

Monitoring and evaluation of the implementation of the design requirements for the disabled in Faculty of People with Special Needs, Beni-Suef University

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Abstract:

The increase in the percentage of disabled people in the world has led to an interest in applying general design requirements in buildings and urban plans. Scientific research has also focused on shedding light on these requirements, developing them, and testing their adequacy to use different samples of people with special needs.

Therefore, the research paper comes to shed light on the importance of the commitment of public buildings to their application and the impact of this on the extent of the success of people with special needs using these buildings without obtaining assistance or the necessity of the presence of facilities. The applied study dealt with monitoring and evaluating the extent to which these dimensions are applied to one of the public buildings, which is the College of People with Special Needs at the University of Beni-Suef, as a model for the commitment of public buildings to apply those designs requirements.

The research also reviews the basic and standard dimensions that must be taken into account in the design so that the disabled can move and use the spaces by themselves. And comparing those requirements with what was considered in the building that was chosen as the subject of the study and the results came not to apply the requirements by more than 30%. It contributes to raising the ability of people with special needs to use public buildings, which encourages the participation of this category in society in a more effective manner, especially in light of the increasing percentage of people with special needs, especially in developing countries.

Keywords: *The Disabled - Design requirements - People with special needs – Beni-Suef University*

1-Introduction:

Disabled people exist in all countries of the world in different proportions due to multiple factors such as pollution, health awareness, the spread of diseases that cause disability, and the ability of each country to confront these problems. The average percentage of people with disabilities within developing societies ranges from 10% to 13%, especially with the increase in wars and acts of violence in recent years, [1] meaning that it is a percentage that cannot be overlooked or neglected, which makes us think seriously about ways to remove physical and psychological obstacles that prevent us from benefiting from the energies people with disabilities in building their societies.

The most important design criteria for the buildings of the disabled of all kinds, for the architect to understand how to provide the needs of the disabled within the buildings specially designed for them, and not only this, but the movement of the disabled in most buildings, especially public buildings, so that the design of the building does not stand as an obstacle to the use of the disabled. [2] of the building, whether he works in it, or to fulfill his need in it, and not only the building, but also the general location and the surrounding environment, It must be suitable for the handicapped to use it, in terms of the use of vehicles equipped for the handicapped, the movement of the wheelchair, or those who use one or two sticks, as well as the blind, as well as in the interior design of buildings, and displays of stairs, elevators, ramps, toilets, kitchens, and every part of the building. The building, and every part of the services and spaces in it, even in playgrounds and parks, in general, the architectural design must consider all segments of society to ensure their participation without hindrances Fig. (1). [2] [15]

The architect must not limit his services to a part of society only, oblivious to an essential part of it. The research emphasizes the importance of the participation of the disabled in important work in the country at a high level, and not a small job, which results in their taking into account in the design of all types of buildings, whether public, governmental, commercial and recreational, as shown in Fig. (2) where the designer's interest in the swimming pool is clear in the movement of people with special needs, except Their buildings should be designed to allow them to use them without hindrance. [3] [12]

Figure (1): Participation of all segments of society is an important criterion for the success of architectural design [2]





Figure (2): Taking into account the participation of the disabled in public and recreational areas [3]

2. Basic rules for barrier-free design:

2-1 Enabling the disabled to use the building by providing the necessary services in the surrounding environment, starting with the parking spaces for his car and the pedestrian path, which ensures his ease of movement, taking into account the presence of the necessary slopes in the appropriate places close to the waiting areas designated for this group, with the use of slip-resistant flooring materials and protection from fluctuations in weather conditions and taking into account The lengths of the corridors should not exceed the limits imposed for the disabled, which is 61 m, and their proximity to the entrances that they can use. [2] [11]

2-2 Providing an entrance that is easy for everyone to use, regardless of their means of movement, such as the use of wheelchairs or compensating devices, considering the location of this entrance from the influence of the wind if it exceeds the available limits, which are not taken into account. From 10% of the time throughout the year, this effect can be avoided by adding forces that may prevent the possibility of using that entrance, either by building a wall in front of this entrance or by placing the entrances backward, and the doors used in these entrances must also be taken into account, for example avoiding the revolving door Taking into account its size, shape, and position of the handles used, closing pressure and the height of the lintel in front of it. [4] [13]

2-3 The accessibility of the disabled to all floors in the building. It is sufficient to achieve this that one elevator in the building can be used by the disabled, even though he is on the same level that leads to an easy-to-use entrance for all.

2-4 Providing the necessary services with a separate toilet for disabled men and another for women in each floor of the building.

2-5 Corridors leading to emergency exits must be easy to use for the disabled.

From the above, we find that the role of the architectural design can be clear through some simple details that can be added to the existing buildings, for example, it is possible to add or provide slopes at the entrances to the main and important buildings, [4] [16] as well as adding some small slopes for sidewalks and pedestrian paths at the main pedestrian crossing places, so that its slope does not exceed "6% - 10%", as well as in toilets, and places of drinking water, so that they contain handles at suitable heights for them in order to facilitate the use of these services, to facilitate life for them.

3- Dimensions of the assistive devices:

The problem of the disabled is movement and movement from one place to another, as it depends in most cases on assistive devices such as a wheelchair, crutches, or braces, according to the dimensions shown in Figure No. (3), (4). In order for the disabled to be able to move easily in suitable spaces in public and private places and buildings such as government departments, markets, mosques, public parks, educational and recreational buildings, service buildings, and other buildings that the disabled may frequent, the matter requires fulfilling the technical requirements and standards related to the services in those places in terms of their conditions, dimensions, and spaces required. [6] [17]

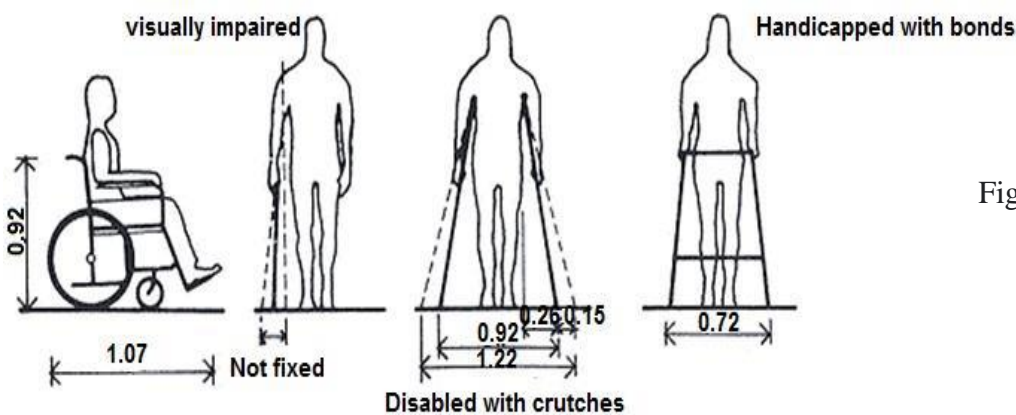


Figure 3 Assistive devices for the disabled

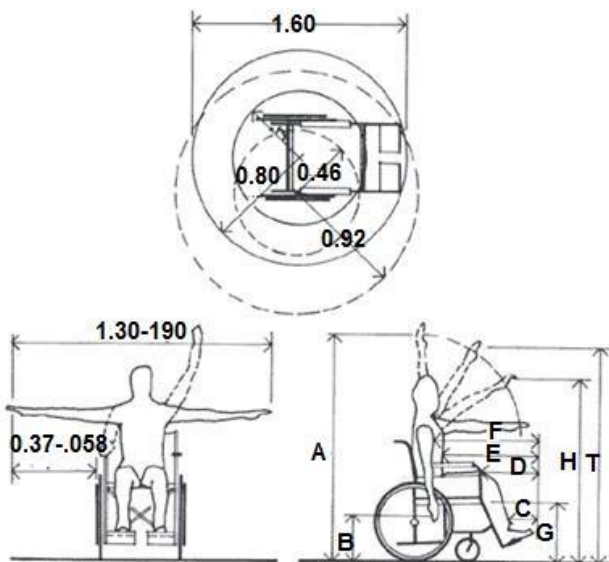


Figure 4: Ranges of motion for a wheelchair

	A	B	C	D	E	F	G	H	T
MAN	1.58	0.42	0.23	0.47	0.66	0.73	0.48	1.31	1.48
WOMEN	1.44	0.45	0.18	0.42	0.58	0.66	0.48	1.20	1.35

4- Design dimensions of the outer perimeter of the building:

The researcher reviewed the architectural design standards that are compatible with the use of the disabled by them, and you may notice that there are some numbers that are repeated in these standards, which can be used as a design unit, for example, the widths of the corridors are usually not less than 0.90 cm, which is compatible with the width of the wheelchair, or the use of crutches, as well as the maximum width of the aisle up to 1.80 cm, and the maximum height of the cupboard or shelf for easy access from 0.75 cm to 0.95 cm, as well as the minimum depth of any space for the wheelchair to rotate freely is 1.50 cm, and the slope of the slopes does not exceed 6%.

The state must abide by these requirements in its projects as well as take them into consideration before licensing private projects because of their importance in helping the disabled to move and move easily, and they are generally limited to services outside buildings such as streets, sidewalks, pedestrian paths, building entrances, places, parking lots and public toilets...etc. For the following considerations:

4-1 car parks:

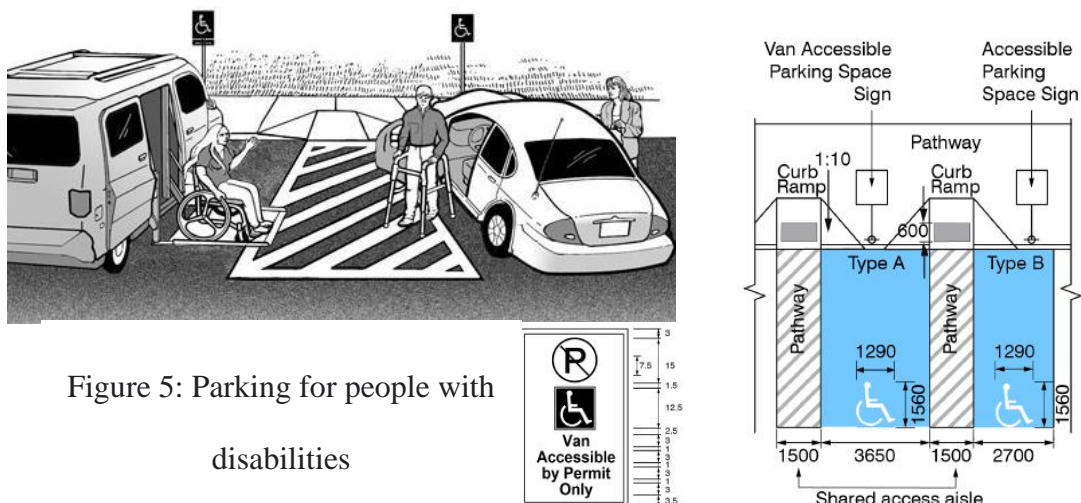
4-1-1 - Allocate parking spaces for disabled cars in all public and private car parks and in suitable places that are easy to access and that is as close as possible to the entrances and exits of the places frequented by the disabled.

