HANDBOOK FOR CONSTRUCTING ACCESSIBLE AND BARRIER-FREE INFRASTRUCTURE IN PUBLIC SPACES, LEISURE ZONES AND TOURISM DESTINATIONS

ESAF

ESAF FOUNDATION

Handbook for Constructing Accessible and Barrier-free Infrastructure in Public Spaces, Leisure Zones and Tourism Destinations

PROJECT PARTNER

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FOREWORD

K Paul Thomas
Founder - ESAF Group of Social Enterprises

I am delighted to know that ESAF Foundation is publishing a well-researched handbook that serves as a ready reference for policymakers, urban planners, academicians, CSO's and any stakeholders who are engaged in creating public spaces that are accessible and barrier-free.

Goal 11 of the Sustainable Development Goals mandates us to make cities and human settlements inclusive, safe, resilient, and sustainable. The reason for the absence of persons with disabilities in public spaces and tourist destinations is that these places are not designed to be inclusive, safe, and resilient. Public spaces are for all and no one should be left behind. It is this strong conviction that continues to drive ESAF in advocating for cities that are liveable for all.

For more than a decade, ESAF Foundation has been strongly advocating to make cities liveable and child-friendly. It is highly appreciable that the advocacy efforts of ESAF Foundation are coming to fruition at various levels. This handbook is a testament to the fact that we are providing thought leadership in the area of making public spaces accessible for all.

I am confident that the research and detail that has gone into this book will certainly serve as a ready reckoner for urban practitioners and policymakers.

FOREWORD

Mereena Paul
Executive Director
ESAF Foundation

We live in times where infrastructure in cities and urban spaces is growing rapidly. Most often we fail to think if the cities we develop are suited for the people who are going to inhabit them. Any development that is not inclusive is not sustainable development. Hence, there is a deliberate need to design public spaces that are gender sensitive and disabled-friendly.

Access to opportunities for women and people from marginalised communities is at the core of every activity at ESAF Foundation. If women and people with disabilities are prevented from accessing public spaces, it is a denial of their rights and many opportunities for their empowerment that they rightly deserve.

For long, ESAF Foundation has been lending its voice to sensitize stakeholders on the need to design accessible public spaces and tourist destinations. It is encouraging to see that our advocacy campaigns have resulted in policy-level changes in different cities. We have also realised that there is greater scope for systematic research in this area.

I'm extremely happy that the 'Handbook for constructing accessible and barrier-free infrastructure in public spaces, leisure zones and tourism destinations' will add great value to practical research in making cities liveable for all. We hope this will be instrumental in developing public spaces that are inclusive.

FOREWORD

Dr. Jacob Samuel
Director Programs,
ESAF Foundation

Over the past few years, ESAF Foundation has been building awareness, delivering trainings, and creating the tools needed to bring the open public spaces in India up to modern standards. These standards recognize the importance of these urban play spaces for children's healthy development, the integration of healthy children with and without disabilities and the value these places add to the quality of life in the community.

Throughout the years, we have learnt that a well designed and well managed play environment that puts children first will provide the essential play experiences that are fundamental to a happy and healthy childhood, and benefit the family and community at large.

All children need to play. All children have the right to play. It has been our vision to build a society that respects, protects and fulfils the Children's Right to Play, where children can enjoy their childhood. We will continue to advocate the value of play and seek societal commitment to meet the play needs of every child at policy, planning and provisional level.

Agencies that provide and have responsibility for play spaces have an especially important role. Designers have the chance to use their creativity fully to design inclusive play spaces that support children of all abilities to play together as they choose rather than separating them. And children have a lot to teach us about how we can approach the creation of spaces that give them opportunities that are fun, spontaneous and challenging.

This Handbook has been created to build professional and public awareness on the importance of inclusive play space development. We hope that it will serve as a reference guide for development of more inclusive play spaces in India.

chapter 1

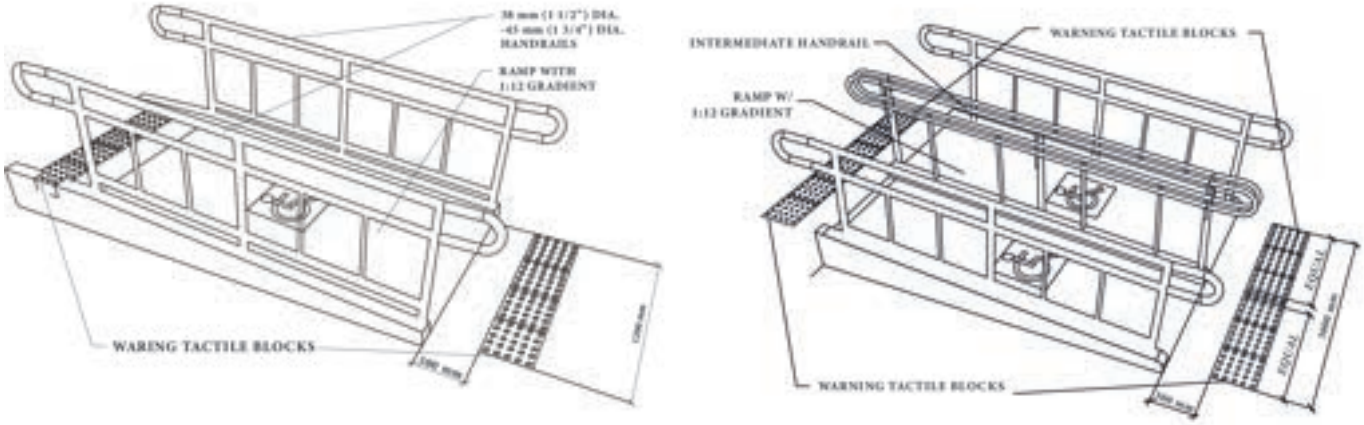
GENERAL ACCESSIBLE FEATURES NEEDED IN ALL PUBLIC AREAS

1.1 EXTERIOR INFRASTRUCTURE

1.1.1 Entrance & Parking

Entrance of park must be accessible and barrier-free with step free entry, alternate ramped entrance to steps, handrails at two levels on ramps and stairs, tactile orientation (Guiding and warning blocks for the visually impaired users), colour contrasted nosing on stairs.

Accessible parking close to the entrance of each park. Accessible drop off and pick up points/bays near the parking lot should be available.



Design of ramp wider than 1.20 m but not less than 3000 mm requiring intermediate handrails

1.1.2 Accessible Parking Spaces

- One preferential accessible parking bay shall be provided with proper access, proper designation and directional signage in the car parks near the accessible entrance of every public space and should be preferably covered.
- The car park entrance should have a height clearance of at least 2400 mm. The minimum width for a parking space for persons with a disability shall be 3600 mm x 5000 mm.
- The common loading/unloading area shall have at least 1200 mm width and be marked with yellow hatched markings.
- International symbol of accessibility (wheelchair sign) should be clearly marked on the accessible parking lot for drivers/riders with disabilities only.

Total No. Car Parking Space in Lot	Required No. of Accessible Car Parking Spaces
1 - 50	1
51 - 150	2
151 - 250	3
251 - 350	4
351 - 450	5
Above 450	6

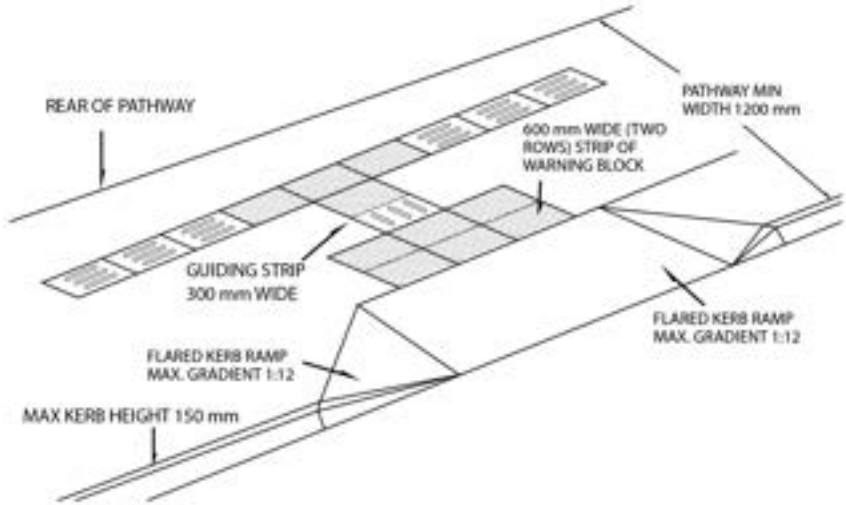
1.1.3 Footpaths/Sidewalks

Continuous pavements with minimum clearing walking zones of 1800 mm width for one-way movement in residential areas and 2400 mm (commercial/mixed use streets), 4000 mm (commercial nodes) for two-way barrier free movement of NMT (Non-motorized Transportation)/Persons with Disabilities.

- Minimum 2400 mm clear height- free of obstructions like tree branches, advertisement panels, posts, poles, junction boxes, public utility structure etc.
- To have non-slip floor surface & should be along the entire length of the road.
- Have well defined edges of paths and routes by use of different textures & contrasting colours mandated by IRC (Indian Road Congress) & UTTIPEC (Unified Traffic and Transportation Infrastructure (Planning & Engineering) Centre) guidelines on kerb markings (E.g. yellow lines and shades of white and black for kerb).
- Maximum pavement height including kerb, walking surface, top of paving etc not to exceed 150 mm. For arterial roads it should not exceed 100 mm.
- The clear width of an access route shall be not less than 1200 mm and for two-way traffic it should be 1650 mm- 1800 mm wide. It shall not be more than 150 mm high.
- The walkway should not have a gradient exceeding 1:20. It also refers to cross slope.

Footpaths with height of no more than 150 mm and colour codes are preferred

- Tactile guiding blocks for vision impaired and warning blocks next to all entry and exit points from the walkway and level or direction changes.



- Kerb cuts at zebra crossings and intersections.
- Some of the following traffic calming measures shall be installed 20 m before and after the park entrance:
    - Speed breaker humps.
    - TableTop pedestrian crossings.

1.2 INTERIOR INFRASTRUCTURE

1.2.1 Pathways inside the Park

Pathways include paved and unpaved footpaths. They must be safe for all users, particularly people with low vision and blindness or mobility disability. The pathways shall be clear of all obstructions and shall have slopes that do not exceed a gradient of 1:20. Tactile tiling shall be installed on pedestrian routes of travel, with a minimum 30% luminance contrast to adjacent surfaces. Kerbs shall be ensured, where necessary between 70 mm and 150 mm high. Points to be considered include;

- Non slippery and levelled pathways bordered by a handrail.
- Play space design needs to provide one access route into the play area and make it accessible to all people with diverse abilities.
- Pavement design should incorporate tactile guide blocks.
- Tactile guiding blocks for vision impaired and warning blocks next to all entry and exit points from the walkway and level or direction changes.
- Ramps with handrails throughout the park.

Vilangan Hills, Kerala

Nattika Beach, Kerala

UN-Habitat Global Public Space Programme
Munambam Muziris Beach, Ernakulam

Walkway towards the beach

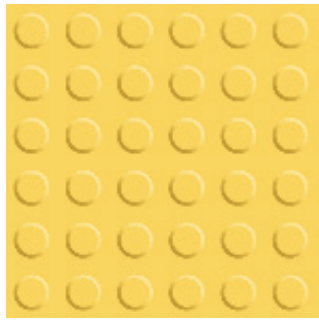
1.2.2 Detectable Warning Surfaces

Detectable warning surfaces provide important navigational cues for persons with a visual impairment. These surfaces alert all pedestrians to potential hazards and include a change in texture and high color contrast, but should not present a tripping hazard. Detectable warning surfaces should be used consistently throughout a facility.

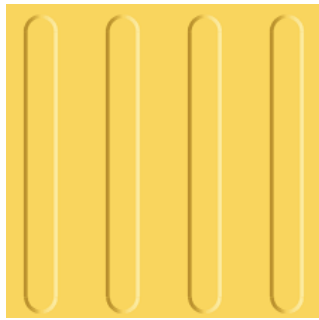
1.2.3 Tactile Surface

Line-type blocks (Guiding Tile): indicate the correct path/route to follow.

Dot-type blocks (Warning Tile): indicate warning signal, to screen off obstacles, drop-offs or other hazards, to discourage movement in an incorrect direction and to warn of a corner or junction. Ahead these tiles shall be placed 300 mm at the beginning and end of the ramps, stairs and entrance to any door.

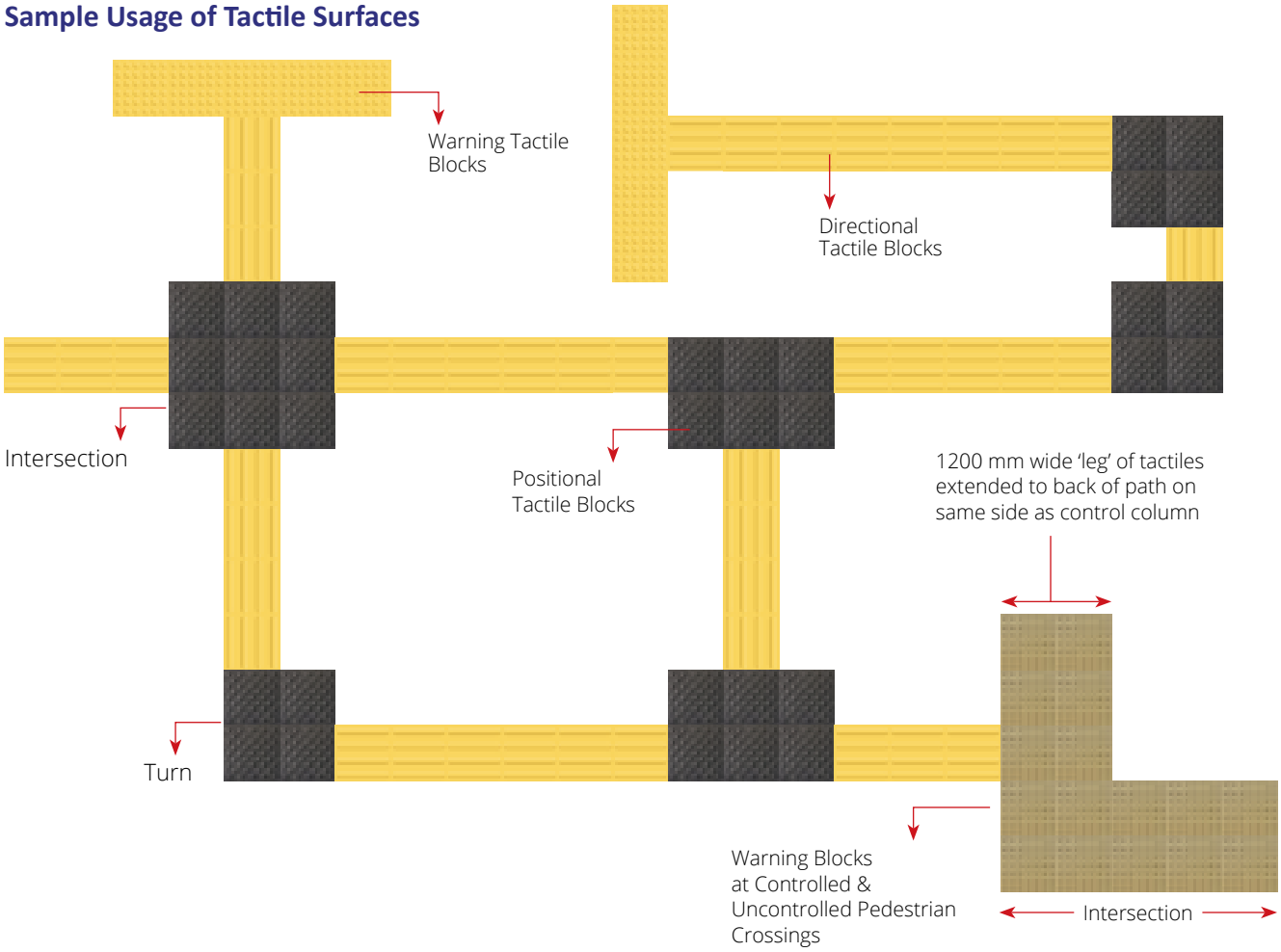


Warning Block



Guiding Block

Sample Usage of Tactile Surfaces

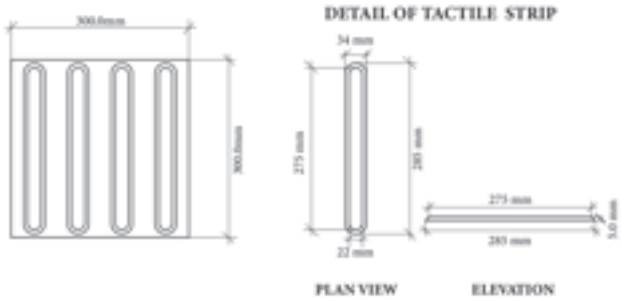


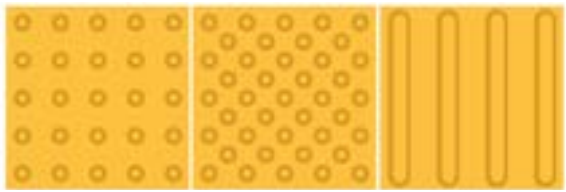
Warning Tactile Blocks :
Indication of Potential Hazards Ahead

Positional Tactile Blocks :
Indication of Possible Change In Walking Directions

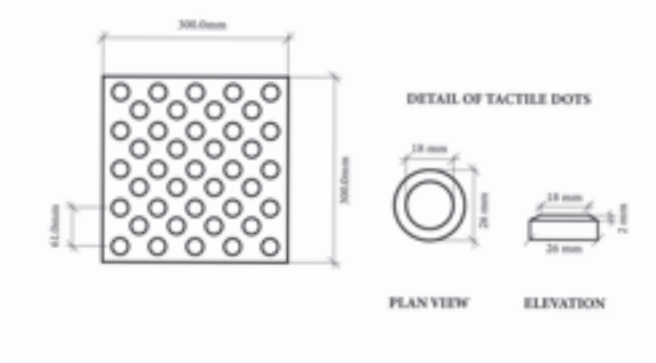
Directional Tactile Blocks :
Indication of Intended Safe Path

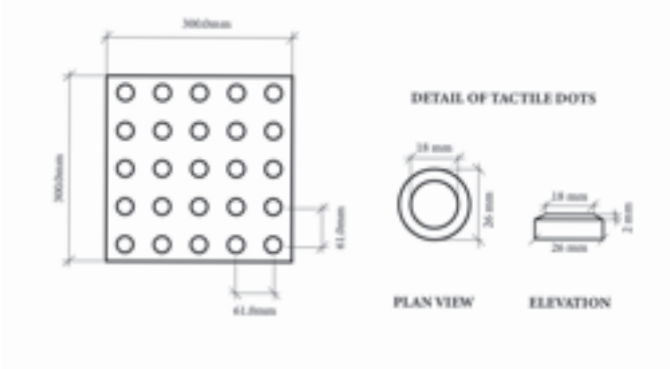
Warning Tactile Block | *Positional Tactile Block* | *Directional Tactile Block*





Warning Tactile Block | Positional Tactile Block | Directional Tactile Block





APPLICATION OF TACTILE GROUND SURFACE INDICATORS

Principles of application

When considering the application of tactile ground surface indicators, four major principles shall be taken into consideration.

1. Minimalist application

Tactile ground surface indicators acts as landmarks. As such, its application must be targeted and minimised as far as possible. Widespread ad hoc application of tactile ground surface indicators will confuse rather than inform, and will compromise the effectiveness of the specific cue being provided.

2. Dimensions

The dimensions of the treatment are critical. Remembering that tactile ground surface indicators will be identified under foot, it is important to ensure that a minimum depth of treatment is applied. To be detectable under foot, the treatment must make contact with the ball of the foot. To ensure this will always occur, treatments must have a minimum depth of 600 mm in the direction of travel. This dimension applies to both warning and direction treatments at their initial point of identification.

3. Colour and Luminance contrast

3.1. Tactile ground surface indicators should be coloured and luminance contrasted against their surrounding surfaces. This will greatly assist those using their residual vision to move around.

3.2. Many people with low vision also have difficulty distinguishing between different colours particularly if they appear next to each other. For example, the “tomato effect”, that is red on green, does not provide adequate luminance contrast and as such will be extremely difficult to identify. For this reason, a minimum luminance contrast of 30% is required to fulfil this principle. However, a luminance contrast of 50% is recommended.

3.3. There are different ways in which tactile ground surface indicators can be installed and with different luminance contrasts. Tactile ground surface indicators can be installed as:

- Integrated units: Tile-like units where the background and raised domes are made of the same material;
- Discrete units: Separate domes installed to provide the effect of a tile on an existing surface. The raised domes are inserted into the background surface; and
- Composite discrete units: Similar to discrete with the exception that the truncated sides of the domes or the directional markers are a different colour to the upper surface. The composite discrete tactile ground surface indicator is generally manufactured this way to incorporate a superior slip resistant surface.

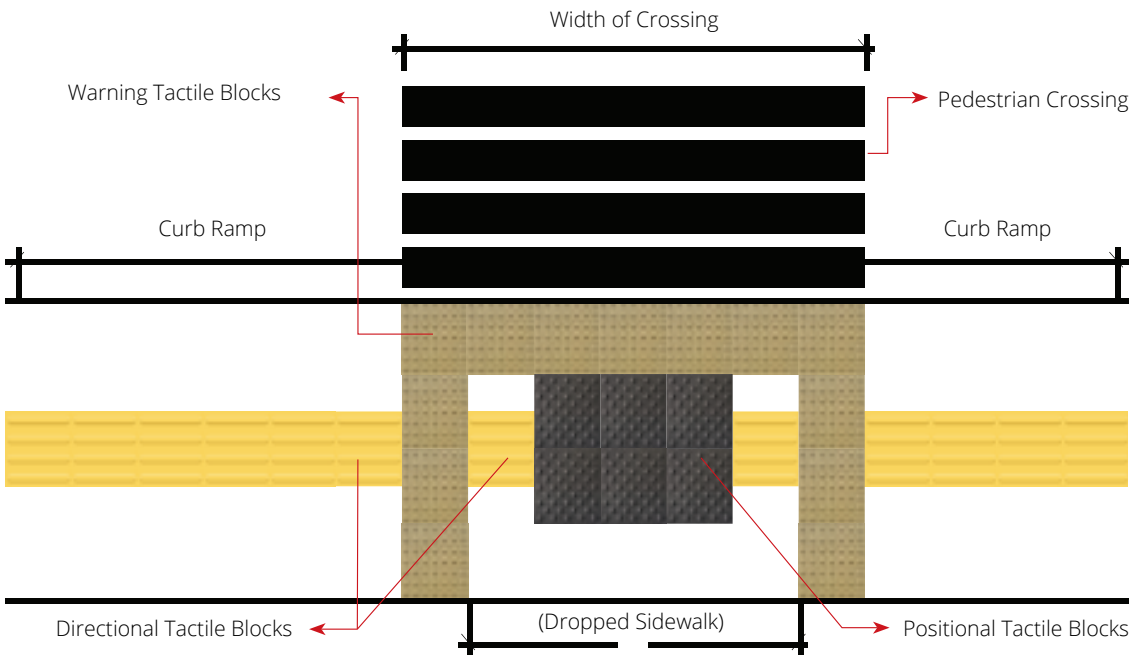
3.4. The luminance contrast requirements of each type of tactile ground surface indicators are as follows:

Tactile Ground Surface Indicator	Luminance Contrast Requirement
Integrated	0.30 to 30%
Discrete	0.45 or 45%
Composite Discrete	0.60 or 60%

4. Orientation and position

4.1. In general, a warning treatment should be applied in a perpendicular direction, which is at 90 degrees, to the line of approach or to the target object. In addition, a warning treatment should be set back 300 mm from the hazard or target object.

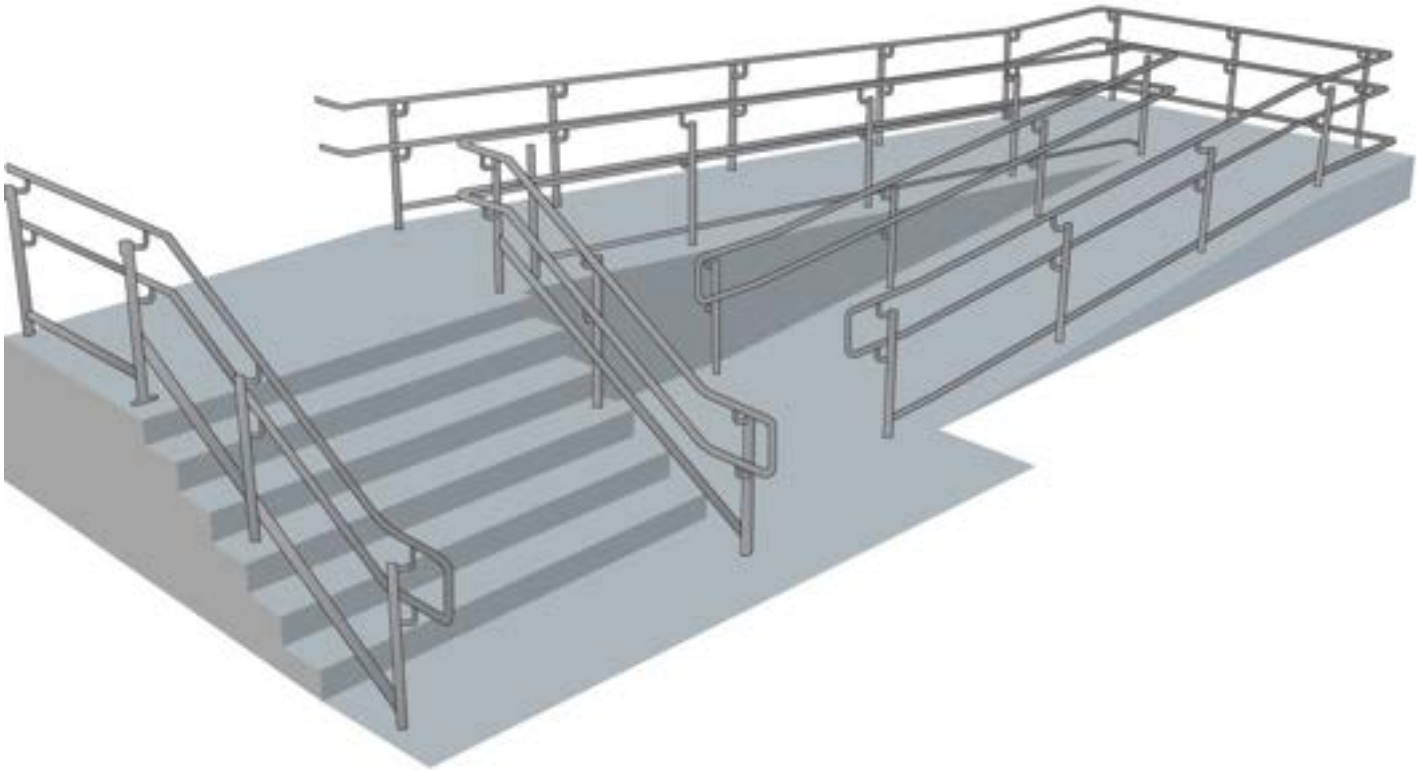
4.2. A directional treatment is usually applied along the center line of the indicated path of travel and must provide a minimum clear width on either side of at least 800 mm in which there is no obstacle or obstruction.



1.2.4 Ramps

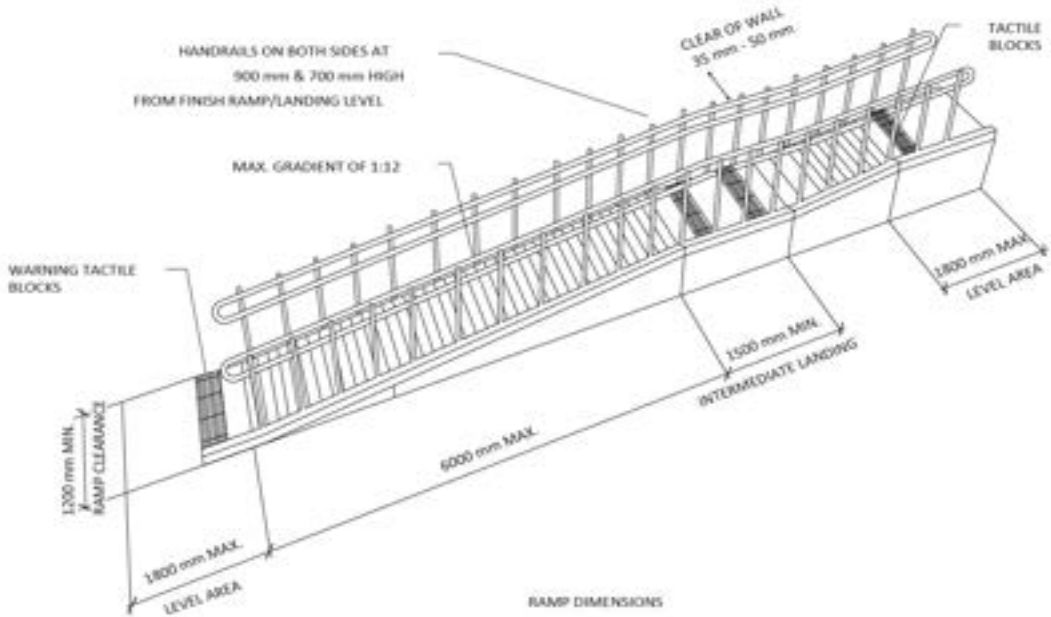
- Ramp as per standards have to be provided as alternate access at front/rear/side entrance of every facility where it is absent. Existing ramps with steep slope have to be modified to match standard slope. The floor and wall along ramps shall be in contrasting colours. Accessible directional, multilingual and tactile signage is to be provided as per standards to show the ramp access.

- The minimum clear width of a ramp should be 1200 mm. A ramp shall not be less than 1200 mm in width. No ramp shall be steeper than 1 in 12 gradients. A clear space of not less than ramp's width shall be provided at the head and foot of every ramp. A kerb of at least 100 mm high or a rail 200 mm above ramp level shall be provided on both sides to prevent wheelchair from slipping over the edge. A clear, firm and level landing of at least 1800 mm x 1800 mm should be provided on either side of the entrance door.



Level difference	Minimum gradient of Ramp	Ramp Width	Handrail on both sides	Comments
≥ 150 mm	1 : 12	1200 mm	√	Landings every 5 meters of ramp run Landings every 9 meters of ramp run
≤ 300 mm				
≥ 300 mm	1 : 12	1500 mm	√	
≤ 750 mm				
≥ 750 mm	1 : 15	1800 mm	√	
≤ 3000 mm				
≥ 3000 mm	1 : 20	1800 mm	√	Landings every 9 meters of ramp run

- Handrails have to be provided for additional support to ramps if they are absent. A ramp should have handrails on both sides. The handrail should be slip-resistant with round ends; have a circular or tubular not less than 38 mm and not greater than 50 mm in external diameter; have a minimum clear space of not less than 35 mm and not more than 50 mm clear of wall and with a clear height of 70 mm from the top of the bracket to the top of the handrail. They may be provided with braille or tactile markings at the beginning and the end for providing information to visually challenged.



1.2.5 Handrails

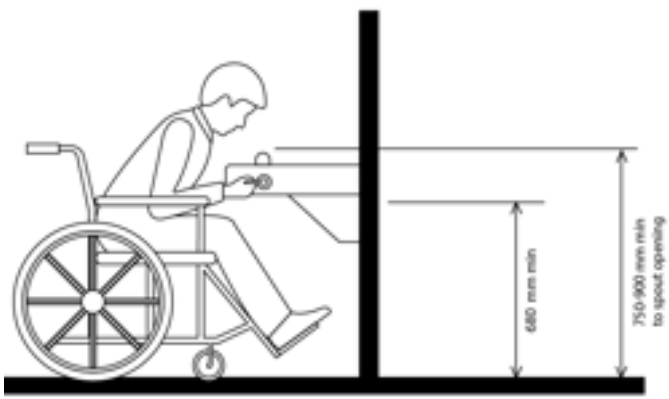
Handrails/Grab bars are extremely important features and must be designed to be easy to grasp and to provide a firm and comfortable grip so that the hand can slide along the rail without obstruction. Handrails should be circular with a diameter of 38 mm, at least 50 mm clear two levels- 760 mm and 900 mm from the finished floor, extend by at least 300 mm.

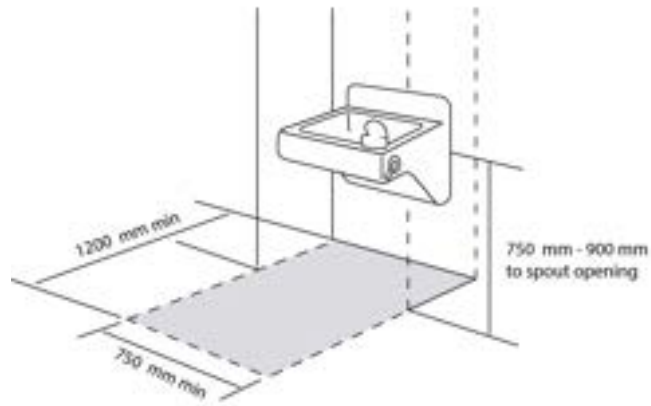
Grab bars should:

- Be slip-resistant with round ends.
- Have a circular section of 38-50 mm in diameter.
- Be free of any sharp or abrasive elements.
- Have continuous gripping surfaces, without interruptions or obstructions that can break a hand hold.
- Have a minimum clear space of 50 mm from the wall.
- Be installed at a height of 760 mm to 900 mm.

