

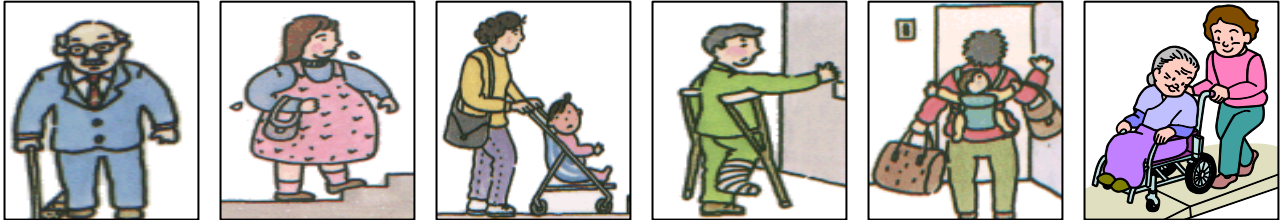


# “ACCESS FOR ALL”

## External & Internal Design Considerations

Access is creating and maintaining environments in which people can participate in ways, which are equitable, dignified, maximize independence, conserve energy and are safe and affordable.

### ACCESS BENEFITS ALL



### SIGNAGES

Signage includes direction and information signs, signs of locality, street names and numbering, maps etc.

- All signs should be visible, clear (easy to see and to understand), concise (simple, short and to the point) and consistent (signs meaning the same thing should always appear the same manner) and properly lit at night.
- Adequate information (both written and pictograms), should be provided which benefits all including persons with hearing impairment.

**External:** should be mounted above 2000mm from the floor level.

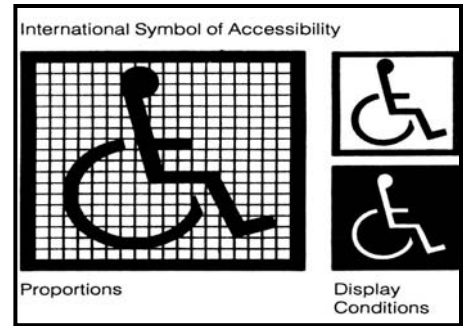
- Font sizes between 100 and 170 mm are recommended in order to be easily distinguishable at a 3 meters distance.
- The smallest letter type should not be less than 15 mm.

**Internal:** should be mounted on the wall, between 1400mm and 1700mm from the floor level.

- The individual characters between 15mm-50mm tall, raised by 1-1.5mm, bold & colour contrasted with their background and also in Braille.

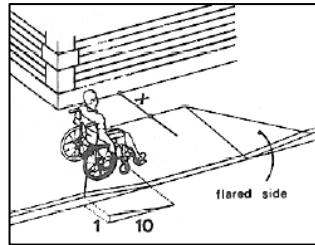
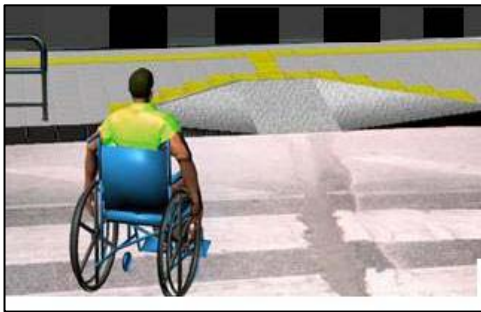


Accessible places and facilities should be clearly identified by the International Accessibility Symbol.



## CURB

- Useful for a smooth transition, specifically at pedestrian crossings and in the vicinity of building entrances.
- Pavement should be dropped, to be flush with roadway, at a gradient no greater than 1:10 on both sides of necessary and convenient crossing points.
- Width should not be less than 1200mm. If width (X) is less than 1200mm, then slope of the flared side shall not exceed 1:12.
- Warning strip to be provided on the curb side edge of the slope, so that a person with vision impairment does not accidentally walk onto the road.