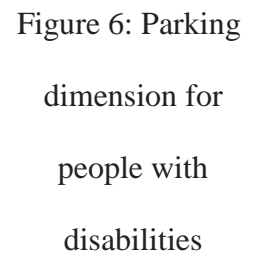
4-1-2 - Distinguish the parking spaces for the disabled using their logo. The percentage of disabled parking spaces shall not be less than (5%) of the public parking spaces, with a minimum of two parking spaces.

4-1-3 - The space allocated for the disabled car shall not be less than (25) m² and the dimensions of the parking space shall be as shown in Figure (5)

4-1-4 - The ramps necessary to reach the parking lots shall be equipped with good lighting and implemented as close as possible to the parking spaces for the disabled.

4-1-5 - The distance between the outer limits of the disabled car and any other car shall not be less than (160) cm.





4-2 Pedestrian walkways and sidewalks:

4-2-1: It shall be free of obstacles and protrusions, and its flooring shall be made of rough materials to prevent slipping and shall be provided with the necessary slopes and distinctive directional panels.

4-2-2: Not to place drain covers for extensions in the floors of corridors and sidewalks, and if it is necessary to put them, then their openings should be transverse or designed in a suitable manner that does not hinder wheelchair users.

4-2-3: Take into account that the pedestrian paths on the sidewalks should not be close to the external walls of buildings and fences to prevent the disabled from colliding with any sharp protrusions or prominent devices and not to occupy them with any other obstacles that lead to obstruction and injury to the disabled person.

4-2-4: Providing pedestrian paths and sidewalks with rest areas, shaded places, balustrades, and the necessary services from sources of drinking water, telephone ... etc., according to its size and distance.

4-2-5: Providing the sidewalks with audio traffic signals in addition to the normal signals, in order to alert the disabled to blindness by hearing when crossing the street.

4-3 Slopes:

They are inclined surfaces implemented of rough materials to prevent slipping. The degree of inclination shall be a maximum (1: 8) and not less than (1: 12) at the entrances to buildings, emergency exits, sidewalks, corridors, and different levels whose levels change in Figure (6). It is according to the following rules:

A - The minimum width of a one-way ramp is (90) cm and for a two-way ramp is (185) cm.

B- A handrail with a height of not less than (85) cm and not more than (100) cm is installed on both sides of the slope with its edges raised from both sides to form a simple barrier (eave) with a height of no less than (8) cm from the surface of the ramp to provide protection and reduce risks. (5).

C - The ramp does not exceed the limits of the sidewalk or the pedestrian path and is submerged in it - unobtrusive - and is indicated by distinctive directional signs in Figure (6). It is within the pedestrian crossing area.

d - The maximum length of the ramp is (9) meters and in the case of two connecting ramps of a height that is required to separate them with a flat surface (extension) not less than (1.80) meters.

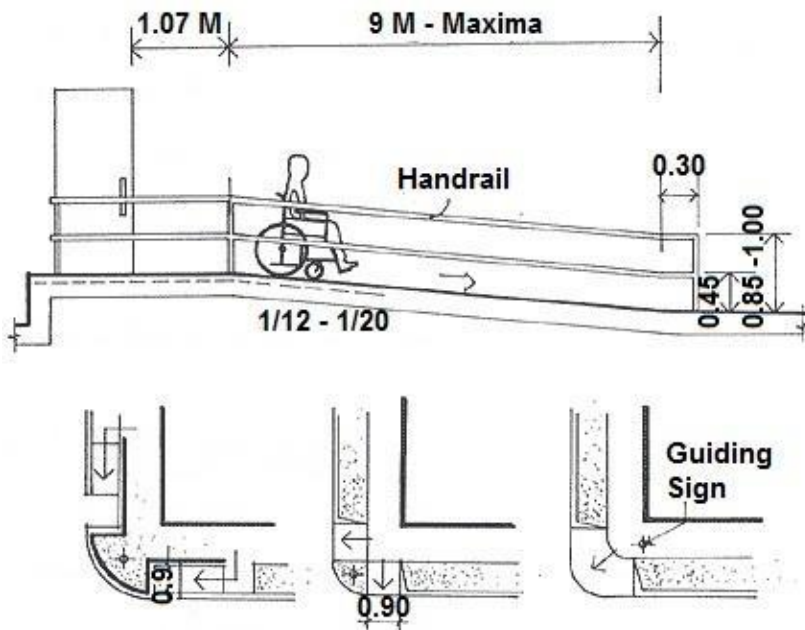
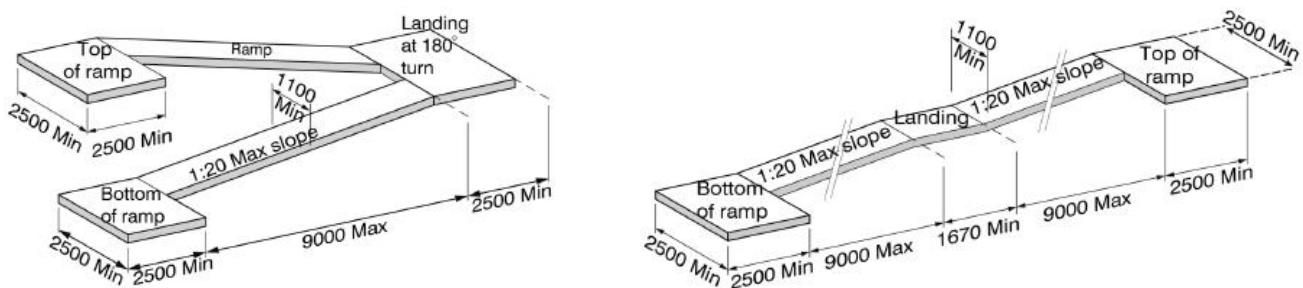


Figure 7: Slopes for people with disabilities



5- Design dimensions of the building elements:

The necessary special conditions must be observed in cooperation with government agencies whose services and projects are related to the disabled to create an appropriate climate for the disabled and achieve the greatest amount of assistance for him, [7] [18] according to the following:

5-1 Public toilets and showers:

When designing toilets in public places and buildings, it should be taken into account to allocate part of them to serve the disabled, with one room for men and another for women, according to the following:

A- Providing sufficient spaces and possibilities to help the disabled move easily inside and outside the course.

B- The doors of the course for the disabled shall be opened to the outside, and the width of the door shall not be less than (82) cm and rise from the surface of the ground at a distance of (20) cm.

C- Sinks, controls, and accessories for the session, such as towels, paper holders, etc., shall be fixed at a height of not less than (76) cm and not more than (137) cm in Figure (7).

D- Uses a French toilet with a height of no less than (36) cm, Figure (7), so that a disabled child can use it.

E- Use existing urinals with the dimensions shown in Figure (7).

5-1-6: Considering that the multi-storey building is provided with a toilet for the disabled, and in each floor, there are combined toilets.

F- The minimum area of the bathroom is (2.20) m².

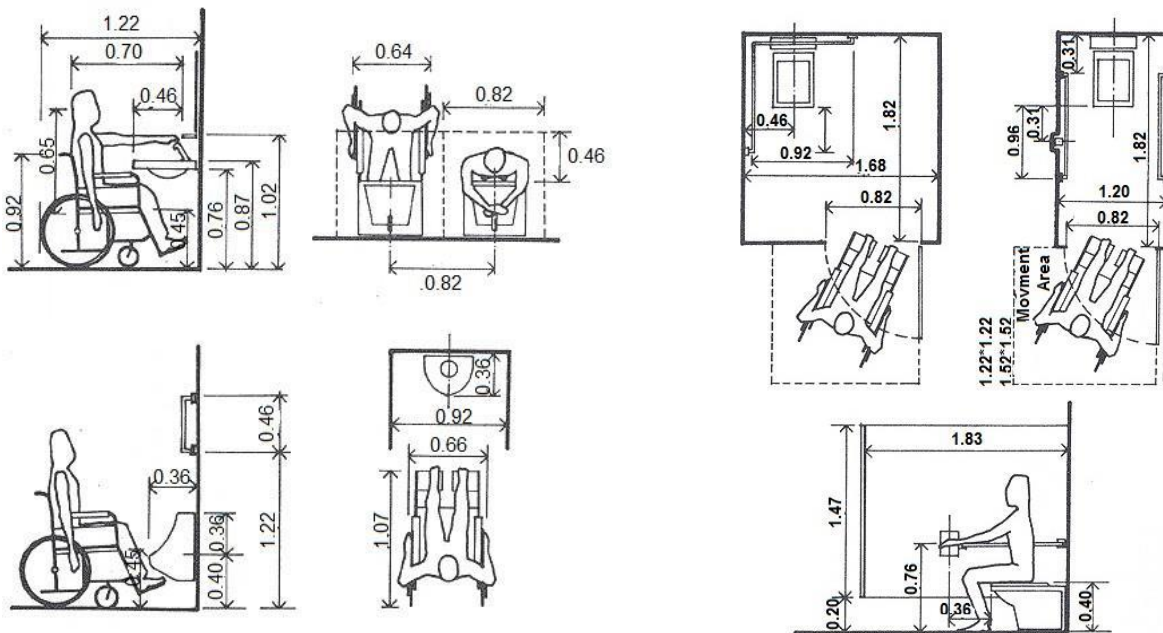


Figure 8 Standard dimensions of public toilets for people with special needs

5-2 Balustrades and Railings:

A- Handrails are used to help the disabled determine movement and movement and identify the place. It is used as a support, so it must be firmly installed, whether on stairs or in buildings and slopes, in order to bear any weight.