1.2.6 Accessible Drinking Water Fountain

- The fountain spout should have an opening located between 750 mm to 900 mm from the floor or ground surface and shall be located near to the front of the unit. It should direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit. The fountain shall provide a flow of water at least 100 mm high to allow for the insertion of a cup or glass.
- Automatic controls or controls with handles of the lever type operable with a closed fist should be provided. The controls should be at or near to the front of the fountain; be operable with one hand; and require no tight grasping, pinching, or twisting of the wrist.
- The spatial arrangement should allow for the provision of a clear floor space of at least 750 mm x 1200 mm for free standing or built-in- drinking water coolers or taps not having a knee space and a clear knee space between the bottom of the apron and floor and ground of at least 750 mm wide, 200 mm deep and 680 mm high between the bottom of the apron and the floor or ground. It should have a toe space not less than 750 mm wide, 230 mm deep and 230 mm high and have a water glass provision.





1.2.7 Accessible Wash Basin

- The accessible washbasin outside should be mounted with the rim at a height between 750 mm- 850 mm and at a distance of at least 400 mm from the side wall. There should be clear knee space of at least 750 mm height x 750 mm width x 200 mm depth under the wash basin. A clearance of 550 mm shall be maintained from the finished floor level to the bottom of the apron.

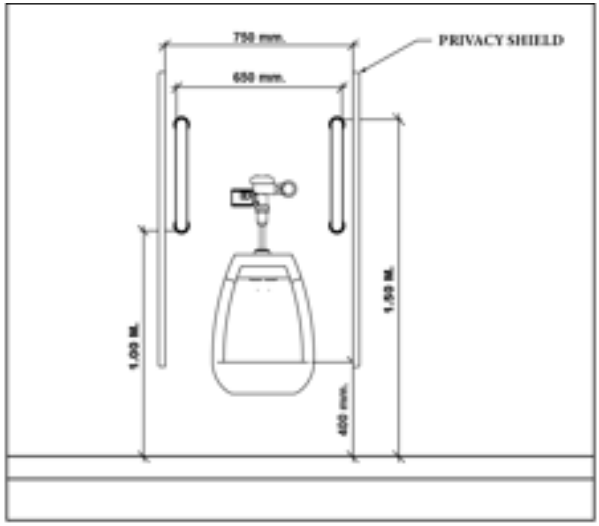
- The wash basin should have lever type center taps and mirror at a height of 900 mm- 1000 mm tilted at an angle of 30 degrees.

All dimensions in millimetres

1.2.8 Accessible Unisex Toilets

- Accessible toilet must consist of two cubicles each of size 2200 mm x 2000 mm for ladies and gents respectively or one cubicle of 2200 mm x 1750 mm for unisex toilet. The layout of the fixtures in the toilet should be such that there is a clear manoeuvring space of 1800 mm x 1800 mm in front of the water closet and wash basin in the accessible toilet unit. All fixtures and utilities should provide a clear space of 900 mm x 1200 mm for wheelchair users to access them.
- The toilet should have the toilet roll dispenser and hand water faucet mounted below the grab bars and at not more than 300 mm from the front edge of the seat and at a height between 50 mm and 200 mm from the top of the water closet seat.
- The toilet door should be either an outward opening door or two-way opening door or a sliding type and should provide a clear opening width of at least 900 mm. It should be provided with a horizontal pull-bar.
- At least one of the urinals in the Gents toilets on each floor should have grab bars; installed on each side and in the front of the urinal. A clear floor space 760 mm x 1220 mm should be provided in front of urinals to allow forward approach. Urinal shields may be provided with 750 mm clearance between them.
- The water closet (WC) shall be located between 460 mm to 480 mm from the center line of the water closet to the adjacent wall. It should have a clear dimension of 750 mm from the front edge. The top of the water closet seat should be 450 to 480 mm from the floor. There should be an adequate clear floor space of at least 1350 mm depth and 900 mm width. The flush control should not be located more than 1000 mm from the floor. Water closets should be provided with grab bars is mounted at a height between 200 mm and 250 mm from the water closet seat.

- The toilet shall be provided with a wash basin mounted with the rim not higher than 750 mm above the finished floor level. A clearance of 550 mm shall be maintained from the finished floor level to the bottom of the apron.
- The inclusion of certain features in the unisex accessible toilets will make it accessible to the visually impaired visitors as well. The four key considerations of blind persons when using special facilities include safety and hygiene, self-assistance, minimal influence with other users and pasting of Braille strips.

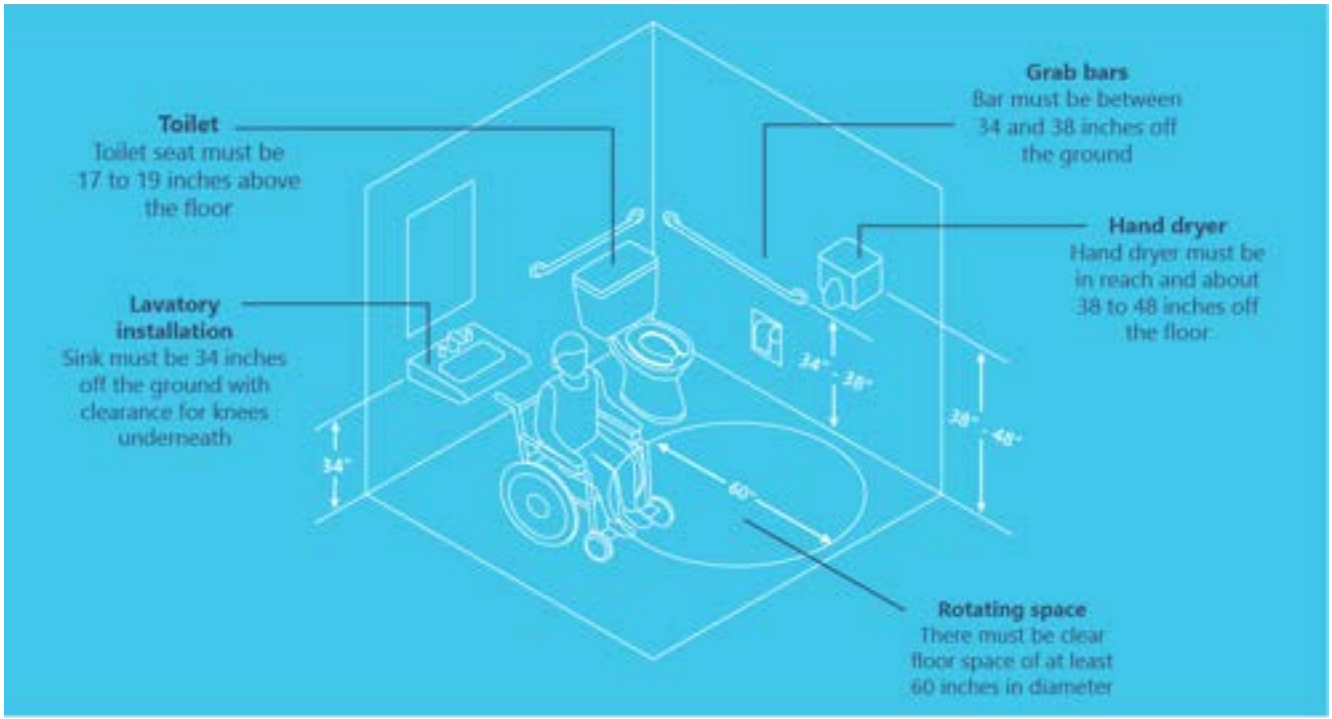


Accessible Urinal (Front Elevation)

Accessible toilets need to be designed to enable personal assistants of either sex to enter. It is important that accessible toilets do not open immediately onto a public area as this can be hazardous to visually impaired people, and can cause embarrassment should the door need to be opened to provide assistance to the user. In larger buildings left and right-hand toilet transfer positions should be allowed for. If other facilities are provided- such as baby-changing facilities, showers or first aid-access needs to be provided to both the space and the equipment.

1.2.9 Access for Visually Impaired Visitors in the Toilets

- The inclusion of certain features in the unisex accessible toilets will make it accessible to the visually impaired visitors as well.
- The four key considerations of blind persons when using special facilities;
    - Safety & Hygiene.
    - Self-assistance.
    - Minimal influence with other users.
    - Pasting of braille strips on the walls above the amenities provided will greatly help the visually impaired visitor in identifying the location and presence of the same.



Accessible Toilet Design Requirements

1.2.10 Signage

Signs shall give clear directions, information and instructions for the users. Sign should be erected to indicate clearly the locations of accessible routes through the site/facility. According to the purposes it serves, signage can be directional, information, identification, instructive, health and safety types.

- Signs should be provided at appropriate locations. Directional and identification signage shall be fixed at 1800 mm to 1400 mm from the finished floor level.
- The International Symbol of Accessibility is to be provided at conspicuous location for the purposes of identifying, advertising or signifying. Luminous contrast of not less than 70% should be provided to differentiate the international symbol of accessibility from the background, either light-on-dark or dark-on light. The commonly employed colors are white for the wheelchair figure and blue for the background.
- The height of signs shall be not less than the following: 60 mm for doors, 110 mm for corridors and 200 mm for external use.

Signboards should follow the guidelines below:

- Pictorial signboards along with wordings.
- Clear messages in simple fonts.
- Use both upper and lower cases.
- Avoid use of full stop.
- Minimum character size should be 150 mm.

- Use standard legible fonts such as Arial, Avant Garde, Times New Roman.
- Avoid italics or script texts and decorative and fancy typefaces.
- Since in a park, there is a lot of green in the background, recommended colour for the typeface is a white background for sign surface and black, blue or green typeface.
- Special signage: Braille signboards/leaflets.

1.2.11 Braille Signboards/Pamphlets

The destination shall provide Braille pamphlets or brochures and tactile maps for the use of visually challenged visitors/tourists.

- Braille pamphlets or brochures mentioning information about the destination.
- Braille menu in cafes and food outlets in the destination.
- A tactile map depicting the layout of the tourist site can also be provided.

CHERANI TOURISM VILLAGE

LOCATION:
CHERANI IN MANJERI

FACILITIES
- PARKING (OUTSIDE)
- OFFICE BLOCK
- TICKET COUNTER
- CHILDREN'S PARK
- AMPHITHEATRE
- MINI AUDITORIUM
- TOILETS
- LACTATION ROOM
- PARK BENCHES
- WHEEL CHAIR, WALKING AID & STRETCHER
- SECURITY STAFF

CONTACT NO: 0483 2721504
DISTRICT TOURISM PROMOTION COUNCIL MALAPPURAM
DESTINATION MANAGER: SRI. BINOY: 0000000000

BIYYAM BRIDGE TOURISM PARK

LOCATION:
BIYYAM IN MARAMCHERI NEAR PONNANI

FACILITIES
- PARKING (OUTSIDE)
- TICKET COUNTER (FOR GENERAL PARK)
- CHILDREN'S PARK (NO ENTRY TICKET)
- RAIN SHELTERS
- OPEN STAGE
- SNACK PARLOUR AND RESTAURANT
- ICE CREAM STALL
- TOILETS
- WHEEL CHAIR
- SECURITY STAFF

CONTACT NO: 0483 2721504
DISTRICT TOURISM PROMOTION COUNCIL MALAPPURAM
DESTINATION MANAGER: SRI. SUBRAMANIA V P: 9526013717

1.2.12 Assistive Devices

1.2.12.1 Wheelchairs

There shall be adequate number of assistive equipments and devices for use by persons with disabilities in the destination.

- Manual wheelchairs
- Motorized wheelchairs

All-Terrain Electric Wheelchair

TREKINETIC GTE - Ultra Lightweight Powerchair

MT Push - Off Road Terrain Attendant Wheelchair

TREKINETIC K2 - Lightweight Manual Wheelchair

1.2.12.2 Battery Cars/Accessible Transport

The provision for battery cars or specially designed vehicles for use inside the tourist destination shall be made available for the use of persons with disabilities and senior citizens. These can include:

- Battery operated buggy type vehicles
- Adapted electric vehicles

1.2.12.3 Assistance Dogs

Assistance dogs are used by people who are blind or who have a visual impairment, hearing impairments, epilepsy, diabetes, limited mobility, and others. It should be ensured at leisure and event sites to provide bowls of water and a designated spending (toilet) area for assistance dogs.

1.2.12.4 Public Address Systems

Public address systems should be designed to best accommodate all users, especially those that may be hard of hearing. Public address speakers should be mounted above head level and shall be in locations with minimum background noise. The systems used can be all point call systems (utilized for fire and emergency information), paging systems or visual systems.

1.2.12.5 Visual Alarms

Visual alarms are essential safety features for individuals who are deaf, deafened or hard of hearing such that they would not hear an audible alarm. They should be placed at 2100 mm above the floor level within the space or 150 mm below the ceiling, whichever is lower. The lamp used shall be a 75 candela nominal white xenon strobe type or equivalent 0.2 second pulse cycle (40% duty cycle) and a flash rate of 1 Hz to 3 Hz. Visual alarms shall be provided throughout the primary general circulation spaces and all public areas. All exits are clearly visible, marked, configured and illuminated to guide guests.

1.2.13 Assistive Listening Devices

Induction loop : This is a hearing enhancement system that assists people who wear hearing aids. Induction loop systems consist of a sound pick-up device, an amplifier, and a loop made of insulated wire, dimmer switches and transformer coils. It should be clearly indicated with signage.

Infrared System : Infrared hearing enhancement systems are based on light and use a transmitter that relays signals capable of being received by headphones.

FM Loop System : Radio hearing enhancement systems comprise an FM microphone/transmitter that is worn around the speaker's neck and a receiver worn around the user's neck.

Sound field systems : These hearing enhancement systems are amplification systems designed to give an even level of sound around a room. They comprise a microphone linked to a transmitter (either FM radio or infrared), a receiver/amplifier, and a number of speakers positioned around a room.

1.2.14 Information and Reception Counters

The counters in information centers, enquiry, cash counters, receptions, food courts and snack parlors have to be modified. Accessible directional, multilingual and tactile signage has to be provided as per standards in the counters.

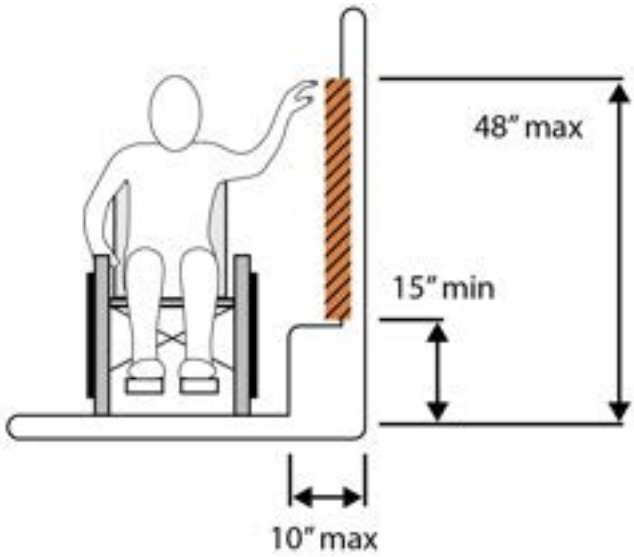
- Public information or service counters shall be provided with a portion not higher than 750 mm above the finished floor level and not less than 900 mm wide to assist wheelchair users.
- The counter should have a clear floor space of at least 900 mm x 1200 mm in front of it. Leg space of a depth between 400 mm- 600 mm and a height of not less than 680 mm above finished floor level shall be provided. It should have a clear knee space of 650- 750 mm high x 900 mm wide x 480 mm deep.

1.2.15 Information Systems

Push buttons or other controls for accessing public information systems should be clearly identifiable by color and/or tone from the background color, and should include raised numbers, numerals or symbols for easy identification by persons with a visual impairment.

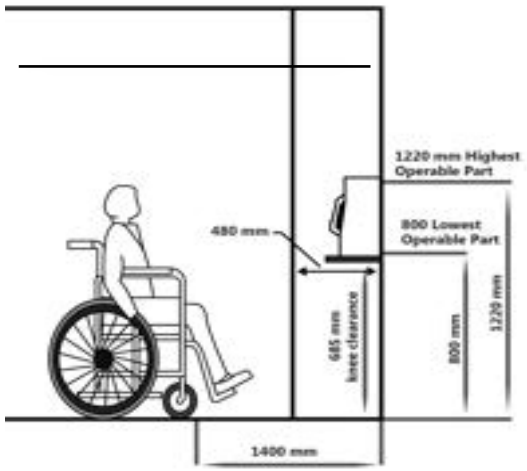
Video Display Terminals: Where information is provided by video display terminals to the general public, the same information should be provided in an alternative format, such as audio, Braille, and large-text 16-point print.

Interactive Terminals or Touch Screen Kiosks: Touch-screen video display, keyboard or keypad access should be mounted at an accessible height suitable for use by a person using a wheelchair, scooter, or a person of short stature. The kiosk shall have a screen reader and screen magnifier facility for assisting visually challenged and sign language software for assisting hearing impaired.



1.2.16 Accessible Telephone Booth

There should be a clear floor space of not less than 800 mm x 1400 mm deep in-front of the telephone to accommodate a forward approach. A space of 1400 mm x 1400 mm accommodates both a front and parallel/side approach. The clear floor or ground space may extend a maximum of 480 mm beneath the telephone only if a clear height of 685 mm is provided for knee space. Telephones should have push-button controls with coin slot at 1220 mm.

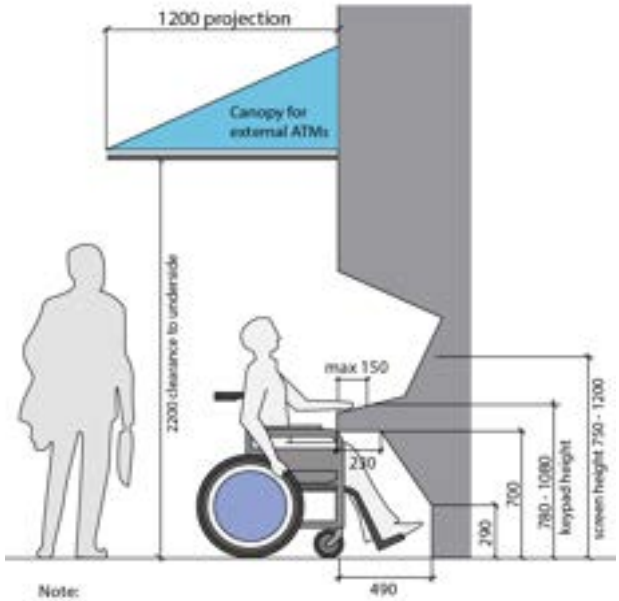


1.2.17 Payment Transaction Machines

Transaction machines shall provide input/output modes that everyone can use and shall be accessible and shall also allow different methods of payment. The operation controls shall be easy to use for all people.

1.2.18 Automatic Teller Machines (ATMs)

ATMs height and reach should be appropriate for different users, including those who use wheelchairs. ATMs should be physically accessible, have proper lighting, and signage in appropriate formats, including speech provisions, universal keyboard, Braille decals, large print and tactile signs.



Note:
- 2400 x 2400 clear space for approach in front of ATM
- Knee recess 1500 wide
- Screen bited 55 to 70 degrees from horizontal
- Keypad bited 15 degrees from horizontal

Note: All dimensions in millimetres

1.2.19 Cafes, Food Courts and Restaurants

- The floor space shall have a clearance of 100- 120 cm in between objects, such as tables or displays. Pathways and aisles should be free from obstacles. Proper signage shall be given in the facility.

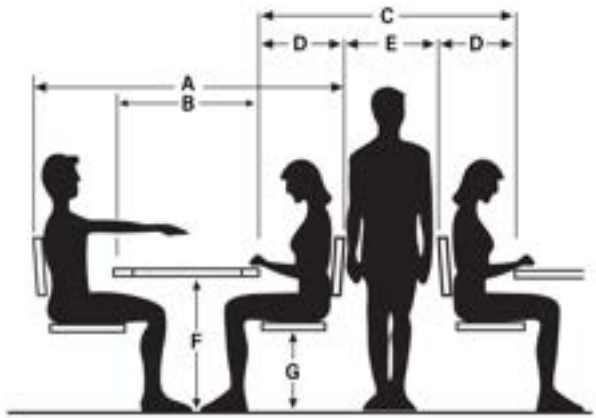
- The knee and toe space in tables may overlap the required clear floor space by a maximum of 480 mm. The height of accessible tables should be located 710- 865 mm above the finished floor or ground.

- A food serving or bar counter should have a section 850 mm high for a length of at least 1500 mm. Seating spaces at such counters should incorporate clear floor space of not less than 800 x 1400 mm with knee and toe space of 480 mm. Self-service items shall be placed 90- 120 cm from the floor and should be accessible along with dispensing devices.

- At least 10 % seats should be accessible. Benches and accessible seating should be 510 - 610 mm deep, with a seat height of 450- 500 mm.

- Cashier locations should feature at least one accessible aisle, which is a minimum of 1200 mm wide.

- Signage should be clear and appropriate to help all including; people with visual impairments or learning/cognitive difficulties, orient themselves. Menu should be written in clear minimum 16 p font size and there shall be provision for a Braille version too.



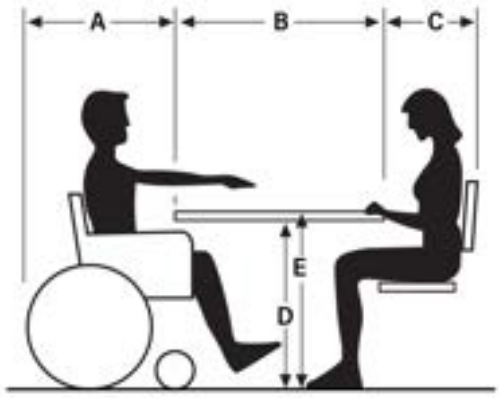


Table Dimensions

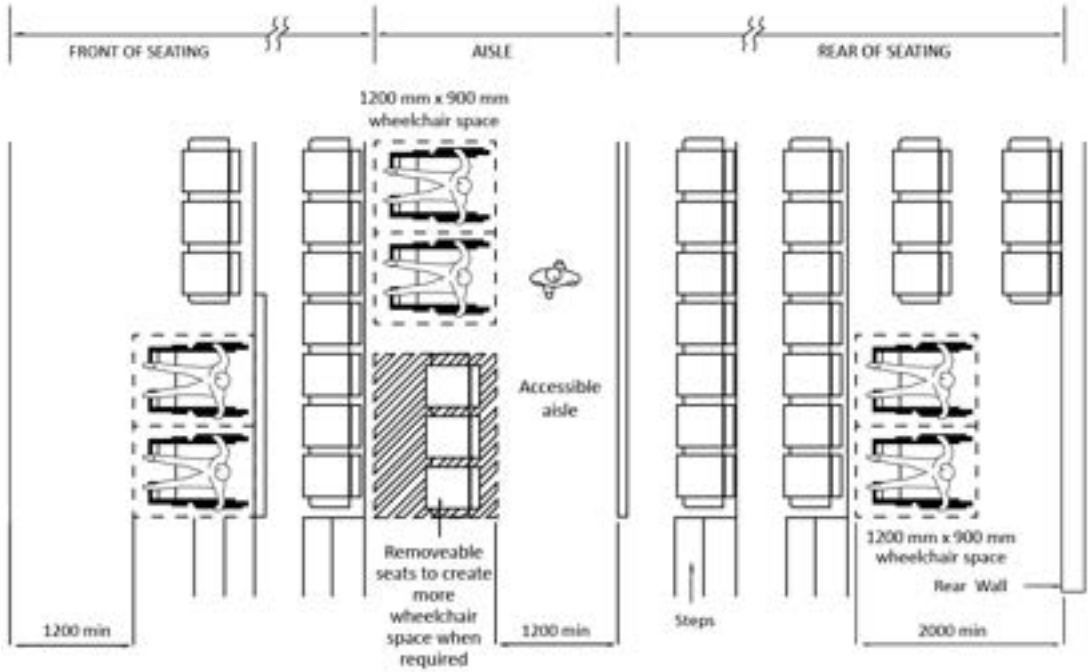
A. Total area required for table ..... 60”-90”
B. Table top width ..... 24”- 42”
C. Customer traffic and seating area ..... 54”-72”
D. Customer seating area ..... 18”-24”
E. Traffic area ..... 18”-24”
F. Table top height ..... 29”- 30”
G. Seat height ..... 16”-18”

Wheelchair Seating Requirements

A. Wheelchair seating area ..... 30”
B. Table top width ..... 24”- 42”
C. Customer seating area ..... 18”-24”
D. Distance to underside of table ..... 30”
E. Tabletop height ..... 31”

1.2.20 Halls and Auditoriums

Seating should have an adjacent, level, stable and firm ground surface at least 900 mm x 1500 mm in size. Benches and other fixed seating should have seats that are a minimum of 1065 mm, 510 mm- 610 mm deep, with a seat height of 450 mm- 500 mm. Arm rests on both sides of the bench and back support should be provided.



Wheelchair Spaces at Audience Seating

1.2.21 Inclusive and Accessible Events

- There shall be accessible parking spaces. There shall be staff on hand to assist people from their cars to the venue entrance, especially if the car park is not on a level surface.
- Gates, access points, external corridors, doors, corridors or passages need to be a minimum of 90 cm wide with a rotating area (for people to turn around in) of 150 cm diameter. The space should be well lit and with good colour contrast.
- If possible, ask those attending what their dietary requirements are in advance or provide options for a range of diets like gluten free, dairy free, low sugar, and vegetarian and vegan options.
- If people are required to complete a booking or registration form, their requirements shall be sought off from the form itself. There shall be professional communication support including sign language interpreters, note takers, manuals, electronic takers and palantypists.

1.2.22 Accommodation: Guest Rooms

Circulation Space: There should be unimpeded circulation space around and between beds and furniture.

Bedroom Doors: Bedroom doors must be able to be fully opened against an adjacent bedroom wall. A portable alarm system indicating that the bedroom door is being opened. Door handles and drawer knobs should have contrasting colours. The doors shall have a flashing light too.

Power Points and Light Switches: Power points and light switches should incorporate 'rocker-type' switches that are on/off-detectable.

Furniture: All furniture should have rounded edges and corners instead of sharp edges in order to prevent guests injuring themselves.

Telephones: Telephone handsets will be placed in the bed side and should incorporate a raised pip on the number five button. Telephones should have voice amplification, a flashing light, inductive coupler, ring tone and loudness adjustment and provision of text messaging service.

Television Devices: Where televisions are provided, TV listening devices and remote controls should be made available.

Light Switches & Environmental Controls: All light switches and environmental controls should be within the required height range and within reach ranges to enable all users to effectively use such switches and controls.

Provision for Bed: Beds should preferably be a King-Type with the mattress at the appropriate height. Guests with functional physical limitations need a firm surface to help their arms to lift the lower body. The height of the bed is also crucial, as it needs to be in alignment with the wheelchair that will be used for transfers. Bedside light controls should be provided.

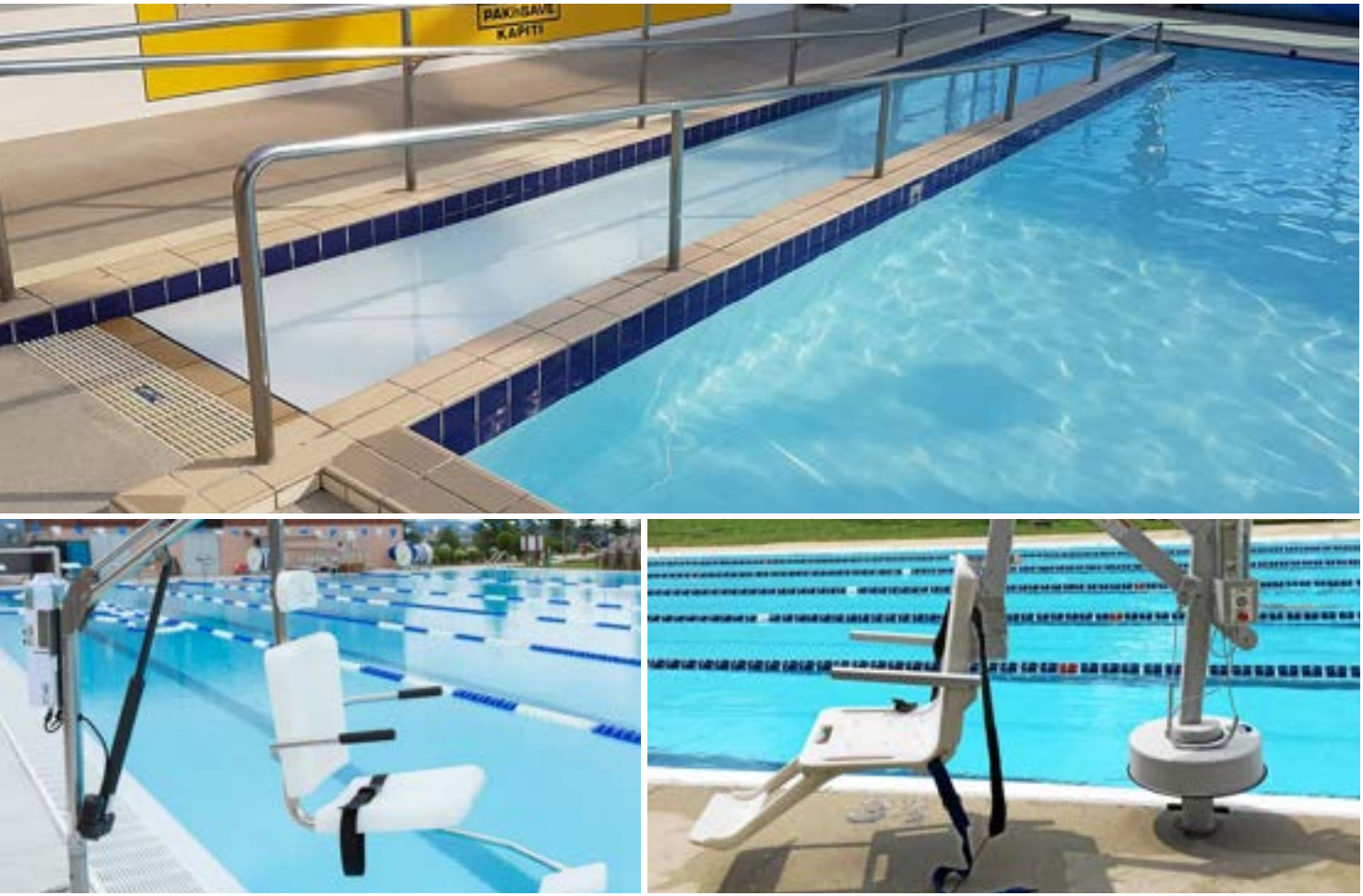
Cupboards, Desks and Tables: As room elements, desks and tables should have clear and sufficient knee and toe space under the desk, to allow someone making use of a mobility aid to be able to slide under the table. Cupboard handles should be within easy reach.

Emergency: A remote emergency call system and a fire extinguisher or fire blanket located at an appropriate height should be installed in the bedroom and should incorporate emergency I.D. door hangers. There shall be flashing emergency alarm light in the bedroom and vibrating alarm clocks and pads that are placed under pillows. A room loop will need to be installed.

Toilets: Provision of unisexual accessible toilets for the disabled.

1.2.23 Swimming Pools

Primary considerations include accessible change facilities and a means of access into the water. Ramped access with a slope no more than 1:12 into the water with handrails has to be provided. The depth of the pool has to be clearly indicated on the edge of the pool. Pool boundaries should be clearly defined by both a textural change and a colour contrast to both the water surface and surrounding pavement surface. Pool deck slopes in any direction should not be greater than 1:50. Lifeguard chairs, slides and other safety equipment's shall also be available in the vicinity of the pool.



Multilift Pool Lift with Folding Seat & Arm Rests

1.2.24 Resorts and Theme Parks

Amusement rides that are required to be accessible shall be served by an accessible route and shall have appropriate signage. The manoeuvring space should have a slope no steeper than 1:50. Where the interior width of the amusement ride is greater than 1400 mm, a companion seat should be provided for each wheelchair space. The height of the amusement ride seats should be between 450 mm and 500 mm maximum measured above the load and unload surfaces.

1.2.25 Golf and Miniature Golf

Teeing grounds required to be accessible should be designed and constructed so that a golf cart can enter and exit the teeing ground. Openings of a width at least 1800 mm should be provided at intervals that are no greater than 50 m. Each putting green should be designed and constructed so that a golf cart can enter and exit the putting green. The course shall be configured to allow exit from the last accessible hole to the course exit or entrance and should not require travel back through other holes. Where the accessible route intersects the playing surface of a hole, 25 mm maximum curb shall be permitted for a width of 920 mm minimum. Start of play areas at holes should have a slope not steeper than 1:50.

