ACCESS AUDIT REPORT

INDIRA GANDHI MEMORIAL

20th October 2009

by

Samarthyam
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| PARKING                   |          |                        |                                                                                     |
| Accessible parking        |          | Not available          | Parking bay of size 3600 x 5000mm with international symbol of access, imprinted on the ground to be provided |

| CONNECTING PATHWAY        |          |                        |                                                                                     |
| External circulation area- tactile tiles |          | Not available          | Tactile Guiding tiles for persons with low vision and vision impairment, leading from main gate to building entrance. |

| WAY FINDING SIGNAGE       |          |                        |                                                                                     |
| Directional signage       |          | Difficult to read, inadequate font size | Well illuminated signages in bright colour contrast and big fonts to be provided at eye level |

| BUILDING ENTRANCE         |          |                        |                                                                                     |
| Step                     |          | Ramp not available     | Inward cut ramp with 1:12 gradient and warning tiles to be provided                 |
| Threshold                |          | Restricts movement     | Bevel edge to be provided                                                            |
| Exit has steps           |          | Ramp not available     | L shape ramp with handrails and warning tiles to be provided                        |

| CORRIDORS AND GENERAL CIRCULATION AREA |          | Level differences      | Smooth mergers and ramp to be provided                                              |
| Exit                        |          | Exit has steps         | L shape ramp with edge protection connecting the level differences to be provided   |

| EXHIBIT INFORMATION SIGNAGE |          | Information not provided in Braille | Braille or audible                                                                 |
| Orientation                |          | Not available             | For persons with vision impairments, a thin PVC strip 800mm wide to be provided in front of the exhibits |

| DRINKING WATER             |          |                        |                                                                                     |
| Entry and exit gates       |          | Entrance has steps      | Level access to facility to be provided                                            |
| Way finding                |          | Not available           | Signage with pictogram to be provided                                             |

| ACCESSIBLE TOILET          |          |                        |                                                                                     |
| Location                  |          | At 1, Akbar Road office | To be converted to accessible unisex toilet with grab bars and signage             |

| ACCESS GUIDES              |          |                        |                                                                                     |
| Handbook/leaflets          |          | Not available           | To be provided in bilingual and Braille at reception                                 |
| Exit signage               |          | Not available           | To be at strategic locations with pictograms                                       |
Introduction

‘The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995’ requires that persons with disabilities (PwDs) and the elderly be provided a barrier free environment. The Group of Ministers (GoM) on Equal Opportunities for the Differently-abled Persons has also recommended that “Central Government should act as a role model in creating barrier-free environment in its buildings.”

Ministry of Urban Development (MoUD) being the nodal Ministry, is taking necessary steps for implementing the activities entrusted under the Act of 1995 and by the GoM. Recently, an Action Plan for promotion of barrier-free environment in Government buildings was prepared and circulated. As part of the plan to make the buildings of Central Government barrier-free, MoUD engaged SAMARTHYAM, National Centre for Accessible Environments to carry out access audit of the buildings.

SAMARTHYAM Access Resource Group greatly appreciates Shri A. K. Mehta, Joint Secretary (UD) and Shri Ashutosh Joshi, Director (UD) for their initiative.

Access Audit

The objective of the access audit is to assess the existing facilities and provide suggestions for further improvement. It may be pertinent to mention that access audit is not a fault finding exercise.

- Access Audit team comprises trained access auditors from diverse disabilities and professionals.
- The team visits the site/services to identify & review the obstacles; prepare report with line illustrations, designs and sketches for effective implementation.

Report Recommendations

- Access audit report is prepared by the Access Resource Group of SAMARTHYAM following familiarization; preliminary survey, detailed Access Audit of Indira Gandhi Memorial conducted on 20th October 2009.
- The aim of this report is to highlight access initiatives undertaken in the preliminary surveys, along with recommendations for areas which need immediate attention i.e. existing barriers in the periphery of the complex and to illustrate ways of making it more accessible.
- The report attempts to cover the access needs of visitors and employees with reduced mobility including the elderly, pregnant women, persons with temporary impairments and persons with disabilities.
- The recommendations of the access audit are based on ground realities and provide cost effective solutions.
- A list of companies/vendors supplying accessible accessories is also given in the report.