## PATHWAY/PAVEMENT

- Must be easy to follow, obstruction-free for the convenience of all users.
- Surface should be smooth and level, continuous, firm, non-slip and even.
- Every change in level on the pathway (a step, curbs or road-works) should be made clearly visible through the use of bright contrasting colours.
- The minimum width of a clear unobstructed path should be 1200 mm.
- Obstructions should be placed outside the path of travel, preferably along a continuous line and should be easy to detect.

**Resting places** should be provided along travel routes.

**Protruding elements** should be avoided.

**Bollards** should be painted in a contrasting colour or in coloured stripes with clear minimum gap of 1200mm.

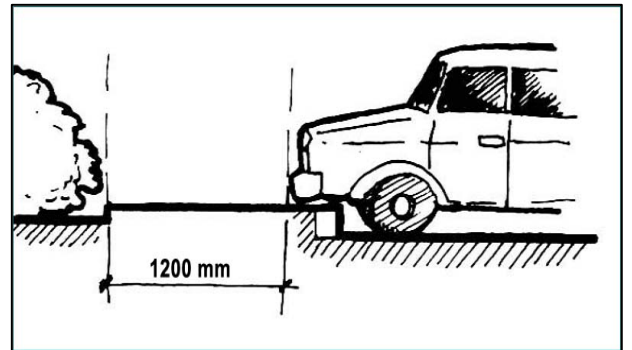
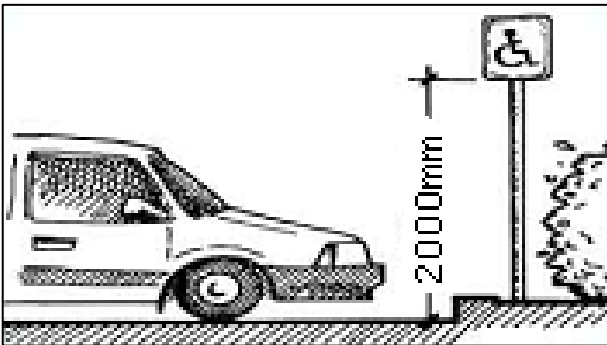
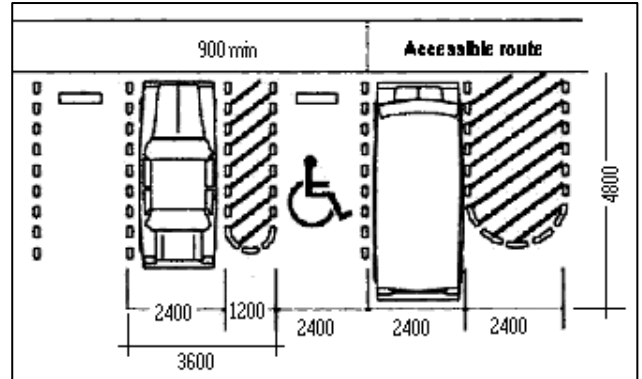
**Pathway** dimensions: minimum width of a two-way wheelchair traffic passage should be 1800mm.

## PEDESTRIAN CROSSINGS

- Should be clearly distinguishable by pedestrians and drivers.
- Should be marked by zebra stripes which have contrasting colours to the road colour.
- Traffic lights should be provided with clearly audible signals to facilitate safe and independent crossing of pedestrians with low vision and vision impairment.
- Time interval allowed for crossing the street should be programmed according to the slowest person crossing.
- Acoustic devices should be installed at the point of origin of crossing and not at the point of destination.

