockey Accessibility: Design Guidelines for Arenas](#)

as recognized by Hockey Canada published by Canadian Recreation Facilities Council.

Transit Design Guidelines

(Can be obtained from City of Edmonton Project Manager)

[Transit Oriented Development Guidelines](#)

City of Edmonton

[Vision for an Age-Friendly Edmonton Action Plan facilitated](#)

Edmonton Seniors Coordinating Council and published by City of Edmonton

[Winter Design Guidelines: Transforming Edmonton into a Great Winter City](#)

City of Edmonton