1.2.26 Museums and Art Galleries

- The entrance door to the foyer should be in stark contrast to its surroundings. Information should be available for each exhibition hall in the form of an overview (embossed Braille and large print) or of written or acoustic information. There shall be proper labeling of exhibits also mounted at eye level. There shall be scaled up or scaled down copies of exhibits which are too small or too large.
- Within each hall, a tactile and visually contrasting guidance system should facilitate autonomous movement around the room and to the various exhibits.
- Guided tours should ensure that information about the individual exhibits. It shall include the dimensions of the exhibit, important structural features, external forms of a sculpture and the arrangement of individual elements and the colours used in case of a painting. All audio guides and information terminals should have contrasting and tactual buttons and the use of synthetic speech may also be considered.
- Inclined Platform lifts should be located on an accessible route. The minimum platform size of a lift should be 890 mm wide and 1525 mm deep. Lift controls should be located between 900 mm - 1200 mm above the lift floor and should be monitored. Platform stair lifts and chair stair lifts can also be used where applicable.
- All emergency exit routes should be as barrier-free and step-free as possible. Clear signage should be provided. Obstructions shall be checked regularly in such routes and it shall have visual and audio alarm systems. Emergency egress plans shall be developed.

Hydraulic Wheelchair Platform Lifts

1.2.27 Audio Guides

Heritage sites and museums may make use of assistive technology in providing quality interpretation about the tourist site to persons with disabilities including visually challenged and hearing impaired. These can include audio guides and touch screen kiosks. Audio guides can be used in the destination that can be used not only for visually challenged but also of immense help for normal tourists. The audio guides can be made available in pre-recorded hardware devices or can be mobile application. Examples of audio guides include GPS (Global Positioning System), RFID (Radio-frequency Identification), NFC (Near-field Communication), IR (Infrared), QR (Quick Response codes), iBeacons (Bluetooth), AR (Augmented Reality) and VR (Virtual Reality) technologies.

1.2.28 Trails and Walks

1.2.28.1 Heritage walks

- For routes with a start and finish point, the route may be "circular" (that means, starting and finishing at the same point) or it may be "linear." The start and finish points should be suitably marked and identified with availability of services, public toilets and car parking.
- The accessible route should be clearly marked on a printed map. Digital maps, electronic guides etc. may also be used. Audio descriptions of the route and points of interest can be recorded and downloaded as podcasts or MP3 files.
- The accessible historical route should be close to public services including accessible public toilet within 500 meters walking distance of the route.

1.2.28.2 Walks and Outdoor Recreation Access Routes

In order to make the walks accessible for persons with disabilities, surfaces must be firm and stable. Walks should be at least 1.2 m wide and 1.5 m to be preferred. The running slope shall be 1:20 to 1:33 or less with a cross slope not greater than 1:50. Trail heads shall be fully accessible.

1.2.28.3 Hiking Trails

The minimum width of accessible trails shall be 900 mm or 815 mm in areas with exceptions from guidelines. When trails have less than 1.5 m width, passing spaces shall be provided at every 300 m of the trail. The hiking trails shall have a running slope of 1:12 or less with a cross slope no greater than 1:20.

1.2.28.4 Multi-use Trails - Biking and Equestrian Trails

The width of multi-use trails can vary from 3.6 m to 4.2 m. These trails have been designed to accommodate mountain bikers and equestrians. The running slope shall be 1:10 with a maximum slope of 1:5 and a cross slope not exceeding 1:25. Mounting ramps provide great use for persons with disabilities in equestrian routes.

1.2.29 Beach Access Routes and Boardwalks

The surface of beach access routes shall be firm and stable and shall have manoeuvring or resting spaces of 1.5 m x 1.5 m. It shall be free from obstacles and shall have edge protection and storage facilities for beach assistive devices.

1.2.30 Beach and Sea

- Walkways should be at least 100 cm wide with a slope less than 1:20 to help people gain access to the beach and shall not have gaps over 5 mm. Points of access to beach shall be best located near parking, restroom facilities, and inclusive shower/changing facilities. Where possible, beaches shall have a multipurpose boardwalk path.

- A path or ramp into the water provides ease of access for all. Some individuals may need adaptive equipment (Beach amphibian chairs and flotation devices) to get into the water safely.

- Ample shade and rest areas are important to help those who have difficulty with heat or need breaks because of fatigue.
- Boardwalks should have a minimum width of 2000 mm. Boardwalks should incorporate surfaces constructed of firm, non-slip materials.

Blue Flag Indicators in Accessible Beaches & Rest Areas for Wheelchair Users

Outdoor Gymnasium in Beaches

1.2.31 Overlooks or Viewpoints with Facilities

Overlooks and viewing areas are specifically designed to provide an observation of a vista or view, or to a specific point of interest. Each location provides a viewing opportunity to one or more distinct points of interest and must have safety barriers, guardrails and walls, see-through panels in walls, screened openings or elevated platforms. Viewing areas should provide sufficient space for a wheelchair or mobility aid user to execute a 360-degree turn. The point should accommodate eye levels between 850 mm minimum and 1300 mm maximum. Telescopes and periscopes in such areas need to be designed for people of varying height. A clear ground space that is at least 760 mm x 1220 mm shall be provided in front of the equipment. A turning space at least 1525 mm in diameter shall be provided for all devices. The slope shall not exceed 1:50 and cross slopes shall not exceed 1:33.

1.2.32 Camping Spaces

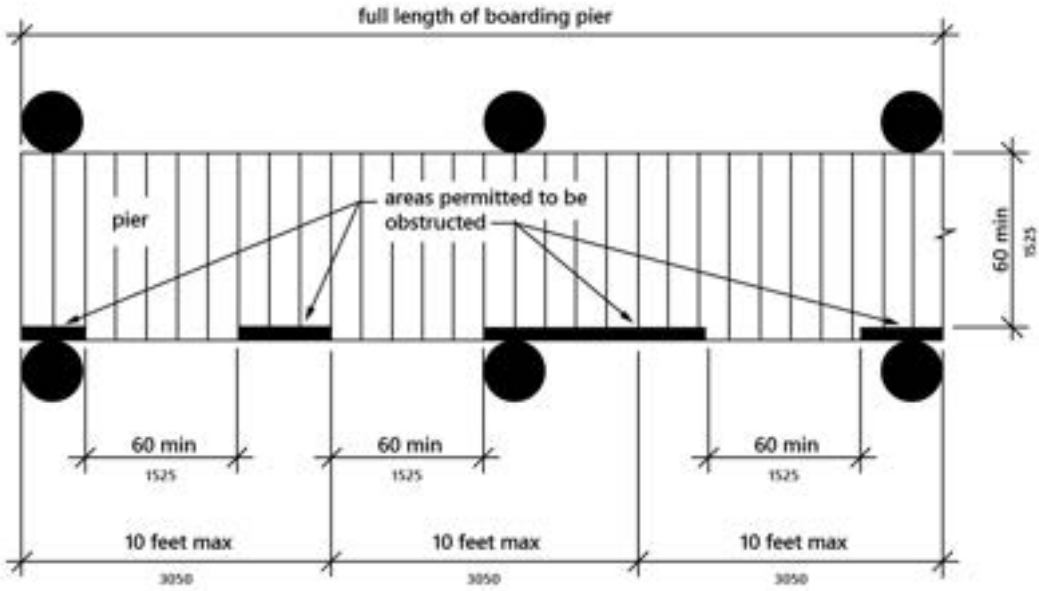
For people with mobility disabilities, tent pads and platforms should include a clear ground space surrounding the tent that is at least 1220 mm wide and it should be 915 mm in case of partially accessible sites. The surface shall be firm and stable and shall have a slope not exceeding 1:50. They shall have connections and edge protection and storage facilities for assistive devices.

1.2.33 Fishing Piers and Angling Platforms

Where railings are provided at fishing piers and platforms at least 25% of rails must be 900 mm or less in height above the ground or deck. Where railings, guards or handrails are provided, edge protection must be provided. At least one clear floor or ground space must be provided at each location that has a railing height of 900 mm high maximum.

1.2.34 Boating Facilities

Accessible boat slips should be served by a clear space 1525 mm wide minimum and at least as long as the accessible boat slip. Every 3 m maximum of linear pier edge serving the accessible boat slips shall contain at least one continuous clear opening 1525 mm minimum in width. Boarding piers at launch ramps, boat slips and gangways shall also be fully accessible.



1.2.35 Green Space of the Park and Landscaping

The edges of planting beds located immediately adjacent to pedestrian walks should be clearly defined with at least 75 mm high curbs. Shrubs with thorns and sharp edges should be planted at least 900 mm away from accessible pathways and seating areas. Points to be considered include:

- Tree shades- Fruit bearing, canopy.
- Canopied structures where vertical farming can be installed.
- Landscaping where children/adults can enter and be seated.
- Flowering plants to improve aesthetic sense.

1.2.35.1 Street Furniture

Street furniture includes fixed benches, garbage bins, lamp posts, planting tubs, signboards, water fountains, stalls, tables, unfixed chairs and vendor carts that are adjacent to travel paths. They shall be positioned to allow for hazard-free passage of all people. Seats may be installed at regular intervals and sufficient garbage bins also shall be provided.

1.2.35.2 Rest Areas and Benches

Benches provide convenient resting places for all individuals. Bench seats should be 430 to 485 mm above the ground. Benches should have back support that is 1065 mm minimum in length and that extends from a point 455 mm minimum above the seat. At least one clear ground space that is at least 760 mm x 1220 mm has to be provided at one end of the bench.

1.2.35.3 Picnic Tables

Picnic tables shall have accessible tables for persons with disabilities. Each wheelchair accessible seating space shall provide a knee clearance of 685 mm high x 760 mm wide x 485 mm deep; toe clearance of 230 mm high and a clear ground space of 760 mm x 1220 mm wide. The tables shall have at least 915 mm minimum clearance around the useable portion of the table, measured from the seat.

1.2.35.4 Waste Receptacles or Garbage Bins

Waste receptacles should be large enough to contain the anticipated amount of waste. Where lids or openings are provided, they should be mounted no higher than 1060 mm above the adjacent floor or ground surface.

1.2.35.5 Public Lighting

Appropriately placed light sources will assist individuals with decreased vision and visual impairments in navigating their environment. Individuals who are hearing impaired also benefit from the use of lighting as they rely on their vision due to their decreased ability to hear.

Ambient lighting: Ambient lighting helps create ambiance, or "feeling" of a space by lighting general spaces. This is the basic light source in outdoor and indoor spaces and should be accompanied by other light sources to reduce shadows.

Task lighting: Task lighting will specifically highlight an area or workspace to compliment the ambient (general) lighting and helps reduce shadows, glare, and hazards thereby reducing eye strain.

Accent lighting: Accent lighting draws attention to the important things in a space and can help make people aware of a hazard.

Natural lighting: Natural light can help reduce power/electric bills and create an ambiance of its own.

1.2.36 Children's Playgrounds

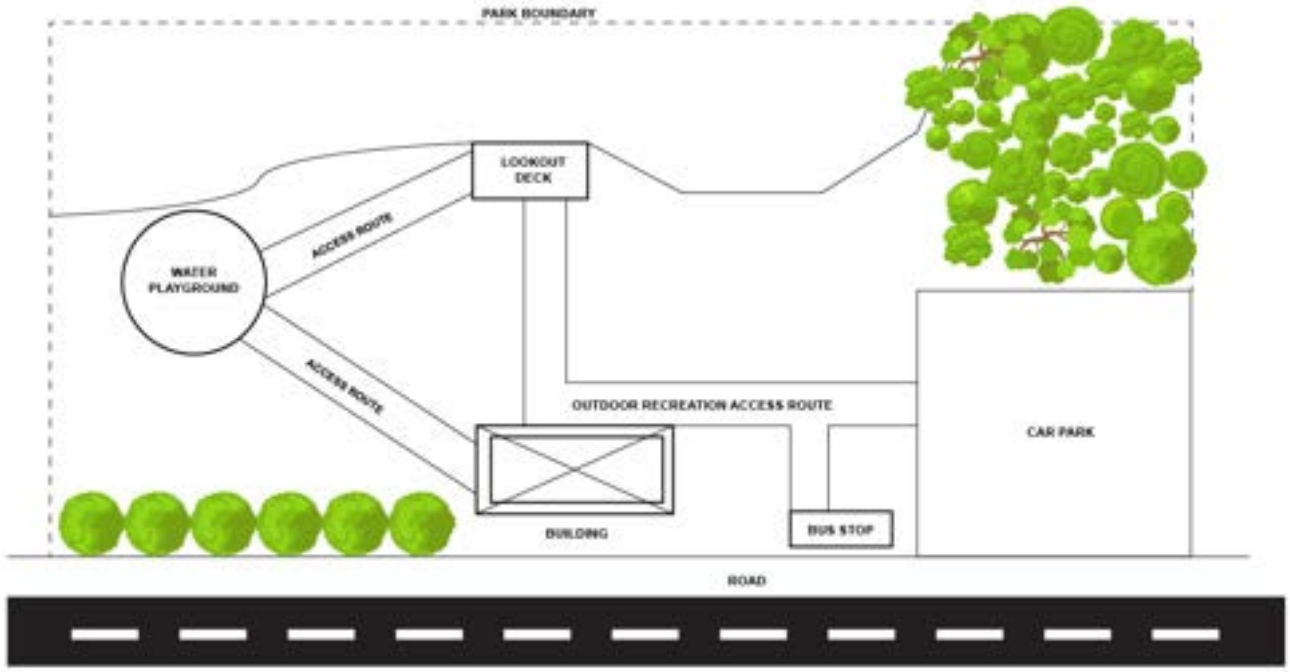
Children's parks and playgrounds facilities are where children gather to play on climbing equipment, seesaws, slides and swings. An easy circuit through the playground and its main features for ease of mobility and manoeuvrability has to be created and install accessible play equipment's. Play equipment's generally are of two types:

Ground Level Play Components

Where ground level play components are provided, at least one of each type shall be located on an accessible route. The maximum slope for ramps connecting ground level play components within the boundary of a play area should be 1:16.

Elevated Play Components

Where elevated play components are provided, at least 50 percent should be located on an accessible route. Where a ramp connects elevated play components, the maximum rise of any ramp run should be 350 mm.



Interconnected Facilities

1.3 Play Space Equipments

1.3.1 Outdoor Gymnasium

Outdoor gyms can be setup through providing users with a selection of equipment they can use to exercise for free! Exercising in the fresh air is proven to have added benefits, and outdoor gyms are also environmentally friendly.

Outdoor Gymnasium

1.3.2 Inclusive Playground

An inclusive playground should provide people of all abilities inclusive access and the opportunity to move throughout the play space safely and independently. It should also enable all children to play together.

In order for this to be done, accessibility and inclusion through the placement of play equipment and other features on the play space and in the surrounding environment must be considered, such as;

- Choosing the surfacing that best meets the needs of the users.
- Creating an orientation path, so users can survey the play space before entering.
- Using signage to help everyone find their way around the playground.
- Placing equipment and features at varying heights.
- Allowing users to easily transfer to and from the play equipment.
- Installing perimeters and boundaries.
- Creating play zones and gathering spaces.

1.3.2.1 Provide Flush Transitions

Provide flush transitions to all areas of the play space and surrounding area to allow people using mobility aids to move freely. Ensure, as much as possible, transitions between all route surfaces and play surface access points are flushed with each other.

The surface connections have tight enough seams through the play space, without any barriers or trip hazards between sections of the play area that would impede someone using a mobility aid.

1.3.2.2 Designing for a Wide Range of Abilities

When planning and designing all features of an accessible play space, consider both its natural features and equipment, and how these relate to each other.

A play space is more than a structure- it encompasses the total environment in which play occurs. From vegetation to signage, all the elements of a site can become objects of play and learning.

1.4 Considering a Wide Range of Abilities

This section includes play space considerations for children and caregivers with various disabilities, including mobility, vision, and with sensory disabilities such as autism spectrum disorder.

1.4.1 Mobility Disabilities

Children and adults may have challenges with mobility due to various factors. Planning considerations for people using wheeled mobility devices or other mobility aids include provision of:

- Accessible paths of travel.
- Multiple access routes into and out of the play space.
- Multiple ways to use and access play equipment.
- A mix of ground-level equipment integrated with elevated equipment accessible by a ramp or transfer platform.
- Ramps that lead to a play component.
- Ramp landings, elevated decks, and other areas that provide sufficient turning space for mobility devices.
- Space to park a wheelchair or other mobility device beside transfer platforms.
- Space for a caregiver to sit beside a child on a slide or other play element.
- Transfer platform at the base of the slide wide enough so that children with mobility disabilities can transfer off the slide without blocking others from using the slide.

- Seating space with back support adjacent to the slide exit where children can wait for their mobility device to be retrieved.
- Back support and/or grips on certain play components such as swings.
- Elements that can be manipulated with limited exertion.

1.4.2 Vision Disabilities

Appropriate use of colour, texture, and sound can help users with vision loss access and use equipment and find their way throughout a play space, and can be used to help:

- Orient children and caregivers to different areas.
- Define different spaces throughout the play area.
- Identify different skill areas.
- Identify play element features.
- Identify pathways and changes in direction.
- Define play space boundaries and areas where children should be cautious, such as around high traffic areas like slide exits.
- Define the edges where there is a level change like at the top of the stairs or at a drop-off using a tactile warning surface.

The use of strong contrasting colours can improve safety by highlighting different elements and spaces, such as:

- Play equipment components.
- Pathways for wayfinding.
- Boundaries, edges, and drop-offs.
- Transfer platforms.

- Rise and run on steps by including colour contrast on the edge of each step.
- Posts that people might walk into.
- Railings that contrast with the supports to make them easier to find.
- Tripping hazards that may exist in an older playground.
- Safe zones around swings, slide exits, and other play areas that might not be noticed when people are moving around the playground.
- Changes in levels and hazardous areas, identified by tactile warning features and colour contrast.
- Hand railings that need to be seen by children with vision loss who gain a sense of security when using the railings to navigate the play space.

1.4.3 Autism Spectrum Disorder and Other Sensory Disabilities

Outdoor play, especially play in natural settings, has been shown to have a soothing effect on children with autism spectrum disorder. Activities that involve natural settings, motion, visual interest, and water play can be good choices.

1.5 Inclusive Play Equipment

Swings: These can be of the following types, preferably one of each in all play spaces:

- Flat seat swings.
- Bucket seat swings for children with minimal upper body support.
- High-backed swings for children requiring upper body support.
- Family swings for older children using wheelchairs.
- Tyre swings to enable complete body balance.
- Swings with bells in the chains to provide an auditory marker and for fun.

Wheelchair Swing

2-Seater Swing

Bucket Swing

Slides: It would be good to have 2-3 of the following:

- Slides with flat, bar-like steps without gaps between the steps (so that children who cannot see, do not fall). The sliding surface can be with curved edges (high raised) to make children feel more secure.
- Slides with steps and rails as seen in most play spaces.
- Slides of different heights that offer increasing challenge for children.
- Slides accessible for wheelchairs having a ramp and platform at the top.

Wheelchair Accessible Slide

- Sliding surface to be at two-feet height with a slope of 1:10.
- All slides should ensure facilities for safe landing, such as additional sand at the base sandpit, gradual descent, etc.

Climbers/Jungle Gym: All play spaces must have two jungle gyms/climbers and two rope climbers:

- One jungle gym with flat bar-like steps at a lower height.
- One jungle gym with rods, as currently existing in most play spaces.

- Two rope climbers at different heights.
- One rope ladder.

Monkey Bar Climber

Spider Net Climber

See-Saw: Each play space must have a minimum of two with the following features:

- High-backed seats.
- Regular seats.
- Belts fitted to the connecting rod.

Wheelchair Accessible Seesaw

Merry-Go-Round: Each play space must have a minimum of three with the following features:

- High-backed seats.
- Wheelchair accessible, i.e., circular in shape with a platform and a ramp.
- A standard one, as currently existing in most play spaces.

Wheelchair Roundabout

Tyre Tunnel: This involves making a tunnel with four or more truck tyres embedded in a sand bed, to enable children to crawl.

Balancing Bars: Helps children with Down syndrome or who are deaf because these children can benefit from activities that help improve their balance

Tyre Tunnel

Balancing Bars

Sensory Pathway: This pathway should be constructed using different textures such as grass, sand, differently textured tiles etc. embedded in the ground to facilitate tactile sensory stimulation.

Sand:

- Soft sand around the play area, except in areas that need to allow access to wheelchairs.
- Sand table - sandpit positioned at a table height to allow access to children who use wheelchairs.

Sensory Wall: This wall should be constructed using different textures to facilitate tactile sensory stimulation.

Sensory Wall

1.5.1 Other Equipment Suggestions:

- Parallel bars of differing heights with a flat surface underneath.
- Sloping mounds of grass for children to roll or slide on.
- Spring ducks.
- Trampoline.
- Balancing beams of different widths.
- A special path for children, consisting of tunnels, slides, ladders, etc. which can be fun play.
- A bridge for children to walk over.

- Stepping stones with different textures.
- Horizontal ladder at half foot height.
- Rock climbing wall.
- Walking barrel.

1.6 General Specifications

- Cycle track can be built alongside walkways depending on land availability.
- Safe drinking water facilities.
- Well-lit Parks & Beaches.
- Solar powered generator facilities.
- First aid & Lactation room facilities.
- Wheelchairs (electric if viable)/Crutches & Walking sticks.
- Interactive Touch Screen Kiosk & Beach Wheelchairs (applicable to beaches only).
- Inclusive play equipment's at parks & beaches.
- Disabled friendly seating that is circular than linear.
- Accessible walkways with tactile paving for visually impaired/Ramps with handrails.
- Layout maps.
- Secure fencing or walls around park.
- Segregated waste collection system- plastic, food waste, paper & others.
- Use of colours for paints that are sensitive to low vision across the park infrastructure.
- Public address system with option for music.
- Wheelchair accessible outdoor & pedal boats for disabled at tourist destinations.
- Dedicated vehicle parking space at open public spaces (Parks, Play grounds, Beaches).
- Open Gyms.

chapter 2

BEST PRACTICE IDEAS

Keep in mind the overall principles of play space design when selecting the individual elements for the play space. The design should engage children, parents, and caregivers with a rich variety of activities to stimulate the senses, and foster rich and imaginative opportunities for shared play.

2.1 Location

Ensure the playground is near parking and walking paths and preferably near washrooms.

2.2 Surfacing Materials

The play space surface is one of the most important components in designing safe, accessible play spaces. Too many existing play spaces use non-accessible surfacing materials (pea gravel and sand) that unfortunately exclude most people with mobility challenges.

2.3 Accessible Parking and Curbs

If provided, parking areas should allocate at least one clearly marked space for people with disabilities with a safe, accessible route to the play space.

2.4 Walkways/Path of Travel

Access routes that allow people to get to a play space are the most important elements of a play space. Walkways connecting to the play space from buildings, sidewalks, and adjacent parking lots are important in creating an easy-to-navigate site. Play happens along walkways and pathways, and attention should be paid to the design of the route, including places to sit.

2.5 Accessible Signage

- Accessible signage at the entrance to the park is recommended.
- Provide large colour-contrasted text, pictograms, braille, and a raised line map.
- Provide signage at each play element with a title and braille where possible.
- Consider identifying the types of accommodations the play equipment might be suited for

2.6 Accessible Pedestrian Routes

- Routes should have firm surfaces, such as asphalt, concrete, compacted crushed stone, or pavers
- Routes should be wide enough to accommodate people using assistive devices with a companion by their side
- Routes should be gently sloped to be accessible to people with mobility disabilities such as those using wheelchairs

2.7 Slopes and Ramps

A site does not need to be level to make it wheelchair accessible. To add interest and stimulation, use existing slopes and excavate the site to create a shallow depression, or add a slight slope to flat terrain. Slopes should be at a gentle grade to remain wheelchair accessible.

Ramps to a structure, if required, can be combined with landscaping to blend equipment into the setting more effectively. Variety in surfaces and textures that creates zones, edges, and approaches helps to improve circulation for people with sensory disabilities. This variety also provides more diverse sensory experiences for all children.

2.8 Borders and Access Equipment

- Include entry points anywhere along a border to a play area. This is provided through flush access with a slight drop from the adjacent path onto the play surface.
- A border is required for containment and does not create a barrier, as long as more than two access points into the site have been provided. If the border is raised above grade, it can create a trip hazard. To minimize tripping hazards, the border should be in a colour that strongly contrasts with the ground surface and its surrounding area to improve visibility.
- Other options to create access include curb cuts, dropped concrete curbs, and ramps over wood borders made from asphalt, concrete, or plastic.
- Using grading, berms (small mounds), and boardwalks to provide access to raised equipment eliminates the need for additional ramps, and is a more cost-effective way of providing universal access to raised areas.

2.9 Clearances and Reach Heights

- For universal access, knee clearance helps to provide wheelchair access at tables, counters, and drinking fountains.
- Consider reach heights for seated or small users.
- Items such as gate latches and dispensers should be installed within a reachable range.
- Clear ground space provides unobstructed room to accommodate a wheelchair user in front of a play component or amenity.

2.10 Amenities: Seating Areas, Drinking Fountains, Trash Receptacles and Pathways

Benches and seating areas are important components of a play area. Here are some considerations to ensure that they are accessible:

- Benches and seating areas integrated into a site should provide comfortable back support and armrests for easy movement in and out of the bench.
- Seating areas should be located on firm, stable surfaces (e.g., asphalt, concrete, compacted crushed rock, or pavers).
- Sufficient space to manoeuvre beside benches should be provided to allow for wheelchair users to sit beside or transfer to a bench.
- All amenities, including drinking fountains and trash receptacles, should be located on firm, level surfacing and at varying heights.
- The pathway leading to the accessible washrooms must also be a firm, level surface without any obstacles (e.g., curbs or barriers).

2.11 Play Equipment

Equipment should be selected based on the following key principles:

- Provide imaginative play opportunities for both active and quiet play. Prioritize features that stimulate open-ended, social, and creative play rather than limited play opportunities, such as static play panels.
- Offer a rich variety of ground-level play features to enhance accessibility for children with mobility impairments.
- Ensure access to high-interest, fun areas of the play space. Too often, ramps lead to a platform where there is not much to do for a child using a wheelchair or mobility aid.

2.12 Landscape Elements

Natural elements offer some of the most interesting and meaningful play experiences for all children, instilling a sense of autonomy, curiosity, and discovery. The elements listed below can be configured with Universal Design principles in mind, creating a sensory-rich and stimulating environment for children of all abilities.

- Garden space offering aromatic plants and opportunities for children to grow vegetables or create a native plant garden, with raised planter boxes to provide universal access.
- Performance spaces (stage) for free play or school programs.
- Painted games area (oversize chess board, chalkboard, mazes, four-square, ball games, or hopscotch).
- Seating and gathering spaces for informal play or outdoor classroom.
- Games tables and work spaces.
- Trees and plants for shade, exploration, and creating a habitat for butterflies and other wildlife.
- Sand, water, and other loose components for manipulation and discovery (in accessible boxes).
- Rain garden to demonstrate where stormwater goes.
- Public art pieces, such as murals or sculptures, for play and discovery.

chapter 3

BARRIER-FREE DESIGN STANDARDS

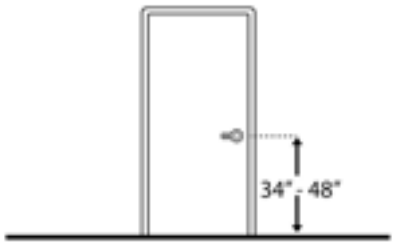
3.1 ENTRANCE

If the main entrance is not accessible, there must be an alternative accessible entrance.

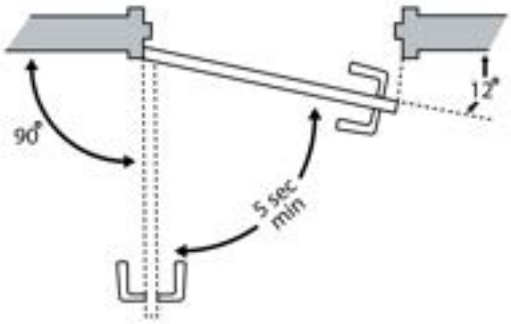
The alternative accessible entrance can be used independently and during the same hours as the main entrance.

All inaccessible entrances must have signs indicating the location of the nearest accessible entrance.

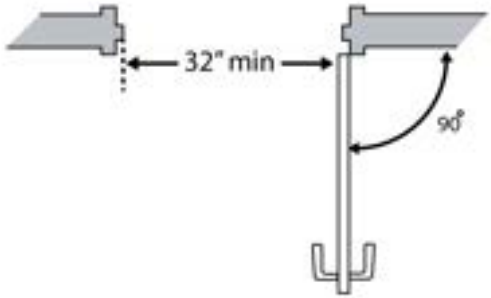
If not all entrances are accessible, there should be a sign at the accessible entrance with the International Symbol of Accessibility.



The operable parts of the door hardware should be no less than 34 inches and no greater than 48 inches above the floor or ground surface.



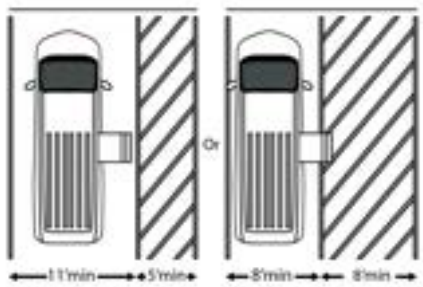
If the door has a closer, it should take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch.



The clear opening width of the accessible entrance door should be at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees.

3.2 **PARKING**

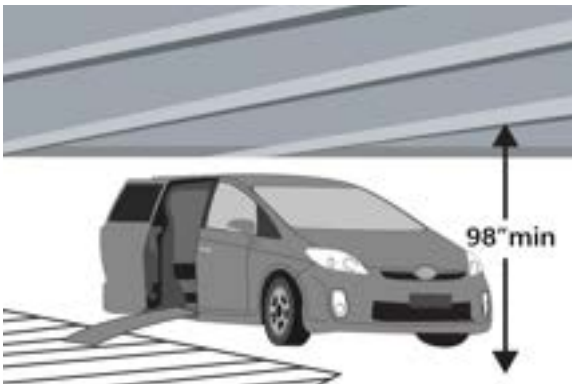
Accessible spaces must be at least 8 feet wide with an access aisle at least 5 feet wide.



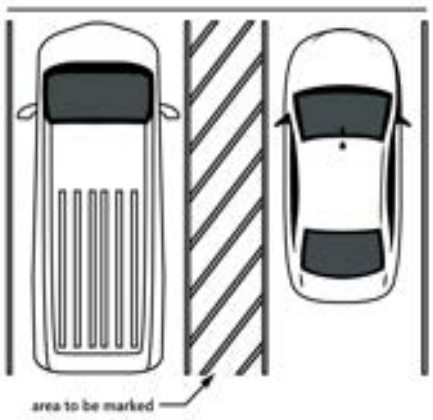
The van accessible space must be:
At least 11 feet wide with an access aisle at least 5 feet wide.

Or

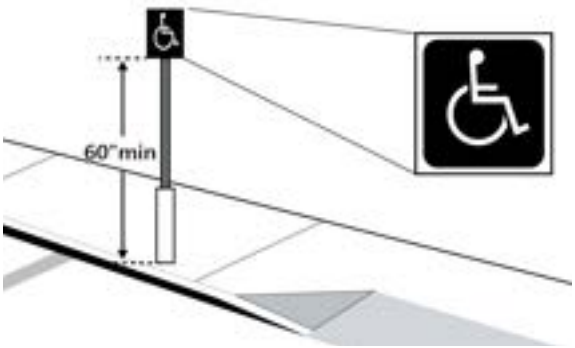
At least 8 feet wide with an access aisle at least 8 feet wide.



At least 98 inches of vertical clearance needed for a van accessible space.



Access aisles must be marked so as to discourage parking in them.



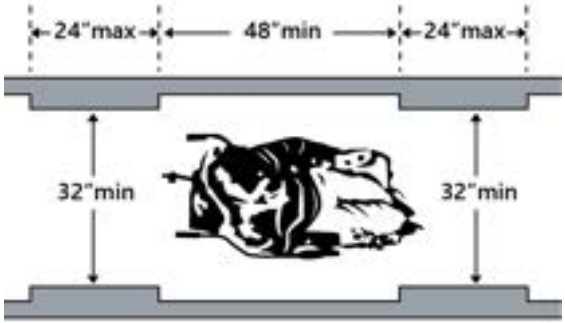
Accessible spaces are identified with a sign that includes the International Symbol of Accessibility.

The bottom of the sign must be at least 60 inches above the ground.

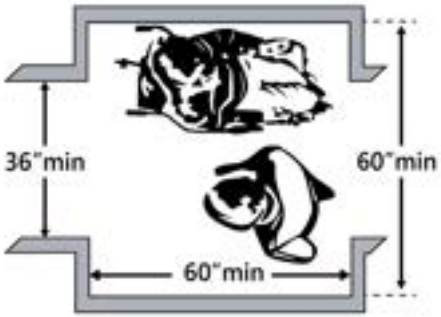
Signs reading “van accessible” must be given at van accessible spaces.