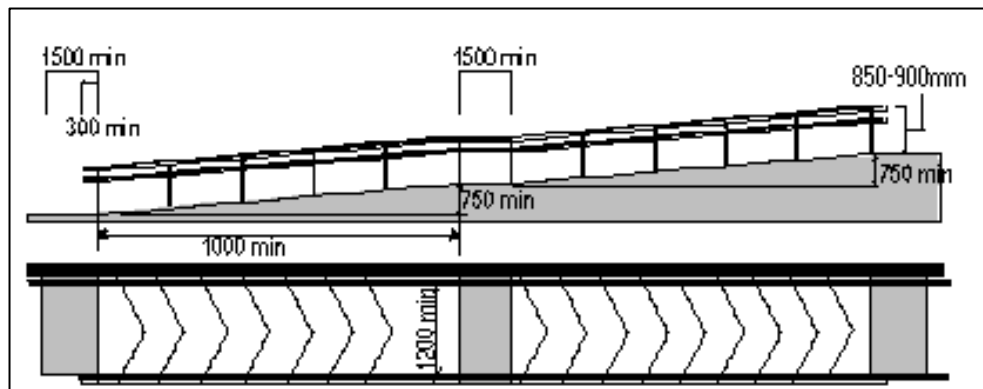
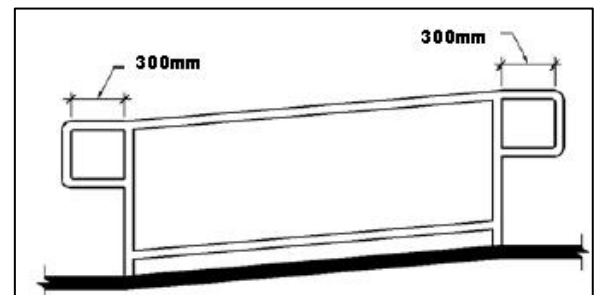
## PARKING

- Parking should be within 30 meters of the main entrance of the building.
- Two accessible parking lots with overall minimum dimension 3600mm x 4800mm, should be provided.
- It should have the international signage painted on the ground and also on a signpost/board put near it.
- There needs to be directional signs guiding people to the accessible parking.
- Wheel stoppers to be provided to avoid vehicles to occupy space on the pedestrian pathway.



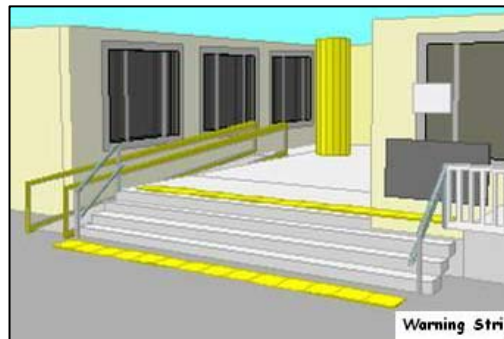
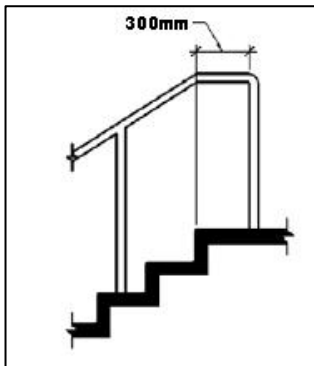
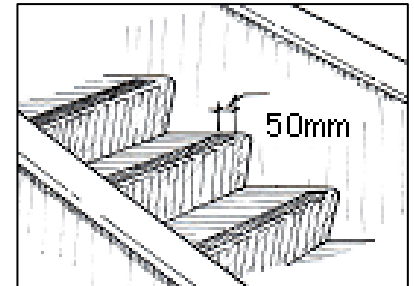
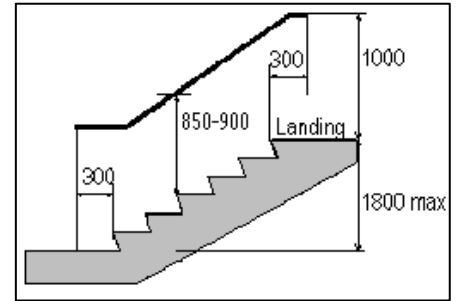
## RAMPS

- Gentle slope- 1:12 max.
- Landings- every 750 mm of vertical rise. Width- 1200 mm or more.
- Handrails to be on both sides at a height of 850mm-900mm; both ends to be rounded and grouted and extend 300mm beyond top and bottom of ramp.
- Surfaces (ramp + landing) should be slip resistant.
- A ramp should be accompanied by a flight of easygoing steps.



