

All objections and/or suggestions to the said draft Regulations may be forwarded to the Chief Town Planner (Administration), Town and Country Planning Department, 2nd Floor, Dempo Tower, Patto Plaza, Panaji, Goa, before the expiry of the said period of 30 days so that they may be taken into consideration at the time of finalization of the said draft Regulations.

DRAFT REGULATIONS

In exercise of the powers conferred by sub-sections (1) and (2) of section 4 of the Goa (Regulation of Land Development and Building Construction) Act, 2008 (Goa Act 6 of 2008) and all other powers enabling it in this behalf, the Government of Goa hereby makes the following regulations so as to further amend the Goa Land Development and Building Construction Regulations, 2010, namely:—

1. *Short title and commencement.*— (1) These regulations may be called the Goa Land Development and Building Construction (Amendment) Regulations, 2021.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. *Amendment of regulation 2.*— In regulation 2 of the Goa Land Development and Building Construction Regulations, 2010 (hereinafter referred to as the “principal Regulations”),—

(i) in clause (17), for the expression “Fire and Life Safety as per National Building Code 2005”, the words “Part 4 of the National Building Code of India 2016” shall be substituted;

(ii) in clause (20A), for sub-clause (h), the following sub-clause shall be substituted, namely:—

“(h) “High Rise Building” means a building 15 meters or above in height (irrespective of its occupancy);”;

(iii) for clause (66), the following clause shall be substituted, namely:—

“(66) “Fire resistant materials” means and includes those materials serving appropriate fire resistance rating as per the relevant provisions of National Building Code of India, 2016 as amended from time to time and relevant Bureau of Indian Standards (BIS) Codes.”;

(iv) clause (77) shall be omitted;

(v) after clause (86), the following clause shall be inserted, namely:—

“(86A)” National Building Code of India, 2016” means the National Building Code of India, 2016 as amended from time to time;”.

3. *Amendment of regulation 3.6.2.*—In regulation 3.6.2 of the principal Regulations, for clause (c), the following clause shall be substituted, namely:—

“(c) In case of the buildings specified in regulation 15.2.1, No Objection Certificate from the Director of Fire and Emergency Services shall be obtained by the owner before applying for Construction License to the Local Authority.”.

4. *Amendment of regulation 3.11.*— In regulation 3.11 of the principal Regulations, for clause (b), the following clause shall be substituted, namely:—

“(b) Clearance from the Directorate of Fire and Emergency Services before issue of Occupancy Certificate shall be required for the buildings specified in regulation 15.2.1.”.

5. *Amendment of regulation 6A.5.*— In regulation 6A.5 of the principal Regulations, for clause (2), the following clause shall be substituted, namely:—

“(2) In case of building on stilts or building with basements, the height of the building shall be measured from the top of

the stilts/basement. However, in case of High Rise Building, the height of the building shall be measured from the ground, the Fire and Life Safety Regulations as per Part 4 of the National Building Code of India 2016 shall be applicable.”.

6. *Amendment of regulation 13.10.*— In regulation 13.10, of the principal Regulations, in clause (b), item (iii) shall be omitted.

7. *Amendment of regulation 13.11.*— In regulation 13.11, of the principal Regulations, for clause (c), the following clause shall be substituted, namely.—

“(c) The requirements for installation of Lifts, Escalators and Moving Walks shall be as per provisions of part 8 of the National Building Code of India 2016.”.

8. *Amendment of regulation 14.1.5.*— In regulation 14.1.5, of the principal Regulations, for the letters “50”, the letters “24” shall be substituted.

9. *Amendment of regulation 14.3.3.*— In regulation 14.3.3 of the principal Regulations,—

(i) for the expression, “in plots having area of more than 4000 sq. meters and having “40”, the expression “having 24” shall be substituted;

(ii) the expression “Provision of Material Recovery Facility and Sanitary Incinerator shall be made in group housing schemes/ /complexes having more than 50 flats/ /residential units.” shall be added at the end.

10. *Substitution of regulation 15.*— For regulation 15 of the principal Regulations, the following regulation shall be substituted, namely:—

“15. *Fire and life safety requirements:*

15.1.1. *General Provisions:*— Buildings specified in regulation 15.2.1 shall be planned, designed and constructed to

ensure adequate fire safety of the buildings, property and inhabitants and this shall be carried out in accordance with the provisions of Part 4 of the National Building Code of India, 2016 except clauses 3.2 and 3.4.4 thereof and any other provisions of the fire safety made in these regulations. Fire Fighting requirement arrangement and installations required in the building shall also be as per the provisions of the Part 4 of the National Building Code of India, 2016. All the technical terms shall have the meaning as defined in Part 4 of the National Building Code of India, 2016 except the terms which are defined in these regulations.