3.3 EXTERIOR ACCESSIBLE ROUTE

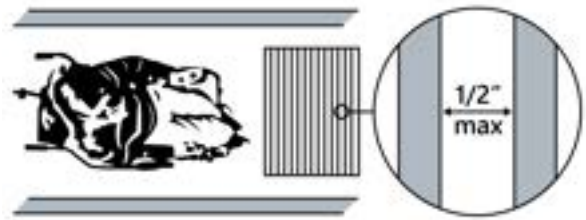
The route must be at least 36 inches wide.



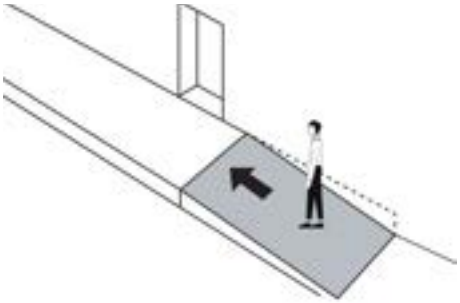
The accessible route can narrow to 32 inches min. for a max. of 24 inches. These narrower portions of the route must be at least 48 inches from each other.



If the route is greater than 200 feet in length and less than 60 inches wide, there must be a passing space no less than 60 x 60 inches.

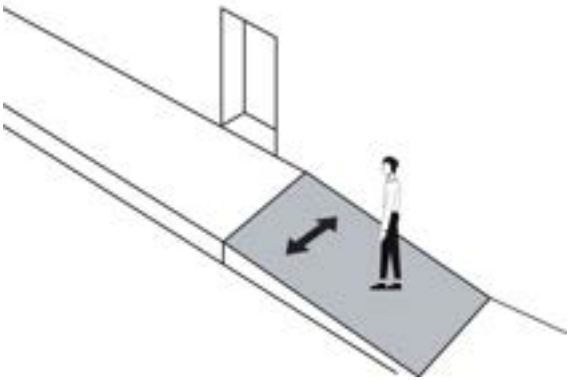


If there are grates or openings on the route, the openings must be no larger than ½ inches.



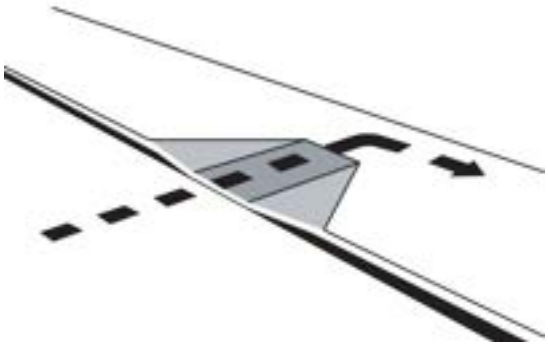
The running slope should be no steeper than 1:20, i.e. for every inch of height change there are at least 20 inches of route run.

If the running slope is steeper than 1:20, treat as a ramp and add features such as edge protection and handrails.

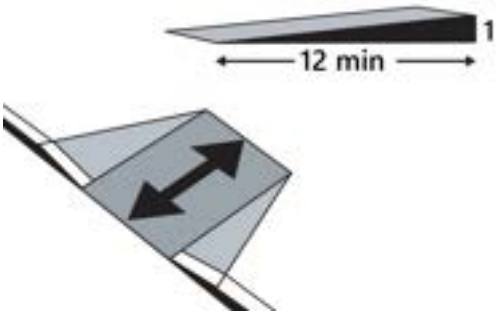


The cross slope should be no steeper than 1:48.

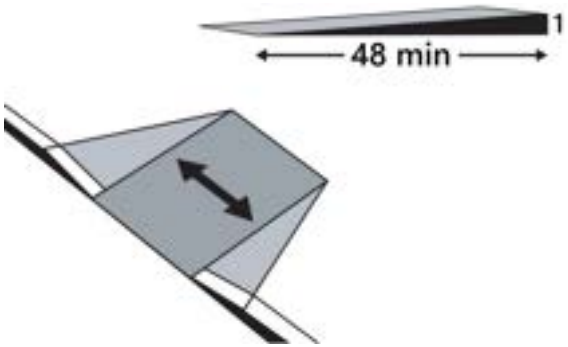
3.4 CURB RAMPS



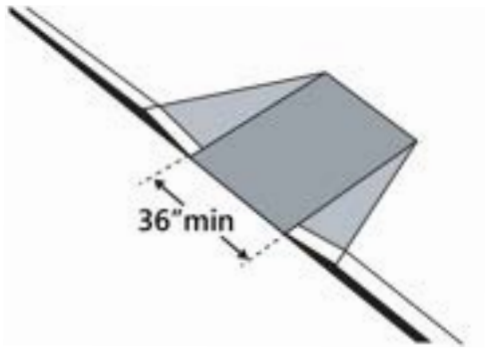
If the accessible route crosses a curb, there should be a curb ramp.



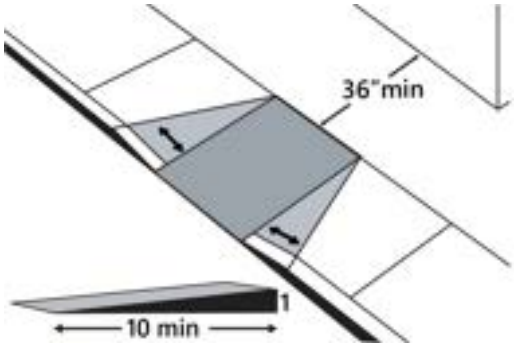
The running slope of the curb ramp should be no steeper than 1:12, i.e. for every inch of height change there are at least 12 inches of curb ramp run.



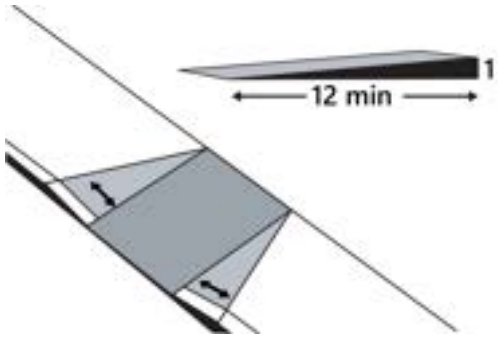
The cross slope of the curb ramp, excluding flares, should be no steeper than 1:48.



The curb ramp, excluding flares, should be at least 36 inches wide.



At the top of the curb ramp, there should be a level landing (slope no steeper than 1:48 in all directions) that is at least 36 inches long and at least as wide as the curb ramp.

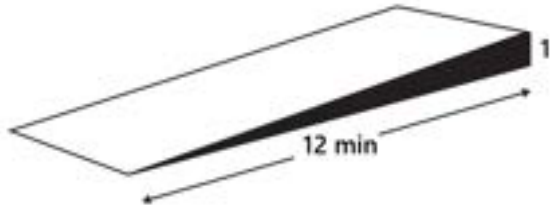


If the landing at the top is less than 36 inches long, there should be a curb ramp flare.

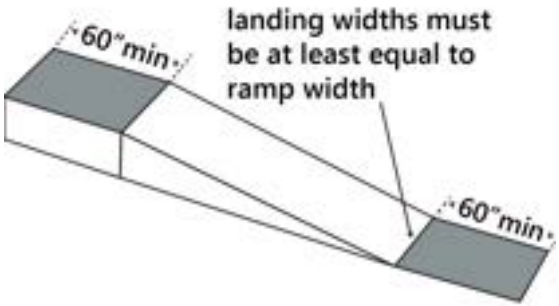
The slopes of the flares should be no greater than 1:12, i.e. for every inch of height change there are at least 12 inches of flare run.

3.5 **RAMPS**

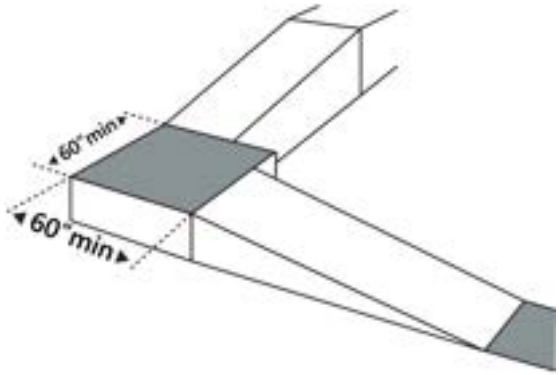
The ramp must be at least 36 inches wide.



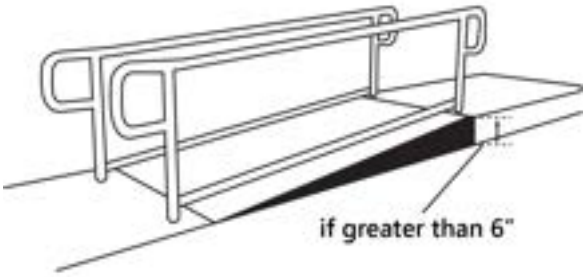
For each section of the ramp, the running slope should be no greater than 1:12, i.e. for every inch of height change there are at least 12 inches of ramp run.



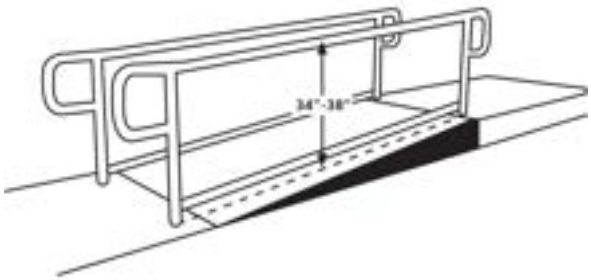
The level landing should be at least 60 inches long and at least as wide as the ramp.



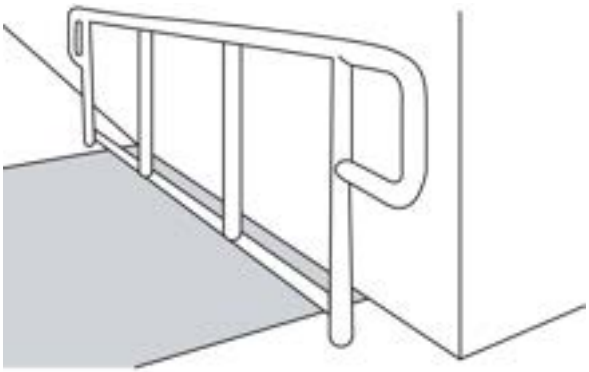
If there is a level landing where the ramp changes direction, that should be at least 60 x 60 inches.



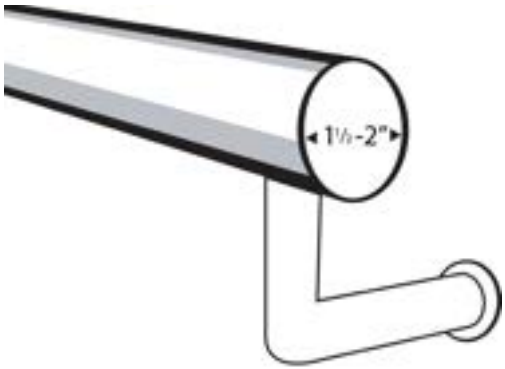
If the ramp has a rise higher than 6 inches, there must be handrails on both sides.



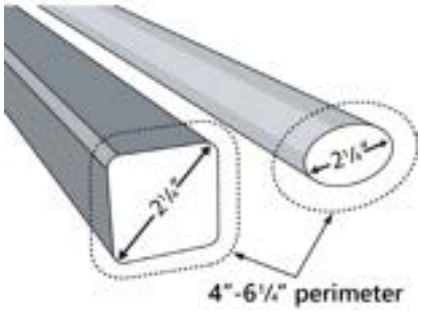
The top of the handrail gripping surface should be no less than 34 inches and no greater than 38 inches above the ramp surface.



The handrail gripping surface should be continuous and not obstructed along the top or sides.



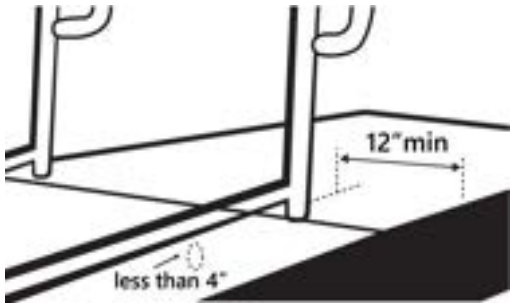
If the handrail gripping surface is circular, it should be no less than 1 ¼ inches and no greater than 2 inches in diameter.



If the handrail gripping surface is non-circular:

The perimeter should be no less than 4 inches and no greater than 6¼ inches.

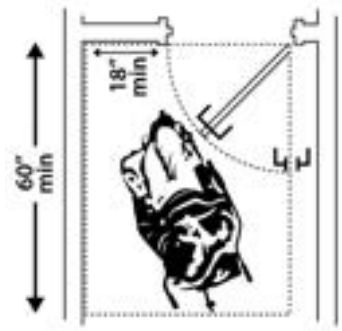
The cross section should be no greater than 2¼ inches.



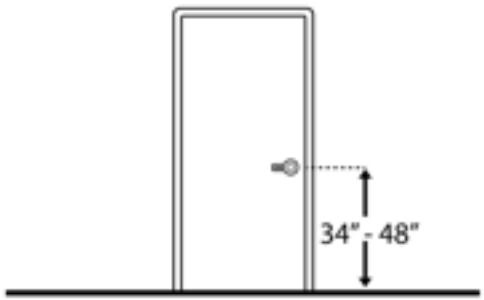
To prevent wheelchair casters and crutch tips from falling off:

The surface of the ramp should extend at least 12 inches beyond the inside face of the handrail.

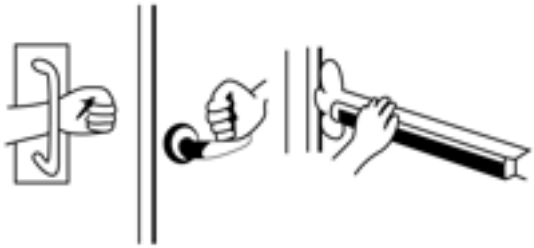
3.6 TOILET ROOMS



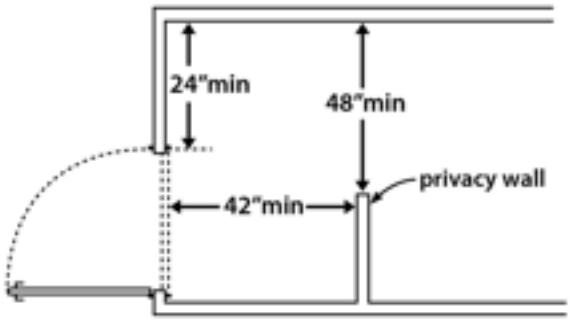
If there is a front approach to the pull side of the door, there should be at least 18 inches of manoeuvring clearance beyond the latch side plus 60 inches clear depth.



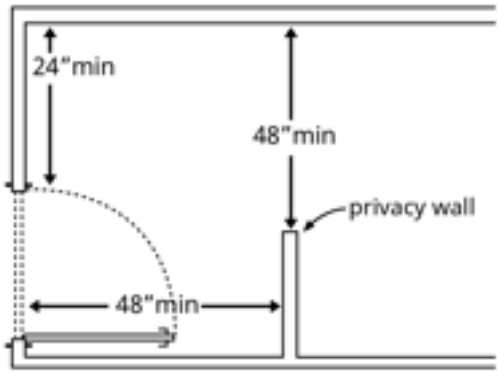
The operable parts of the door hardware should be mounted no less than 34 inches and no greater than 48 inches above the floor.



The door should be equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist.



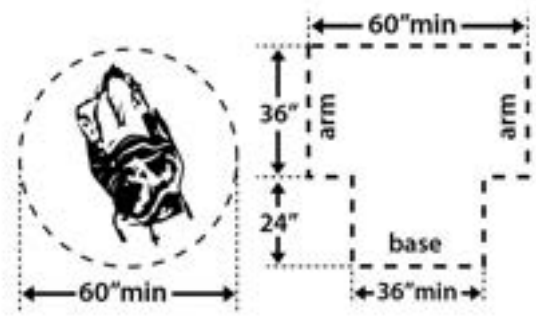
If there is a privacy wall and the door swings out, there should be at least 24 inches of manoeuvring clearance beyond the door latch side and 42 inches to the privacy wall.



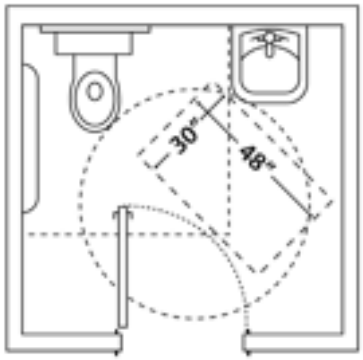
If there is a privacy wall and the door swings in, there should be at least 24 inches of manoeuvring clearance beyond the door latch side and at least 48 inches to the privacy wall if there is no door closer or at least 54 inches if there is a door closer.

In the Toilet Room

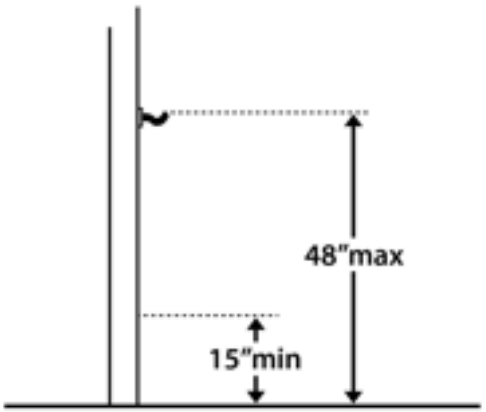
There should be a clear path to at least one of each type of fixture, e.g. lavatory, hand dryer, etc., that is at least 36 inches wide.



Clear floor space should be available for a person in a wheelchair to turn around, i.e. a circle at least 60 inches in diameter or a T-shaped space within a 60-inch square.

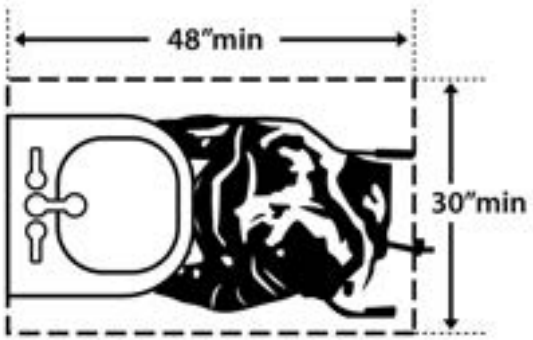


In a single user toilet room, if the door swings in and over a clear floor space at an accessible fixture, there should be a clear floor space at least 30 x 48 inches beyond the swing of the door.

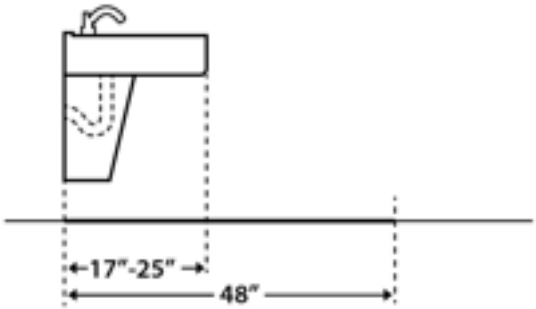


If there is a coat hook, it should be no less than 15 inches and no greater than 48 inches above the floor.

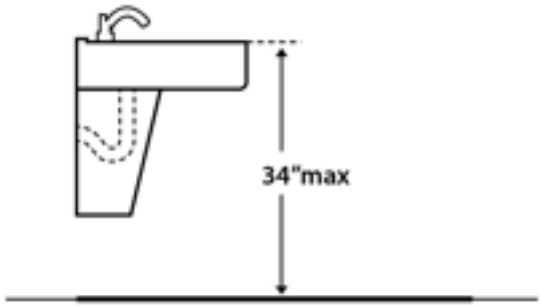
Lavatories



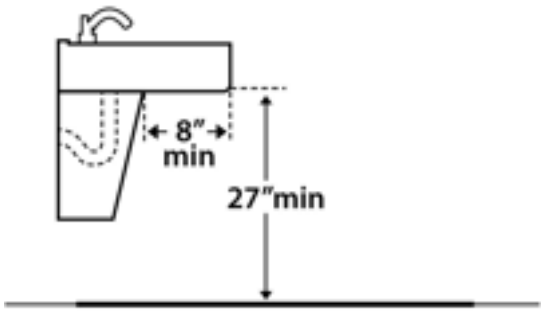
At least one lavatory should have a clear floor space for a forward approach at least 30 inches wide and 48 inches long.



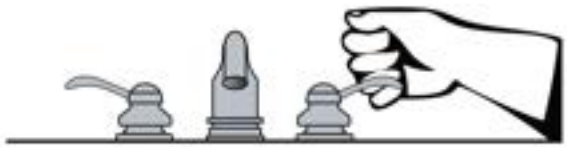
No less than 17 inches and no greater than 25 inches of the clear floor space should extend under the lavatory so that a person using a wheelchair can get close enough to reach the faucet.



The front of the lavatory or counter surface, whichever is higher, should be no more than 34 inches above the floor.

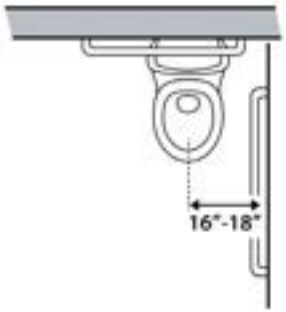


There should be at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance.

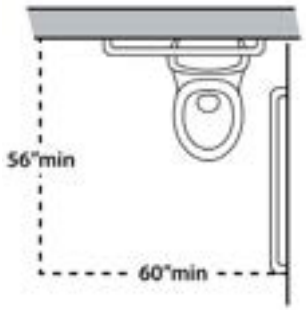


The faucet can be operated without tight grasping, pinching, or twisting of the wrist.

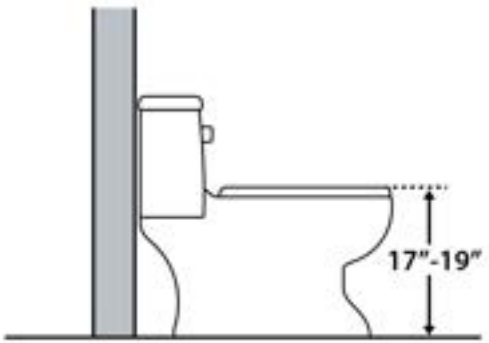
3.7 WATER CLOSETS IN SINGLE-USER TOILET ROOMS AND COMPARTMENTS (STALLS)



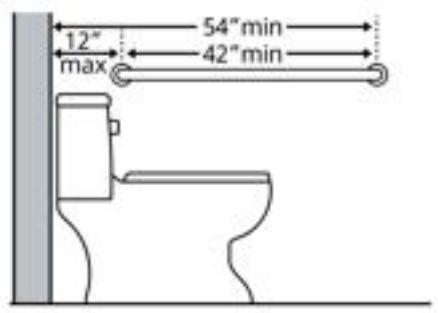
The centerline of the water closet should be no less than 16 inches and no greater than 18 inches from the side wall or partition.



Clearance should be provided around the water closet measuring at least 60 inches from the side wall and at least 56 inches from the rear wall.



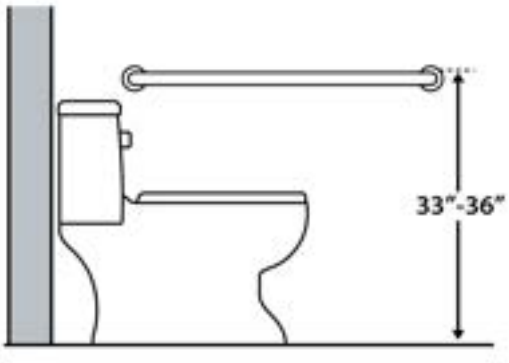
The height of the water closet should be no less than 17 inches and no greater than 19 inches above the floor measured to the top of the seat.



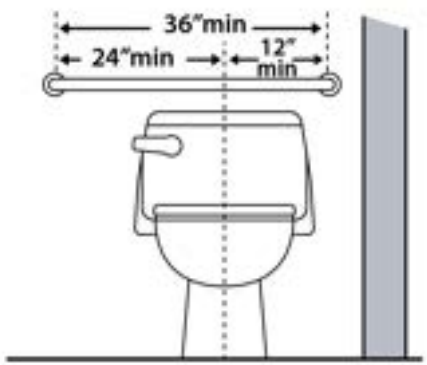
The grab bar should be at least 42 inches long on the side wall.

It should be located no more than 12 inches from the rear wall.

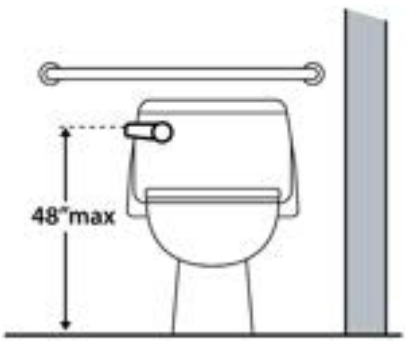
It should extend at least 54 inches from the rear wall.



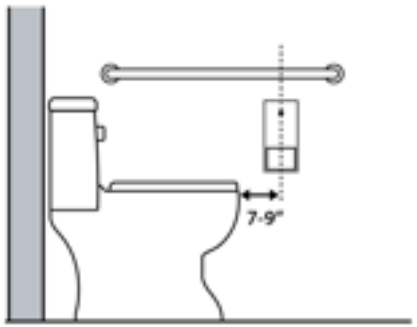
The grab bar should be mounted no less than 33 inches and no greater than 36 inches above the floor to the top of the gripping surface.



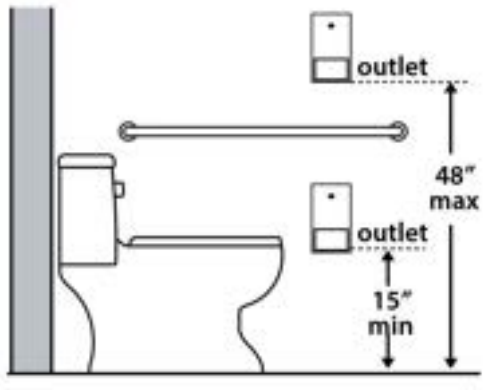
If there is a grab bar at least 36 inches long on the rear wall, it should extend at least 12 inches from the centerline of the water closet on one side (side wall).



If the flush control is hand operated, the operable part should be located no higher than 48 inches above the floor.

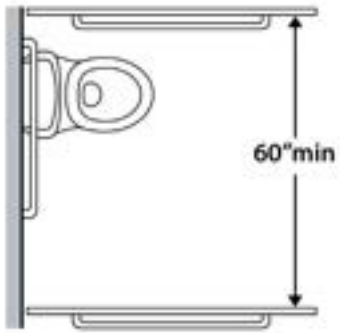


The toilet paper dispenser should be located no less than 7 inches and no greater than 9 inches from the front of the water closet to the centerline of the dispenser.

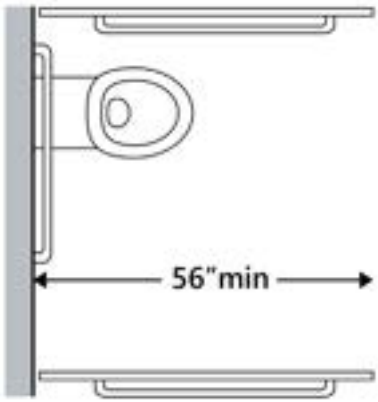


The outlet of the dispenser should be located no less than 15 inches and no greater than 48 inches above the floor.

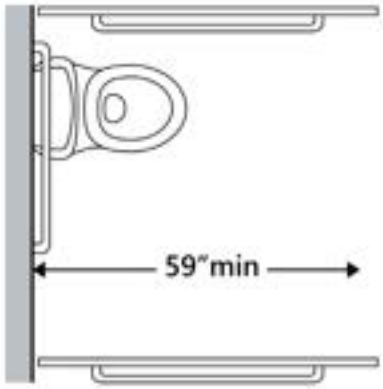
Toilet Compartments (Stalls)



The toilet compartment should be at least 60 inches wide.

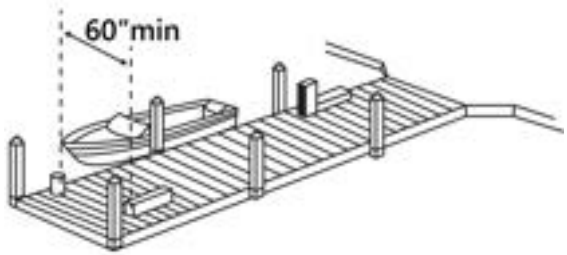


If the water closet is wall hung, the compartment should be at least 56 inches deep.



If the water closet is floor mounted, the compartment should be at least 59 inches deep.

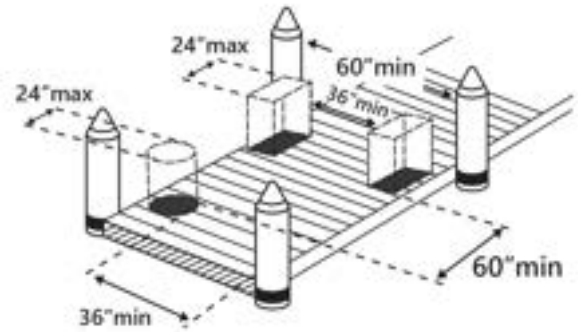
3.8 **BOAT SLIPS**



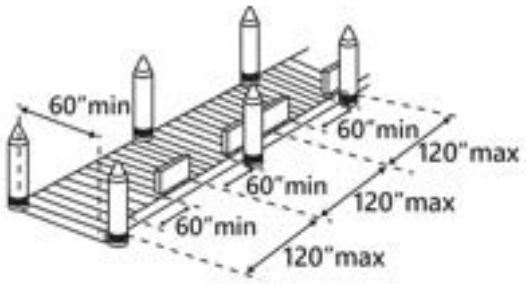
Clear pier space should be there at the accessible boat slips that is:

At least as long as the slip by at least 60 inches wide.

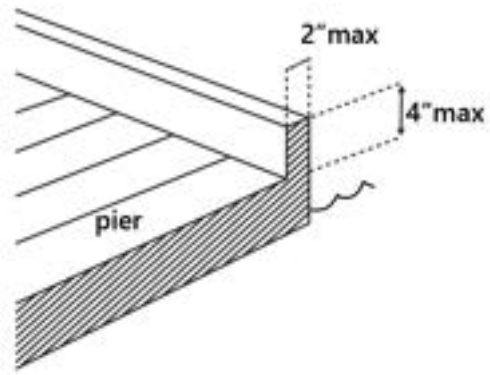
Or



At least 36 inches wide for a length no greater than 24 inches, if multiple 36-inch-wide segments are separated by segments that are at least 60 inches wide and at least 60 inches long.



For every 120 inches (10 feet) of linear pier edge serving the slips, there should be a continuous clear opening at least 60 inches wide.