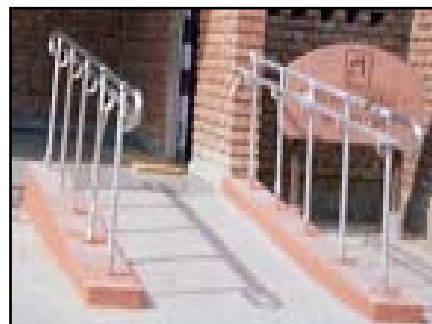
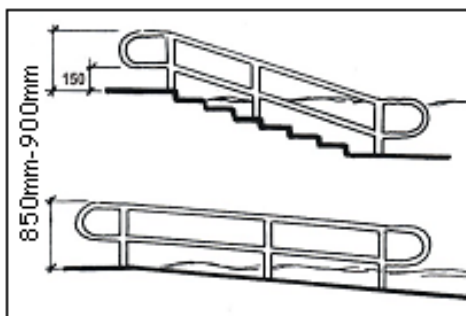
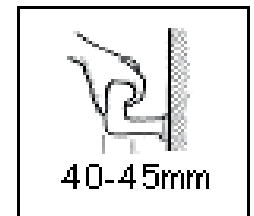
## STEPS AND STAIRS

- Uniform risers: 150 mm and tread: 300 mm.
- Stair edges should have bright contrasting colors: 50mm min.
- The maximum height of a flight between landings to be 1200mm.
- Landing should be 1200mm deep, clear of any door swing.
- The steps should have an unobstructed width of at least 1200mm.
- Have continuous handrails on both sides including the wall (if any) at 850mm - 900mm.
- Warning strip to be placed 300mm at the beginning and at the end of all stairs.
- Nosing to be avoided.



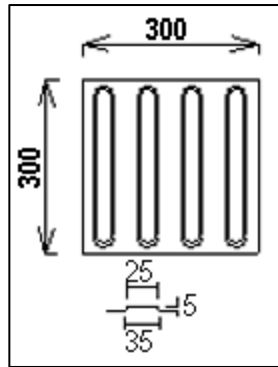
## HANDRAILS

Handrails should be circular in section with a diameter of 40-45mm; at least 45mm clear of the surface to which they are attached; at the height of 850mm-900mm from the floor, extend by at least 300mm beyond the head and foot of the flight and ramp in the line of travel and grouted in the ground.

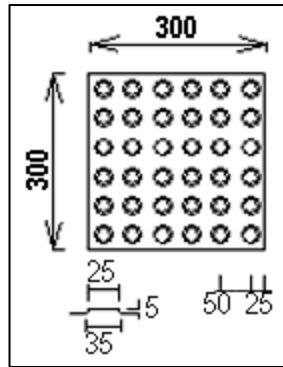


## TACTILE SURFACE

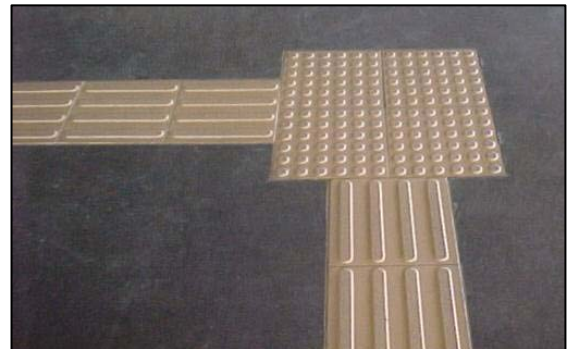
- **Line-type blocks** indicate the correct path/route to follow.
- **Dot-type blocks** provides warning signal, to screen off obstacles, drop-offs or other hazards, to discourage movement in an incorrect direction and to warn of a corner or junction. Should be placed 300mm at the beginning and end of the ramps, stairs and entrance to any door.