15.1.2 Notwithstanding anything contained in regulation 4.2. (g) and 4.4.2 for high rise buildings, the following provisions of means of access and open spaces (setbacks) shall be ensured:

(a) The width of the main street on which the building abuts shall not be less than 12 meters;

(b) The approach to the building and open spaces on all its sides shall be not less than 6 meters in width, the layout for the same shall be done to the satisfaction of the Directorate of Fire and Emergency Services and the open space shall be of hard surface capable of taking the mass of fire engine weighing up to 45 tonnes. A turning radius of atleast 9 meters shall be provided for movement of fire service vehicles. The said open space shall be kept free of obstructions and shall be motorable, further no projections shall be allowed in the said open spaces. In case of buildings with no side set backs or setbacks with 1.5 meters or less, a clear height of atleast 5 meters shall be maintained below the bottom of lowest structural member and the open space as aforesaid shall be made available through the building on all sides for movement of fire service vehicles.

(c) The main entrance of the plot shall be of adequate width to allow easy access

to the fire service vehicles and in no case it shall measure less than 6 meters. The entrance gate shall fold back against the compound wall of the premises, thus leaving the exterior access way within the plot free for movement of fire service vehicle. If the main entrance at the boundary wall is built over, the minimum clearance shall be 5 meters.

15.2. Requirement for Fire Dept Clearance:—

15.2.1. The NOC from Director, Directorate of Fire and Emergency Services shall be obtained by the Owner/Developer before applying for construction license to the local authority and also before applying for occupancy certificate to local authority in case of,—

(a) high rise buildings; and

(b) special building such as (i) hotel, educational, institutional, business, mercantile, industrial, storage, hazardous and mixed occupancies, where any of these buildings have floor area more than 500 square meter on any one or more floors;

(ii) educational building having height of 9 meters or above;

(iii) institutional building having height of 9 meters or above;

(iv) assembly building;

(v) building, having area more than 300 square meter of incidental assembly occupancy on any floor; and

(vi) building with two basements or more, or with one basement of area more than 500 square meters.

15.2.2. Above buildings shall be as per Part 4 of the National Building Code of India, 2016.

15.2.3. Any alterations/modifications/renovation for floor area exceeding 500 square meters for all high rise buildings shall also require No Objection Certificate

from Director, Directorate of Fire and Emergency Services (DFES) before applying for license to the local authority.

15.3. Records, documents, application forms, fees, fire drills and appointment of fire officer at the premises, if any, shall be as specified by the Directorate of Fire and Emergency Services for issue of Clearance (NOC).

15.4. Classification of Buildings Based on Occupancy:

15.4.1. All buildings, whether existing or hereafter erected shall be classified according to use or the character of occupancies in the following groups:

Group	Occupancy
Group A	Residential
Group B	Educational
Group C	Institutional
Group D	Assembly
Group E	Business
Group F	Mercantile
Group G	Industrial
Group H	Storage
Group J	Hazardous

15.4.2. The above classification of buildings is for the purpose of Fire and Life Safety and the same is as per clause 3.1.1 of Part 4, of the National Building Code of India, 2016. The details of each occupancy and example of buildings in each group are as per clause 3.1.2 to 3.1.10 and Mixed occupancy if any shall be as per clause 3.1.1.2 and 3.1.11 of Part 4 of the National Building Code of India, 2016.

15.5. *Fire Resistance of various Types of Construction/Building Components:—* The minimum fire resistance ratings of structural and non-structural members for various types of construction shall be as specified in clause 3.3, of Part 4 of the National Building Code of India, 2016 and to the satisfaction of the Directorate of Fire and Emergency Services.

15.6. *Glazing*:— The glazing shall be in accordance with provisions contained in section 8 of Part 6 of the National Building Code of India, 2016. The entire glazing assembly shall be rated to the type of construction as given in Table I as specified in clause 3.4.1 of Part 4 of the National Building Code of India, 2016. The use of glass shall not be permitted for enclosures of exits and exit passageway.

15.7. *Glass facade*:— Glass facade shall be in accordance with clause 3.4.10.2 of Part 4 of the National Building Code of India, 2016.

15.8. *Occupant Load*:— 15.8.1. For determining the exits required, the number of persons within any floor area or the occupant load shall be based on the actual number of occupants declared, but in no case less than that specified in Table XXI. The occupant load of a mezzanine floor discharging to a floor below shall be added to that floor occupancy and the capacity of the exits shall be designed for the total occupancy load thus established.

15.8.2. The occupant load of each storey considered individually shall be required to be used in computing the number of means of egress at each storey, provided that the required number of means of egress is not decreased in the direction of egress travel.