If there is edge protection at the clear opening, it should be no higher than 4 inches and no wider than 2 inches.

chapter 4

PLAY CATALOGUE - INCLUSIVE PLAY

4.1 OPEN AIR GYM

Palm Wheel

Shoulder Wheel

Muti-Twister

Mini-Ski & Waist-Twister

3 Level Chin-up

2 Level Chin-up

Push-up & Dip Station

Double sit and Pull

Parallel Bar

Triple Waist Twister

Double Mini Ski

Double Air Walker

Squat Pushing

Swing Board

Treadmill

Inversion Machine

Cross Country Skier

Roller Drum

Elliptical Cross Trainer

Air Walker

Palm Wheel with Canopy

Shoulder Wheel with Canopy

Double Sit and Pull with Canopy

Push-Up & Dip Station with Canopy

Double Abs Shaper

Rower

Abs Shaper

Double Sky Walker

Horse Rider

Cycle

Knee Chair

Seated Twister & Mini Ski

Peck Deck

Sit-Up Bench with Inversion Machine

Seated and Standing Twister

Single Pully Down

Multi-Function Trainer

Back Extention

Bench with Fixed Weight

Pole with Fixed Dumbbell

Pommel Horse

Shoulder Press Double

Chest Press Double

Seated Twister Triple

Air Walker with Shoulder Press & Squat Pushing

Air Walker with Seated Twister & Squat Pushing

Air Walker with Mini Ski & Squat Pushing

Air Walker with Shoulder Press & Chest Press

Air Walker with Dip Station & Shoulder Wheel

Air Walker with Mini Ski & Shoulder Wheel

Leg Stretch

Multi Chin-Up

Back Stretch

Standing Roller

Comfort Cycle

Single Stretcher

Tai-Chi Spinner 4 Wheel

Tai-Chi Spinner 2 Wheel

Bench with Fixed Dumbbells

Chest Press Single

Assisted Chin-Up

Arm and Pedal Cycle

8 Set Fitness Station

4 Set Fitness Station

OAG Multi Station

4.1.1 Disabled Series

Arm and Shoulder Exercise

Inclined Barbell Equipment

Upright Barbell Equipment

Shoulder Flex Wheel

Pull-Up

4.2 INCLUSIVE PLAY STRUCTURES FOR SPECIALLY-ABLED CHILDREN

4.2.1 ADA Play Structures

Wheelchair Accessible Multi-Activity Play System

4.2.2 Roundabouts & Spinners

Wheelchair Carousel

Doner Platform

Wheelchair Accessible Merry-Go Round

4.2.3 Swings & Swing Seats

Inclusive Nest Swing

Special Needs Swing - Ropeset & Safety Harness

Safere Accessible Swing

Cantilever Basket Swing

Inclusive Swing Seats

Baby Swing Seats

Swing Bucket Seats

Swing Seat

4.2.4 Seesaws

Wheelchair Accessible Seesaw

Dragonfly Seesaw

Net Seesaws

Sway Fun Berm Plate

Seesaws-Hopper

We Saw

4.2.5 Spring Riders & Motion Play

Motion Play- Unity RockR

Flecto Carousel

4.3 SENSORY PLAY

Finger Maze Panel

Duet Outdoor Music Instruments

Sign Language Panel

Five Congas

Talk Tubes

Magnetic White Board

Free Standing Panels

Scribbler

Manipulative Play Panel

Music Play Panel

Concerto Chimes

Telephone

Outdoor Music Panels

Rain Wheel

Water Play

Water Tap

Flip Runnel with 2 Splash Tables

Sand Digger

4.3.1 Water Play Structures

4.3.1.1 **Splash & Bubbles**

Water Web

Mushroom Maze

Water Rings

4.3.1.2 **Ground Sprays**

Water Weave

Triple Mist

Geyserino

Dandelion Dome

Water Crown

Over N' Under

4.4 BEACH EQUIPMENT FOR HANDICAPPED

Off Road All-Terrain Powered Wheelchair for Outdoors

Beach Wheelchairs

Beach Wheelchair Strand Rolstoel

Beach Chair

Floating Beach Wheelchair

Passive Beach Wheelchair/Bath Chair

Push Beach Walker

Beach Walkers

Heavy Duty Folding Beach Cart with Big Wheels

Beach Cart

Outdoor Beach Cart

Battery Powered Trailer Dolly Cart

Kayak Cart with Inflatable Beach Sand Wheels-Folding

4.4.1 Polyurethane Balloon Wheels

24 cm PU Beach Wheel with Twist Lock Knob

24 cm PU Beach Wheel

30 cm PU Beach with Twist Lock Knob

30 cm PU Beach Wheel

49 cm PU Balloon Wheel

42 cm PU Beach Wheel

Traction Device

4.4.1.1 **Specifications**

Beach Lounger & Cart

Heavy Duty Collapsible Beach Cart

Beach Cart

Overlander 4ZS- Off Road Electric Wheelchair

4.4.2 Other Beach Accessories

Water Floating Ring Float Buoy

Mobimat- Beach Access Mat

Beach Access Mat- Portable

Folding Beach Chairs with Sun Shade

4.5 BOATING & RECREATION

Wheelchair Accessible Deck Boat

Paddle Boat with Canopy

Electric Boat

Pool Safety Equipment

Locking Line Floats

Floating Buoys

4.5.1 Ramps & Access Structures

Aluminum Roll-Up Twin Track Ramps

Aluminum Wheelchair Ramp System with Handrails

Single-Fold Grit Coated Wheelchair Ramp

Cable Channel Ramp

ADA Full Ramp for 12 Timbers

ADA Full Ramp for 8 Timbers

Border Timbers

4.5.2 Gangways & Boat Docks

Floating Boat Docks

Dock-Top Panels

Swim Raft

Aluminum Gangway

Aluminum Dock Board

4.6 RUBBERIZED SURFACE FOR PLAYGROUND AREAS

Pierceton Rubber- Pour In Place

Rubber Tiles

Bounce Back Playground Safety Flooring Tiles- RB Rubber (RB-BOUNCEBACK)

Rubber Safety Paving Mats

TotTurf Interlocking Rubber Flooring Tiles

Eco-Safety Rubber Playground Surfacing

4.7 PARKS & URBAN FURNITURE

4.7.1 Outdoor Canopies & Shade Structures

Cantilever Umbrella Shade

Custom Shade

Hexagon Shade

Single Post Umbrella Shade

Rectangle Shade

4.7.2 Natural & Creative Structures

7.5M Octagonal Gazebo with Decked Base

5M Hexagonal Gazebo with Decked Base

4.7.3 Bicycle Storage

Cycle Stand

Cycle Shed

4.7.4 Water Fountains

Accessible and Standard Basins Fido and Me Fountain

Accessible Basin Fido and Me Fountain

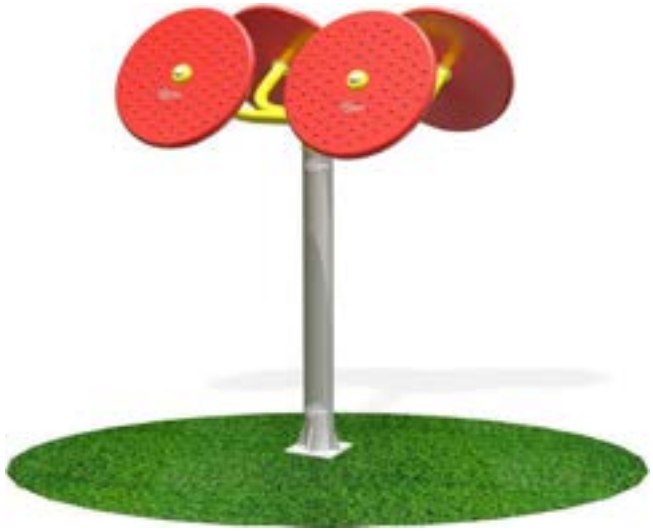
Double Sided Fido Fountain

Fido Fountain

Fido and Me Fountain

4.1

OPEN AIR GYM



Palm Wheel

Shoulder Wheel

Muti-Twister

Mini Ski & Waist Twister

3 Level Chin-up

2 Level Chin-up

Push-up & Dip Station

Double sit & Pull

Parallel Bar

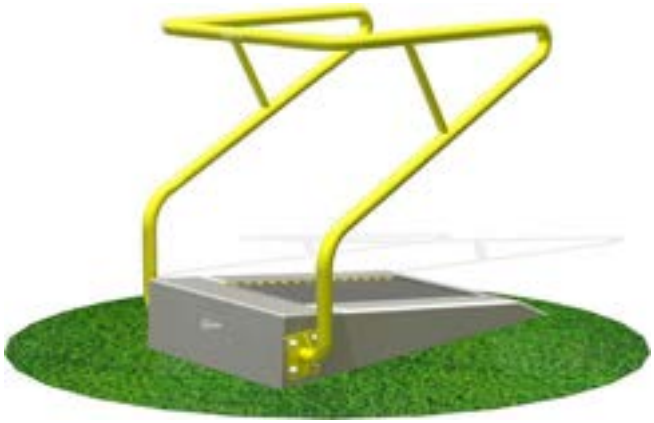
Triple Waist Twister

Double Mini Ski

Double Air Walker

Squat Pushing

Swing Board



Treadmill

Inversion Machine

Cross Country Skier

Roller Drum

Elliptical Cross Trainer

Air Walker

Palm Wheel With Canopy

Shoulder Wheel With Canopy

Double Sit & Pull With Canopy

Push-up & Dip Station With Canopy

Double Abs Shaper

Rower

Abs Shaper

Double Sky Walker

Horse Rider

Cycle

Knee Chair

Seated Twister & Mini Ski

Peck Deck

Sit-up Bench With Inversion Machine

Seated And Standing Twister

Single Pully Down

Multi-Function Trainer

Back Extension

Bench With Fixed Weight

Pole With Fixed Dumbbell

Pommel Horse

Shoulder Press Double

Chest Press Double

Seated Twister Triple

Air Walker With Shoulder Press & Squat Pushing

Air Walker With Seated Twister & Squat Pushing

Air Walker With Mini Ski & Squat Pushing

Air Walker With Shoulder Press & Chest Press

Air Walker With Dip Station & Shoulder Wheel

Air Walker With Mini Ski & Shoulder Wheel

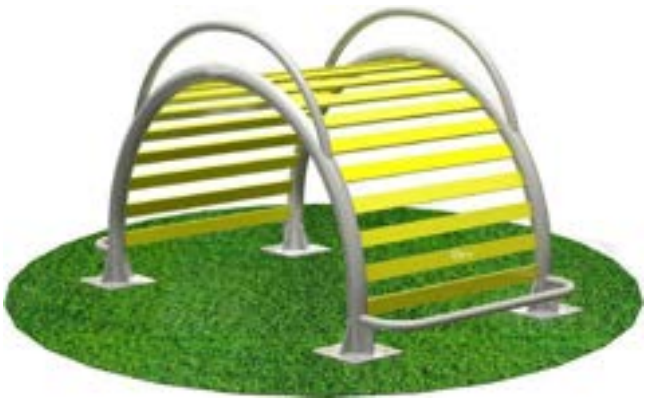
Leg Stretch

Multi Chin-up

Back Stretch

Standing Roller

Comfort Cycle



Single Stretcher

Tai-Chi Spinner 4 Wheel

Tai-Chi Spinner 2 Wheel

Bench With Fixed Dumbbell

Chest Press Single

Assisted Chin-up

Arm And Pedal Cycle

8 Set Fitness Station

4 Set Fitness Station

OAG Multi Station

4.1.1 Disabled Series

Arm and Shoulder Exercise

Inclined Barbell Equipment

Upright Barbell Equipment

Shoulder Flex Wheel

Pull-Up

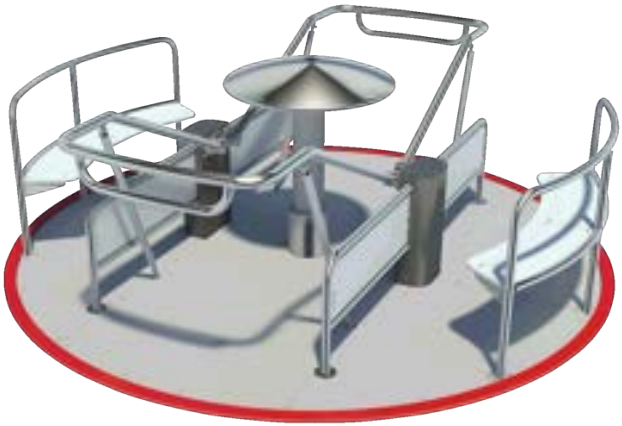
4.2

INCLUSIVE PLAY STRUCTURES FOR SPECIALLY-ABLED CHILDREN

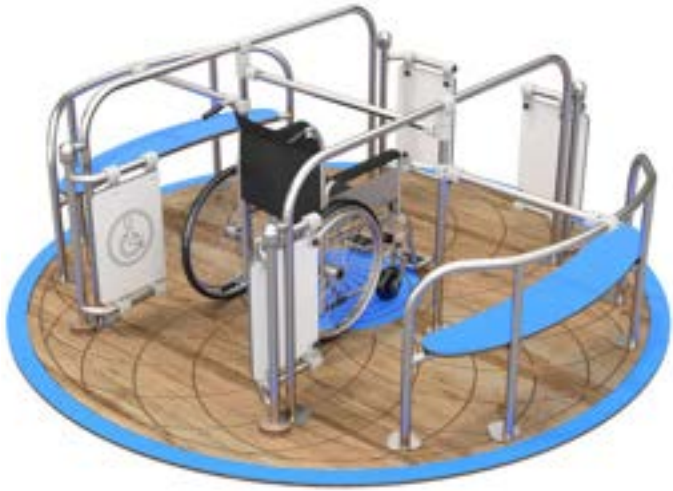
4.2.1 ADA Play Structures

Wheelchair Accessible Multi-Activity Play System

4.2.2 Roundabouts & Spinners



Wheelchair Carousel



Doner Platform

Wheelchair Accessible Merry-Go-Round

4.2.3 Swings & Swing Seats

Inclusive Nest Swing

Special Needs Swing- Ropeset and Safety Harness

Safere Accessible Swing

Cantilever Basket Swing

Baby Swing Seats

Swing Bucket Seats

Inclusive Swing Seats

Swing Seat

4.2.4 Seesaws

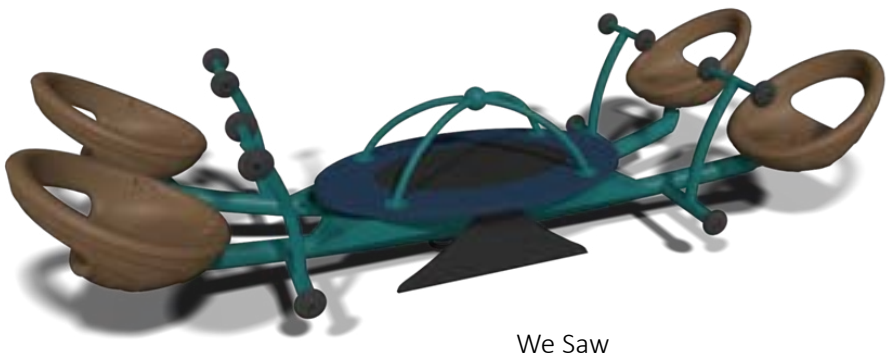
Wheelchair Accessible Seesaw

Dragonfly Seesaw

Net Seesaws

Sway Fun Berm Plate

Seesaws- Hopper



We Saw

4.2.5 Spring Riders & Motion Play

Motion Play- Unity RockR

Flecto Carousel

4.3

SENSORY PLAY

Finger Maze Panel

Duet Outdoor Music Instruments

Sign Language Panel

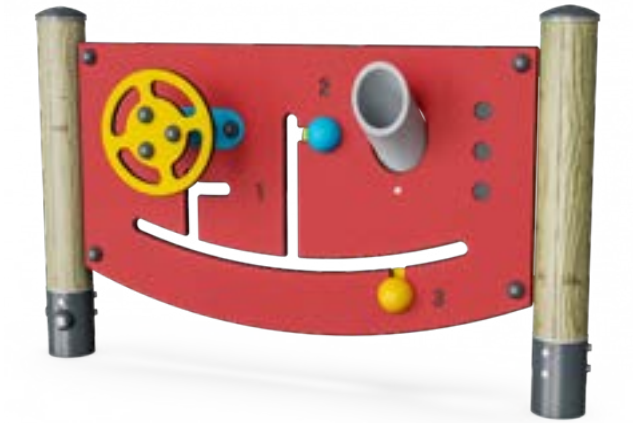
Five Congas

Talk Tubes

Magnetic White Board

Free Standing Panels

Scribbler



Manipulative Play Panel

Music Play Panel

Concerto Chimes

Telephone

Outdoor Music Panels

Rain Wheel

Water Play

Water Tap

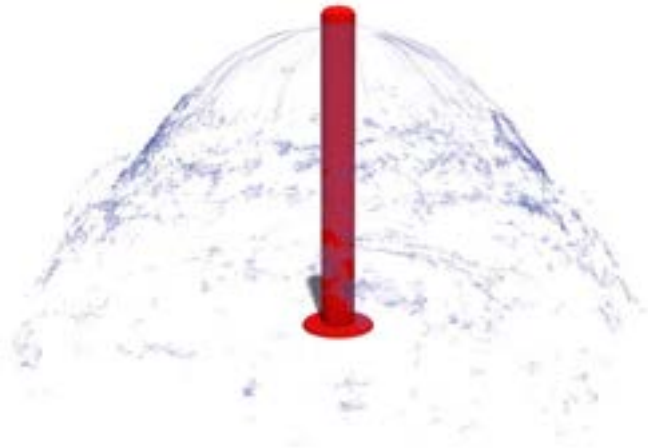
Flip Runnel with 2 Splash Tables

Sand Digger

4.3.1 Water Play Structures

4.3.1.1 **Splash & Bubbles**

Water Web



Mushroom Maze

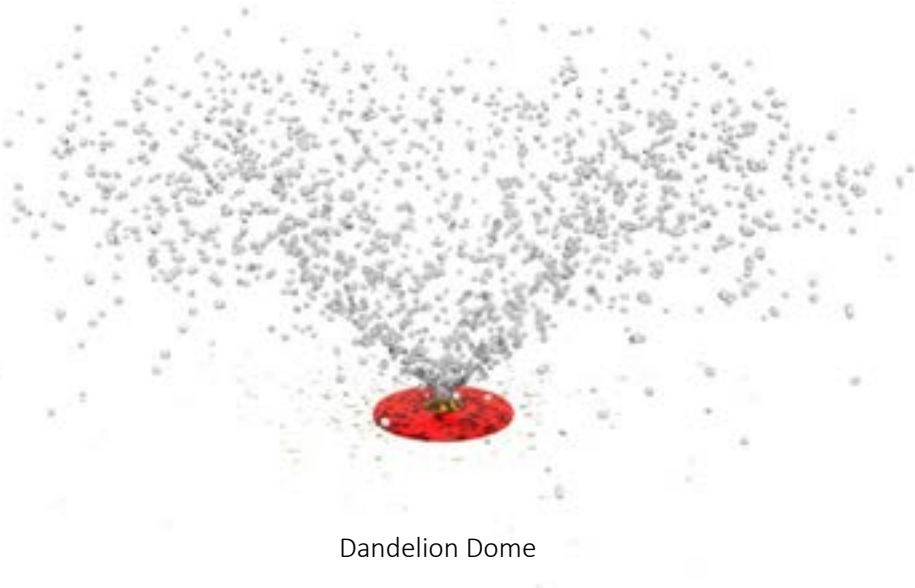
Water Rings

4.3.1.2 **Ground Sprays**

Water Weave

Triple Mist

Geyserino



Dandelion Dome

Water Crown

Over N’ Under

4.4 BEACH EQUIPMENT FOR HANDICAPPED

Off Road All-Terrain Powered Wheelchair for Outdoors

Beach Wheelchairs

Beach Wheelchair Strand Rolstoel

Beach Chair

Floating Beach Wheelchair

Passive Beach Wheelchair/Bath Chair

Push Beach Walker

Beach Walkers

Heavy Duty Folding Beach Cart with Big Wheels

Beach Cart

Outdoor Beach Cart

Battery Powered Trailer Dolly Cart

Kayak Cart with Inflatable Beach Sand Wheels- Folding

4.4.1 Polyurethane Balloon Wheels

24 cm PU Beach Wheel with Twist Lock Knob

24 cm PU Beach Wheel

30 cm PU Beach with Twist Lock Knob

30 cm PU Beach Wheel

49 cm PU Balloon Wheel

42 cm PU Beach Wheel

Traction Device

4.4.1.1 **Specifications**

	24 cm PU Beach Wheel	30 cm PU Beach Wheel	42 cm PU Beach Wheel	49 cm PU Beach Wheel
Dimensions *	9.4 x 4.8 ″ (24 x 12.3 cm)	11.8 x 7 ″ (30 x 18 cm)	16.5 x 7.9 ″ (42 x 20 cm)	19.3 x 9 ″ (49 x 23 cm)
Width at Bushing/ Bearing	5 ″ (12.8 cm)	7.3 ″ (18.5 cm)	7.8 ″ (19.8 cm)	7.8 ″ (19.8 cm)
Max. Payload per Wheel	88 lbs (40 kg)	121 lbs (55 kg)	176 lbs (80 kg)	264 lbs (120 kg)
Weight	1.5 lbs (0.7 kg)	2.91 lbs (1.32 kg)	5.5 lbs (2.5 kg)	6.1 lbs (2.78 kg)
Materials	Tyre: Polyurethane Hub: Polypropylene	Tyre: Polyurethane Hub: Polypropylene	Tyre: Polyurethane Hub: Polypropylene	Tyre: Polyurethane Hub: Polypropylene
Pressure Range	Low Pressure 2- 4 psi (0.14- 0.28 bar)	Low Pressure 2- 4 psi (0.14- 0.28 bar)	Low Pressure 2- 4 psi (0.14- 0.28 bar)	Low Pressure 2- 4 psi (0.14- 0.28 bar)
Temperature Range	5 to 167 F (-15 to 75 C)	5 to 167 F (-15 to 75 C)	5 to 167 F (-15 to 75 C)	5 to 167 F (-15 to 75 C)

Beach Lounger & Cart

Heavy Duty Collapsible Beach Cart

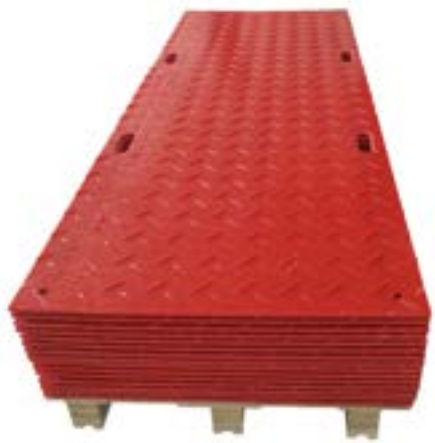
Beach Cart

Overlander 4ZS- Off Road Electric Wheelchair

4.4.2 Other Beach Accessories

Water Floating Ring Float Buoy

Mobimat- Beach Access Mat



Beach Access Mat- Portable

Folding Beach Chairs with Sun Shade

4.5

BOATING & RECREATION

Accessible Electric Deck Boat

Paddle Boats with Canopy

Electric Boat

Pool Safety Equipment

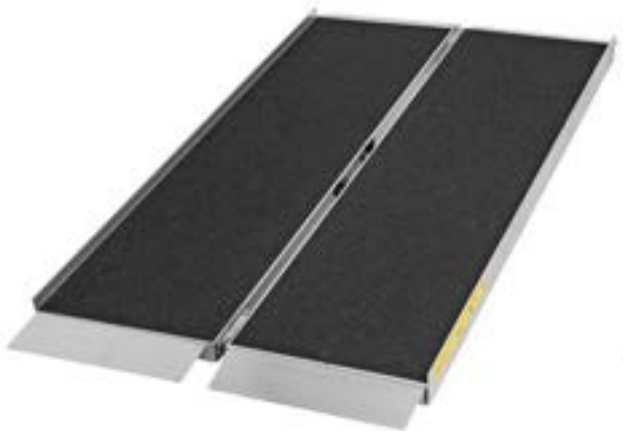
Locking Line Floats

Floating Buoys

4.5.1 Ramps & Access Structures

Aluminum Roll-Up Twin Track Ramps

Aluminum Wheelchair Ramp System with Handrails



Single-Fold Grit Coated Wheelchair Ramp

Cable Channel Ramp

ADA Full Ramp for 12 Timbers

ADA Full Ramp for 8 Timbers

Border Timbers

4.5.2 Gangways & Boat Docks

Floating Boat Docks

Dock-Top Panels

Swim Raft

Aluminum Gangway

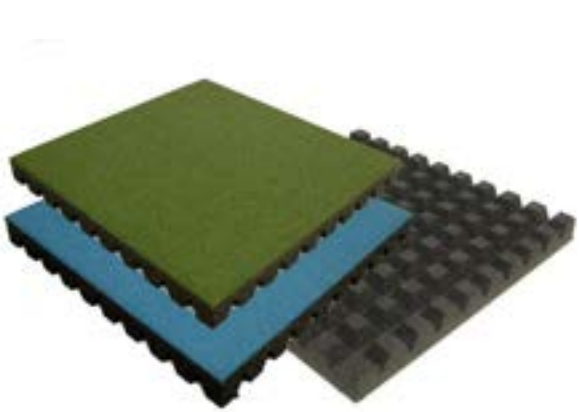
Aluminum Dock Board

4.6

RUBBERIZED SURFACE FOR PLAYGROUND AREAS

Pierceton Rubber- Pour In Place

Rubber Tiles



Bounce Back Playground Safety Flooring Tiles- RB Rubber (RB-Bounceback)

Rubber Safety Paving Mats

TotTurf Interlocking Rubber Flooring Tiles

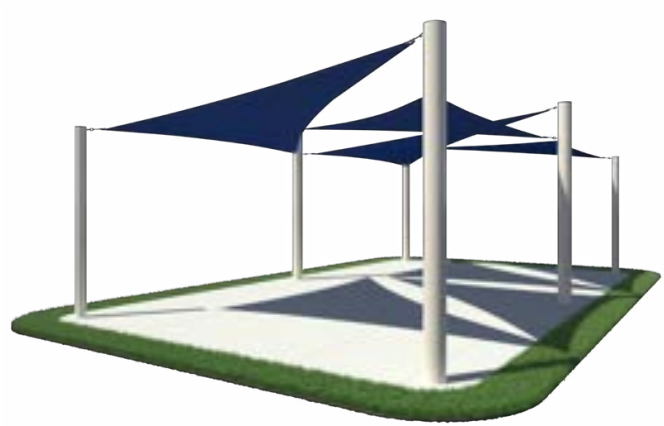
Eco-Safety Rubber Playground Surfacing

4.7

PARKS & URBAN FURNITURE

4.7.1 Outdoor Canopies & Shade Structures

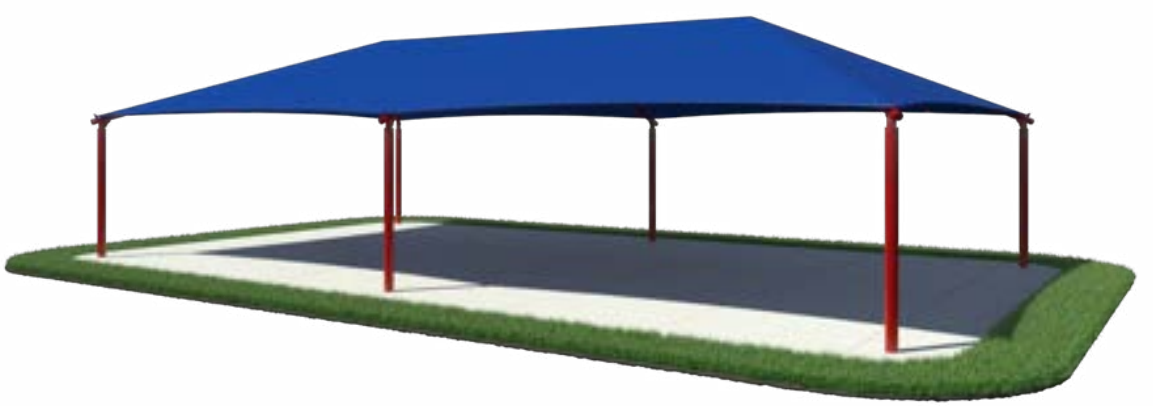
Cantilever Umbrella Shade



Custom Shade

Hexagon Shade

Single Post Umbrella Shade



Rectangle Shade

4.7.2 Natural & Creative Structures

7.5M Octagonal Gazebo with Decked Base

5M Hexagonal Gazebo with Decked Base

4.7.3 Bicycle Storage

Cycle Shed

Cycle Stand

4.7.4 Water Fountains

Accessible and Standard Basins Fido and Me Fountain

Accessible Basin Fido and Me Fountain

Fido Fountain

Double Sided Fido Fountain

Fido and Me Fountain

chapter 5

ACCESSIBILITY AUDIT CHECKLIST FOR EXISTING FACILITIES

This accessibility audit checklist can be used by access auditors undertaking access audit of parks and tourist destinations, including beaches. The checklist may be used as a basic tool and may be further developed and innovated by the user, depending on the type of public space or service been audited. The checklist goes beyond the physical accessibility and address issues of making the service provided in public spaces accessible. The checklist is divided in 4 sections ;

Section 1	**Play Areas**
Section 2	**Priority 1 - Approach & Entrance**
Section 3	**Priority 2 - Toilet Rooms**
Section 4	**Recreational Boating Facilities**

Accessibility Auditing Is An Important Element Of The Design Process.

The purpose of an Accessibility Audit is to establish how well a particular environment performs in terms of access and ease of use by a wide range of potential users, including people with disabilities and the visually impaired, and also to recommend improvements, where necessary.

Section 1

Play Areas

Project

Play space

Location

Date

Surveyors

Contact Information

Play Areas			Comments	Possible Solutions
P1. Is there an accessible route to the entrance of the play area? If there are separate play areas within a site for specific age groups, is there an accessible route to each play area? Is there an accessible route within the play area connecting ground level play components that are on an accessible route and elevated play components that are on an accessible route including the entry and exit points of those components?	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No			
Use the checklist for ***Priority 1 Approach & Entrance***				
P2. Ground Level Play Components Is there an accessible route to at least one of each type of ground level play component?	☐ Yes ☐ No			

Notes: 1. A play component is an element designed to generate play, socialization and learning. Ramps, transfer systems, steps, decks and roofs are not considered play components.				
2. Ground level play components are components that can be approached and exited at ground level. Examples include rockers, swings, diggers, and stand-alone slides.				
P3. If there are elevated play components, is there an accessible route to at least the following number and type of ground level play components? See chart below.	☐ Yes ☐ No			
Notes: 1. The intent is to provide a variety of experiences for children who want to remain in their wheelchair or with another mobility device and who choose not to transfer to elevated components				

2. If a play area includes two or more composite structures for the same age group, use the total number of elevated components to determine the additional number and types of ground level play components to provide on an accessible route.				
3. If ramps provide access to at least 50 percent of the elevated components and the ramped route goes to at least three different elevated play types, the ground level components in the chart are not required				
4. The number of ground level components determined by “one of each type” can fulfil the minimum ground level requirements in the table.				

Number of Elevated Play Components Provided	Minimum Number of Ground Level Play Components Required to be on an Accessible Route	Minimum Number of Different Types of Ground Level Play Components Required to be on an Accessible Route
1	n/a	n/a
2 to 4	1	1
5 to 7	2	2
8 to 10	3	3
11 to 13	4	3
14 to 16	5	3
17 to 19	6	3
20 to 22	7	4
23 to 25	8	4
26 and over	8, plus 1 for each additional 3, or fraction thereof, over 25	5

P4. If two or more ground level play components are on an accessible route, are they dispersed throughout the play area and integrated with other play components?	☐ Yes ☐ No			

P5.	If there is a soft contained play structure with three or fewer entry point, is there an accessible route to at least one entry point?	☐ Yes ☐ No			
	If there are four or more entry points, are there accessible routes to at least two entry points?	☐ Yes ☐ No			
	Note: A soft contained play area is a play structure made of one or more components on which a person enters a fully enclosed play environment that uses pliable materials such as plastic, soft padding and fabric.				
P6.	Accessible Route Connecting Ground Level Play Components Use the checklist for ***Priority 1: Approach & Entrance*** with the following exceptions and requirements.				
	Note: If there is a water play component and the accessible route is submerged, it is not required to be slip resistant, the running slope may be steeper than 1:12 and the cross slope may be steeper than 1:48.				

P7. Is the vertical clearance of the accessible route at least 80 inches above the ground surface?	☐ Yes ☐ No Measurement:			
Note: Objects below 80 inches may not protrude into the accessible route.				
P8. If the play area is less than 1000 square feet: Is the route at least 44 inches wide?	☐ Yes ☐ No Measurement:			
If the route exceeds 30 feet in length, is a wheelchair turning space provided, i.e. a circle at least 60 inches in diameter or a T-shaped space within a 60-inch square?	☐ Yes ☐ No Measurement:			
P9. If the play area is 1000 square feet or greater, is the route at least: 60 inches wide ? Or 36 inches wide for a distance no greater than 60 inches if reduced segments are separated by segments at least 60 wide and at least 60 inches long?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			

Note: This permits flexibility around site features such as trees and equipment.				
P10. Is the route no steeper than 1:16, i.e. for every inch of height change there are at least 16 inches of run?	☐ Yes ☐ No Measurement:			
P11. If the route is steeper than 1:20 and the rise for a ramp run is higher than 6 inches, are there handrails on both sides of the ramp run?	☐ Yes ☐ No			
Notes: 1. Handrail extensions are not required.				
2. Handrails are not required on ramps within ground level use zones. The use zone is the area beneath and adjacent to a play structure upon which a user would land when falling from or exiting a play structure.				
P12. Is the top of the handrail gripping surface no less than 20 inches and no greater than 28 inches above the ramp surface?	☐ Yes ☐ No Measurement:			

P13. Is the handrail gripping surface: Circular with an outside diameter of at least .95 inch and no more than 1.55 inches? Or Non-circular providing an equivalent gripping surface?	☐ Yes ☐ No Measurement:			
P14. Elevated Play Components Is there an accessible route to entry and exit points of at least 50 percent of elevated components?	☐ Yes ☐ No Measurement:			
Note: An elevated play component is a component approached above or below grade that is part of a structure of two or more play components providing more than one play activity.				
P15. If there are 20 or more elevated play components are at least 25% connected by ramps? Are the other 25% that are required to be on an accessible route connected by either ramps or transfer systems?	☐ Yes ☐ No ☐ Yes ☐ No			

P16. If there are fewer than 20 elevated play components, are at least 50% connected by either ramps or transfer systems ?	☐ Yes ☐ No			
Note: Ramps are preferred but are not required.				
P17. Elevated Play Components Accessible Route Use the checklist for ***Priority 1: Approach & Entrance*** and the following exceptions and requirements. Is the accessible route connecting elevated play components: At least 36 inches wide? Or At least 32 inches wide for a distance no greater than 24 inches if the reduced width segments are separated by segments at least 48 inches long and at least 36 inches wide? Or If part of a transfer system, at least 24 inches wide?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			

P18. If there is a ramp, are there handrails on both sides?	☐ Yes ☐ No			
Note: Handrail extensions are not required.				
P19. Is the top of the handrail gripping surface no less than 20 inches and no greater than 28 inches above the ramp surface?	☐ Yes ☐ No Measurement:			
P20. If the handrail gripping surface is: Circular, is the outside diameter no less than .94 inch and no greater than 1.55 inch? Non-circular, is it equivalent to a circular gripping surface with a diameter no less than .94 inch and no greater than 1.55 inch?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
P21. Is the rise for any ramp run connecting elevated play components no greater than 12 inches?	☐ Yes ☐ No Measurement:			
P22. If a transfer system is provided, is the transfer system at least 24 inches wide?	☐ Yes ☐ No Measurement:			

P23. Is the top of the transfer platform no less than 11 inches and no greater than 18 inches from the ground?	☐ Yes ☐ No Measurement:			
P24. Is the transfer platform at least 14 inches deep by at least 24 inches wide?	☐ Yes ☐ No Measurement:			
P25. Is there a clear transfer space at least 30 inches wide by at least 48 inches long adjacent to the platform, with the longer dimension centered on and parallel to the 24-inch minimum long side of the platform?	☐ Yes ☐ No Measurement:			
P26. Is the side of the transfer platform adjacent to the clear space unobstructed?	☐ Yes ☐ No			
P27. If movement is intended from transfer platforms to levels with elevated play components that are required to be on an accessible route, are transfer steps provided?	☐ Yes ☐ No			

P28. Are the transfer steps: At least 14 inches deep? At least 24 inches wide? No higher than 8 inches?	 ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
P29. Is there at least one means of support for transferring: On and off the platform? Up and down the transfer steps?	 ☐ Yes ☐ No ☐ Yes ☐ No			
Note: Examples of supports include a rope loop, a loop type handle, a slot in the edge of a flat horizontal or vertical member, poles or bars, or D rings on the corner posts.				