B- The height of the handrail shall not be less than (85) cm and not more than (100) cm from the surface of the ground, and its design shall take into account the ease of grasping and leaning on it. On the wall in a different color for easy identification

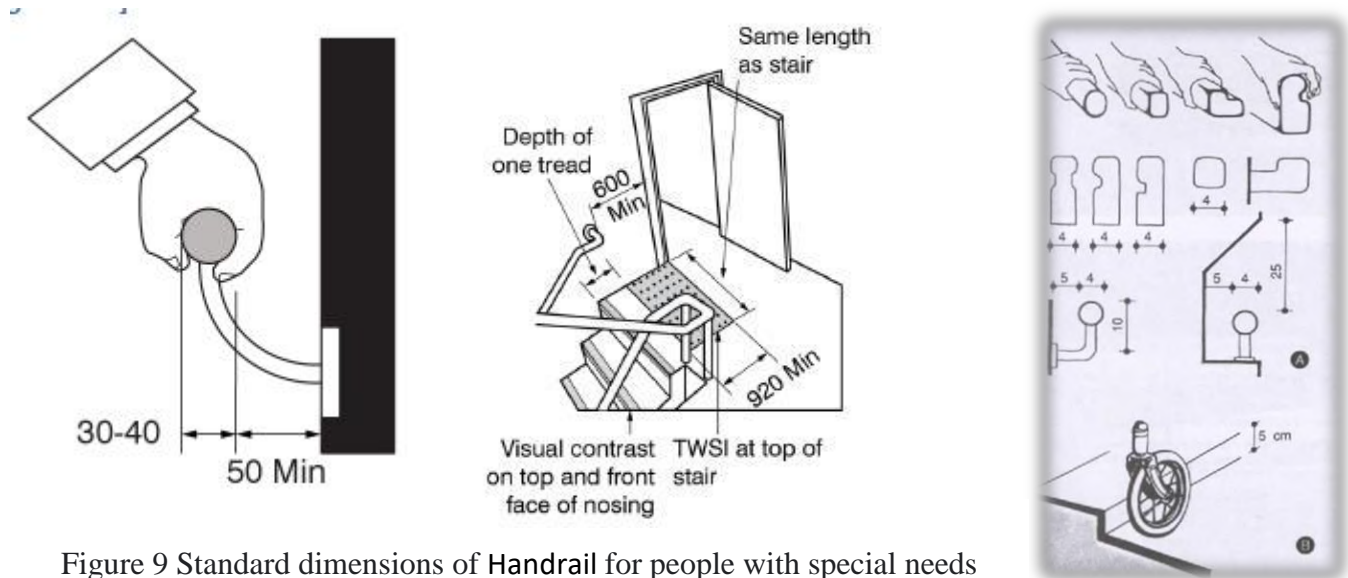
5-3 Directional signs and banners:

A- That its design and selection of places take into account simplicity and clarity, whether inside or outside the buildings and that it be at eye level to facilitate reading and seeing.

B- The writing should be in a distinctive color and different from the color of the painting's floor (contrasting colors), and if it is lit, it is good, and its surfaces do not cause any light reflections that would impede vision and reading.

C- Putting the mark for the disabled in the places where their services are located in public and private buildings and public facilities.

D- Using braille aids for the visually impaired, in addition to the regular means, in the places they frequent.



5-4 stairs:

The stairs in the buildings frequented by the disabled or in which they work shall be in accordance with the following requirements:

A- To be designed in a suitable manner that does not impede movement so that the dimensions of the stairs do not exceed the following dimensions: The staircase is (15) cm high and the sleeper is (30) cm wide, and the steps are covered with rough, non-slippery materials with the nose of the stair provided with angles or longitudinal rubber strips to prevent slipping or Any other materials that serve the same purpose.

B- Adding a ramp with an appropriate slope next to the stairs, whether it is internal or external to facilitate the movement of the disabled, each according to his condition, as shown in Figure (7).

C- The staircase shall be provided with handrails on both sides, with a height of not less than (85) cm and not more than (100) cm, extending at the end and the beginning with a distance not less than the width of the sleeper, and is fixed well.

D- Multi-storey buildings shall be provided with ladders, necessary means of escape, and emergency exits, taking into account the spaces and dimensions of these elements.

E- Guards are required on both sides of a stair where the elevation change is greater than 600 mm.

F- Cues warning a person with no or low vision of an upcoming set of stairs is vitally important and is provided by tactile walking surface indicators (TWSI). [5]

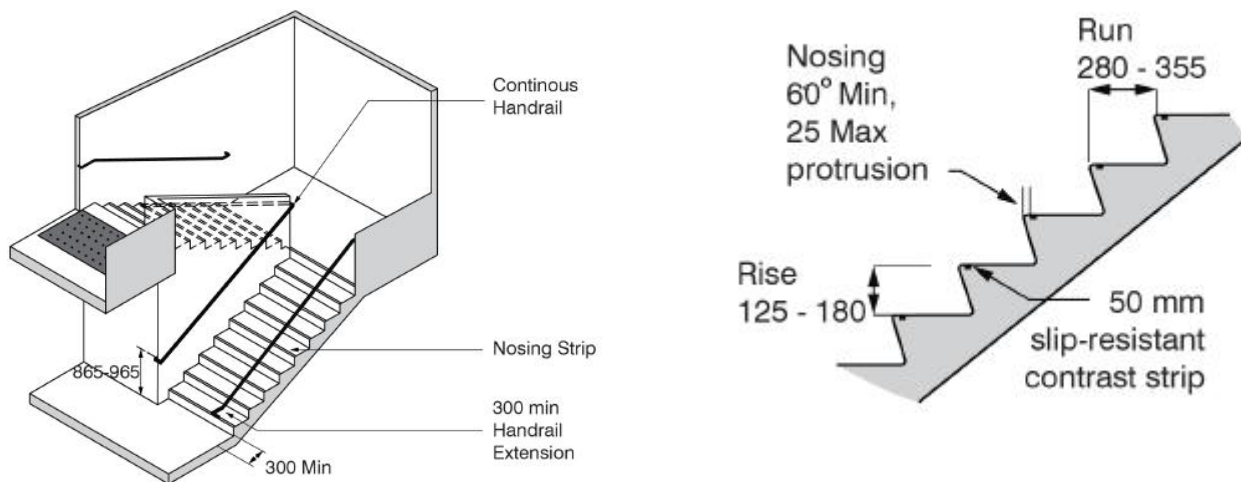


Figure 10 Standard dimensions of Stair Design Criteria for people with special needs

5-5 doors:

A - The minimum door opening shall be (82) cm, and the door shall be provided from the bottom with a slide of wood or rubber at a height of (30) cm to be pushed by feet or by a wheelchair (Figure 8).

b- The doors with fully glazed surfaces shall be provided with clear, colored markings at eye level to distinguish them and avoid collision with them.

C - The solid doors shall be provided with glass openings (glasses) with suitable spaces that enable clear vision.

D - The handles, kollans, etc. are fixed at a height of not less than (76) cm and not more than (137) cm from the surface of the ground, taking into account simplicity, ease of use, and appropriate form.

E - Emergency doors open to the outside with the necessary ramps.

f - Use electronic doors whenever possible in public places frequented by the disabled.

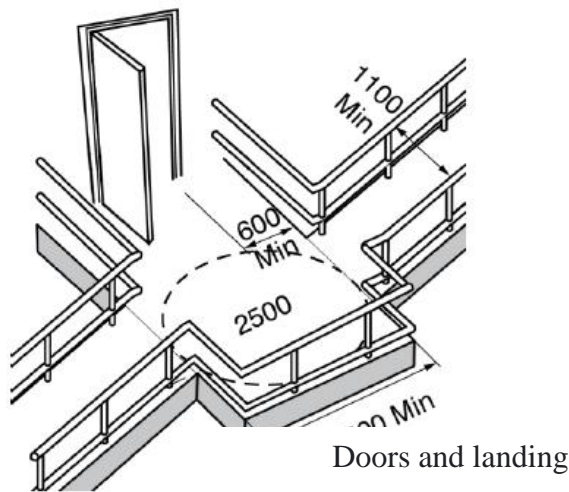
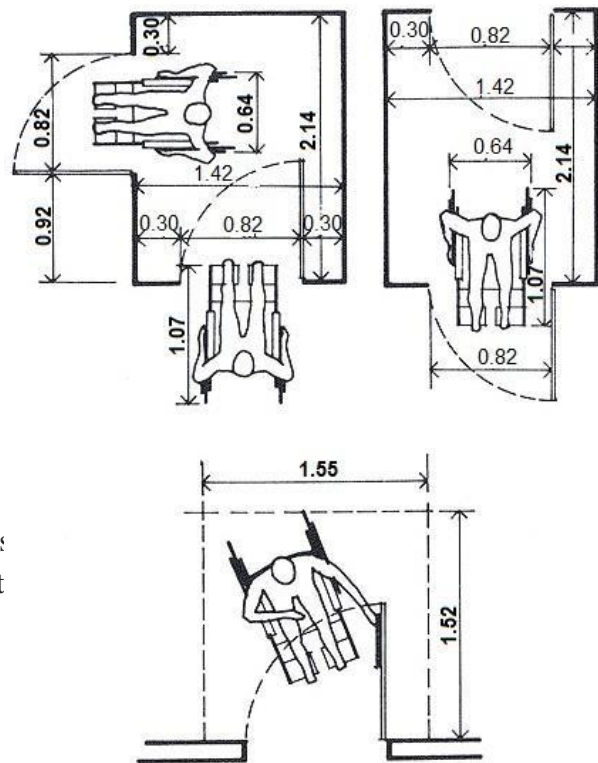


Figure 11 Movement dimensions:
people with disabilities in front
entrances and doors



5-6 windows:

- A - To consider in the design of the windows, bright light should be avoided, easy to open, and a clear view (Figure (9)), while providing adequate artificial lighting.
- b- The large glass surfaces shall be marked with clear, colored markings to avoid colliding with them.
- C - Window handles shall be fixed at a height of not less than (76) cm and not more than (137) cm above the level of the ground.
- d - The height of the netting session shall not be more than (80) cm above the surface of the ground.
- E - Provide the windows with sun breakers and umbrellas if necessary.