15.8.3. The capacity of any open mezzanine/balcony shall be added to the capacity of the floor below for the purpose of determining exit capacity.

15.8.4. The assembly occupancies and call centres shall be required to display, limiting occupant load details positioned in a conspicuous place near the entrance of each of such respective occupancy to avoid possible overcrowding and overloading to the satisfaction of the Directorate of Fire and Emergency Services. The display shall preferably be engraved on a metal plate of not less than 300 mm X 200 mm. with letters of height and width

not less than 50 mm. with detail of occupancy, area and occupancy load (see Sketch No. 10.).

TABLE-XXI
Occupant Load

Sr. No.	Group of Occupancy	Occupant Load Factor (m ² /person) (See Note 1)
1	Group A: Residential	12.50
2	Group B: Educational	4.00
3	Group C: Institutional (see Note 2)	
	a) Indoor patients area	15.00
	b) Outdoor patients area	10.00
4	Group D: Assembly:	
	a) Concentrated use without fixed seating	0.65
	b) Less Concentrated use without fixed seating (see Note 3)	1.40
	c) Fixed Seating	See Note 4
	d) Dining areas and restaurants with seating and table	1.80
5	Group E: Business	10.00
6	Group F: Mercantile	
	a) Street floor and sales basement	3.00
	b) Upper sale floors	6.00
	c) Storage/warehouse and the like	20.00
6	Group G: Industrial	10.00
7	Group H: Storage (see Note 5)	30.00
8	Group J: Hazardous	10.00

Notes:

(1) Gross area shall be the area of the floor within the inside perimeter of the outside walls of the floor of the building under consideration with no deductions for corridors and passage-ways, stairs, closets, thickness of interior walls, columns, lifts and building shafts or other features. However the proponent may consider the area including the outside wall thickness, if he so desires. All factors expressed are in gross area unless marked net.

(2) Occupant load in dormitory portions of homes for the aged, orphanages, insane asylums, etc., where sleeping accommodation is provided, shall be calculated at not less than 7.5 m² gross floor area per person.

(3) These shall include gymnasium, table tennis room, billiard room and other gaming rooms, library, swimming pool and like.

(4) In case of assembly occupancy having fixed seats, the occupant load shall be determined by multiplying the number of seats by 1.2.

(5) Car parking areas under occupancy other than storage shall also be 30 square meter per person.

15.9. *Exit Requirements:*—

15.9.1. Every building meant for human occupancy shall be provided with exits sufficient to permit safe escape of occupant, in case of fire or other emergency as per clauses 4.2 to 4.4.2.5 of Part 4 of the National Building Code of India, 2016/this part of regulations.

15.9.2. *General Requirements:*

The following general requirements shall apply to exits.—

(a) Unless otherwise specified, lifts, escalators, moving walks and revolving doors shall not be considered as exits and shall not constitute any part of the required exit.

(b) Every exit, exit passageway and exit discharge shall be continuously maintained free of all obstructions or impediments to full use in the case of fire or other emergency.

(c) Every building having human occupancy shall be provided with exits sufficient to permit safe egress of occupants in case of fire or other emergency.

(d) In every building or structure, exits shall comply with the minimum requirements of this Part of regulations, except those not accessible for general public use.

(e) No building shall be so altered as to reduce the number, width or protection of exits to less than that required.

(f) For non-naturally ventilated areas, fire doors with 120 minutes fire resistance rating shall be provided and particularly at the entrance to lift lobby and stair well where a 'funnel or flue effect' may be created, inducing an upward spread of fire, to prevent spread of fire and smoke.

(g) Exits shall be so arranged that they may be reached without passing through another occupied unit/passage in others control, if they pose challenge or restriction in means of egress.

(h) Doors in exits shall open in the direction of exit. In case of Group D Assembly Buildings and Group C Institutional Buildings (Subdivision C-1 Hospitals and sanatoria), exit door shall not open immediately upon a flight of stair and all such entries to the stair shall be through a landing, so that such doors do not impede movement of people descending from a higher floor when fully opened (see Sketch No. 8A). While for other occupancies, such doors shall not reduce the pathway in the landing by more than half the width of such staircase (see Sketch No. 8B). Overhead or sliding doors shall not be installed.

(i) At least half of the required exit stairs from upper floors (rounded to the next higher number) shall discharge directly to the exterior or through exit passageways.

(j) Unless otherwise specified, all the exits and exit passageways to exit discharge shall have a clear ceiling height of at least 2.4 meter. However, the height of exit door shall be at least 2.0 meter (see Sketch No. 9.)

(k) Where changes in elevation of more than 300 mm are encountered in the exits, ramps or sloped surfaces shall be used with handrails and floor finish materials that contrast with the adjacent finish materials.