Guiding path



Warning strip



## CIRULATION AREA

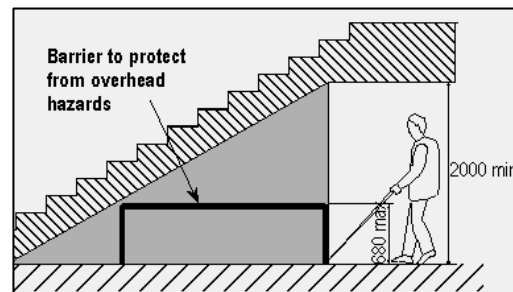
**Corridors** should have an unobstructed width of 1800mm and to be well lit.

**Level differences** should be beveled.

**Thresholds** should not be more than 12mm.

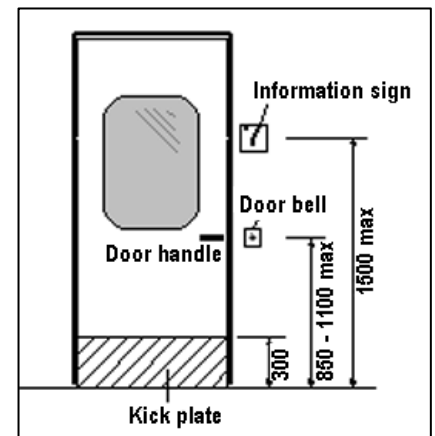
**Protruding objects** (more than 100mm from the wall) to be placed either in a niche or above 2000mm from the floor.

**Sofit/open space** underneath should be covered/guard rail to be provided.



## DOORS

- Should provide a clear opening of 900mm.
- Be fitted with a lever action locks and D-handles of circular section, between 850mm and 1100mm from floor level.
- Also be fitted with vision panels at least between 900mm and 1500mm from floor level.
- Be color contrasted with the surrounding wall and should not be heavier than 22N to open.
- A distance of 450mm-600mm should be provided beyond the leading edge of door to enable a wheelchair user to maneuver and to reach the handle.
- Kick plates are recommended 300mm from the bottom, to resist wear and tear.



## TOILETS

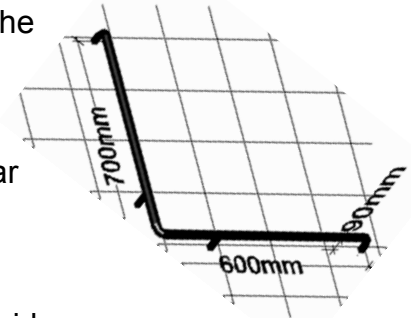
A minimum of one toilet compartment should have enough floor space for wheelchair users to enter and exit.

- Clear floor space 2000mm x 1750mm.
- Provide a door of clear opening of at least 900mm with the door swing outwards or be folding or sliding type.
- Should have slip resistant flooring.
- Be provided with a horizontal pull bar at least 600mm long on the inside and 140mm long on the outside, at a height of 700mm.



## WATER CLOSET (WC)

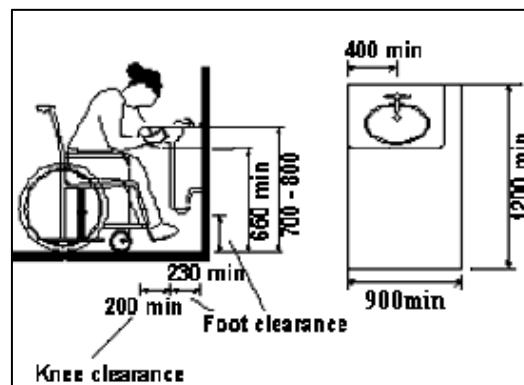
- Have clear space of not less than 1200mm wide in front of the water closet.
- Be located between 460mm to 480mm from the centerline of the WC to the adjacent wall and have a clear dimension of 900mm from the edge of the WC to the rear wall to facilitate side transfer.
- The top of the WC to be 475-490mm from the floor.
- Have a back support.
- Grab bars at the rear and the adjacent wall. On the transfer side-swing away/up type and on the wall side L-shape grab bars should be provided.