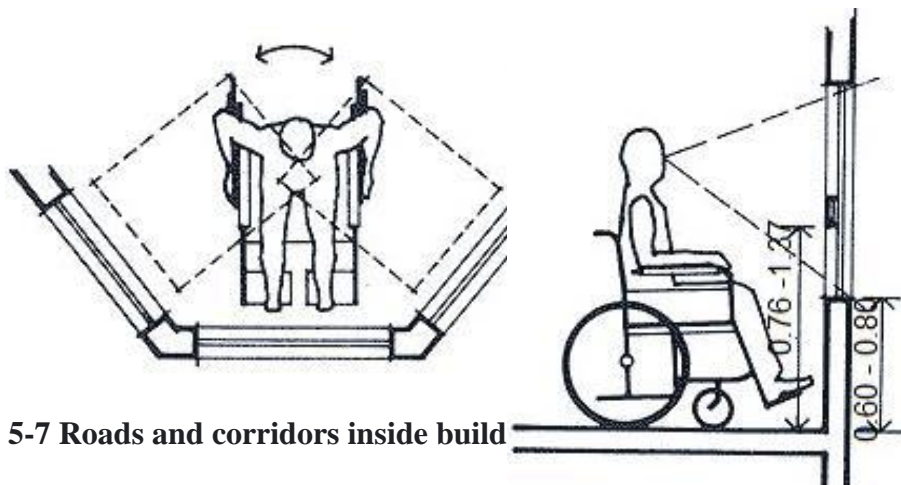


Figure 12: the dimensions
of the windows and
balconies used by the
disabled to provide the
opportunity to see a larger
field through the
protruding windows

5-7 Roads and corridors inside build

A - It shall be provided with all necessary services such as balustrades, handles, controls, audio-visual means, etc. It shall also provide adequate, healthy lighting and clear media.

b- Taking into account that there are no obstacles in the roads and corridors such as columns, thresholds, air conditioners, water coolers, flower beds...etc.

C - Covering floors with rough, non-slippery materials.

D - The width of the corridor is not less than (137) cm (Fig. 10).

E- The entrances to public buildings (entrance halls and road dividers) on the ground floor shall be provided with special offices to deal with the disabled categories of the public.

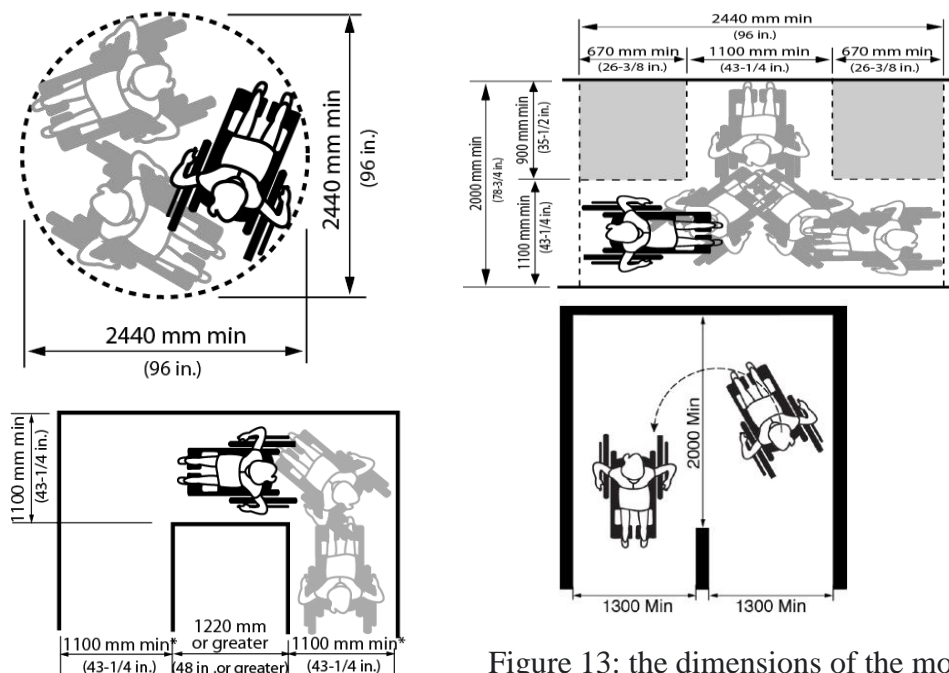


Figure 13: the dimensions of the movement of the disabled in different forms of corridors

5-8 Elevators:

A - Elevators are used in buildings with a height of more than two floors (ground + first).

b- When choosing elevators, the appropriate size, load, quality, and suitability for the needs of their users of the disabled, and providing them with adequate lighting and ventilation, shall be taken into account.

C - Provide sufficient space in front of the elevator door, the dimensions of which are not less than (150 x 150) cm in each floor, and the location of the elevator is close to the main entrances to the buildings and easy to access.

D - The minimum area of the elevator (cabin) that accommodates wheelchairs is (1.88) m² with dimensions (137 x 137) cm, and the minimum width of the elevator door opening is (82) cm Figure No. (11).

E- The floor of the elevator shall be made of rough materials, and the cabin shall be provided with stands, balustrades, barriers, handles, and the necessary light and sound signals.

F - The call button panel (elevator request) shall be installed at a height of not less than (76) cm and not more than (137) cm above the level of the elevator floor and at a distance of (40) cm from the side wall. The panel shall be well lit in Figure No. (11).

g - The presence of emergency buttons or an internal phone in the cabin at a height of not less than (76) cm and not more than (137) cm.

H - Placing the role numbers on the call board in a prominent way to help the visually impaired

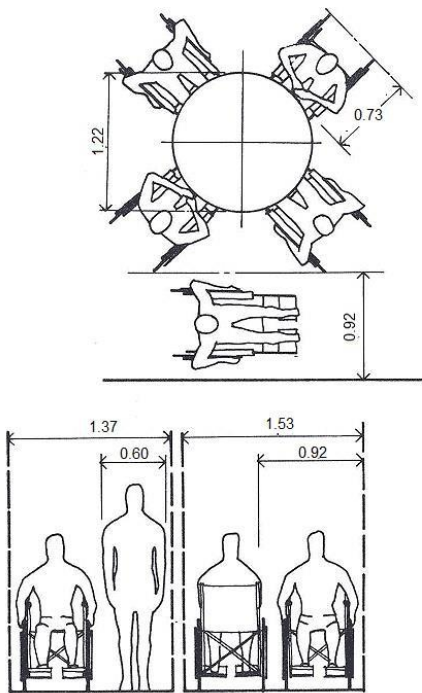


Figure 14 Wheelchair ranges of motion and the necessary dimensions

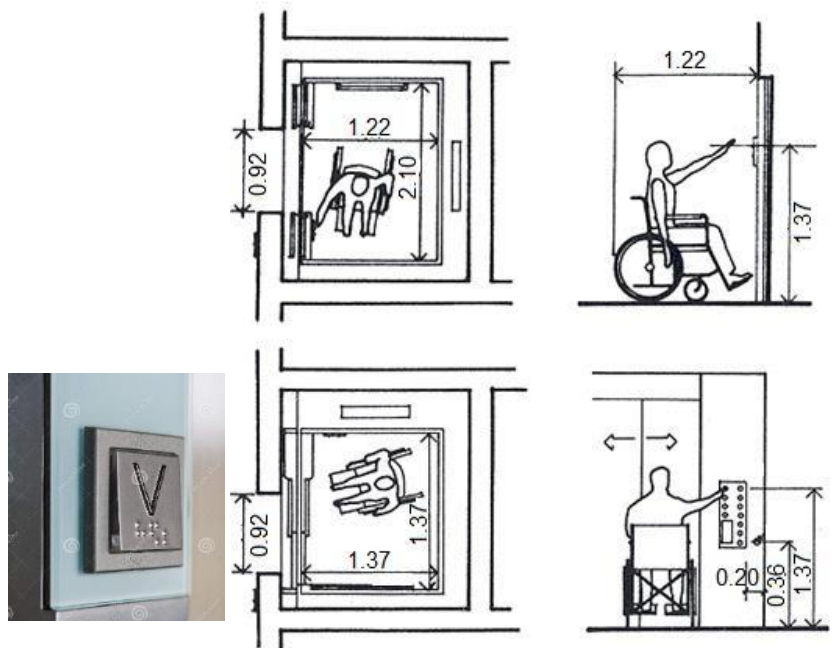


Figure 15 Dimensions of the elevators necessary for the use of the disabled

5-9 Controls:

These tools are represented in light switches, electric buttons, door and window handles, and others, and they shall be in accordance with the following controls: -

A –Automatic sensors at controlled access points are preferred rather than systems requiring contact, dexterity, or close physical presence to operate.

B- The tools must be installed at a height of not less than (76) cm and not more than (137) cm above the surface of the ground.

C- Light switches and sockets shall be kept away from the corner of the room by a distance of not less than (40) cm and shall be clear and distinct.