P30. Play Components Is there at least one clear space for a person in a wheelchair to turn around, i.e. a circle at least 60 inches in diameter or a T- shaped space within a 60-inch square, at: Ground level play components on an accessible route? Elevated play components connected by ramps?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
Note: The turning space is not required at elevated play components connected only by transfer system.				
P31. If there are swings, is there clear space for a person in a wheelchair to turn around, i.e. a circle at least 60 inches in diameter or a T-shaped space within a 60-inch square, immediately adjacent to at least one swing?	☐ Yes ☐ No			

P32. Is there a clear ground/floor space at least 30 inches wide and 48 inches long at: Each ground level play component required to be on an accessible route? Each elevated play component required to be on an accessible route that is connected by ramps?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
Notes: 1. The clear ground space is not required at elevated play components connected only by transfer system.				
2. Clear ground spaces 30 inches min by 48 inches min, 60-inch min turning spaces and accessible routes may overlap.				

P33. If there is a play table for children older than 5 years:				
Are the tops of rims, curbs, or other obstructions no greater than 31 inches above the ground?	☐ Yes ☐ No Measurement:			
Is there clear ground space at least 30 inches wide by at least 48 inches long for a forward approach?	☐ Yes ☐ No Measurement:			
Is there clear knee space underneath: At least 17 inches high?	☐ Yes ☐ No Measurement:			
Does it extend at least 17 inches deep?	☐ Yes ☐ No Measurement:			
Is it least 30 inches wide?	☐ Yes ☐ No Measurement:			

P34. If there is a play table for children 5 years or younger: Does it provide knee space as noted above? Or Is there clear ground space at least 30 inches wide by at least 48 inches long for a parallel approach?	☐ Yes ☐ No ☐ Yes ☐ No Measurement:			
P35. If a play component on an accessible route requires transfer to entry points or seats: Is the entry point or seat no less than 11 inches and no greater than 24 inches from the clear floor/ ground space? Is there at least one means of transfer support?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No			
Note: Examples of supports include a rope loop, a loop type handle, a slot in the edge of a flat horizontal or vertical member, poles or bars, or D rings on the corner posts.				

Detailed analysis

Section 2

Priority 1 - Approach & Entrance

Project

Play space

Location

Date

Surveyors

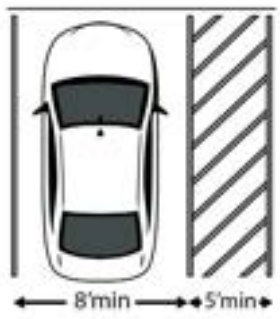
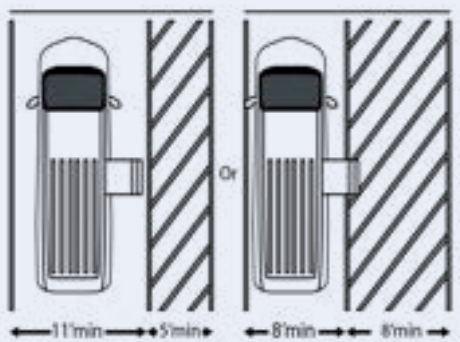
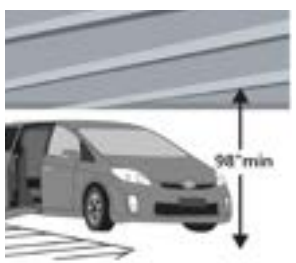
Contact Information

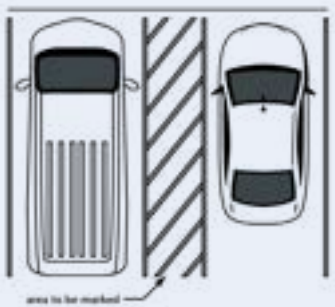
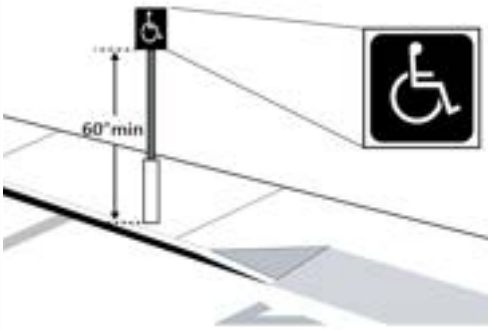
<table>
<tr><th colspan="3">Priority 1 - Approach & Entrance</th><th>Comments</th><th>Possible Solutions</th></tr>
<tr><td>1.1</td><td>Is there at least one route from site arrival points (parking, passenger loading zones, public sidewalks and public transportation stops) that does not require the use of stairs?</td><td>☐ Yes ☐ No

If yes, location of route:</td><td></td><td></td></tr>
<tr><td colspan="5">Parking (Accessible parking spaces should be identified by size, access aisle and signage)</td></tr>
<tr><td>1.2</td><td>If parking is provided for the public, are an adequate number of accessible spaces provided?</td><td>☐ Yes ☐ No

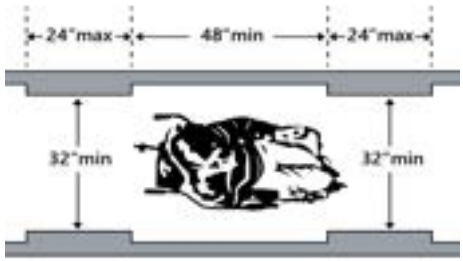
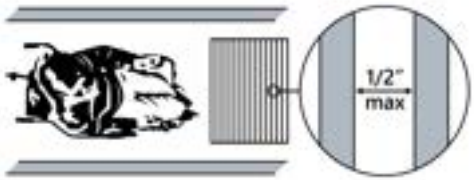
Total #:

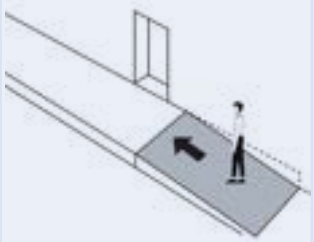
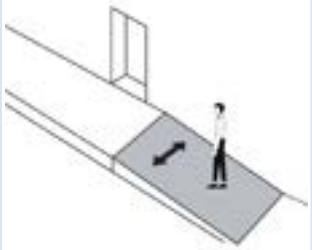
Accessible #:</td><td><table><tr><th>Total Spaces</th><th>Accessible Spaces</th></tr><tr><td>1- 25</td><td>1</td></tr><tr><td>26- 50</td><td>2</td></tr><tr><td>51- 75</td><td>3</td></tr><tr><td>76- 100</td><td>4</td></tr></table></td><td></td><td></td></tr>
<tr><td>1.3</td><td>Of the accessible spaces, is at least one a van accessible space? *</td><td>☐ Yes ☐ No</td><td>*For every 6 or fraction of 6 parking spaces required by the table above, at least 1 should be a van accessible space.</td><td></td><td></td></tr>
</table>

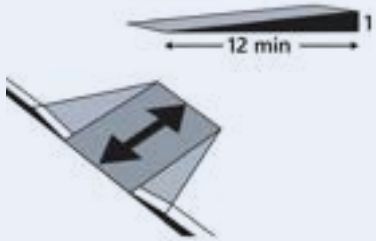
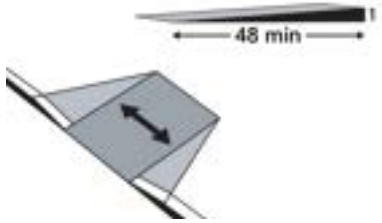
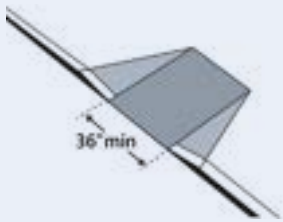
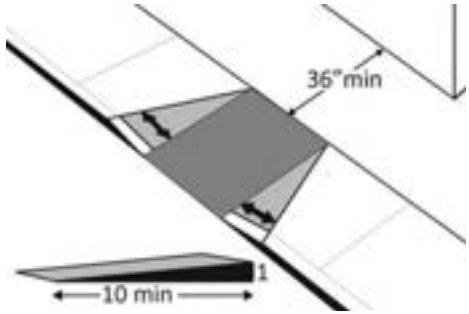
1.4 Are accessible spaces at least 8 feet wide with an access aisle at least 5 feet wide? **Note:** Two spaces may share an access aisle. Check state/ local requirements; some specify that each space have its own aisle.	☐ Yes ☐ No Measurement:			
1.5 Is the van accessible space: At least 11 feet wide with an access aisle at least 5 feet wide? Or At least 8 feet wide with an access aisle at least 8 feet wide?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
1.6 Is at least 98 inches of vertical clearance provided for the van accessible space?	☐ Yes ☐ No Measurement:			

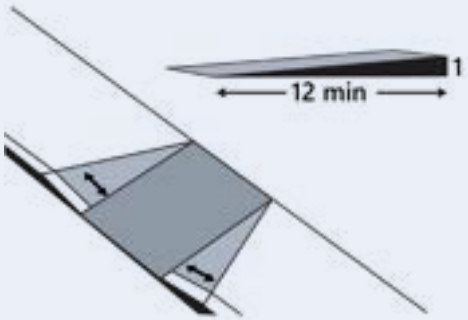
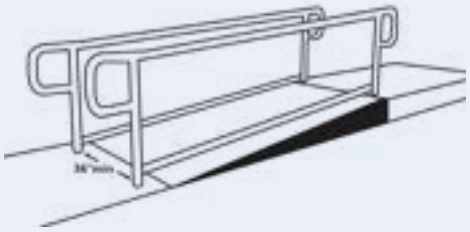
1.7	Are the access aisles marked so as to discourage parking in them? **Note:** The marking method and colour may be addressed by state/local requirements.	☐ Yes ☐ No		
1.8	Is the slope of the accessible parking spaces and access aisles no steeper than 1:48 in all directions?	☐ Yes ☐ No Measurement:		
1.9	Do the access aisles adjoin an accessible route?	☐ Yes ☐ No		
1.10	Are accessible spaces identified with a sign that includes the International Symbol of Accessibility? Is the bottom of the sign at least 60 inches above the ground? **Note:** The International Symbol of Accessibility is not required on the ground.	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		

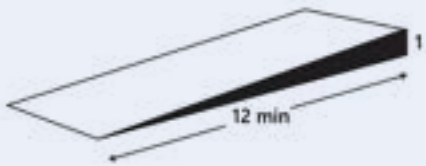
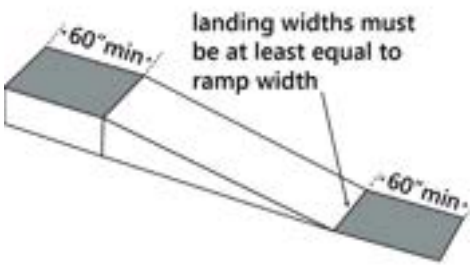
1.11	Are there signs reading "van accessible" at van accessible spaces?	☐ Yes ☐ No			
1.12	Of the total parking spaces, are the accessible spaces located on the closest accessible route to the accessible entrance(s)? **Note:** If parking serves multiple entrances, accessible parking should be dispersed.	☐ Yes ☐ No			
	Exterior Accessible Route				
1.13	Is the route stable, firm and slip-resistant?	☐ Yes ☐ No			
1.14	Is the route at least 36 inches wide?	☐ Yes ☐ No Measurement:			

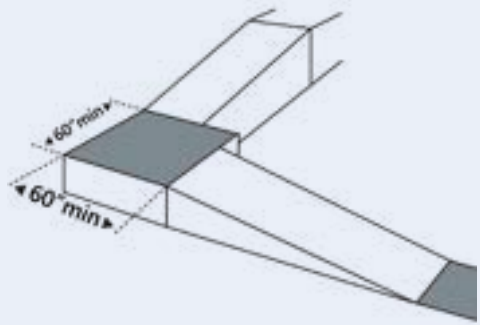
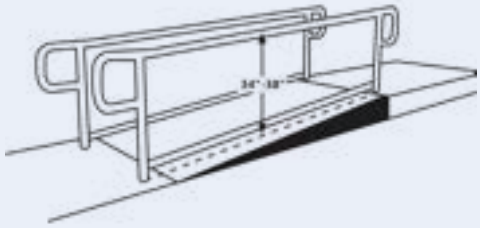
	Note: The accessible route can narrow to 32 inches min. for a max. of 24 inches. These narrower portions of the route must be at least 48 inches from each other.			
1.15	If the route is greater than 200 feet in length and less than 60 inches wide, is there a passing space no less than 60 x 60 inches?	☐ Yes ☐ No Measurement:		
1.16	If there are grates or openings on the route, are the openings no larger than ½ inches? Is the long dimension perpendicular to the dominant direction of travel?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No		

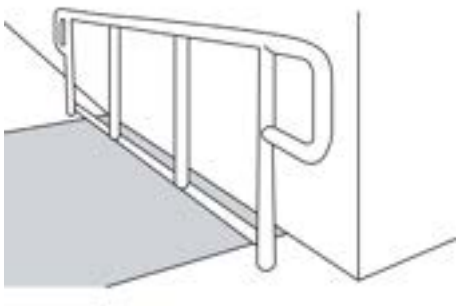
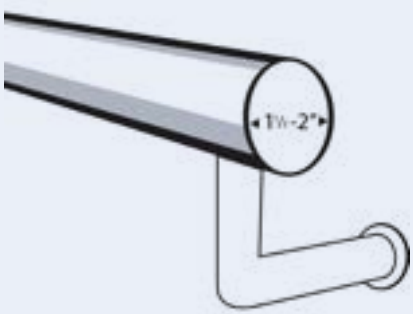
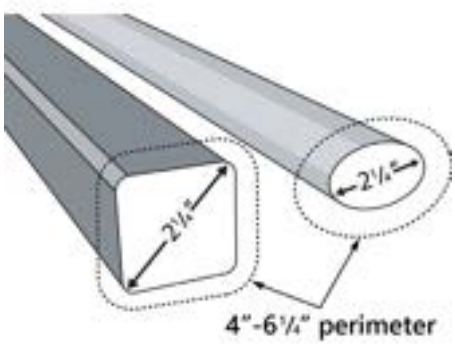
1.17	Is the running slope no steeper than 1:20, i.e. for every inch of height change there are at least 20 inches of route run? **Note**: If the running slope is steeper than 1:20, treat as a ramp and add features such as edge protection and handrails.	☐ Yes ☐ No Measurement:			
1.18	Is the cross slope no steeper than 1:48?	☐ Yes ☐ No Measurement:			
	Curb Ramps				
1.19	If the accessible route crosses a curb, is there a curb ramp?	☐ Yes ☐ No			

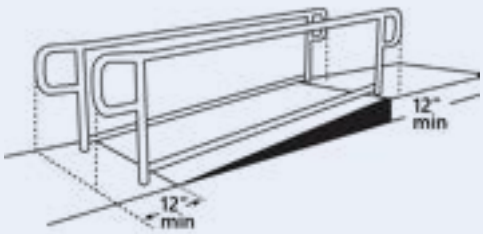
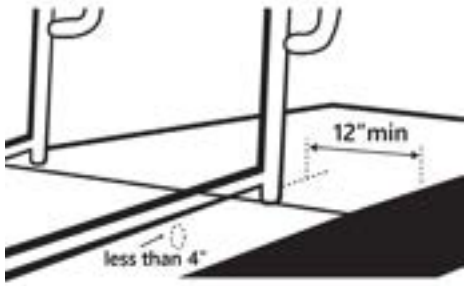
1.20	Is the running slope of the curb ramp no steeper than 1:12, i.e. for every inch of height change there are at least 12 inches of curb ramp run?	☐ Yes ☐ No Measurement:		
1.21	Is the cross slope of the curb ramp, excluding flares, no steeper than 1:48?	☐ Yes ☐ No Measurement:		
1.22	Is the curb ramp, excluding flares, at least 36 inches wide?	☐ Yes ☐ No Measurement:		
1.23	At the top of the curb ramp is there a level landing (slope no steeper than 1:48 in all directions) that is at least 36 inches long and at least as wide as the curb ramp? If there are curb ramp flares, are the slopes of the flares no steeper than 1:10, i.e. for every inch of height change there are at least 10 inches of flare run?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

1.24	If the landing at the top is less than 36 inches long, are there curb ramp flares? Are the slopes of the flares no greater than 1:12, i.e. for every inch of height change there are at least 12 inches of flare run?	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		
	Ramps (If any portion of the accessible route is steeper than 1:20, it should be treated as a ramp)			
1.25	If there is a ramp, is it at least 36 inches wide? **Note:** If there are handrails, measure between the handrails.	☐ Yes ☐ No Measurement:		
1.26	Is the surface stable, firm and slip resistant?	☐ Yes ☐ No		

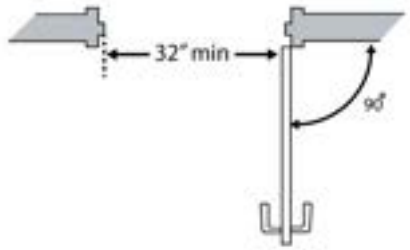
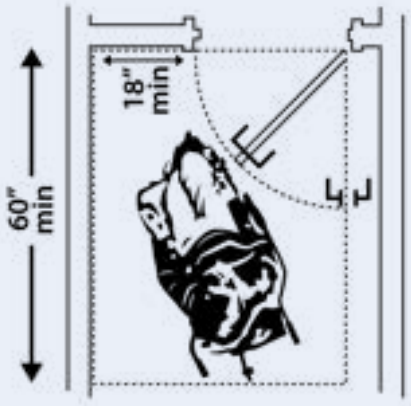
1.27	For each section of the ramp, is the running slope no greater than 1:12, i.e. for every inch of height change there are at least 12 inches of ramp run? **Note:** Rises no greater than 3 inches with a slope no steeper than 1:8 and rises no greater than 6 inches with a slope no steeper than 1:10 are permitted when such slopes are necessary due to space limitations.	☐ Yes ☐ No Measurement:		
1.28	Is there a level landing that is at least 60 inches long and at least as wide as the ramp: At the top of the ramp? At the bottom of the ramp?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

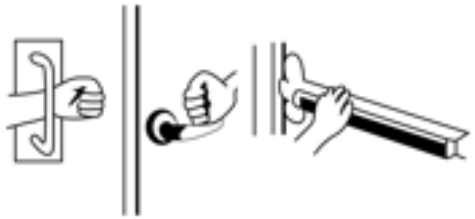
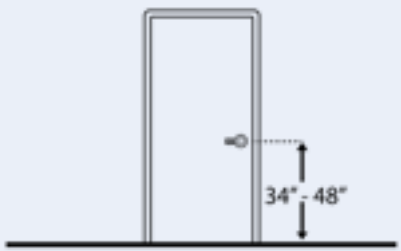
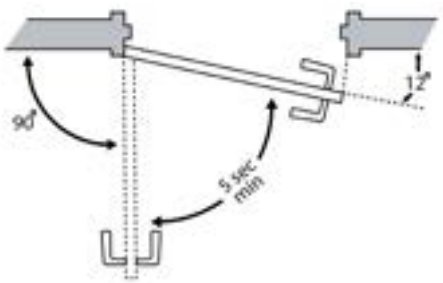
1.29	Is there a level landing where the ramp changes direction that is at least 60 x 60 inches?	☐ Yes ☐ No Measurement:		
1.30	If the ramp has a rise higher than 6 inches, are there handrails on both sides?	☐ Yes ☐ No Measurement:		
1.31	Is the top of the handrail gripping surface no less than 34 inches and no greater than 38 inches above the ramp surface?	☐ Yes ☐ No Measurement:		

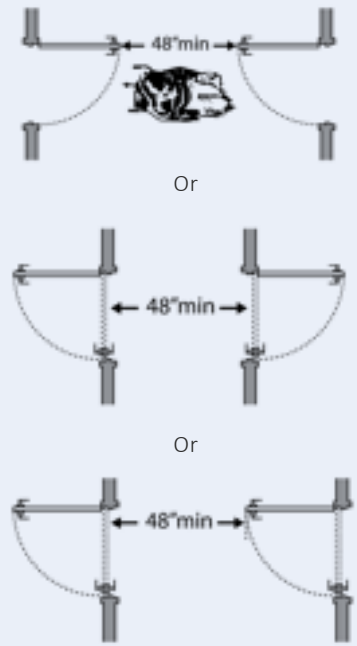
1.32	Is the handrail gripping surface continuous and not obstructed along the top or sides? If there are obstructions, is the bottom of the gripping surface obstructed no greater than 20%?	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		
1.33	If the handrail gripping surface is circular, is it no less than 1 ¼ inches and no greater than 2 inches in diameter?	☐ Yes ☐ No Measurement:		
1.34	If the handrail gripping surface is non-circular: Is the perimeter no less than 4 inches and no greater than 6¼ inches? Is the cross section no greater than 2¼ inches?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

1.35	Does the handrail: Extend at least 12 inches horizontally beyond the top and bottom of the ramp? Return to a wall, guard, or landing surface? **Note:** If a 12-inch extension would be a hazard (in circulation path) it is not required.	☐ Yes ☐ No Measurement: ☐ Yes ☐ No		
1.36	To prevent wheelchair casters and crutch tips from falling off: Does the surface of the ramp extend at least 12 inches beyond the inside face of the handrail? Or Is there a curb or barrier that prevents the passage of a 4- inch diameter sphere?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

Entrance				
1.37 Is the main entrance accessible?	☐ Yes ☐ No			
1.38 If the main entrance is not accessible, is there an alternate accessible entrance? Can the alternate accessible entrance be used independently and during the same hours as the main entrance?	☐ Yes ☐ No ☐ Yes ☐ No			
1.39 Do all inaccessible entrances have signs indicating the location of the nearest accessible entrance?	☐ Yes ☐ No			

1.40	If not all entrances are accessible, is there a sign at the accessible entrance with the International Symbol of Accessibility?	☐ Yes ☐ No		
1.41	Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	☐ Yes ☐ No Measurement:		
1.42	If there is a front approach to the pull side of the door, is there at least 18 inches of manoeuvring clearance beyond the latch side plus at least 60 inches clear depth? On both sides of the door, is the ground or floor surface of the manoeuvring clearance level (no steeper than 1:48)?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

1.43	Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist? Door handle? Lock (if provided)?	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No		
1.44	Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the floor or ground surface?	☐ Yes ☐ No Measurement:		
1.45	If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	☐ Yes ☐ No Measurement:		

1.46	If there are two doors in a series, e.g. vestibule, is the distance between the doors at least 48 inches plus the width of the doors when swinging into the space?	☐ Yes ☐ No Measurement:		
1.47	If provided at the building entrance, are carpets or mats no higher than ½ inch thick?	☐ Yes ☐ No Measurement:		
1.48	Are edges of carpets or mats securely attached to minimize tripping hazards?	☐ Yes ☐ No		

Detailed analysis

Section 3

Priority 2 - Toilet Rooms

Project

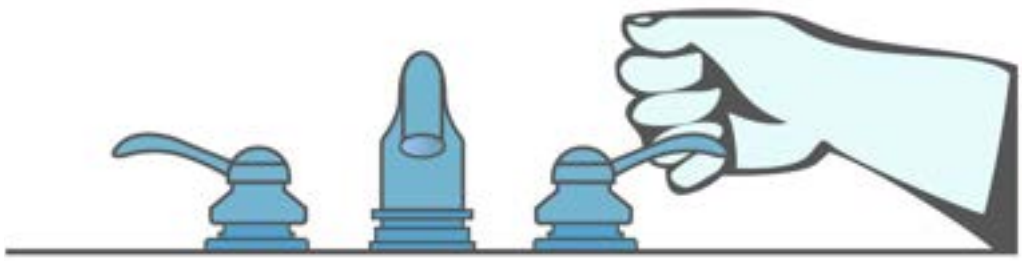
Play space

Location

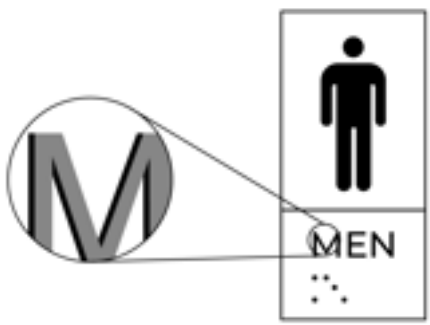
Date

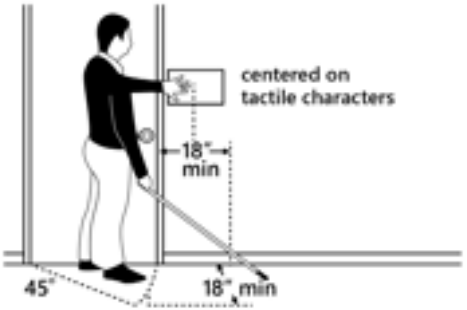
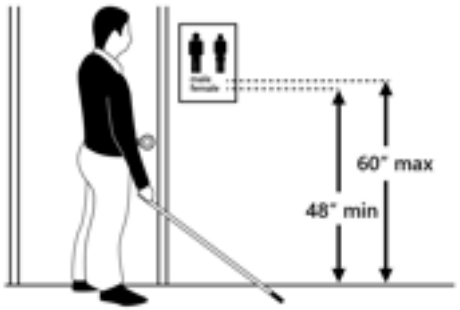
Surveyors

Contact Information

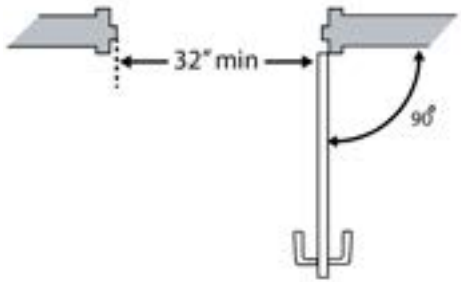
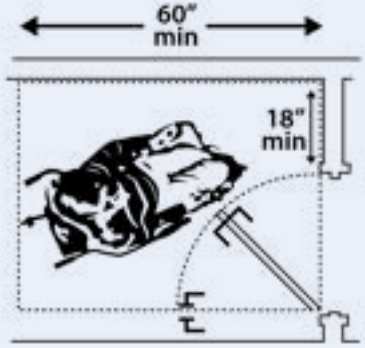


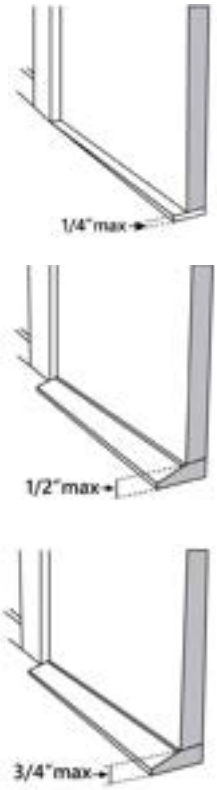
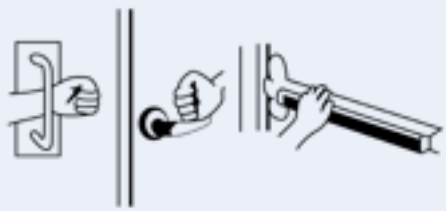
Priority 2 - Toilet Rooms			Comments	Possible Solutions
2.1 If toilet rooms are available to the public, is at least one toilet room accessible? (Either one for each sex, or one unisex.) **Note**: If toilet rooms are chiefly for children, use the children's specifications in Toilets and Lavatories and Sinks	☐ Yes ☐ No			
2.2 Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	☐ Yes ☐ No			
2.3 If not all toilet rooms are accessible, is there a sign at the accessible toilet room with the International Symbol of Accessibility?	☐ Yes ☐ No			

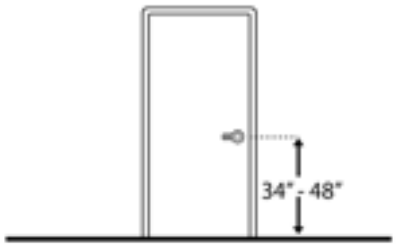
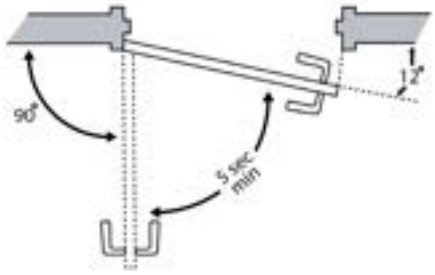
	Accessible Route				
2.4	Is there an accessible route to the accessible toilet room?	☐ Yes ☐ No			
	Signs at Toilet Rooms				
2.5	Do text characters contrast with their backgrounds?	☐ Yes ☐ No			
	Are text characters raised?	☐ Yes ☐ No			
	Is there Braille?	☐ Yes ☐ No			
	Is the sign mounted: On the wall on the latch side of the door?	☐ Yes ☐ No			
	Note: Signs are permitted on the push side of doors with closers and without hold-open devices.				