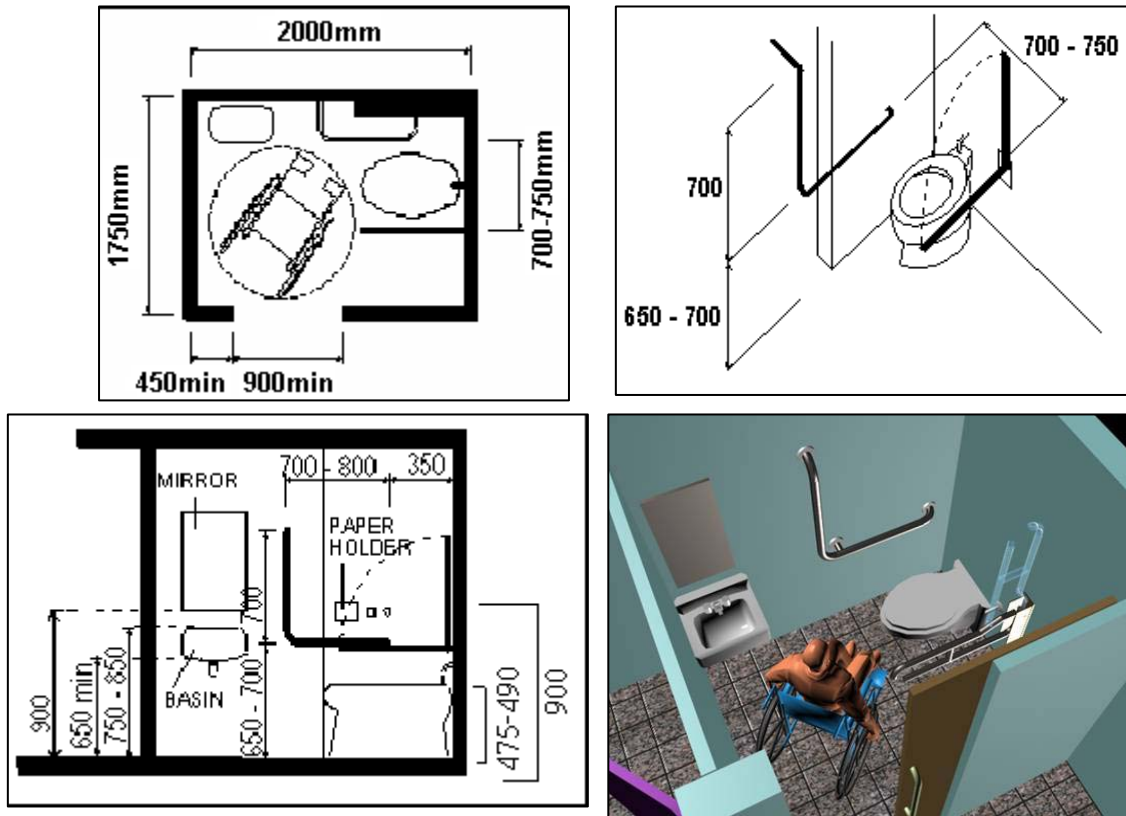
L-shape grab bar

## WASHBASIN

- Be of dimensions 520mm and 410mm, so mounted that the top edge is between 700mm-800mm from the floor; have a knee space of at least 760mm wide by 200mm deep by 650mm-680mm high.
- Lever type handles for taps are recommended.
- Mirror's bottom edge to be 900-1000mm from the floor and the mirror may be inclined at an angle.