D - Handles of all kinds are easy to use and designed appropriately. [5]

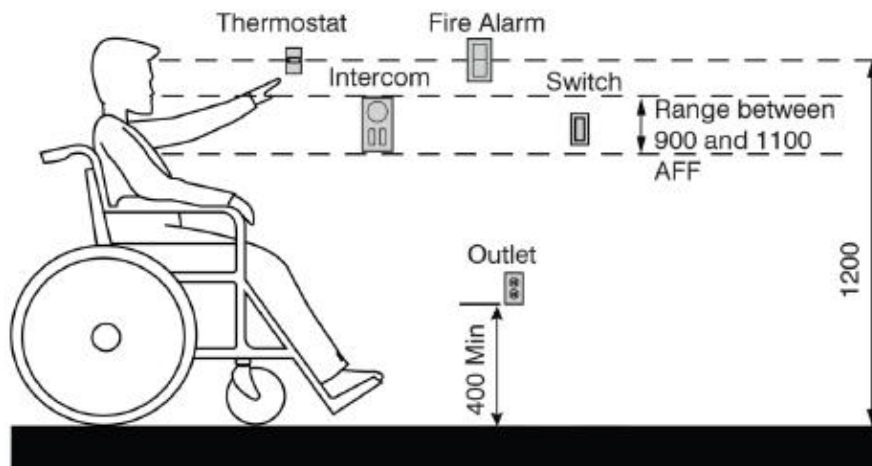


Figure 16 Required Range for Mounting Heights FOR disabled

5-10 educational spaces:

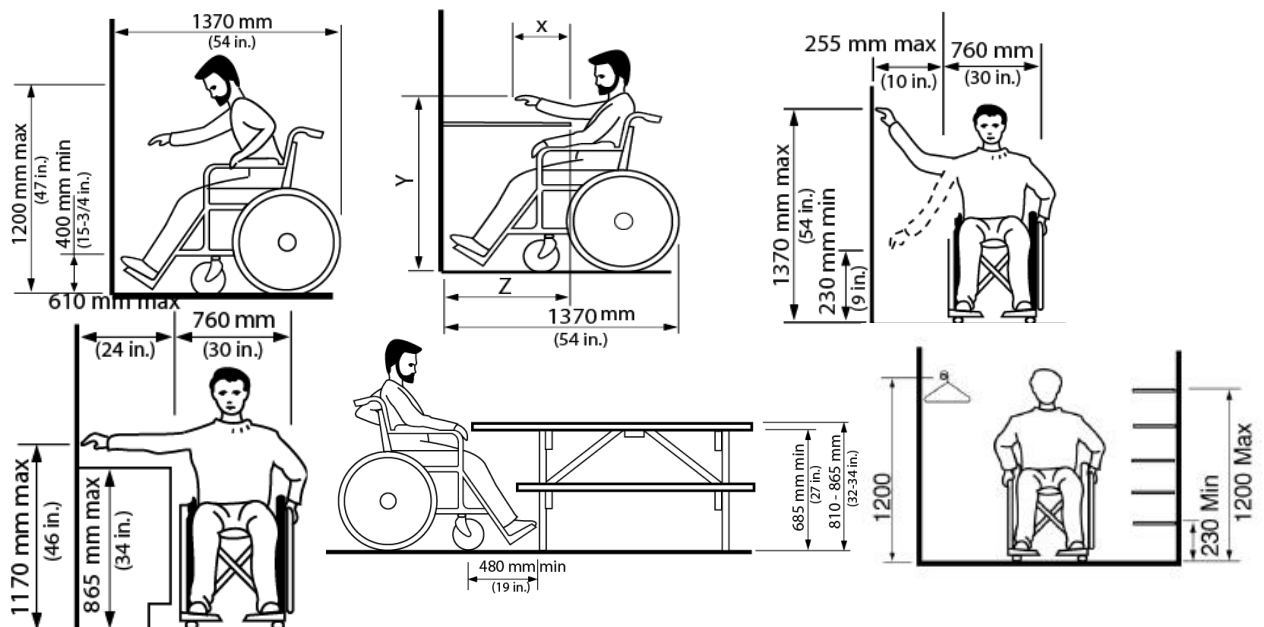


Figure 17 The height of the table or shelf for the disabled in the educational space

5-11 other equipment:

A - There are some necessary equipment that must take into account the dimensions and spaces necessary to help the disabled to use them Figure (12) and provide them in public places, streets, pedestrian paths, parks, etc., and distribute them appropriately to facilitate access, and they are as follows:

- Telephone booths, which must be equipped with audio and light signals to alert the disabled.
- Post boxes - Drinking water sources - Waste boxes.

Provided that it is within the reach of the handicapped so that its height is not less than (76) cm and not more than (137) cm, and it shall be equipped with the necessary capabilities of handles and balustrades.

B- The preparation of celebration halls and public halls must be taken into account (Fig. (13) in accordance with the following requirements: -

- Providing the necessary spaces and spaces that allow the disabled to move and see clearly.
- Choosing the appropriate places for the disabled (according to the disability) so that they are on the edges of the corridors and rows, on flat places, near services and emergency doors.

Providing appropriate audio-visual aids.

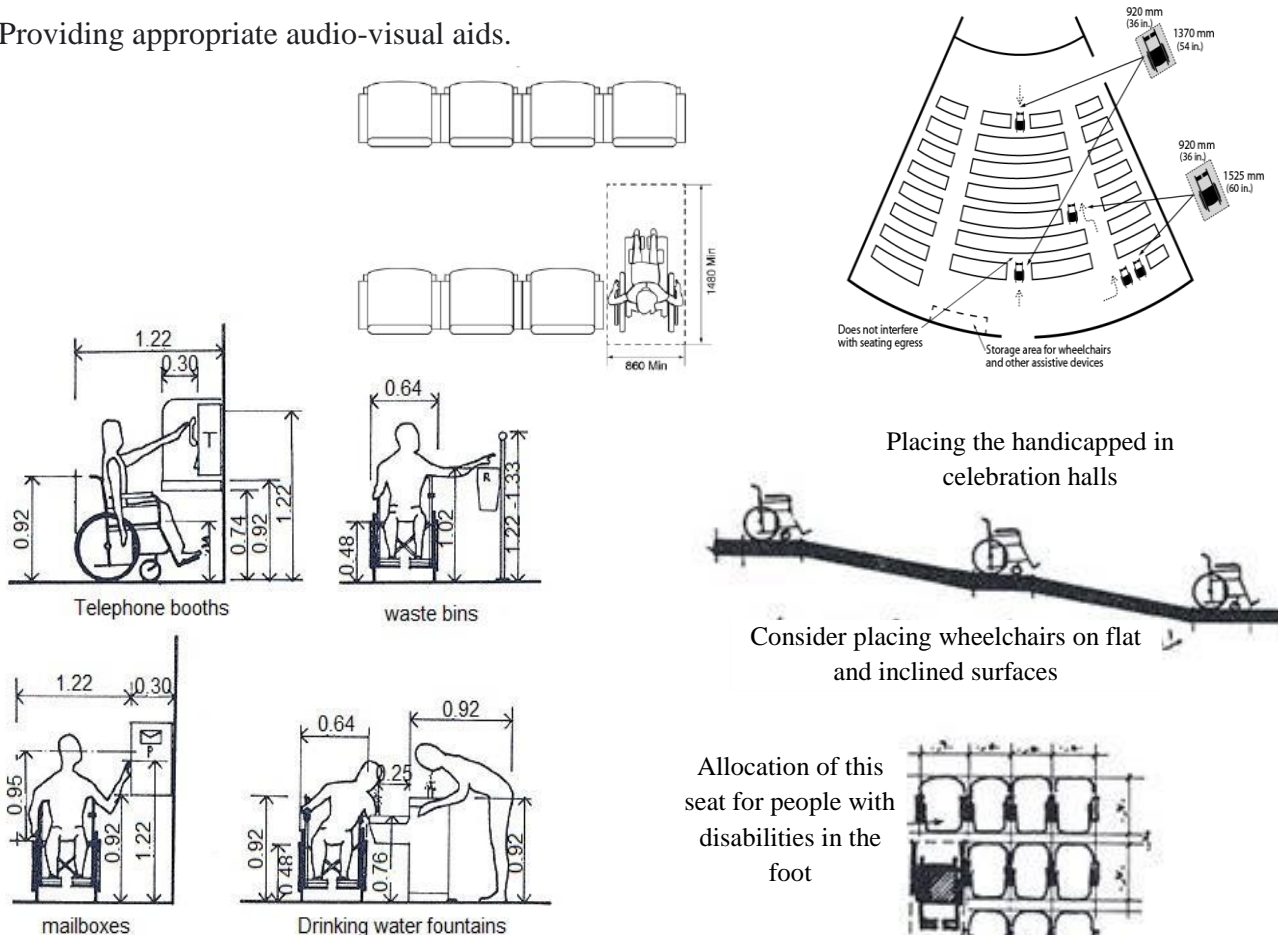


Figure 18 Dimensions of some public services used by the disabled

Figure 19 The appropriate position of wheelchairs in the halls

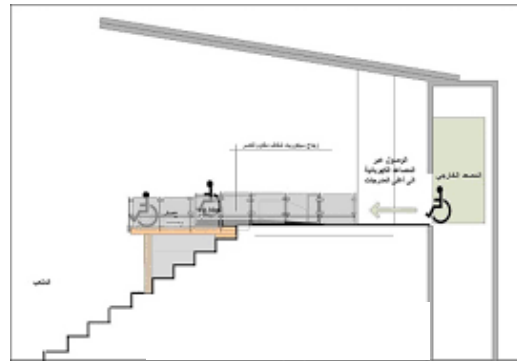


Figure 20 A level with direct entrances for the disabled in classrooms, like how it is created in sports stadium

6 –The degree to which design guidelines are implemented at the Beni Suef University Faculty of People with Special Needs:

The Faculty of People with Special Needs at Beni Suef University is one of the faculties of Beni Suef University, which was established in 2021 and aims to:

By collaborating with the community to provide services to those with special needs, the institution can fulfil one of its objectives.

- Exchange of visits between college faculty members and their overseas representation to learn about new developments in the field of individuals with special needs.
- By hosting specialized scientific conferences in the fields of individuals with special needs, the institution may effectively communicate with its regional and worldwide counterparts.
- Establishing a college-specific scientific publication to disseminate research on individuals with exceptional needs.