(l) The capacity of the means of egress required from any storey of the building shall not be reduced along the path of egress travel until arrival to the exit discharge.

(m) The lifts, escalators, moving walks, turnstiles and revolving doors shall not be considered in determining the required capacity of means of egress for the individual floors or the building.

(n) Turnstiles or similar devices that restrict travel to one direction or that are used to restrict unauthorized entry shall not be so placed as to obstruct any required means of egress. Alternative door openings of required exit width shall be available within 3 meter of such devices, if installed.

(o) Suitable means shall be provided so that all access controlled exit doors, turnstiles, boom barriers and other such exits shall automatically operate to open mode during emergencies like fire, smoke, acts of terrorism, etc, so that people can safely and quickly egress into safe areas outside. If required, a master controlling device may be installed at a strategic location to achieve this.

(p) Penetrations into and openings through an exit are prohibited except those necessary like for the fire protection piping, ducts for pressurization and similar life safety services. Such openings as well as vertical passage of shaft through floors shall be protected by passive systems.

(q) Walking surfaces in exit access shall comply with the following requirements for smooth exit:—

(i) Walking surfaces shall be nominally levelled.

(ii) The slope of walking surface in the direction of travel shall not exceed 1 in 20 unless the ramp requirements are met.

(iii) Slope perpendicular to the direction of travel shall not exceed 1 in 48.

(iv) Walking surfaces shall be slip resistant along the entire path of travel.

15.9.3. *Number of Exits:* The minimum required number of exits in a building shall be determined based on occupant load (see Table XXI as specified in regulation 15.8.1) and width required per person (see Table XXII as specified in regulation 15.9.5) as appropriate to the type of exit for respective

occupancies, subject to complying with maximum travel distance requirement (see Table XXIII as specified in regulation 15.9.6).

15.9.4. *Arrangement of Exits:*—

(a) Exits shall be so located that the travel distance on the floor shall not exceed the distance given in Table XXIII as specified in regulation 15.9.6.

(b) Travel distance shall be measured from the most remote point within a storey or a mezzanine floor along the natural and un-obstructed path of horizontal or vertical egress travel to the door to an exit.

(c) The dead end corridor length in exit access shall not exceed 6 meters for educational, institutional and assembly occupancies. For other occupancies, the same shall be 15 meter (see Sketch No. 11.).

(d) Exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate directions from any point in the area served.

15.9.5. *Capacity of Exits:*—

(a) Exit capacity is the number of people that can pass through a stairway, level components (door and corridor) and ramps. The total capacity of all the respective means of egress serving a floor shall be sufficient to allow egress of the entire population of the floor.

(b) The unit of exit width, used to measure the capacity if any exit, shall be 500 mm. A clear width of 250 mm. shall be counted as an additional half unit. Clear width less than 250 mm. shall not be counted for exit width.

(c) Width per person for stairways, level components and ramps shall be determined using the capacity factors in accordance with Table XXII.

Note: If an exit doorway measures 1,000 mm in clear width, it would be defined as

providing exit capacity for 1,000/6.5 occupants, that is, 153 persons (say 150 persons) and number of such exit doorways can then be calculated depending on the occupant load.

TABLE-XXII
Capacity Factors

Sr. No.	Occupancy Group	Width per Person mm	
		Stairways	Level Components and Ramps
1	Residential (Group A)	10	6.5
2	Educational (Group B)		
3	Institutional (Group C)	15	13
4	Assembly (Group D)	10	6.5
5	Business (Group E)		
6	Mercantile (Group F)		
7	Industrial (Group G)		
8	Storage (Group H)	18	10
9	Hazardous (Group J)		

(d) When calculating stairways, level components and ramps and other exit means, the capacity of the entire system shall have to be based upon the minimum capacity available from any part of the system. The corridor, if so provided shall also to be planned with consideration of exit access adequacy for the number of occupants. Further, the situation of doors opening to an exit stairway shall be considered. If the stairway provides an exit capacity of 150 persons, and the doors leading into the stairway provide an exit capacity of 153 persons, the overall exit system would be considered to provide the minimum exit capacity of only 150 persons afforded by the stairway. The exit planning will be limited by the most restrictive exit calculation under the means of egress.

(e) In the procedures for determining required egress capacity, the number of required means of egress is based on a floor-by-floor consideration, rather than the accumulation of the occupancy loads of all the floors. However, the number of

means of egress cannot decrease as an occupant proceeds along the egress path.

15.9.6. *Types of Exit access and exits:* Various types of exit access and exits are doorways, corridors and passageways, horizontal exits, internal staircases, exit passageways, external staircases and ramps.