### Access Audit of the following areas was conducted:

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All dimensions are in millimeters.

All recommendations are marked by this bullet point.
SIGN BOARD

Signboard has been provided on the building compound wall near main gate, in big fonts and good colour contrast benefitting all, particularly persons with low vision.

APPROACH

Bollards at pavements restrict entry of persons using mobility aids, who are forced to use the roads instead, exposing them to moving vehicles.

Although bollards have a role to play in protecting sidewalks from motor vehicles parking; however if these are placed in an incorrect position it defeats the purpose and can cause obstructions to the pedestrians and persons with low vision and vision impairment as well as persons using mobility aids such as walkers, crutches and wheelchairs etc.

Existing

Proposed

Good Example of Bollards Placement and Design
Bollards in the sidewalk should be 1000-1200mm high (the obstruction thus being at waist, rather than knee level).

An offset between the two barriers of 1200mm allows wheelchairs and pushchairs convenient passage but discourages the riding of motor cycles.

To assist people with sight problems, painting the tops of bollards in contrasting colours or "banding" of bollards is proposed.

Pavement curb stone height is not conducive for movement of mobility aids users.

Existing

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 (Annexure IV) 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.

Alternatively, flat Table top (raised road level to footpath height) can be provided for comfortable crossing by mobility aid users and everyone in general.

This will also help in traffic calming.
RESERVED PARKING

Reserved parking has not been provided for visitors with mobility impairments.

- Parking should be within 30 meters of the entrance to the building.
- Space for reserved accessible parking has been identified across the road near the zebra crossing (photo).
- Two accessible parking lots with overall minimum dimension 3600mm x 5000mm, should be provided.
- Wheel stoppers to be provided to avoid vehicles to occupy space on the pedestrian pathway.
- All security guards/staff should be sensitized and well informed about these reserved parking for Persons with Disabilities (PwDs).

Proposed space for accessible parking

MAIN GATE & PATHWAY

- Tactile Guiding tiles (refer Annexure IV for engineering configuration) are proposed for persons with low vision and vision impairment.
- The guiding path should lead to important amenities/facilities such as ramps to building entrances and clearly avoid vehicle movement areas. This benefits everyone including persons with disabilities.
- Wheelchairs may be provided on request for visitors with reduced mobility.
WAY FINDING SIGNAGES

Recommendations for Positioning of Information Signs

- The standard height for the installation of signs (height from surface to bottom edge of sign) to be 1.8m. The height for the installation of signs showing important places may be reduced to a minimum 1.0m if necessary, provided this does not obstruct the passage of pedestrians, etc.
- When installing signs on sidewalks, on roads that have sidewalks, the distance between the sign and the sidewalk/carriageway boundary to be at least 250mm.
- Whenever possible signs should be placed at eye level. Large signs or signs that cannot be placed at eye level should be slightly inclined so that the top part of the sign becomes easier to read.
a) Font and size of letters

The size of letters shall be selected in accordance with viewing distance, taking account of the diminished eyesight of the aged.
- Be clear with Sans serif typeface
- Be in lower and upper case and left justified
Embossed with Braille and Braille locators - individual characters between 15mm-50mm tall, raised by 1-1.5mm
- Non glare - colour contrasted with their background
- Font sizes
  - Medium range signs – characters 70 – 100mm high
  - Close up directories characters 15 – 25mm high
- Signage Colour and Contrast Basic principles:
  - 70% contrast between wall and sign panel
  - Avoid shades of colours
  - Avoid using same colours as safety signs

b) Color

- Displays related to barrier-free facilities and routes to be simple and easy to distinguish.
- All signages displaying facilities for “Disabled Person” to have a uniform colour (preferably blue and white).
Entrance is marked by a step 150mm high.

**Existing**

- An inward cut ramp of minimum gradient of 1:12 to be provided on the step, as illustrated.
- Warning strip (Annexure IV) to be provided 300mm before and after the ramp edges, so that a person with vision impairment does not trip accidentally.
- Signage for ramp to be provided.

**Proposed**

Main entrance door has a threshold which restricts movement of persons using mobility aids.