It is located on an area of 5000m², and a flat ground floor of 2000 m², the total built-up area is approx 40%

6-1 Application of specifications and guidelines at the basement floor level:

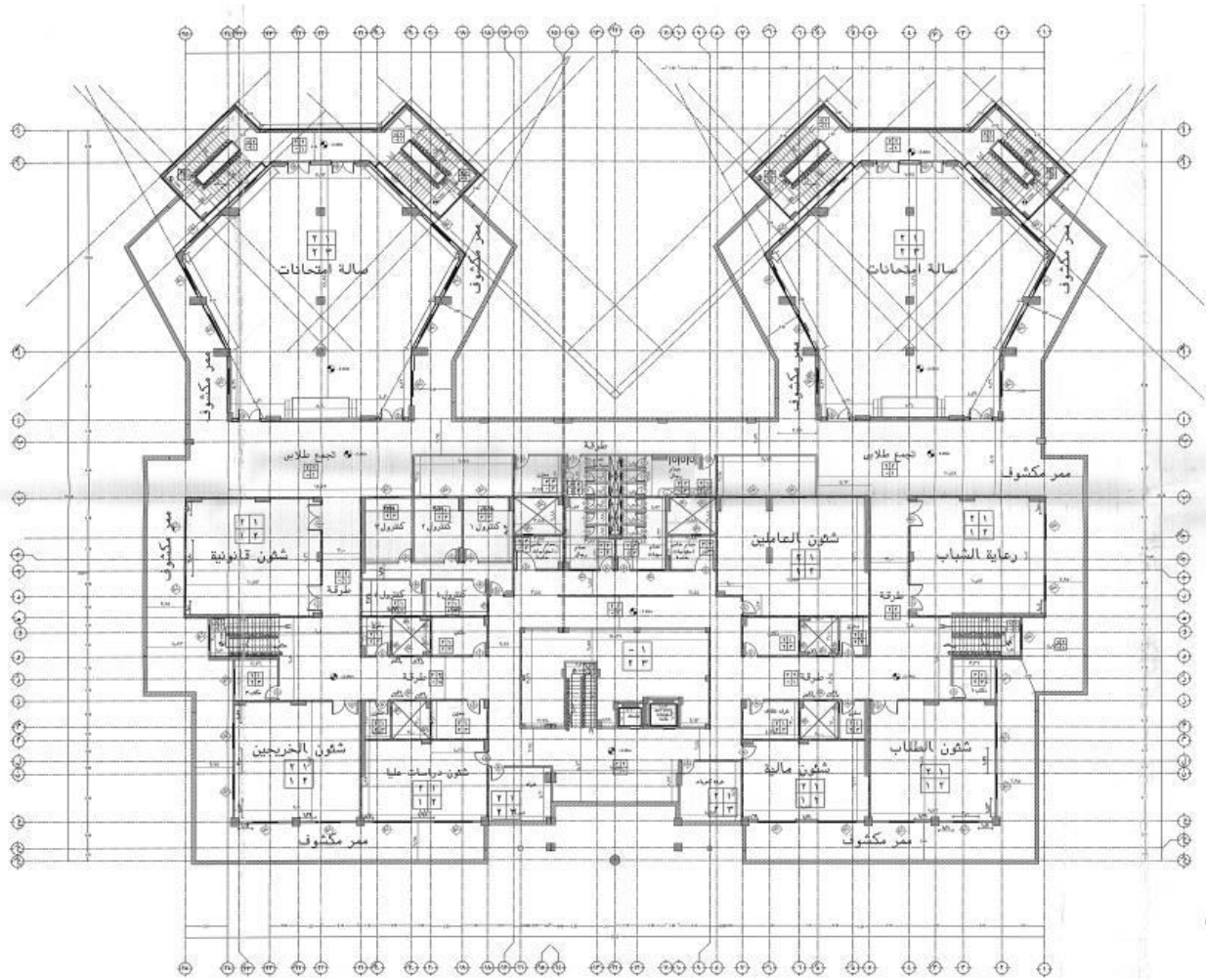


Fig 21 Basement Floor

These mistakes were found by checking the basement floor design against the minimum requirements and required standard dimensions:

- 1- The dimensions of the bathrooms do not conform to the standard dimensions required for wheelchair movement.



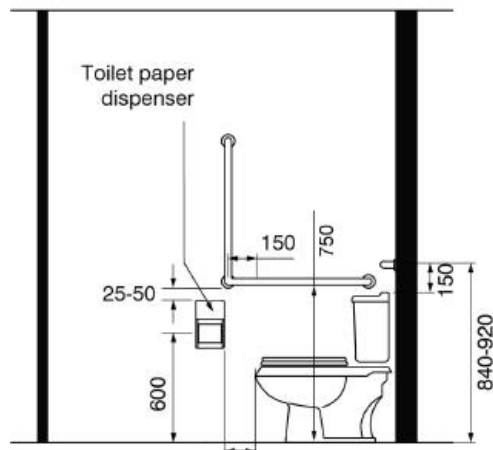


Fig 16 Standards to facilitate the use of bathrooms for the disabled [8]

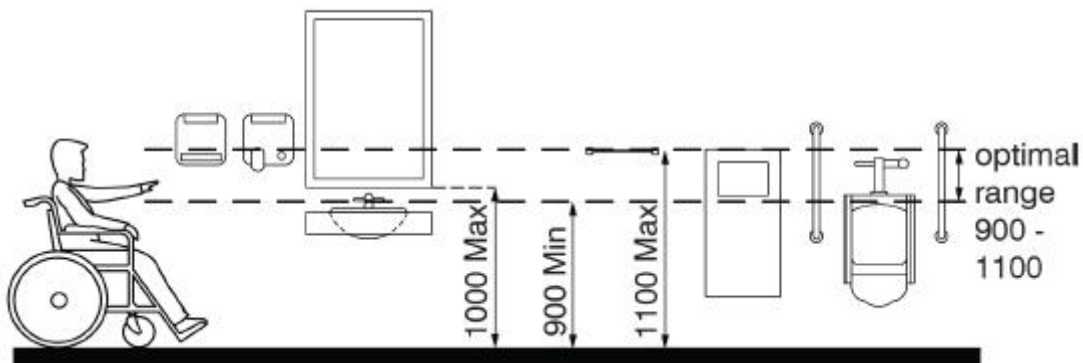


Fig 22-bathroom Accessory Mounting

- 2- The walls in the autism therapy rooms don't have hues that are appropriate for the patient's primary colour, which is blue.
- 3- Not assisting the blind in their movement and pointing them in the right route by using the guiding signs on the floors.
- 4- Every toilet needs an emergency alarm wire to ensure that anyone who falls or needs help can easily call for it.



Fig 23 emergency alarm for the disabled

6-2 Application of requirements and standards on the ground floor level:

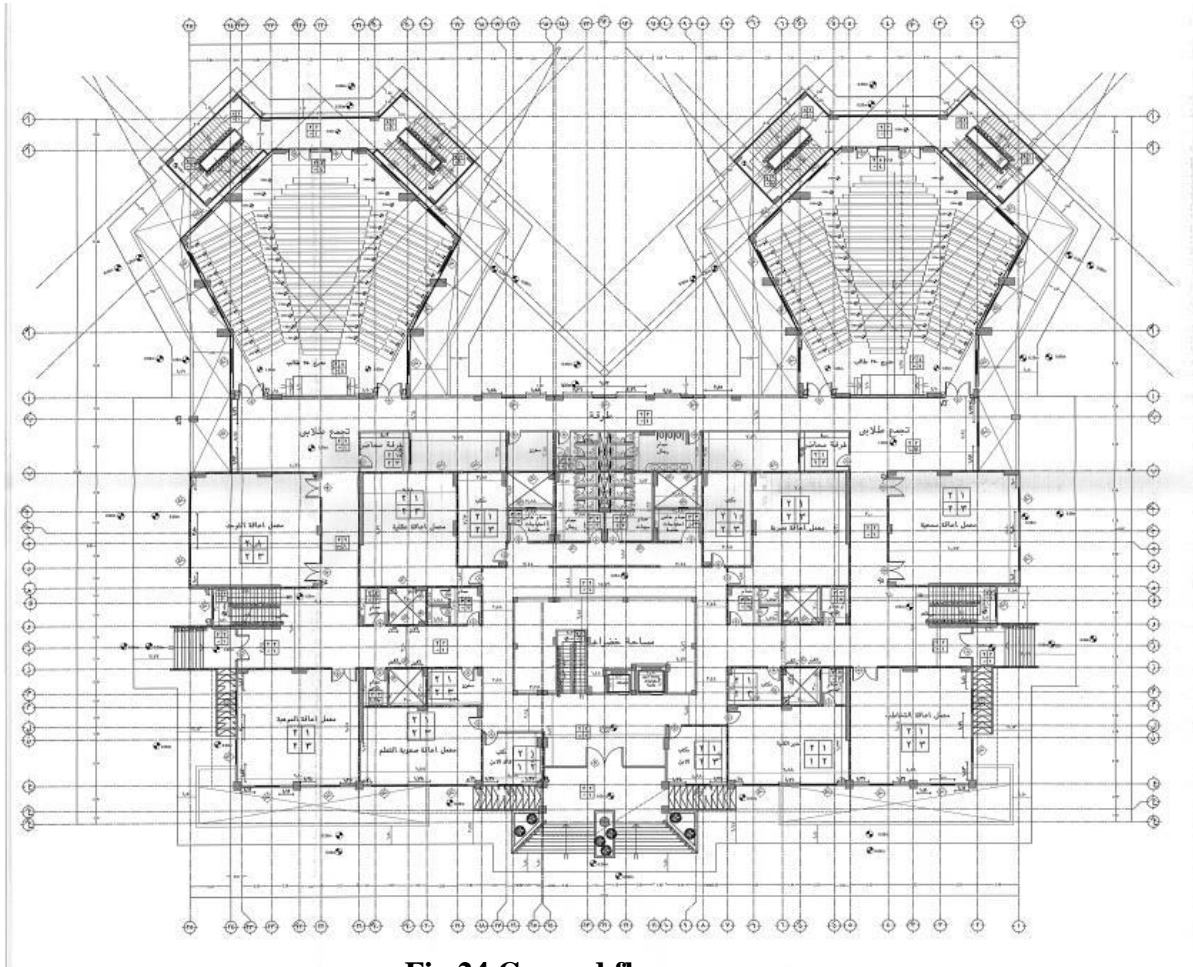


Fig 24 Ground floor

These mistakes were found by analyzing the ground floor design in accordance with the fundamental requirements that must be addressed.

- 1- The main entrance ramp's inclinations do not correspond to the inclinations required for wheelchair movement. Additionally, the ramp was abandoned during construction, leaving only the stairs as an entrance.
- 2- Not providing places for chairs in the main lecture halls on the ground floor.
- 3- Wheelchairs cannot enter the stands from behind.
- 4- The dimensions of the bathrooms do not conform to the standard dimensions required for wheelchair movement.
- 5- The walls in the autism therapy rooms don't have hues that correspond to the patient's primary color, which is blue.
- 6- Not using the guiding signs on the floors to facilitate the movement of the blind and guide them in the right direction.
- 7- Application of requirements and standards at the level of the first floor.