TABLE-XXIII

Travel Distance (Based on Occupancy and Construction Type)

Sl. No.	Occupancy Group	Maximum Travel Distance (m)	
		Types 1 and 2	Types 3 and 4
1	Residential (Group A)	30.00	22.50
2	Educational (Group B)	30.00	22.50
3	Institutional (Group C)	30.00	22.50
4	Assembly (Group D)	30.00	30.00
5	Business (Group E)	30.00	30.00
6	Mercantile (Group F)	30.00	30.00
7	Industrial (Group G)		
	G-1, G-2	45.00	See Note c
	G-3	22.50	
8	Storage (Group H)	30.00	
9	Hazardous (Group J)	22.50	

Notes:

(a) For fully sprinklered building, the travel distance may be increased by 50 percent of the values specified.

(b) Ramp shall not be counted as an exit in case of basements below the first basement in car parking.

(c) Construction of Type 3 or Type 4 is not permitted.

15.9.7. *Doorways:—*

(a) Every exit doorway shall open into an enclosed stairway or a horizontal exit of a corridor or passageway providing continuous and protected means of egress (see Sketch No. 12. on unaccepted arrangement of doors in a stair).

(b) No exit doorway shall be less than 1,000 mm in width except assembly buildings, where door width shall be not less than 2,000 mm (see Sketch No. 13.). Doorways shall not be less than 2,000 mm in height (Doorway for bathroom, water closet etc. shall not be less than 750 mm. in width. However in case of disabled friendly, the door widths in case of toilets shall be as specified in Rights of Persons with Disabilities Rules, 2017 as amended from time to time, and for other uses they shall be 1000 mm. or as per Rights of Persons with Disabilities Rules, 2017 whichever is higher).

(c) Exit doorways shall be operable from the side which they serve, without the use of a key.

(d) Mirrors shall not be placed on exit doors and in exits to avoid confusion regarding the direction of exit.

(e) Revolving doors can be accepted as a component in a means of egress where the following requirements are fully complied with, namely:—

(i) Doors shall be capable of collapsing to a book fold position with parallel egress paths, of width not less than 1,000 mm.

(ii) Doors shall not be located within 3 meters of the foot or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the doors.

(iii) Each revolving door shall be provided with a hinged door in the same wall within 3 meters thereof, with same exiting capacity.

(iv) Each revolving door shall be considered as capable of exiting only 50 persons.

(f) All fire rated doors and assembly shall be provided with certificate and labels prominently indicating the manufacturer's identification, door details covering door type, serial/batch number,

month and year of manufacture, fire resistance rating, etc. The doors and assembly shall be certified with all prescribed hardware such as hinges, locks, panic bars, door closer and door viewers.

(g) Access controlled doors – Access controlled doors and electromagnetic doors shall meet the following requirements, namely:—

(i) Doors shall have fire rating as per the requirements at the location of installation.

(ii) Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors in the direction of egress, and the doors shall remain unlocked until the automatic sprinkler system or fire-alarm system has been manually reset.

(iii) Loss of power to the part of the access control system that locks the doors shall automatically unlock the doors in the direction of egress.

(iv) A manual release device shall be provided in the readily accessible vicinity of the egress door with a signage 'PUSH TO EXIT' and when the same is operated, it shall result in direct interruption of power to the lock, independent of the access control system electronics.

(h) *Turnstiles.*— Turnstiles or similar devices that restrict travel to one direction or are used to collect fares or admission charges shall not be placed so as to obstruct any required means of egress unless door openings of required width are available within 3 meters thereof and they shall be disengaged through automatic or manual intervention to allow egress in the direction of exit.

(i) Doors in folding partition shall not be treated as approved means of egress.

15.9.8. *Corridors and passage ways:—*

(a) Corridors and passageways shall be of width not less than the calculated aggregate width of exit doorways leading from them in the direction of travel to the exit (see table XXII and table XXIII as specified in regulation 15.9.5 and 15.9.6 respectively.)

(b) In the case of buildings where there is a central corridor, which is part of exit access, the doors of rooms (except for rooms having assembly occupancy) shall open inwards to permit smooth flow of traffic in the corridor.

15.9.9. *Staircases:—*(I) *General:*

(A) The requirements of number of staircases shall supplement the requirement of different occupancies as per clause 6.1 to 6.9 of Part 4 of the National Building Code of India, 2016.

(B) All buildings, as specified in regulation 15.2.1 shall have a minimum of two staircases. The actual number of staircases shall comply with the requirement of 15.9.3.

(C) All exit staircases shall discharge, at the level of exit discharge, to the exit discharge, either,—

(i) directly, or

(ii) through an exit passageway,
or

(iii) through a large lobby.