- Threshold to be removed or a bevel edge to be provided, benefitting all.
EXIT DOOR

The exit door has two steps (total height 400mm).

Existing

- L shape ramp minimum gradient 1:12 with handrails on both sides of ramp and steps to be provided, as illustrated.
- Handrails to be raised to height of 850-900mm from the floor and extend by at least 300mm beyond the head and foot of ramp and steps and grouted in the ground (as illustrated).
- Handrail to be painted in bright colours (preferably red/ yellow) for easy identification by persons with low vision.
- Warning strip (Annexure IV) to be provided 300mm before and after the ramp and step edges, so that a person with vision impairment does not trip accidentally.

PROPOSED

DRESSING ROOM

Entrance and exit to the area are marked by steps.

Figure I

- Smooth merger (slope) to be provided at entrance (figure I).
- Ramp to be provided at exit (figure II).
- Refer recommendations on page 9.
Exit is marked by three steps (total height 600mm). Handrails have been provided on both sides.

However, handrails do not extend beyond the last step which creates difficulty for semi ambulant and elderly persons while descending.

Handrail to be provided at a height of 850-900mm and ends to be rounded off or grouted in the ground (as illustrated).

Differentiation of height and depth of steps is not possible by persons with low vision.

Step edges (50mm minimum) should have bright contrasting colors, which helps persons with low vision to identify height and depth of each step.

Warning strip (Annexure IV) to be provided 300mm before and after the ramp edges, so that a person with vision impairment does not trip accidentally.
PROVISION OF RAMP

An L shape ramp connecting the level differences to be provided.

Existing

Proposed

Edge protection (100mm) to be provided for the ramp. This can be covered by planters/hedge.

EXHIBITS AREA

Flooring in some areas is extremely slippery (figure I) which is extremely hazardous for persons with reduced mobility.

There is no facility for orientation of visually impaired persons (figure II).

Figure I

Figure II

Anti skid non slip flooring having matt finish is recommended, benefitting everyone.

PVC strip 800mm wide to be placed in front of all exhibits which serves as tactile orientation clue to persons with vision impairment.
DIRECTIONAL AND EXHIBIT INFORMATION SIGNAGE

Information in Hindi and English has been provided.

Signs should be mounted between 1400mm and 1600mm from floor level.
The individual characters to be between 15mm-50mm tall and raised by 1-1.5mm.

Information for the visually impaired and persons with low vision

- Exhibit Information should include devices for providing information to persons with vision impairment, using Braille or audible devices.
- Information signs should be in big fonts and well illuminated benefitting everyone, particularly persons with low vision.

AV ROOM (under construction)

The access audit team surveyed AV room (under construction). It was found that the door entrances have level difference.

- It is recommended that a level entrance to be provided by raising the CC/ paving.
- Internal flooring material to be anti skid non slip flooring having matt/ flamed finish.
**DRINKING WATER FACILITY**

Drinking water facility at both entry and exit gates have steps.

Way finding signage has not been provided.

- Level access to facility to be provided.
- Alternatively separate tap with basin to be provided outside for persons using mobility aids such as wheelchair.
- All operable parts to be between 900mm-1000mm height.
- Leg and knee space to be provided (as shown in the diagrams) with basin to avoid spilling of water.
- This allows both front and parallel access to taps for persons using mobility aids like wheel chair, crutches etc.
- Way finding signage with pictogram to be provided.
PROVISION OF AN ACCESSIBLE MULTIUSE TOILET

An accessible multiuse toilet of size 1750mm x 2000mm is proposed in the existing toilet at 1, Akbar Road office premises. Existing toilet size is 1800mm x 1850mm and the door opens outwards, which is suitable for conversion to accessible multiuse toilet.

However, WC height is 450mm and grab bars have not been provided.

- WC height to be raised to 480mm (with lid) for easy transfer from wheelchair.
- Grab bars of U shape (swing up type) to be fixed for providing support to persons with disabilities during transfers.
- Refer Annexure VI for accessible toilet standards and signage.
- Directional signage for accessible multiuse toilet to be included in internal way finding signage and also placed near other general toilets.

WASHBASIN

Washbasin bottom clearance is 650mm and tap height is 1040mm which is fairly accessible.