6-3 Application of requirements and standards on the first-floor level:

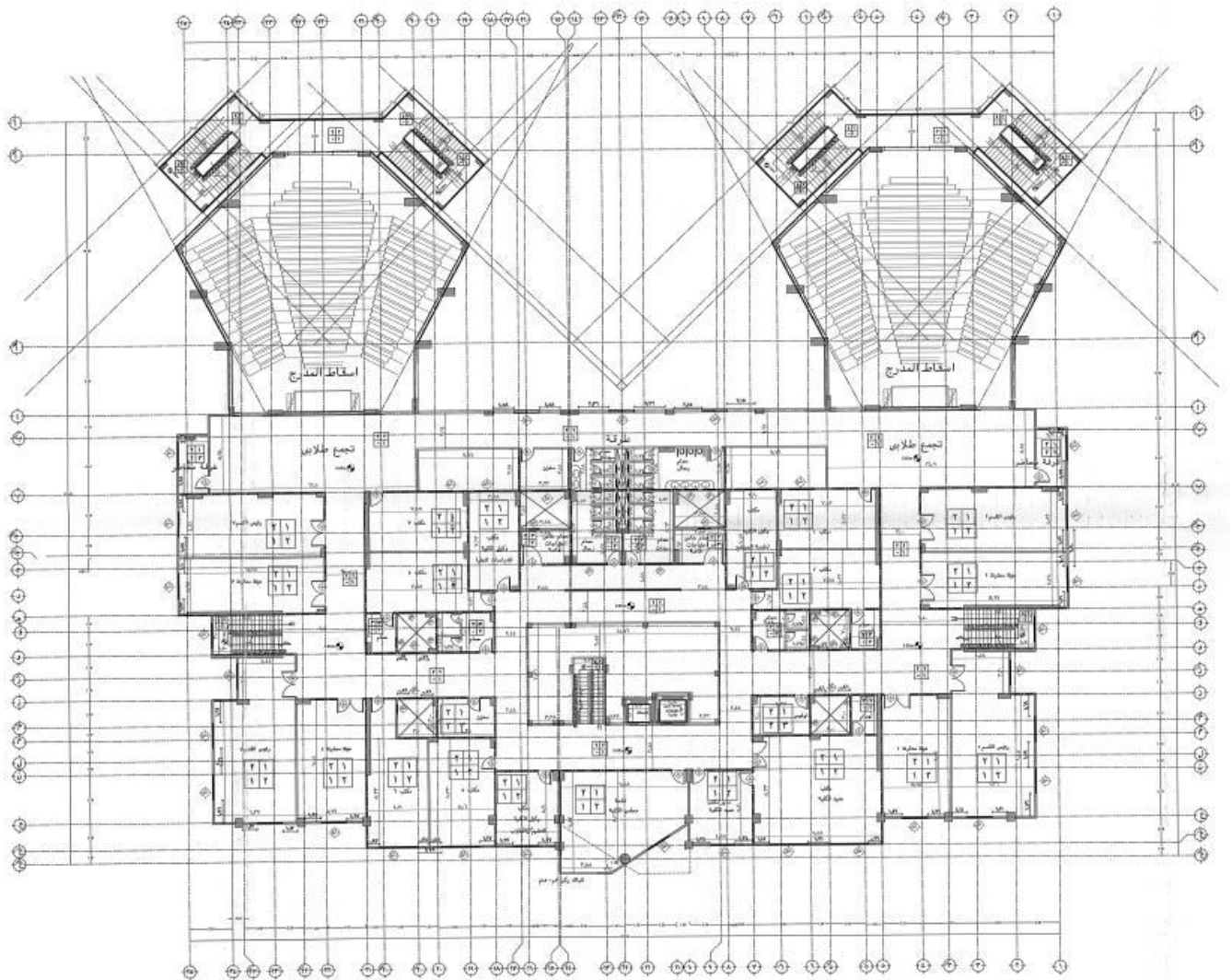


Fig 25 First Floor

These mistakes were found by analyzing the first floor's design considering the fundamental requirements that must be fulfilled:

- 1- Not providing places for chairs in the main lecture halls on the first floor.
- 2- Wheelchairs cannot enter the stands from behind.
- 3- The dimensions of the bathrooms do not conform to the standard dimensions required for wheelchair movement.
- 4- The walls in the autism therapy rooms don't have hues that correspond to the patient's primary color, which is blue.
- 5- Not using the guiding signs on the floors to facilitate the movement of the blind and guide them in the right direction.

6-4 Application of requirements and standards on the second-floor level:

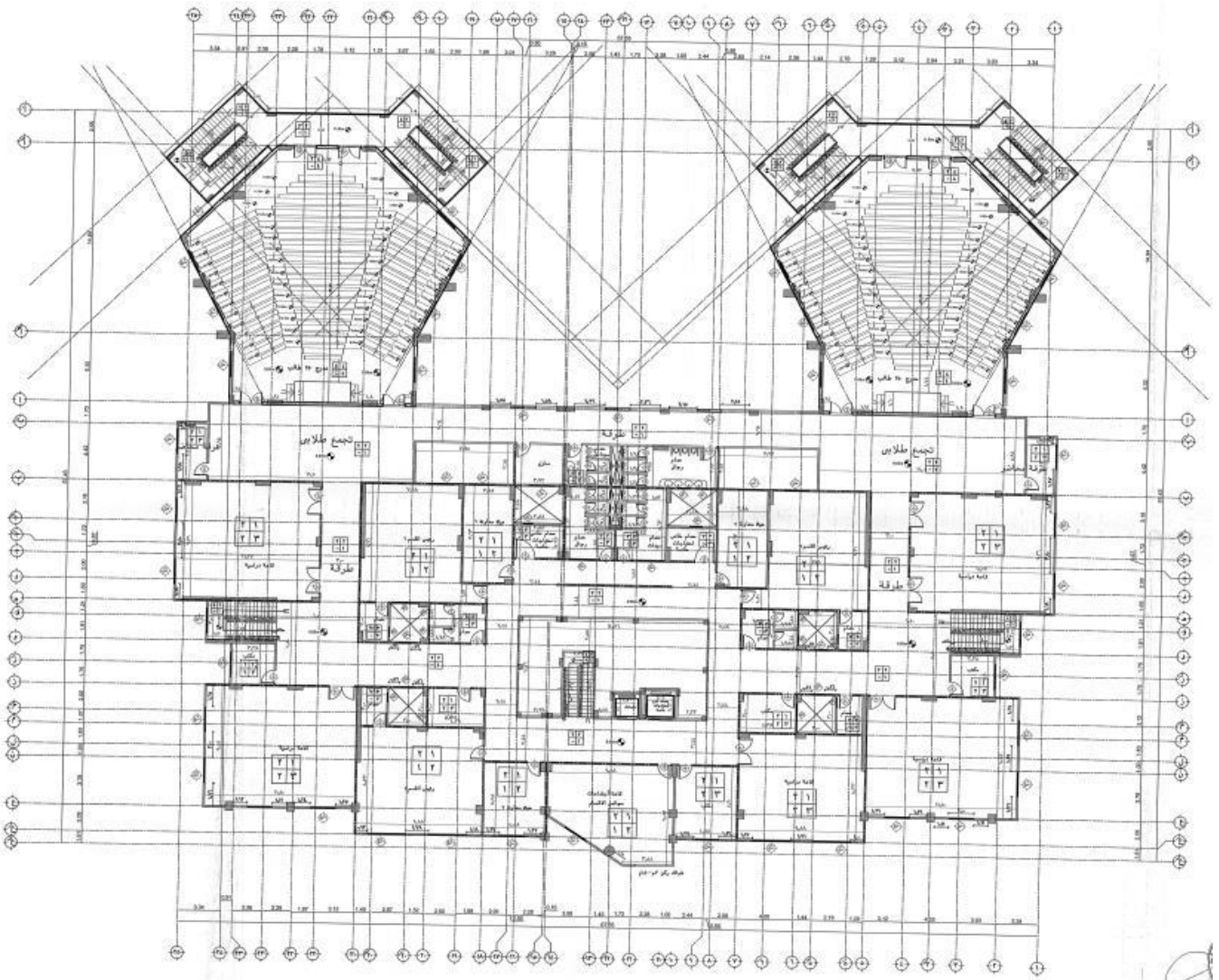


Fig 26 Second Floor

These mistakes were found by analyzing the first second's design considering the fundamental requirements that must be fulfilled:

- 1- Not providing places for chairs in the main lecture halls on the second floor.
- 2- Wheelchairs cannot enter the stands from behind.
- 3- The dimensions of the bathrooms do not conform to the standard dimensions required for wheelchair movement.
- 4- The walls in the autism therapy rooms don't have hues that correspond to the patient's primary color, which is blue.
- 5- Not using the guiding signs on the floors to facilitate the movement of the blind and guide them in the right direction.