(D) At least 50 percent of the staircases shall discharge as per (i) and/or (ii) above.

(E) The minimum width of tread without nosing shall be 250 mm for staircase of residential buildings. This shall be minimum 300 mm for assembly, hotels, educational,

institutional, business and other buildings. The treads shall be constructed and maintained in a manner to prevent slipping. The maximum height of riser shall be 150 mm.

(F) The number of risers shall be limited to 12 per flight. The staircases may be internal staircases or external staircases.

(G) Only enclosed staircase including its door of required fire resistance and rating shall be considered for the purpose of this part of regulations (and shall have details as per regulation 15.9.7 (f).

(II) *Internal Staircases:—* The internal staircases may be constructed with an external wall, or otherwise, and shall comply with the following requirements, namely:—

(a) Internal stairs shall be constructed of non-combustible materials throughout, and shall have fire resistant rating of minimum 120 minutes.

(b) A staircase shall not be arranged round a lift shaft.

(c) Exits shall not be used as a portion of a supply, return or exhaust air system serving adjoining areas. Any opening(s) shall not be permitted in walls or in doors, separating exits from adjoining areas.

(d) No flue chimney, electro-mechanical equipment, air conditioning units, gas piping or electrical panels shall be allowed in the stairway.

(e) Notwithstanding the detailed provision for exits in accordance with Regulations 15.8 and 15.9. The following minimum width shall be provided for staircases for respective occupancies:

- (i) Residential (A-2): 1.00 meters
- (ii) Residential (A-1, A-3 and A-4): 1.25 meters
- (iii) Residential Hotel (A-5 and A-6): 1.50 meters
- (iv) Assembly : 2.00 meters

Note:— The width of stairs may be accepted to be 1.50 meter in case of assembly occupancy having less than 150 persons.

- (v) Educational : 1.50 meters
- (vi) Institutional : 2.00 meters
- (vii) All other occupancies : 1.50 meters.

(f) A handrail shall be provided on one side of the staircase of width less than 1,500 mm, and on both sides of the staircase of width 1,500 mm and more. The projection of handrail(s) in the staircase width shall not be more than 115 mm.

(g) Handrails may project inside the measured width by not more than 90 mm.

(h) The design of staircase shall also take into account,—

(i) The minimum headroom in a passage under the landing of a staircase and under the staircase shall be 2.2 meters.

(ii) Access to exit staircase shall be through a fire door of a minimum 120 minutes fire resistance rating.

(iii) Openings if any shall have a fire rating of atleast 120 minutes. The staircase shall be pressurized/ Naturally ventilated or cross ventilated as per provisions of Table 6 of clause 4.4.2.5. of Part 4 of the National Building Code of India, 2016. For buildings having height more than 30 meters they shall have cross ventilation (through opposite/ adjacent walls or the same shall be ventilated through the corridor) or pressurized.

(iv) No living space, store or other fire risk shall open directly into staircase.

(v) The exit (including staircases) shall be continuous from refuge floors or terrace level, as applicable, to the level of exit discharge.

(vi) No electrical shafts/air conditioning ducts or gas pipes, etc., shall pass through or open in the staircases.

(vii) Lifts shall not open in staircase.

(viii) No combustible material shall be used for decoration/wall paneling in the staircase.

(ix) Beams/columns and other building features shall not reduce the head room/width of the staircase.

(x) The floor indication board, indicating the location/designated number of staircase, respective floor number and direction to exit discharge shall be placed inside the staircase, on the wall nearest to the fire door. It shall be of size not less than 300 mm x 200 mm (see Sketch No. 14.).

(xi) Individual floors shall be prominently indicated on the wall outside the staircase and facing it.

(xii) All staircases shall terminate at the level of exit discharge. The access to the basement shall be by a separate staircase.

(xiii) Scissors type staircases shall not be treated as part of exit.

(III) *Curved Stairs:*— Curved stairs shall not be treated as part means of egress. However, these may be used as part of exit access provided the depth of tread is not less than 280 mm at a point 350 mm from the narrower end of the tread and the smallest radius is not less than twice the stair width.

(IV) *External Staircases.*— The external staircases are the staircases provided on the external wall/ façade, which shall comply with the following requirements, namely:—

(a) External stairs shall always be kept in sound and usable condition.

(b) All external stairs shall be directly connected to the ground.

(c) Entrance to the external stairs shall be separate and remote from the internal staircase.

(d) Where an external staircase is provided, it shall be ensured that the use of it at the time of fire is not prejudiced by smoke and flame from openings (for example, windows, doors) in the external face of the building. Care shall be taken to ensure that no external wall or window opening opens on to or close to an external stair. If such openings exist within 3 meters from an external staircase, they shall be protected with fire rated doors/window assemblies with rating of at least 60 minutes.