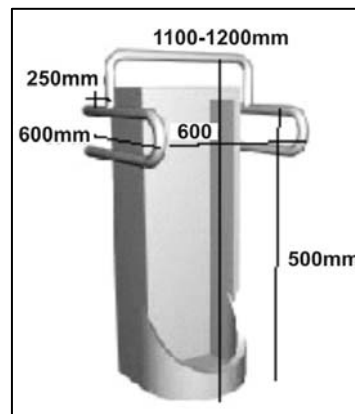


## PLANS OF ACCESSIBLE TOILET



### URINALS

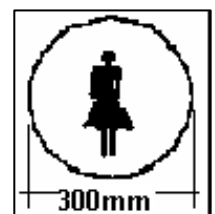
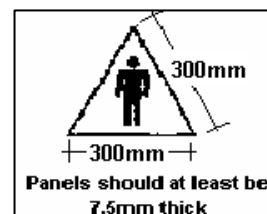
- At least one of the urinals should have grab bars; installed on each side and in the front of the urinal to support ambulant persons with disabilities (for example, crutch users).
- The front bar is to provide chest support; the sidebars are for the user to hold on to while standing.
- Urinals shall be stall-type or wall-hung, with an elongated rim at a maximum of 430mm above the finish floor.
- A clear floor space 760mm by 1220mm should be provided in front of urinals to allow forward approach.
- Urinal shields (that do not extend beyond the front edge of the urinal rim) may be provided with 735 mm clearance between them.



**Accessible toilet** should have a switch near the WC (one at 300mm and the other at 900mm from the floor level), which activates an emergency audio alarm (at the reception/attendants desk, etc.).

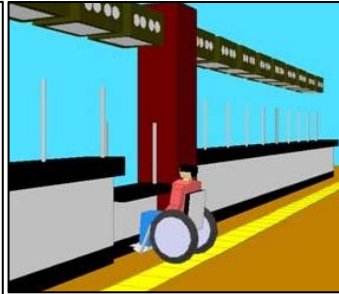
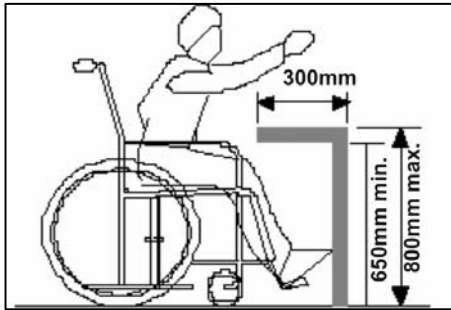
**All toilets** to have pictogram (male in triangle and female in circle), marked on plates along with Braille & raised alphabets, put on wall next to door, for the benefit of the persons with vision impairment.

**A distinct audio sound** (beeper/clapper) may be installed above the entrance door for identification of the toilets.



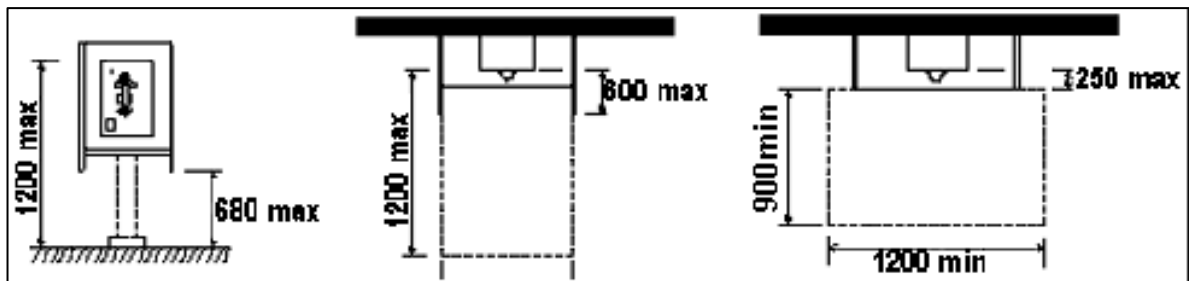
## SERVICE & INFORMATION COUNTERS

- Writing surfaces and public dealing counters should not be more than 800mm from the floor, with a minimum clear knee space of 650mm-680mm high and 280mm-300mm deep.
- Staff manning the counters should know sign language.