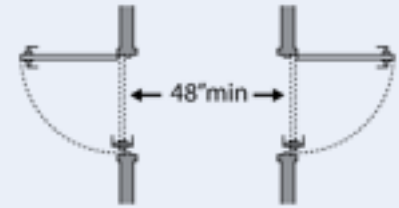
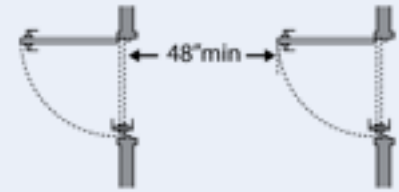
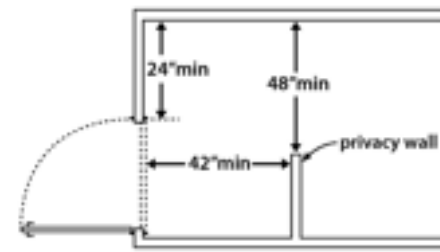
With clear floor space beyond the arc of the door swing between the closed position and 45-degree open position, at least 18 x 18 inches centered on the tactile characters?	☐ Yes ☐ No Measurement:		
So, the baseline of the lowest character is at least 48 inches above the floor and the baseline of the highest character is no more than 60 inches above the floor? **Note**: If the sign is at double doors with one active leaf, the sign should be on the inactive leaf; if both leaves are active, the sign should be on the wall to the right of the right leaf.	☐ Yes ☐ No Measurement:		

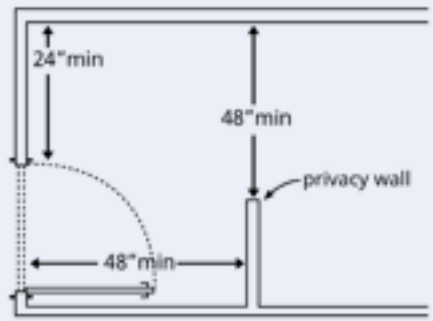
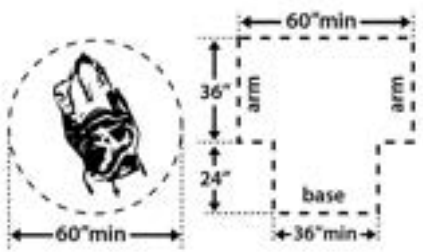
Entrance

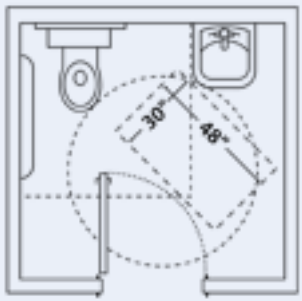
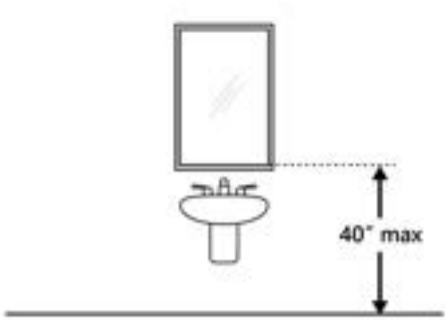
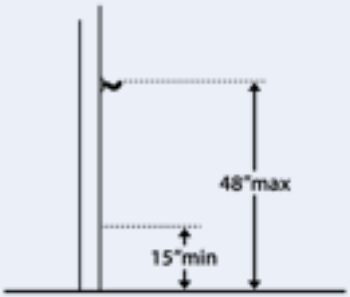
2.6 Is the door opening width at least 32 inches clear, between the face of the door and the stop, when the door is open 90 degrees?	☐ Yes ☐ No Measurement:		
2.7 If there is a front approach to the pull side of the door is there at least 18 inches of manoeuvring clearance beyond the latch side plus 60 inches clear depth? On both sides of the door, is the floor surface of the manoeuvring clearance level (no steeper than 1:48)?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		

2.8	If the threshold is vertical is it no more than ¼ inch high? Or No more than ½ inch high with the top ¼ inch beveled no steeper than 1:2? Or No more than ¾ inch high with the top ½ inch beveled no steeper than 1:2? **Note**: The first ¼ inch of the ½ or ¾ inch threshold may be vertical; the rest must be beveled.	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		
2.9	Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist? Door handle? Lock (if provided)?	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No		

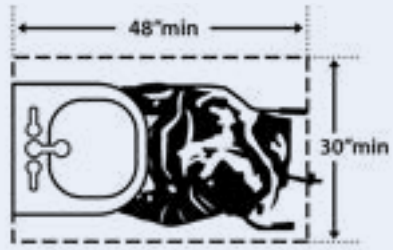
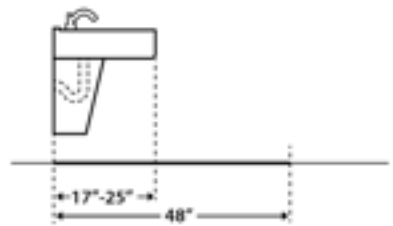
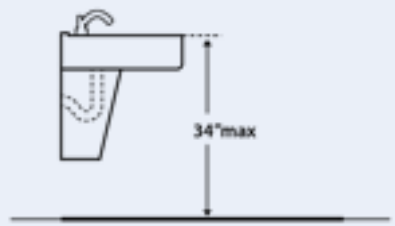
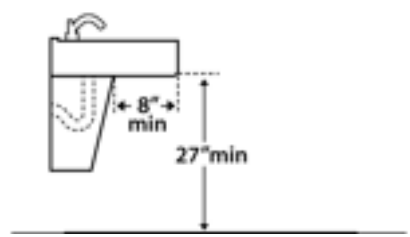
2.10	Are the operable parts of the door hardware mounted no less than 34 inches and no greater than 48 inches above the floor?	☐ Yes ☐ No Measurement:		
2.11	Can the door be opened easily (5 pounds maximum force)? **Note**: You can use a pressure gauge or fish scale to measure force. If you do not have one you will need to judge whether the door is easy to open.	☐ Yes ☐ No Measurement:		
2.12	If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	☐ Yes ☐ No Measurement:		

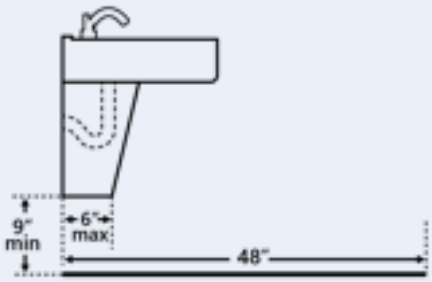
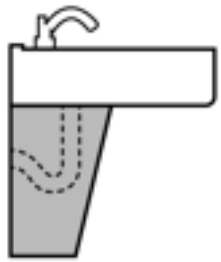
2.13 If there are two doors in a series, e.g. vestibule, is the distance between the doors at least 48 inches plus the width of the doors when swinging into the space?	☐ Yes ☐ No Measurement:	 Or  Or  	
2.14 If there is a privacy wall and the door swings out, is there at least 24 inches of manoeuvring clearance beyond the door latch side and 42 inches to the privacy wall?	☐ Yes ☐ No Measurement:	 	

2.15	If there is a privacy wall and the door swings in, is there at least 24 inches of manoeuvring clearance beyond the door latch side and at least 48 inches to the privacy wall if there is no door closer or at least 54 inches if there is a door closer?	☐ Yes ☐ No Measurement:		
	In the Toilet Room			
2.16	Is there a clear path to at least one of each type of fixture, e.g. lavatory, hand dryer, etc., that is at least 36 inches wide?	☐ Yes ☐ No Measurement:		
2.17	Is there clear floor space available for a person in a wheelchair to turn around, i.e. a circle at least 60 inches in diameter or a T-shaped space within a 60-inch square?	☐ Yes ☐ No Measurement:		

2.18	In a single user toilet room if the door swings in and over a clear floor space at an accessible fixture, is there a clear floor space at least 30 x 48 inches beyond the swing of the door?	☐ Yes ☐ No Measurement:		
2.19	If the mirror is over a lavatory or countertop, is the bottom edge of the reflecting surface no higher than 40 inches above the floor? Or If the mirror is not over the lavatory or countertop, is the bottom edge of the reflecting surface no higher than 35 inches above the floor?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		
2.20	If there is a coat hook, is it no less than 15 inches and no greater than 48 inches above the floor?	☐ Yes ☐ No Measurement:		

Lavatories

2.21	Does at least one lavatory have a clear floor space for a forward approach at least 30 inches wide and 48 inches long?	☐ Yes ☐ No Measurement:		
2.22	Do no less than 17 inches and no greater than 25 inches of the clear floor space extend under the lavatory so that a person using a wheelchair can get close enough to reach the faucet?	☐ Yes ☐ No Measurement:		
2.23	Is the front of the lavatory or counter surface, whichever is higher, no more than 34 inches above the floor?	☐ Yes ☐ No Measurement:		
2.24	Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	☐ Yes ☐ No Measurement:		

2.25	Is there toe clearance at least 9 inches high? **Note**: Space extending greater than 6 inches beyond the available toe clearance at 9 inches above the floor is not considered toe clearance.	☐ Yes ☐ No		
2.26	Are pipes below the lavatory insulated or otherwise configured to protect against contact?	☐ Yes ☐ No		
2.27	Can the faucet be operated without tight grasping, pinching, or twisting of the wrist? Is the force required to activate the faucet no greater than 5 pounds?	☐ Yes ☐ No ☐ Yes ☐ No		

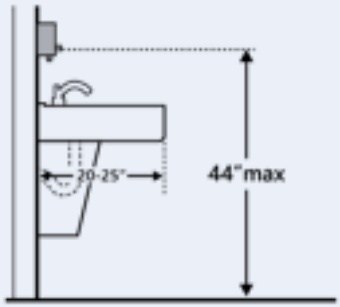
Soap Dispensers and Hand Dryers

2.28 Are the operable parts of the soap dispenser within one of the following reach ranges:

Above lavatories or counters no less than 20 inches and no greater than 25 inches deep: no higher than 44 inches above the floor?

☐ Yes ☐ No

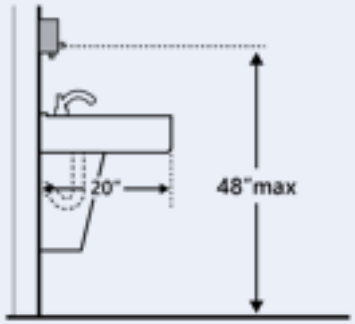
Measurement:



Above lavatories less than 20 inches deep: no higher than 48 inches above the floor?

☐ Yes ☐ No

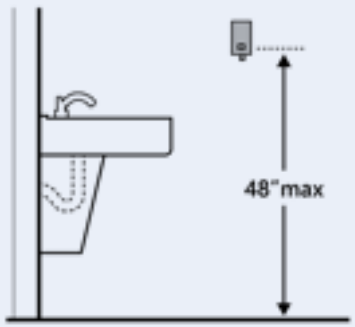
Measurement:

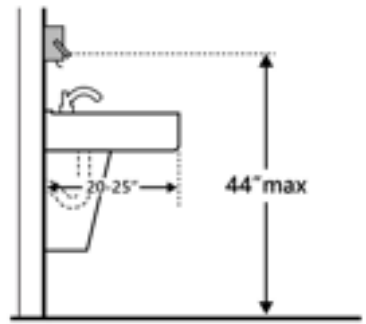
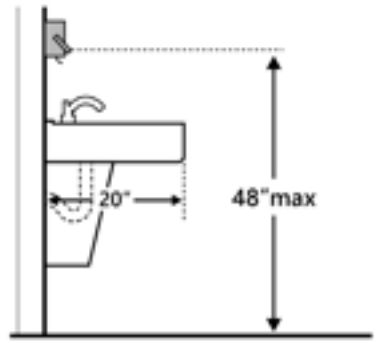
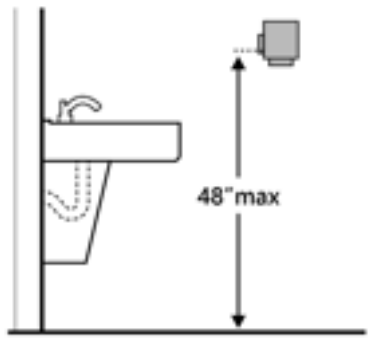


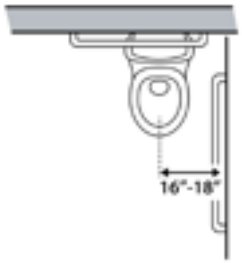
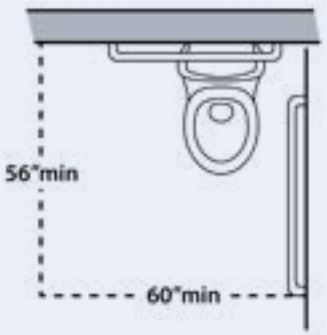
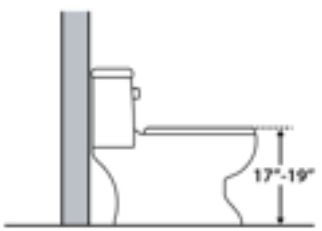
Not over an obstruction: no higher than 48 inches above the floor?

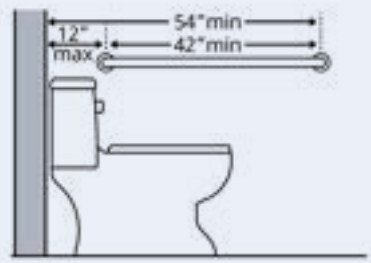
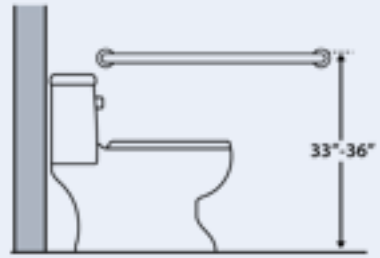
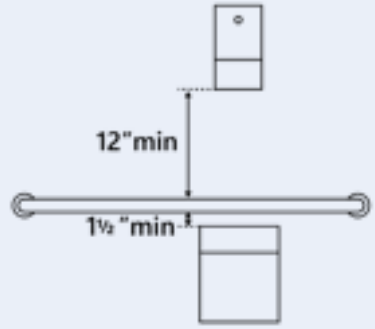
☐ Yes ☐ No

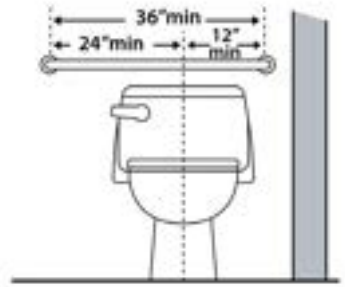
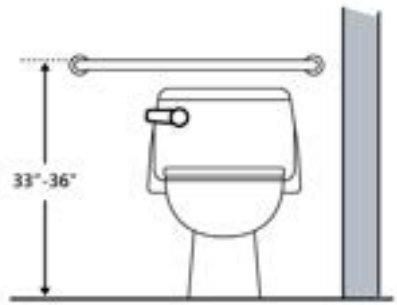
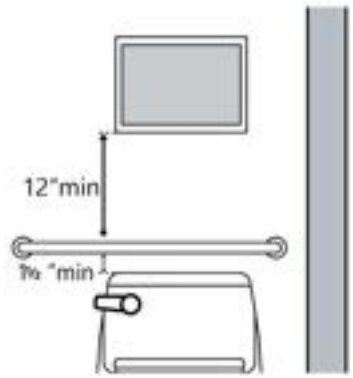
Measurement:

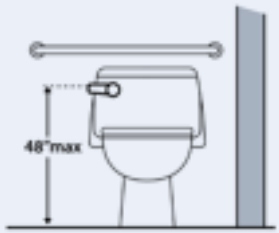
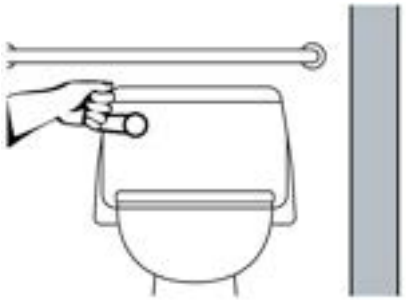
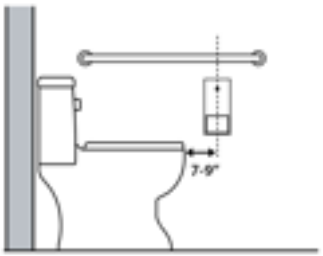


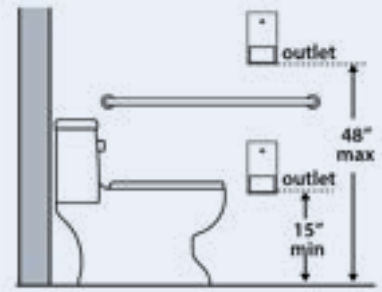
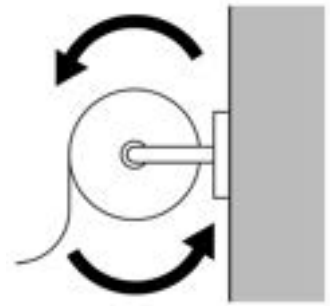
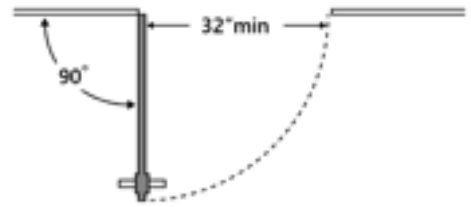
2.29 Are the operable parts of the hand dryer or towel dispenser within one of the following reach ranges: Above lavatories or counters no less than 20 inches and no greater than 25 inches deep: no higher than 44 inches above the floor? Above lavatories less than 20 inches deep: no higher than 48 inches above the floor? Not over an obstruction: no higher than 48 inches above the floor? Can the operable parts of the hand dryer or towel dispenser be operated without tight grasping, pinching or twisting of the wrist? Is the force required to activate the hand dryer or towel dispenser no greater than 5 pounds?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement: ☐ Yes ☐ No ☐ Yes ☐ No Measurement:	  	

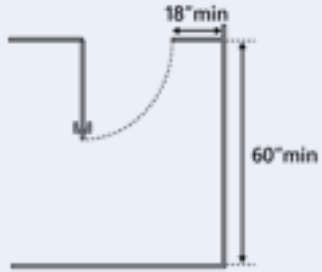
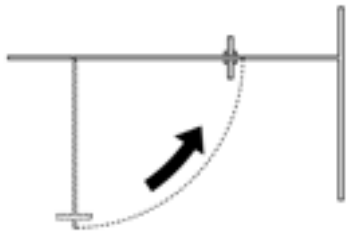
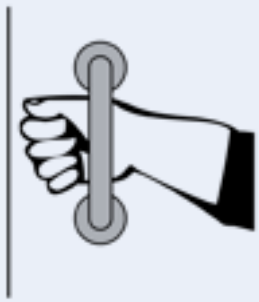
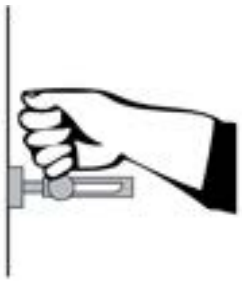
Water Closets in Single-User Toilet Rooms and Compartments (Stalls)			
2.30 Is the centerline of the water closet no less than 16 inches and no greater than 18 inches from the side wall or partition?	☐ Yes ☐ No Measurement:		
2.31 Is clearance provided around the water closet measuring at least 60 inches from the side wall and at least 56 inches from the rear wall?	☐ Yes ☐ No Measurement:		
2.32 Is the height of the water closet no less than 17 inches and no greater than 19 inches above the floor measured to the top of the seat?	☐ Yes ☐ No Measurement:		

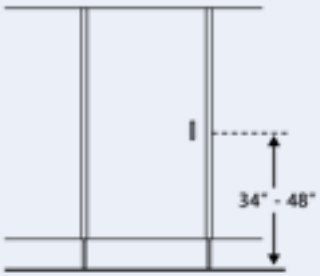
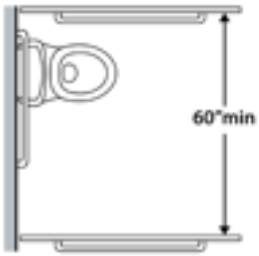
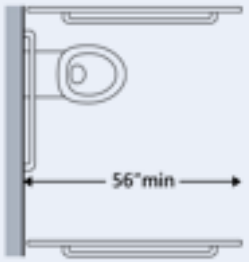
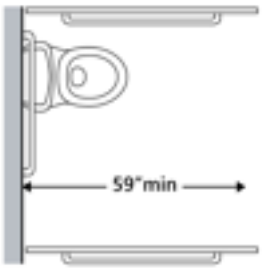
2.33	Is there a grab bar at least 42 inches long on the side wall?	☐ Yes ☐ No Measurement:		
	Is it located no more than 12 inches from the rear wall?	☐ Yes ☐ No Measurement:		
	Does it extend at least 54 inches from the rear wall?	☐ Yes ☐ No Measurement:		
	Is it mounted no less than 33 inches and no greater than 36 inches above the floor to the top of the gripping surface?	☐ Yes ☐ No Measurement:		
	Is there at least 12 inches clearance between the grab bar and projecting objects above?	☐ Yes ☐ No Measurement:		
	Is there at least 1½ inches clearance between the grab bar and projecting objects below?	☐ Yes ☐ No Measurement:		
	Is the space between the wall and the grab bar 1 ½ inches?	☐ Yes ☐ No Measurement:		

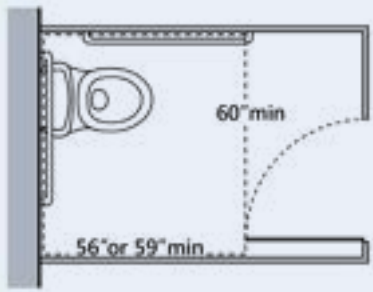
2.34	Is there a grab bar at least 36 inches long on the rear wall?	☐ Yes ☐ No Measurement:		
	Does it extend at least 12 inches from the centerline of the water closet on one side (side wall)?	☐ Yes ☐ No Measurement:		
	Does it extend at least 24 inches on the other (open) side?	☐ Yes ☐ No Measurement:		
	Is it mounted no less than 33 inches and no greater than 36 inches above the floor to the top of the gripping surface?	☐ Yes ☐ No Measurement:		
	Are there at least 12 inches clearance between the grab bar and protruding objects above?	☐ Yes ☐ No Measurement:		
	Are there at least 1½ inches clearance between the grab bar and projecting objects below?	☐ Yes ☐ No Measurement:		
	Is the space between the wall and the grab bar 1½ inches?	☐ Yes ☐ No Measurement:		

2.35	If the flush control is hand operated, is the operable part located no higher than 48 inches above the floor?	☐ Yes ☐ No Measurement:		
2.36	If the flush control is hand operated, can it be operated with one hand and without tight grasping, pinching, or twisting of the wrist? Is the force required to activate the flush control no greater than 5 pounds?	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		
2.37	Is the flush control on the open side of the water closet?	☐ Yes ☐ No		
2.38	Is the toilet paper dispenser located no less than 7 inches and no greater than 9 inches from the front of the water closet to the centerline of the dispenser?	☐ Yes ☐ No Measurement:		

2.39	Is the outlet of the dispenser: Located no less than 15 inches and no greater than 48 inches above the floor? Not located behind grab bars?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No		
2.40	Does the dispenser allow continuous paper flow?	☐ Yes ☐ No		
	Toilet Compartments (Stalls)			
2.41	Is the door opening width at least 32 inches clear, between the face of the door and the stop, when the door is open 90 degrees?	☐ Yes ☐ No Measurement:		

2.42	If there is a front approach to the pull side of the door, is there at least 18 inches of manoeuvring clearance beyond the latch side plus 60 inches clear depth?	☐ Yes ☐ No Measurement:		
2.43	Is the door self-closing?	☐ Yes ☐ No		
2.44	Are there door pulls on both sides of the door that are operable with one hand and do not require tight grasping pinching or twisting of the wrist?	☐ Yes ☐ No		
2.45	Is the lock operable with one hand and without tight grasping, pinching or twisting of the wrist?	☐ Yes ☐ No		

2.46	Are the operable parts of the door hardware mounted no less than 34 inches and no greater than 48 inches above the floor?	☐ Yes ☐ No Measurement:		
2.47	Is the compartment at least 60 inches wide?	☐ Yes ☐ No Measurement:		
2.48	If the water closet is wall hung, is the compartment at least 56 inches deep?	☐ Yes ☐ No Measurement:		
2.49	If the water closet is floor mounted, is the compartment at least 59 inches deep?	☐ Yes ☐ No Measurement:		

2.50	If the door swings in, is the minimum required compartment area provided beyond the swing of the door (60 inches x 56 inches if water closet is wall hung or 59 inches if water closet is floor mounted)?	☐ Yes ☐ No Measurement:		

Detailed analysis

Section 4 Recreational Boating Facilities

Project

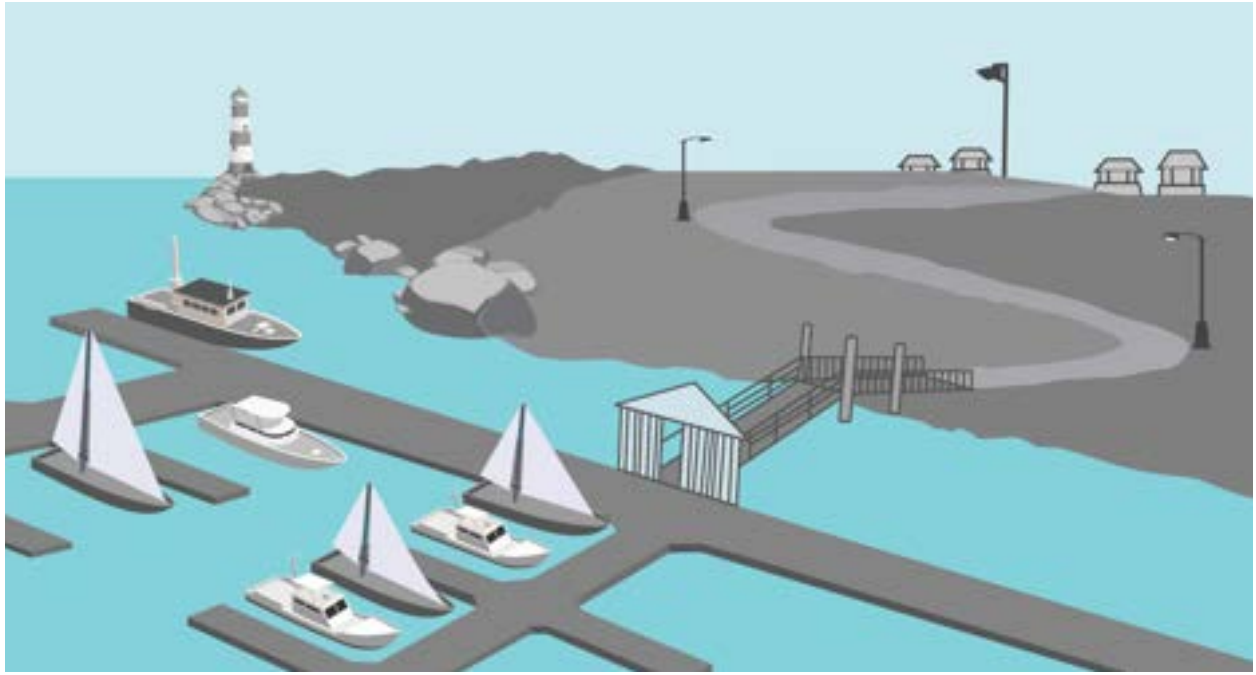
Play space

Location

Date

Surveyors

Contact Information



Recreational Boating Facilities		Comments	Possible Solutions
B1 Is there an accessible route to the entrance of the boating facility? Use the checklist for ***Priority 1: Approach & Entrance.***	☐ Yes ☐ No		
B2 BOAT SLIPS Where boat slips are provided are there an adequate number of accessible slips? **Note**: If slips are not demarcated by length, count each 40 feet of slip edge along the pier perimeter as one slip. A boat slip is the portion of a pier, main pier, finger pier or float where a boat is berthed or moored or used for embarking or disembarking that is not part of a boat launch ramp. A boat launch ramp is a sloped surface designed for launching and retrieving trailered boats and other watercraft to and from a body of water.	☐ Yes ☐ No Total Slips: Accessible Slips:		

Total Slips	Accessible Slips
1- 25	1
26- 50	2
51- 100	3
101- 150	4
151- 300	5
301- 400	6
401- 500	7
501- 600	8
601- 700	9
701- 800	10
801- 900	11
901- 1000	12
1001 and over	12 plus 1 for each 100 or fraction

B3	Are the accessible boat slips dispersed among the different types of boat slips? **Note**: Accessible boat slips must be dispersed throughout the various types of slips, but a facility does not have to provide more accessible boat slips than required in the table. Accessible slips may be grouped on one pier if the requirement for different types of slips is met. Types could include shallow-water or deep water; transient or longer-term lease; covered or uncovered; and whether slips are equipped with features such as telephone, water, electricity, or cable connections.	☐ Yes ☐ No			
B4	Is there an accessible route to the accessible boat slips? Use the checklist for ***Priority 1: Approach and Entrance.***	☐ Yes ☐ No			

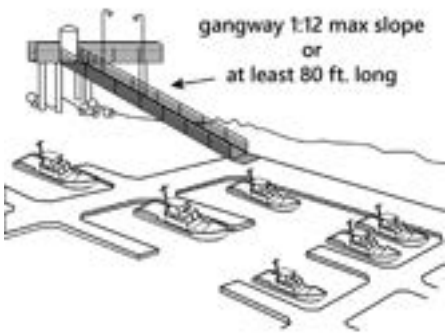
To deal with varying water levels, exceptions apply when gangways are part of the accessible route. A gangway is a variable-sloped pedestrian walkway that links a fixed structure or land with a floating structure.

Exceptions:

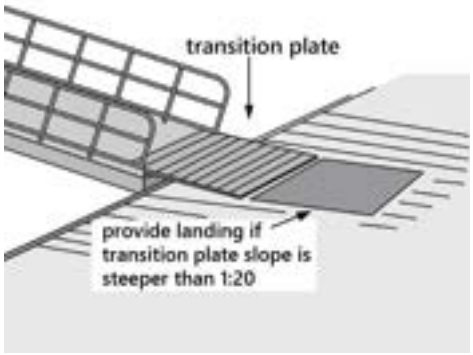
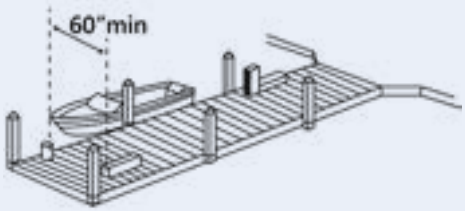
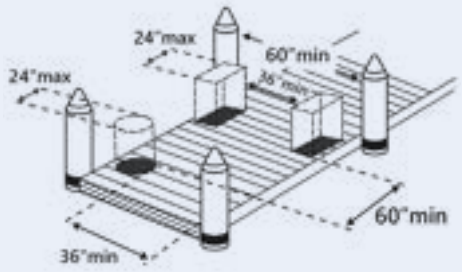
1 Gangway rises may be greater than 30 inches. Therefore, gangways may be any length and no intermediate landings are required.

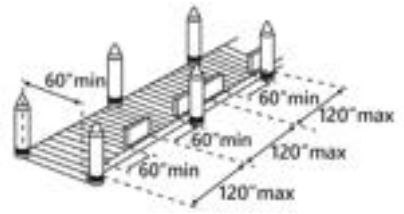
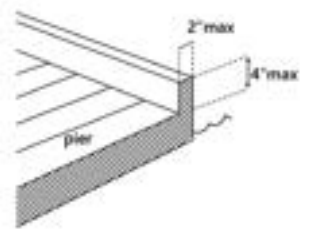
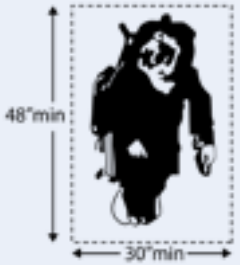
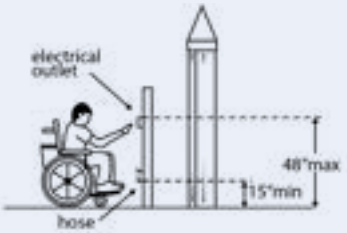
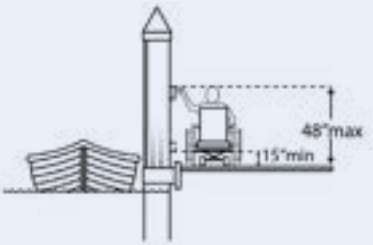
2 Gangway slopes may be greater than 1:12 if the total length of a gangway or series of gangways serving as part of the accessible route is at least 80 feet.

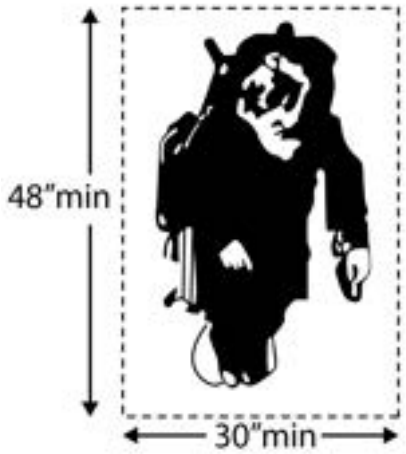
3 Gangway slopes may be greater than 1:12 if the facility contains fewer than 25 boat slips and the total length of the gangway or series of gangways serving as part of the accessible route is at least 30 feet.

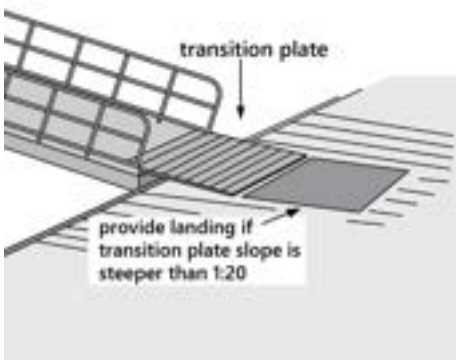


4 Level landings are not required where gangways connect to transition plates. A transition plate is a sloped pedestrian surface at the end of a gangway. 5 Where gangways and transition plates connect, handrail extensions are not required. 6 If there are handrail extensions on gangways or transition plates, the extensions are not required to be parallel with the ground surface. 7 Changes in level ¼ to ½ inch high, beveled with a slope no steeper than 1:20 are permitted on gangway surfaces. **Note**: When gangways, transition plates and floating piers and platforms are part of an accessible route, the cross-slope requirement of 1:48 maximum is measured when they are in the static position, i.e. absence of movement that results from waves and wind.				