6-5 Application of requirements and standards on the third-floor level:

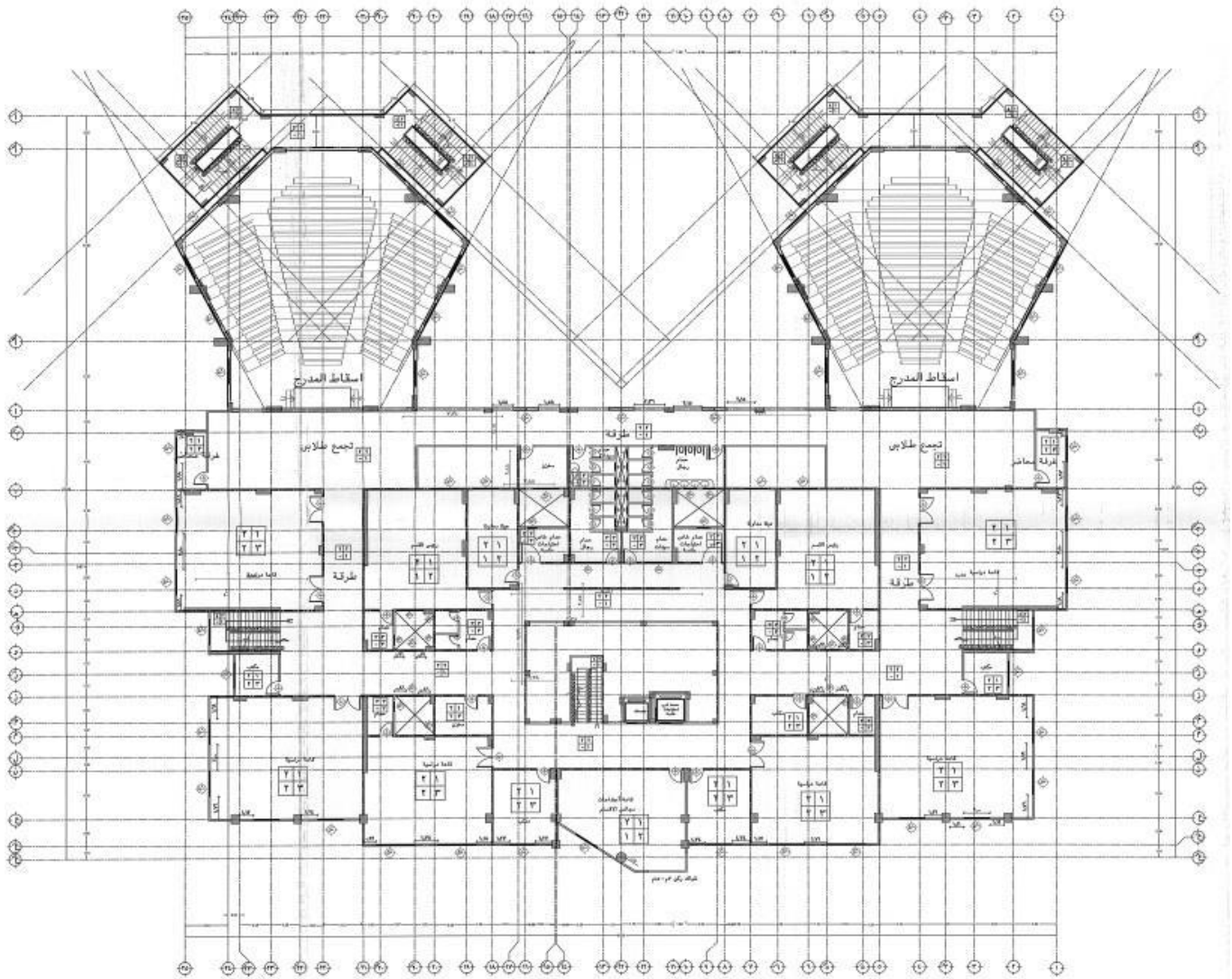




Fig 27 Third Floor

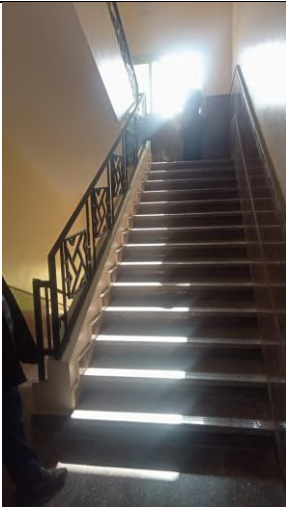

These mistakes were found by analyzing the first Third's design considering the fundamental requirements that must be fulfilled:




- 1- Not providing places for chairs in the main lecture halls on the Third floor.
- 2- Wheelchairs cannot enter the stands from behind.
- 3- The dimensions of the bathrooms do not conform to the standard dimensions required for wheelchair movement.
- 4- The walls in the autism therapy rooms don't have hues that correspond to the patient's primary color, which is blue.
- 5- Not using the guiding signs on the floors to facilitate the movement of the blind and guide them in the right direction.

7-Evaluation of the project's design requirements' implementation as a percentage of compliance:

As the designer ignored the primary requirements that must be met in public buildings for the ease of use by people with special needs, making it difficult for them to use the building without assistance, the building did not consider the design requirements for people with special needs and did not achieve the necessary considerations for the use of users. None of the requirements stipulated in the Egyptian code were applied for people with special needs.

Space	Analysis of the current situation/ criticism	Percentage of standards	renovation
Entrances	<p>The entrances are not easily accessible for the disabled and are spread out at different locations, so the person with a disability must exert some effort to get from one entrance to the other.</p> 	40%	<p>-60% of the main entrances must be accessible in cases when it is technically impossible to make all of them accessible.</p> <p>-There is no polite space in front of the entrance to facilitate the movement of the handicapped and not to study the level of the sidewalk</p> <p>- There is no sign prohibiting parking in front of the entrance either, to facilitate the movement of the disabled</p>
Ramps	<p>Ramps must be at direct contact points to facilitate movement for the disabled, and also equipped for use, and of a width that respects the Egyptian Code for the Disabled.</p> 	40%	<p>The maximum Renovation Permissions 140 Facility Accessibility Design Standards running slope for a ramp may be decreased to the OBC requirement in areas where a 1 in 20 (5%) slope cannot be accomplished, although it should be as mild as feasible, The landing size may be decreased to at least 1670 mm × 1670 mm in areas where it is logistically impossible to offer 2500 mm x 2500 mm landings at the top, bottom, and at 180 degree turns.</p> <p>- There is no ramp handle for the handicapped to hold onto when going uphill</p>

Stairs		%50	<p>Guards are required on both sides of a stair where the elevation change is greater than 600 mm.</p> <p>-The width of the ladder is large, and it must be divided to increase the flexibility of movement</p>
elevator	The width of the elevator door does not fit with the arrangement identical to the arrangement of the original value or the elevator cabin	%30	<p>The present elevator door may be left in place if it offers a clear width of less than 915 mm but not less than 860 mm and cannot be modified, and Existing elevators that don't have the necessary cab size and can't be modified are allowed to stay in place.</p>
Educational halls	<p>The levels in the halls are not designed to facilitate the movement of people with disabilities inside the space, or even entry and exit</p> 	20%	<p>There must be at least 10% but no less than one accessible fixed seat, table, study carrel, and checkout area in any space where 50% of the furniture and fixtures are inaccessible. Computer catalogues must be available to at least 50% of users.</p> <p>- The distance between the stands is not designed to serve the disabled</p>

Paths dimension	<p>The width of the corridor should allow the wheelchairs of the handicapped to pass without impeding any flexibility in the movement of other students</p> 	20%	<p>The result of a seamless network of corridors, some of which extend continually around the building's perimeter and others which are limited to the main squares with easy access, Considering the corridor widths(in/out) specified in the code for the disabled.</p>
Setting area		%20	<p>Where logistically infeasible to offer a 2500 mm clear turning circle behind an accessible seat, the clear floor space can be decreased to 1500 mm clear turning circle, behind the accessible seat.</p>
toilets		10%	<p>Where providing vertical grab bars on either side of the urinal is technically impossible, a horizontal grab bar raised no higher than 1200 mm from the ground can be installed.</p>



parking		%40	The necessity to have accessible waiting areas means that they are fitted with a parking sensor system, directional signage, and non-slip paved pathways
doors	<p>Not paying attention to opening doors at all levels inside the building and doors width.</p> 	%50	the clear door width is permitted to be reduced to a minimum of 860 mm; The landing size is allowed to be reduced to 1670 mm x 1670 mm in locations where it is technically impossible to provide 2500 mm x 2500 mm landings where doors swing onto the landing. If the door opens onto the ramp or away from the ramp, an additional 600 mm beyond the latch side of the door must be added.

table 1 Analysis of the current situation

8- Discussion

The world has been interested in establishing design criteria and standards for buildings to enable those with special needs to use those structures without assistance, but the implementation of these criteria and standards requires greater awareness among architects of the significance of applying them due to the rise in the proportion of people with special needs in societies, especially developing and poorer societies, as in many The current tendency is to renovate all architectural buildings with all the standards that enable the use of the handicapped. Sometimes operationally successful buildings are designed, but the handicapped category is ignored from the optimum use of the building. Although the College for People with Special Needs is a public building dedicated to this category of society, it did not take into account the application of the design standards stipulated in

the Egyptian code or the international code. Therefore, it is imperative to review the application of the standards for people with special needs before granting building permits to ensure the commitment of the designer. Architects with these standards must be applied in public buildings.

9- Conclusions

After studying and analyzing the building in accordance with the Egyptian Code for the Disabled, it was found that there is a lot of default on the design and functional level in applying these special standards.

In terms of modern mechanical technologies, the building lacks everything that makes life easy for the use of all spaces, both inside and outside the building

In view of what has been achieved in the world to many applications and modern technologies for all types of disabilities, each according to what is appropriate to it, the sure solution is to make sustainable smart buildings the future of architecture, and in particular users with disabilities.

In general, in public places and buildings, necessary precautions must be taken, and standards observed so that physically challenged persons such as wheelchair users, visually or hearing-impaired persons, and the like; In order to achieve this, architects have to apply design standards so that we can create a fairly built environment for all and people with disabilities can contribute to society

10- Recommendations

The study suggests that architects be given training on the significance of adhering to design standards and requirements, including them as texts within the articles of the building law, linking the granting of building permits by applying them to architectural designs, and giving them a degree no less important than applying fire or safety requirements. It also suggests that they be reviewed by a competent authority that is no less important than the structural review of the building.

-The role of the architect is to choose components and technologies that will best improve the quality of life for people with disabilities, Therefore, it is crucial to understand all of his wants and goals in order to use Egyptian architects on these applications as a new design tool for our Egyptian community.

- Caring for the disabled leads to refining their lives and raising their self-confidence by providing all modern services that make them self-reliant in practicing their normal lives.
- the requirement for developing training programmed for architects Their understanding of the architectural specifications for all types of structures for the disabled.
- Increasing academic institutions' involvement in the study of research multidisciplinary approach to architecture and medicine research initiatives that benefit this societal area.
- Create committees in charge of creating and maintaining design component spaces for the disabled to guarantee their quality and continuation in a way that satisfies that category, while awarding institutions of higher learning certifications of international standards devoid of structural barriers.
- ensuring that international engineering conferences are organized to learn about the most recent approaches and experiences for buildings for the disabled around the world, as well as inviting businesses specialized in disseminating contemporary and scientific materials and techniques applied to those buildings' components.

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