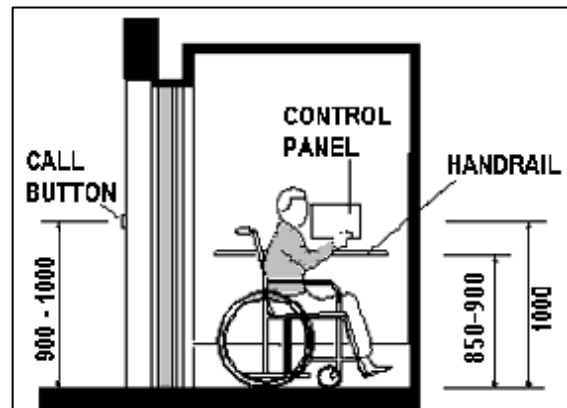
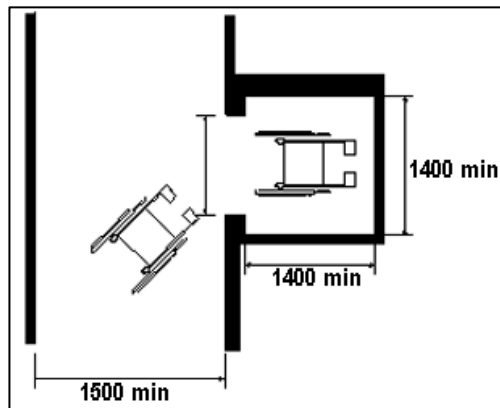
## PUBLIC TELEPHONE

- Maximum height of the highest part of a telephone: 1200mm.
- Maximum height of a telephone (knee space for wheelchair user): 650mm-680mm.
- Minimum floor/ground space: 1200 mm x 900mm.
- Guiding blocks may be provided to guide persons with vision impairment to public telephones.



## LIFT

- Floor: Minimum space for wheelchair users 1400mm x 1400 mm.
- Doors: 900mm wide and closing mechanism to be adjusted to give adequate entry time.
- Call button & control panel: At a reach of 900mm-1000mm; at least 400mm from any corner.
- Control panel: Inside the lift to be on both the sides.
- Key plans, orientation signs and push buttons in lifts should have a text in Braille and raised letters.
- Audio and visual indicator, review mirror & kick plates to be fitted.



## EMERGENCY EVACUATION

- Audible fire alarms may need to be supplemented by flashing lights to alert people who are hearing impaired.
- Clear, well illuminated signage indicating escape routes is essential.
- Fire Refuge Area at the landing of a fire escape staircase, equipped with two-way communication gadgets with clear signage, flashing bulbs & audio signals should be provided to facilitate emergency evacuation.

## OTHER POINTS TO REMEMBER

- **Induction Loop System/FM system** should be provided for persons with hearing impairment in public dealing, service and information counters, classrooms, auditoriums, cinema halls, conference rooms etc.
- **Tactile map** should be installed near the entrance/reception to orient persons with vision impairment. The letters and signs should preferably be raised at least 1-1.5 mm from the background.
- **Switch and socket** positions should be mounted between 450mm-1200mm from the floor level, in a colour that contrasts with the surrounding wall or else highlighted by a contrasting strip of colour for persons with low vision.

All measurements are in millimeters (mm)



**SAMARTHYAM**

**NATIONAL CENTRE FOR ACCESSIBLE ENVIRONMENTS**

(A project of Samarthyam- Regd. No. 35922)

B-181, Mansarovar Garden, New Delhi-110015 (INDIA)

Phone: 91-11-41019389 (M) 9810558321

Email: [samarthyaindia@yahoo.com](mailto:samarthyaindia@yahoo.com)

Website: [www.samarthyam.org](http://www.samarthyam.org)

**“LET’S MAKE THE WORLD ACCESSIBLE”**

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