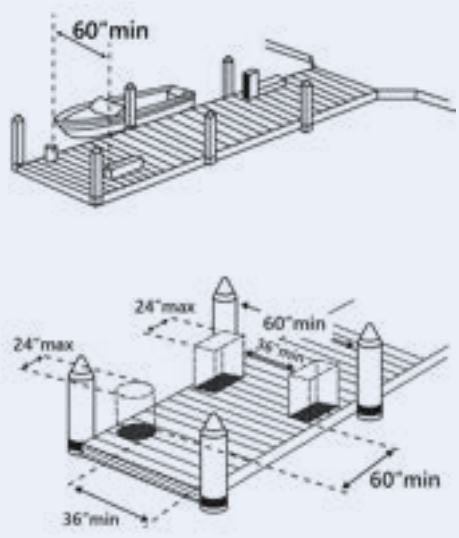
B5 If there are transition plates is the slope of transition plates no greater than 1:20? If the slope is greater than 1:20, is there a landing at the end of the transition plate?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		
B6 Is there clear pier space at the accessible boat slips that is: At least as long as the slip by at least 60 inches wide? Or At least 36 inches wide for a length no greater than 24 inches, if multiple 36-inch-wide segments are separated by segments that are at least 60 inches wide and at least 60 inches long? **Note**: Clear pier space may be perpendicular to the boat slip if the space extends the width of the slip and the facility has at least one accessible boat slip parallel to the pier.	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:	 Or 	

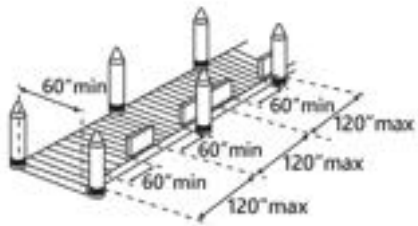
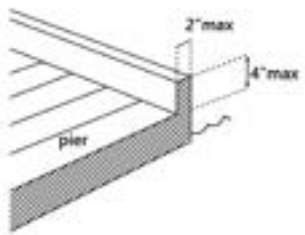
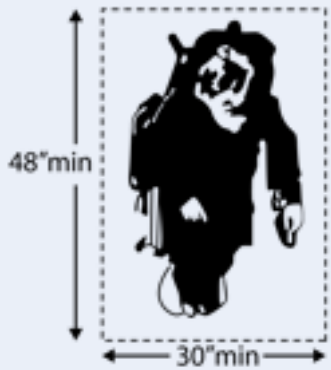
B7 For every 120 inches (10 feet) of linear pier edge serving the slips, is there a continuous clear opening at least 60 inches wide? If there is edge protection at the clear opening, is it no higher than 4 inches and no wider than 2 inches?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:	 	
B8 If there are controls and operating mechanisms, such as hose bibbs, water supply hoses, outlets for electrical power, telephones, or cable TV: Are they on an accessible route? Is there a clear floor space next to each that is at least 30 inches by at least 48 inches? Are operable parts no higher than 48 inches and no lower than 15 inches above the surface?	☐ Yes ☐ No ☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:	  	

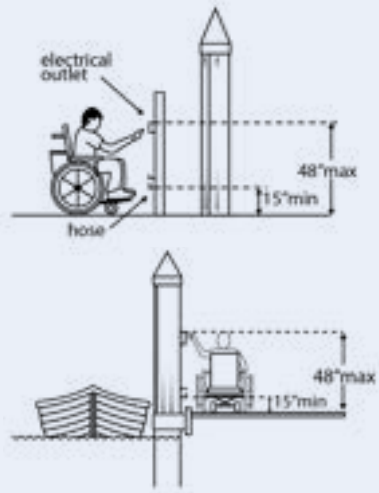
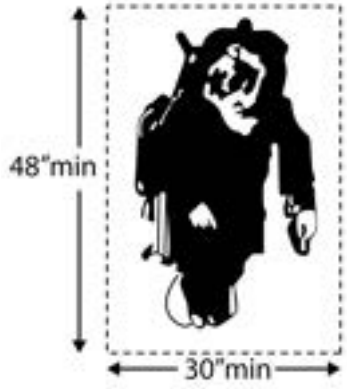
B9	If there are cleats or other securement devices serving the accessible boat slips: Are they on an accessible route? Is there a clear floor space next to each that is at least 30 inches by at least 48 inches? **Note**: Cleats and other boat securement devices at accessible slips can be any height; they do not have to comply with reach range requirements.	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		
B10	BOARDING PIERS AT BOAT LAUNCH RAMPS Where boarding piers are provided at boat launch ramps, are at least 5 percent, but no fewer than one, accessible?	☐ Yes ☐ No Number :		

	Note: A boarding pier (sometimes called a courtesy pier or a launch dock) is where a boat is temporarily moored for embarking and disembarking. A boat launch ramp is a sloped surface for launching and retrieving trailered boats to and from the water. For boarding piers that are not part of a boat launch ramp, use the boat slips section.				
B11	Is there an accessible route to and connecting the accessible boarding piers? Use the checklist for ***Priority 1: Approach & Entrance.*** To deal with varying water levels, exceptions apply when an accessible route connects to floating piers. **Exceptions:** 1 Where the accessible route serving a floating boarding pier or skid pier is within a boat launch ramp, that portion does not have to comply with ramp requirements.	☐ Yes ☐ No			

2 Gangway rises may be greater than 30 inches. Therefore, gangways may be any length and no intermediate landings are required. A gangway is a variable-sloped pedestrian walkway that links a fixed structure or land with a floating structure. 3 Gangway slopes may be greater than 1:12 if the total length of a gangway or series of gangways serving as part of the accessible route is at least 30 feet. 4 Landings are not required where gangways connect to transition plates. A transition plate is a sloped pedestrian surface at the end of a gangway. 5 Where gangways and transition plates connect, handrail extensions are not required. 6 If there are handrail extensions on gangways or transition plates, the extensions are not required to be parallel with the ground surface.				

7 Changes in level ¼ to ½ inch high, beveled with a slope no steeper than 1:20 are permitted on gangway surfaces. **Note**: When gangways, transition plates and floating piers and platforms are part of an accessible route, the cross-slope requirement of 1:48 maximum is measured when they are in the static position, i.e. absence of movement that results from waves and wind.				
B12 Is there clear pier space at the boarding pier that is the full length of the boarding pier and: At least 60 inches wide? Or At least 36 inches wide for a length of no greater than 24 inches if there are multiple 36- inch-wide segments that are separated by segments measuring at least 60 inches wide and at least 60 inches long?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			

	Note: There is no minimum length of the pier. The accessible boarding pier should be at least as long as other piers provided at the facility.			
B13	For every 120 inches (10 feet) of linear pier edge, is there a continuous clear opening at least 60 inches wide? If there is edge protection at the clear opening, is it no higher than 4 inches and no wider than 2 inches?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:	 	
B14	If there are controls and operating mechanisms, such as hose bibbs, water supply hoses, outlets for electrical power: Are they on an accessible route?	☐ Yes ☐ No		

	Is there a clear floor space next to each that is 30 inches by 48 inches minimum? Are operable parts no higher than 48 inches and no lower than 15 inches above the surface?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:		
B15	If there are cleats or other securement devices serving boarding piers at boat launch ramps: Are they on an accessible route? Is there a clear floor space next to each that is at least 30 inches by at least 48 inches? **Note:** Cleats and other boat securement devices at boarding piers at boat launch ramps can be any height; they do not have to comply with reach range requirements.	☐ Yes ☐ No ☐ Yes ☐ No Measurement:		

Detailed analysis

DEFINITION OF TERMS

Accessible	– A site, building, facility, interconnection or any portion of the built environment that can be approached, entered and used by persons with disabilities; refers to features that enable persons with disabilities to make use of the primary functions for which a site/structure is built.
Access Aisle	– Clear circulation route bounded by moveable furniture that can be negotiated safely by persons with disabilities.
Accessible Design	– Creating environments that are approachable and useable by people with disabilities; Unhindered, without obstructions to enable persons with disabilities free passage or use of the facilities.
Accessible Parking	– Parking spaces which are useable by persons with disabilities.
Accessible Route	– A continuous, unobstructed path connecting all accessible elements and spaces of a building/structure or facility that can be negotiated safely by persons with disabilities. Accessible routes shall not incorporate any step, drop, stairway, turnstile, revolving door, escalator or other impediment which would prevent it from being safely negotiated by persons with disabilities. Interior accessible routes shall include doorways, corridors, floors, ramps, lifts and clear floor spaces at fixtures. Exterior accessible routes shall include parking access aisles, ramps, and walkways.
Ambulant Person with Disability	– A person who is able, either with or without personal assistance, and who may depend on prosthesis (artificial limbs), orthoses (calipers), sticks, crutches or walking aids, to walk on level or negotiate suitably graded steps.
Bollard	– A low post used to segregate a pedestrian path from vehicular traffic.
Clear Floor Space	– The minimum unobstructed floor or ground space required to accommodate a single wheelchair user.

Curb	–	A raised rim of concrete, stone or metal which forms the edge of a street, sidewalk, ramp, planted area, etc.; Side barrier to a trafficable surface.
Curb Ramp	–	A break in the sidewalk or traffic island provided with an inclined surface to facilitate mobility of persons with disability; sloped area cut into a curb. Short ramp cutting through a curb or built up to it.
Dropped Sidewalks	–	The lower portion of the sidewalk adjacent to at least one accessible ramp and the street gutter.
Flare	–	A sloped surface that flanks a curb ramp and provides a graded transition between the ramp and the sidewalk. Flares bridge differences in elevation and are intended to prevent ambulant persons with disabilities from tripping. Flares are not considered part of the accessible route.
Grab Bar	–	Graspable bar used to give a steadying or stabilizing assistance to a person engaged in a particular function.
Gradient of Ramp	–	The degree of inclination of the sloped surface expressed as a percentage or ratio.
Handrail	–	A rail used in circulation areas such as corridors, passageways, ramps and stairways to assist in continuous movement; A hand support along a stairway or ramp consisting of rails, their supporting posts, balusters or pillars and constituting an enclosure or a line of division.
Pedestrian Crossing	–	Part of a road where pedestrians going across the road have priority over traffic.
Persons with Disabilities	–	Those suffering from restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being as a result of a mental, physical, or sensory impairment; Persons whose mobility and use of a site/facility are affected as a consequence of one or more of the following physical or sensory disabilities or impairments: a. ambulant disabled. b. visual impairment or blindness. c. wheelchair-bound. d. hearing impairment or deafness.

Public Telephones	– A shelf-unit telephone with coin operating functions for the use of the public.
Ramp	– Any slope greater than 1:20 (5%); An inclined way connecting one level to another; A sloped surface connecting two or more planes at different levels.
Riser	– Vertical portion of a step.
Run	– Horizontal distance of a stair or ramp.
Sidewalk	– A paved footwalk at the side of a street or roadway.
Signage	– Displayed verbal, symbolic, tactile, and pictorial information.
Slip Resistant Material	– Slip resistant materials shall have a Coefficient of Friction of 0.6 for level surfaces and 0.8 for sloping surfaces (American Society for Testing and Materials). Coefficient of friction values are used to measure the slip resistance of any surface. This can be called slip coefficient or coefficient of friction testing. This is defined as a measure of the amount of resistance that a surface exerts on or substances moving over it, equal to the ratio between the maximal frictional force that the surface exerts and the force pushing the object toward the surface.
Slope	– The slope of a ramp is expressed as the height to the length (i.e 1:16 indicates for each 1 m in height, there is 16 m in length).
Tactile Ground Surface Indicators (TGSI)	– Patterned modules designed to be felt underfoot, to communicate directional information or to warn of hazards.
Tactile Warning	– A change in surface condition that provides a tactile cue to alert pedestrians of a hazardous situation.
Tactile Signs	– Signs having raised letters which are interpreted or read by tracing with fingers over the surfaces.

Tactile Blocks	– Textured floor finishes also known as truncated floor finishes, detectable warning devices, blistered surfaces that can be used as non-skid materials. Referred to as warning, positional, and directional blocks to warn visually impaired persons of danger or indicate facilities beside, or an indicator to make a turn in direction.
Universal Design	– The design of products and environments to be used by all people, to the greatest extent possible, without the need for adaptation or specialized design. Concept used to create environments that respond to the widest range of the population possible.
Visual Warnings	– The use of contrasting surface colours to indicate a change in environment, such as at a curb ramp where the sidewalk changes to the street.
Walkway	– An exterior passage for walking along, especially one connecting adjoining building, sites, facilities and related structures.
Warning Tactile Blocks	– A standardized tactile surface feature built in or applied to walking surfaces or other elements to warn visually impaired people of upcoming hazards. (Often a paver insert composed of tactile raised truncated domes, applied perpendicular to the hazard).
Wheelchair User	– A person with disability who depends on a wheelchair for mobility; A person with disability who is not able to walk on level or suitably graded steps.

APPENDIX 1 : IMPLEMENTATION CHECKLISTS

1. Wheelchair users	
Problem	**Measure**
Overcoming differences in level between road and pavement.	Install curb ramps.
Bridging great differences in height usually tackled by providing stairs.	Provide ramps, wide elevator cabs or platform lifts.
Manoeuvring in tight spaces.	Provide wide routes and spaces.
Passing through narrow door openings and over high thresholds.	Provide sufficiently wide door openings with low levelled thresholds or none at all.
Reaching high-mounted controls and objects.	Provide low-mounted controls.
Manoeuvring in rest rooms.	Install grab bars, bath-tub and shower seats.

2. People with limited walking abilities	
Problem	**Measure**
Overcoming differences in level.	Provide curb ramps, ramps, elevators or platform lifts.
Manoeuvring in situations requiring speed.	Increase the pedestrian crossing time interval Increase the opening interval of elevators and automatic doors.
Climbing stairs and ramps.	Provide handrails for gripping.

Manoeuvring in rest rooms.	Provide sufficiently wide rest rooms Provide grab bars, bath-tub and a shower seat.
Passing through narrow door openings and over high thresholds.	Provide sufficiently wide door openings with low bevelled thresholds or none at all.

3. People with limited use of hands or arms

Problem	Measure
Opening heavy doors.	Use automatic or easy-to-open doors.
Gripping door knobs.	Use lever-type door handles.
Gripping faucets.	Use lever-type or push-button faucets.

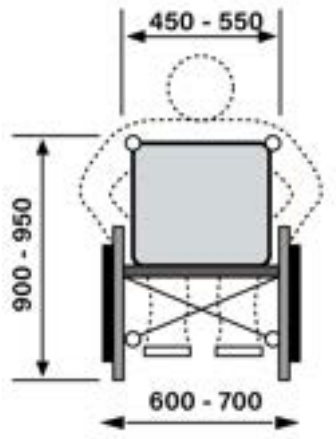
4. The sightless

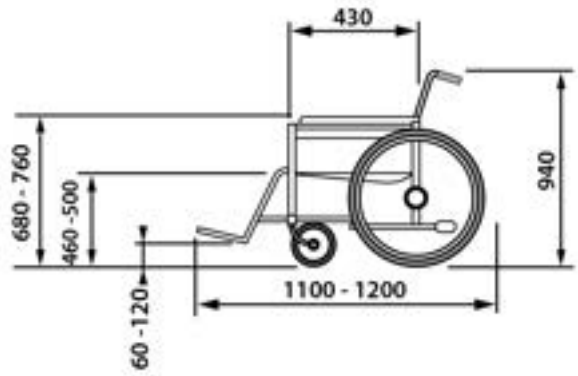
Problem	Measure
Orientation.	Provide guide strips within the pathway surface Provide raised curbs and other detectable guiding elements. Provide tactile marking strips to indicate changes in direction and the location of stairs and ramps.
Identifying obstructions within the path of travel.	Provide textured paving or tactile marking strips around obstructions.
Crossing roads.	Provide audible traffic signals.
Recognizing emergency situations.	Provide audible alarm signals.
Locating exit doors and stairs.	Provide tactile marking around the knobs of exit doors and the handrails of exit.

APPENDIX 2 : PEOPLE WITH DISABILITIES - MOBILITY & MOBILITY AID INFORMATION

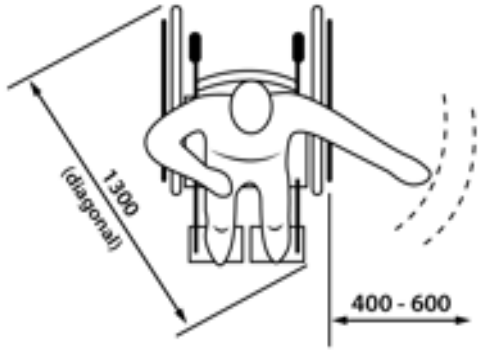
Average wheelchair dimensions with adult user

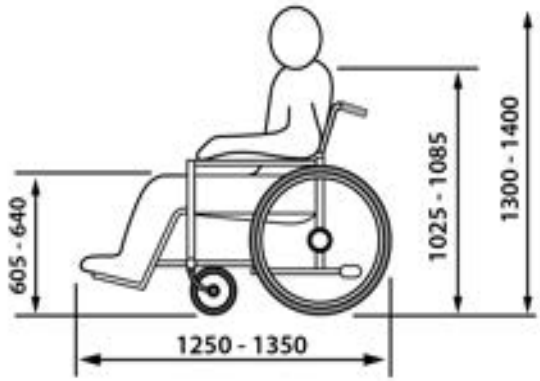
All measurements are in millimetres

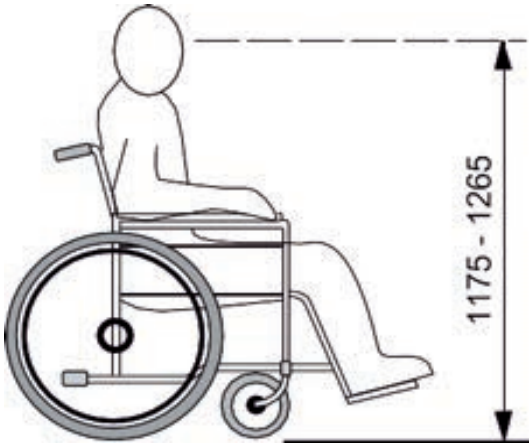


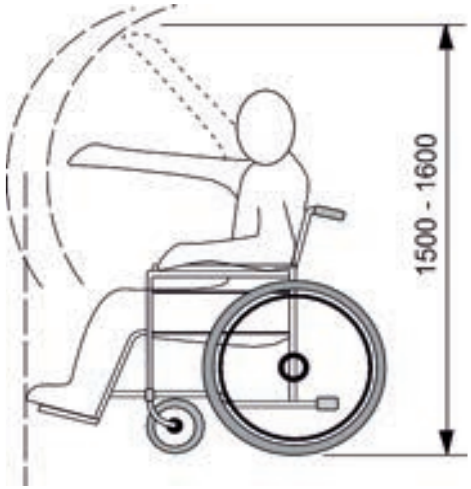


Typical range of wheelchair dimensions

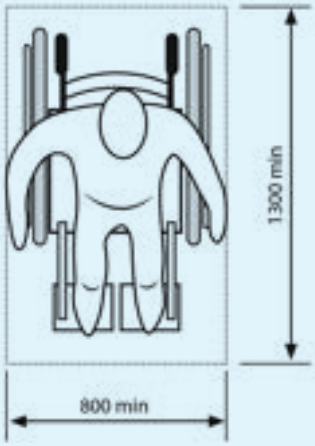




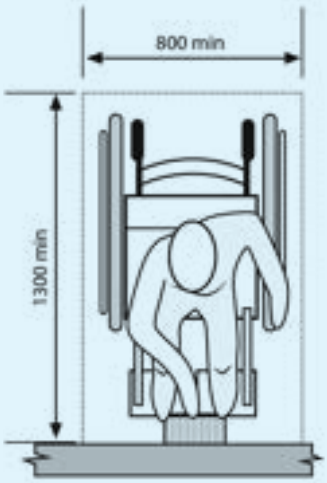




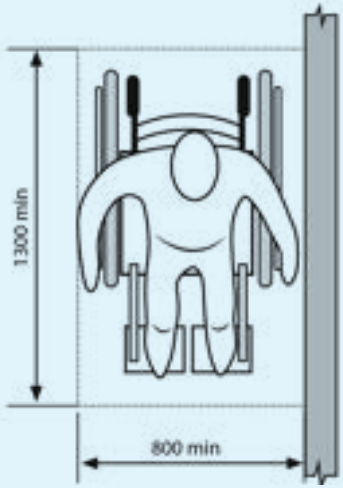
Minimum Clear Floor Space



(a) Clear floor space

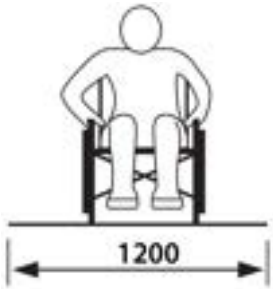


(b) Forward approach

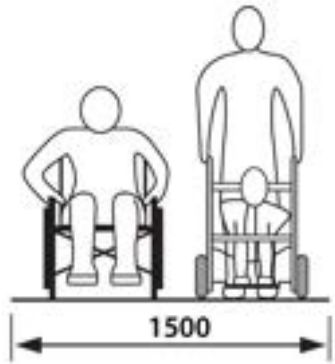


(c) Parallel approach

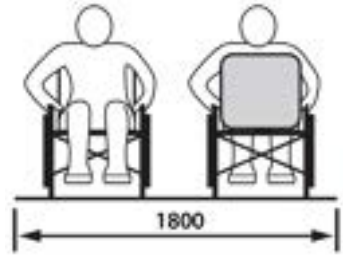
Clear Widths



(a) People who use wheelchairs require a clear width of 1200 mm.

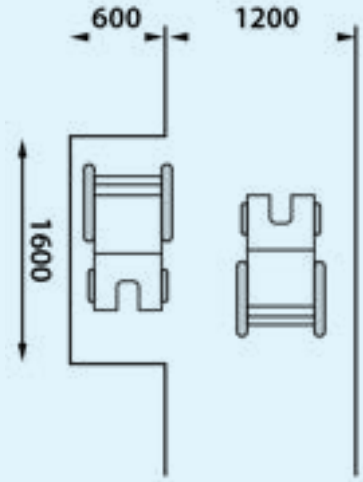


(b) A clear width of 1500 mm allows a wheelchair and a pram to pass.

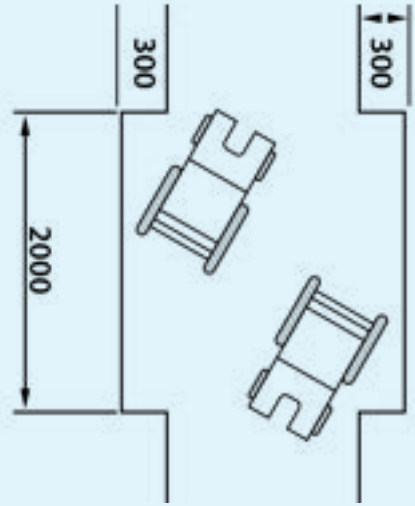


(c) To allow two wheelchairs to pass comfortably, a clear width of 1800 mm is required.

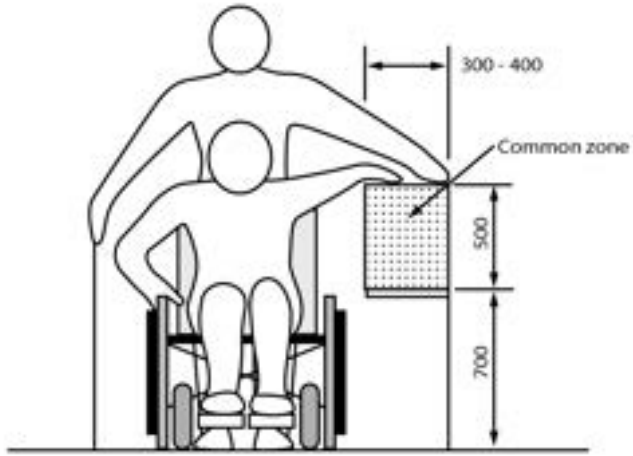
Passing Space for Wheelchairs



(a) On one side of path of travel

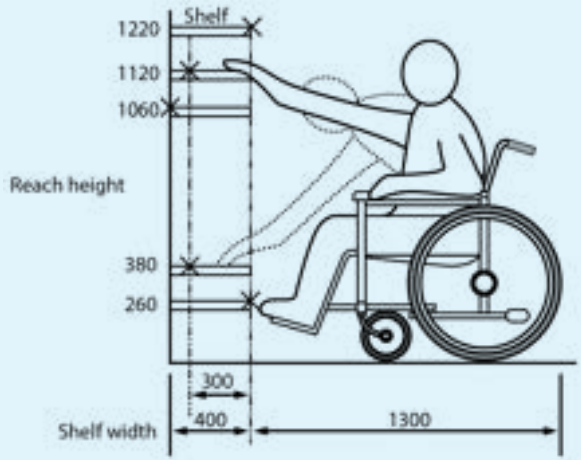


(b) On both sides of path of travel

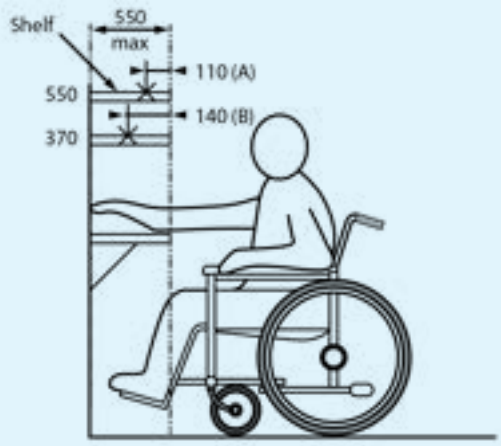


Area of common reach for ambulant people with disabilities and wheelchair users.

Forward Reach from a Wheelchair

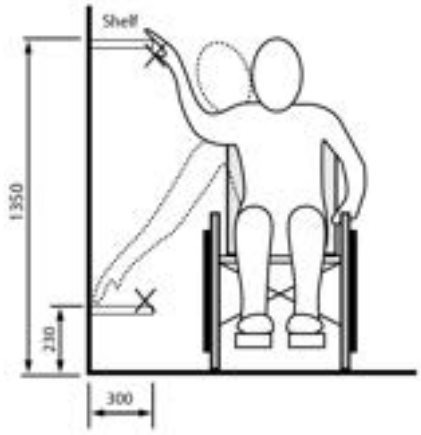


(a) Forward reach limit

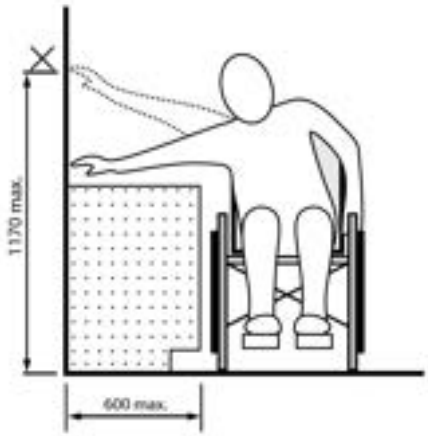


(b) Maximum forward reach over an obstruction

Side Reach from a Wheelchair

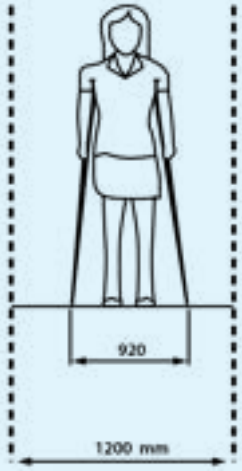


(a) High and low side reach limits

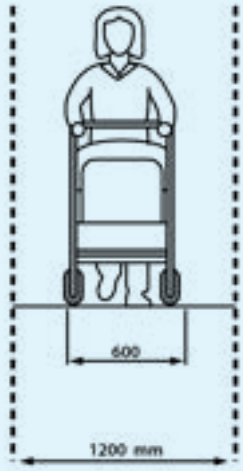


(b) Maximum side reach over obstruction

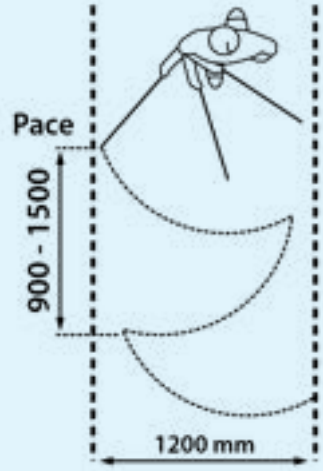
Comfortable Walking Widths



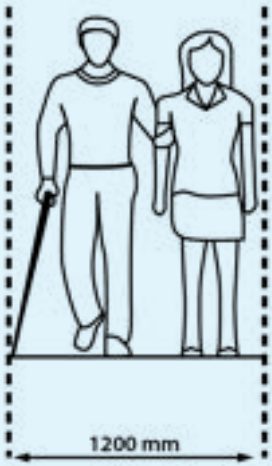
(a) Person using crutches



(b) Person with baby carriage

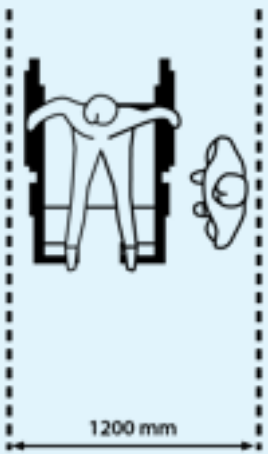


(c) Person with visual impairment using a white cane



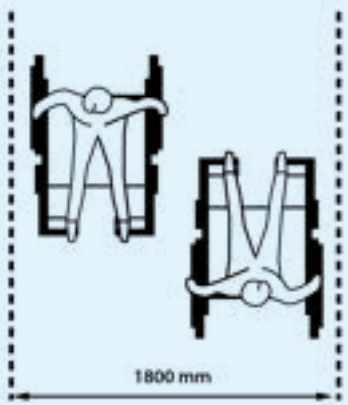
(d) Person with visual impairment and a sighted escort

(e) Person with visual impairment and a guide dog



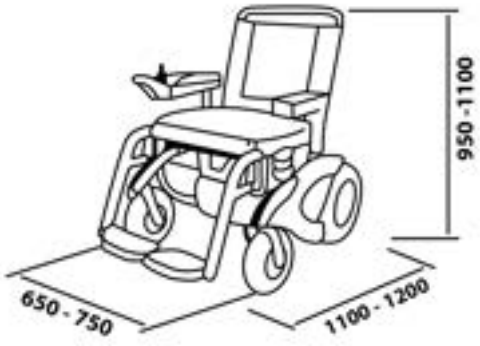
(f) Wheelchair and a person facing sideways

(g) Wheelchair and a person



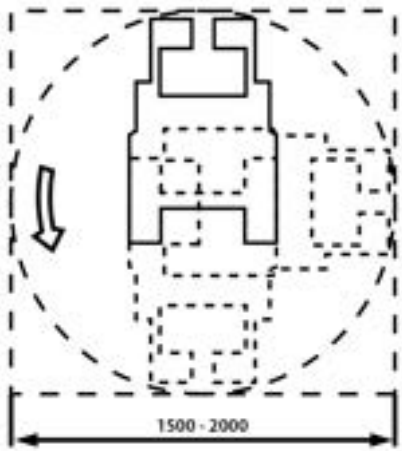
(h) Two wheelchairs

Examples of an Electric Wheelchair and Motorized Scooter

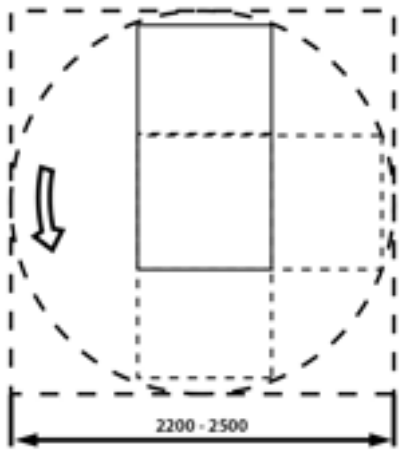


(a) Example of an electric wheelchair

(b) Example of a motorized scooter

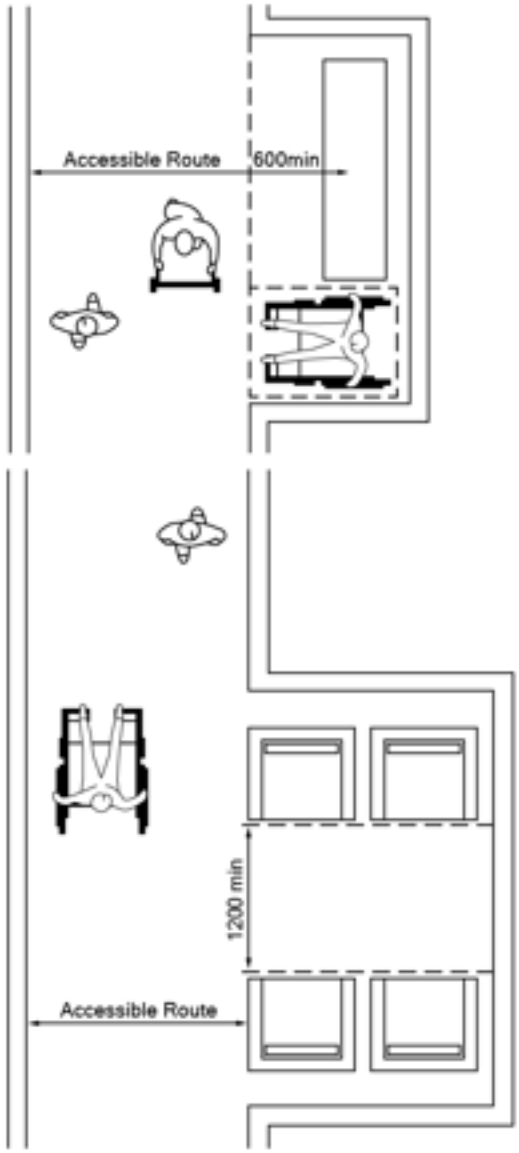


c) Approximate 180 degree turning space requirement for an electric wheelchair



(d) Approximate 180 degree turning space requirement for a motorized scooter

Resting Areas



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