- Washbasin to be 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.
EMERGENCY EVACUATION

- Emergency alarm both audio (hooter type) and visual (flashing bulb) to be provided on each floor/level at strategic locations.
- Employees/staff and security guards, need to be drilled for the same at periodic intervals.
- An access sensitization/awareness training to be given to security guards and staff handling/transferring persons with disabilities to refuge area during emergency.

GENERAL REMARKS

- It is proposed that bilingual printed access guides be provided at reception area with mapping of accessible routes and facilities.

ACCESS AUDIT REPORT PREPARED BY

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VENDORS LIST

Tactile maps
- National Federation of the Blind (NFB), 2721, 2nd Floor, Chowk Sangtrashan, Paharganj, New Delhi-55
  Ph: 23562277, 23562546
- National Association of the Blind (NAB), Sector-5, R.K. Puram, New Delhi–22 Ph: 26102944, 26175886

Signage, Braille plates and Grab bars
Access Plus, B-175, Mansarovar Garden, New Delhi-110015 Ph: (M) 9811133547, 9711190806

Guiding/warning tactile tiles
- Pelican Ceramic Industries Pvt. Ltd., 410, Suneja Tower-1, District Centre, Janakpuri, New Delhi-58
  Mr. Ashok K. Luthra (M) 9810545699 Ph: 25552097, 32482791, 32982791
- Kensai Ceramics- Mr. Anil Sabharwal - 9810129062
- Durato Brand available at all leading stores

Toilet fittings
Parryware- Conventina range of WC and washbasin
Available at Parryware dealers
RAMP

**Indoor**- Gentle slope of 1:12 max.

**Outdoor**- For first floor and above 1:15 or 1:20 gradient ramp is advised depending upon availability of space.

Landings- every 750 mm of vertical rise clear space of 1500mm x 1500mm minimum.

Ramp width to be 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.

Strip of warning blocks should be placed 300mm before and after the ramp edges.

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**Annexure II**

**STEPS & STAIRS**

- 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.
- There needs to be signage indicating the floor level on each floor. It is also desirable to have a directory of services available on each floor at the landing areas.
- It is desirable to use tactile features on the handrail to indicate the end of the rail and to give information for benefit to visually impaired people. (e.g. it is possible to indicate the floor level on each handrail by adopting the use of raised spots, where one spot indicates first floor, two spots indicate second floor etc.).

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**Annexure III**

**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.
- Should be in bright color contrast to the surroundings (preferably red/yellow).
Tactile Surfaces: Guiding strip & Warning blocks

- Line-type blocks indicate the correct path/route to follow.
- Dot-type blocks provide warning signals 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**

**Places to install guiding blocks:**

- In front of an area where traffic is present.
- In front of an entrance/exit.
- To and from a staircase or multi-level crossing facility.
- In open space to orient persons with vision impairment.

**Arrangement of guiding blocks for persons with visual impairment**

**Example of intersection**

**Example of L-shaped intersection**

**Example of T-shaped intersection**

Guiding path and approaching sidewalk to the building
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.
- Kick plates are recommended 300mm from the bottom, to resist wear and tear.

ACCESSIBLE TOILET
- 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.
- 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.).
- Flooring to be anti-slip/matt finish.

WATER CLOSET (WC)
- Have clear space of not less than 900mm wide next to 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 800mm 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 transfer side of the WC and the adjacent wall.
- On the transfer side of the WC- swing up type and on the wall side L-shape grab bars should be provided.

WASHBASIN
- With 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.
**Annexure VII**

**GENERAL 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.

- For visitors/employees with low vision and vision impairments, following are proposed:
  - Warning strip/ door mat 300mm before the toilet entrance.
  - Braille signage should be displayed on the right side of every toilet by indicating embossed letters with ladies and gents pictogram.
  - All signage to be in raised alphabets at the eye level, on the wall and in bold and contrasting colors.

**Annexure VIII**

**URINALS**

- A clear floor space 760mm by 1220mm should be provided in front of urinals to allow forward approach.
- At least one of the urinals in the Gents toilets 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.
- Urinal shields (that do not extend beyond the front edge of the urinal rim) may be provided with 735 mm clearance between them.