(e) The external stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have minimum 120 minutes fire resistance.

(f) The light and ventilation for the staircase shall be provided from an external wall by providing openings of not less than 1/10th of the area of the staircase and such openings shall be provided at each landing stage. The openings shall have a fire rating of at least 120 minutes.

(g) No external staircase flight of steps shall be inclined at an angle greater than 45 degrees from the horizontal.

(h) External stairs shall have straight flight not less than 1,500 mm. wide.

(i) Handrails, to be provided on both sides, shall be of a height not less than 1,000 mm and not exceeding 1,200 mm. There shall be provisions of balusters with maximum gap of 150 mm.

(V) *Spiral Stairs:*—The use of spiral staircase shall be limited to low occupant load and to a building not exceeding 9m in height. A spiral staircase shall be not less than 1,500 mm. in diameter and shall be designated to give adequate headroom.

15.9.10. Ramps:— (a) In addition to the provisions contained in clause 6 of Part 4 of the National Building Code of India, 2016, ramps shall comply with all the applicable requirements for staircases regarding enclosure, capacity (see Table XXII as specified in regulation 15.9.5) and limiting dimensions.

(b) The slope of a ramp shall not exceed 1 in 12 (8 percent).

(c) Ramps shall be surfaced with approved slip resistant materials that are securely attached. No perforations are permissible on the ramp floors.

(d) Any changes in travel direction in ramp shall be preceded by landings of 1.5 meters x 1.5 meters size.

(e) Ramps and intermediate landings shall continue with no decrease in width along the direction of egress travel.

(f) Outside ramps and landings shall be designed to minimize water accumulation on their surfaces.

(g) Ramps shall have landings located at the top, at the bottom, and at doors opening onto the ramp.

(h) Every landing shall be not less than 1,500 mm long in the direction of travel.

(i) Where the ramp is not part of an accessible route, the ramp landings shall not be required to exceed 1,250 mm in the direction of travel, provided that the ramp has a straight run.

(j) Handrails shall be provided on all ramps on both sides (see regulation 15.9.9 (IV) (i)).

(k) The minimum width of vehicular ramp to basement shall be 3.60m wide, at least two ramps shall be provided, located preferably at opposite ends and the maximum gradient of vehicular ramp shall be 1 in 8 (12.5%).

NOTE: Above requirements at (a) to (j) shall not be applicable to basement car parking ramps.

15.10. *Fixed Fire Fighting Installations.*— These shall be provided in all buildings depending upon the occupancy use and height in accordance with the provisions of clause 5 of Part 4 of the National Building Code of India, 2016.

15.11. *Miscellaneous.*— Wherever applicable, Lightning protection of buildings, Compartmentation, Smoke Control, and Additional Occupancy Wise Requirements shall be as per clause 3.4.6.5, 4.5, 4.6 and 6 of Part 4 of the National Building Code of India, 2016. Fire Requirements for Basement and Building Services shall be as per Annexure-III, 27.III. Lightning Protection shall be required for buildings specified in regulation 15.2.1 and also for buildings having Ground or Stilt + 2 floors or more, or for buildings having height 9 meters and above when measured from adjoining Ground. Lightning protection of building shall be installed to the satisfaction of the Electricity Department.”.

11. *Substitution of regulation 16.*— For regulation 16 of the principal Regulations, the following regulation shall be substituted, namely:—

“16. *Facilities for the Persons with Disabilities and elderly persons.*—

16.1. All buildings and recreational spaces including beaches under the occupancies listed below at (i) to (vii) which have access to the public, shall be provided with facilities for persons with disabilities and elderly persons.

(i) Assembly Building.

(ii) Business/commercial/office building/mercantile building.

(iii) Educational buildings.

(iv) Industrial buildings (Arrangement for employees with disabilities are directly related to the type of work they perform. Arrangement for persons with disabilities need not be considered in heavy manufacturing Industry. Arrangement for all persons with disabilities should be incorporated into the design of new light manufacturing factories where persons with disabilities may be employed).

(v) Institutional buildings.

(vi) Residential buildings with 24 dwelling units and more or having 2,000 sq. mts. of built up area and more, at least 20% of the number of units shall comply with the space standards and facilities as per the Harmonised Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disability and Elderly Persons.

(vii) Recreational (Playground, parks, gardens and beaches).

16.2. *The above occupancies shall provide the following facilities, namely:—*

(1) Every such building shall have easy access to the main entrance through a ramp with railing on both the sides as specified in clause (3).

(2) Every such building shall have a lift or separate approach through a ramp intended for persons with disabilities to each floor, provided that, the entrance door width for such lift shall not be less than 90 cm. and its minimum size should be 1500 mm. wide by 1500 mm. deep; wherever possible 13 passenger lift to be provided, which allows easy maneuverability of wheel chair user, also the lift should have Braille marking on buttons inside and outside on the panels.

It should have audio announcement, the lift should have railing on all three sides. In case lifts are provided with touch screen panel, there should be additional panel with physical button having Braille marking.

(3) The maximum gradient of any ramp approach intended for the persons with disabilities shall not exceed 1 in 12 (for details refer clause 7.2.2 of Harmonised Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disability and Elderly Persons) and shall be finished with non-slippery material. The minimum clear width of ramp shall be 120 cm. and provided with handrails on both sides at 80 cm. height. The slope of all such ramps shall be constant within a building as far as possible. The ramp also should carry tactile tiles as prescribed in the said Harmonised guidelines.

(4) *Entrance Landing:* Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800 mm x 2000 mm. The entrance landing that adjoins the top end of a slope shall be provided with floor materials to attract the attention of visually impaired person's (limited to coloured floor material whose colour and brightness is conspicuously different from that of the surrounding floor material or the material that emits different sound to guide visually impaired persons. Finishes shall have a non-slip surface with a texture traversable by a wheel chair. Kerbs wherever provided should blend to a common level.

(5) *Corridor connecting the entrance/exit for persons with disabilities:* The corridor connecting the entrance/exit for persons with disabilities leading directly outdoors to a place where information concerning the overall use of the specified building can be provided to visually impaired persons either by a person or by signs, shall be provided as follows:

(a) Guiding floor materials' shall be provided or device that emits sound to guide visually impaired persons should be installed.

(b) The minimum width shall be 1500 mm.

(c) In case there is a difference of level, slope ways shall be provided with maximum slope of 1:12.

(d) Handrails shall be provided for ramps/slope ways on both the sides of stair-ways.

(6) *Stair-ways:* One of the stair-ways – near the entrance/exit for the persons with disabilities shall have the following provisions:

(a) The minimum width shall be 1350 mm.

(b) Height of the riser shall not be more than 150 mm and width of the tread 300 mm. The steps shall not have abrupt (square) nosing.

(c) Maximum number of risers on a flight shall be limited to 12.

(d) Handrails shall be provided on both sides and shall extend 300 mm. on the top and bottom of each flight of steps.

(7) *Toilets General:*

(7) (a) In all public buildings, one unisex accessible toilet should be provided in each toilet block in each floor. Apart from this all toilet blocks must have one cubicle suitable for use by persons with ambulatory disabilities.

Note: (1) For small office buildings where the floor area limits the provision of accessible washrooms/toilets on each floor, one unisex accessible washroom on ground level shall be provided to serve the entire building. The unisex accessible washroom/toilet should be located adjacent to an accessible elevator.

Note: (2) Where an office building is sub-divided among various tenants, unisex accessible washroom/toilet should be provided on each floor.

(7) (b) The unisex toilet should have:-

(i) The minimum size shall be 2200 mm. x 2000 mm.

(ii) Minimum clear opening of the door shall be 900 mm. and the door shall open outward or have two way opening door or a sliding type with a sliding/horizontal pull bar at least 600 mm. long.

(iii) The layout of the fixtures in the toilet should be such that there is a clear maneuvering space of 1800 mm. x 1800 mm. in front of water closet and wash basin in the accessible toilet unit.

(iv) Centre of WC shall be located at a distance of 460 mm. to 480 mm. from the adjacent wall.

(v) There should be an adequate clear floor space of atleast 1350 mm. depth and 900 mm. width both in front and on the transfer side, adjacent to water closet.

(vi) Suitable arrangement of vertical/horizontal handrails with atleast 50 mm. clearance from wall shall be made in toilet.

(vii) The top of WC seat shall be 450-480 mm. from the floor.

(viii) At least one sink (washbasin) in each floor shall have a knee room of 70 cms. high under the sink and

(ix) Locks if any, of such toilet doors shall be of a type that can be opened from outside in case of emergency.

(7) (c) One special W.C. at each floor in a set of toilets shall be provided for the use of persons with disabilities with essential provision of washbasin near the entrance for the persons with disabilities.

(i) The minimum size shall be 900 x 2000 mm.

(ii) Minimum clear opening of the door shall be 900 mm. and the door shall open outward or have two way

opening door or a sliding type with a sliding/horizontal pull bar at least 600 mm. long.

(iii) Suitable arrangement of vertical/horizontal handrails with minimum 50 mm. clearance from wall shall be made in the toilet.

(iv) The top of W.C. seat shall be 450-480 mm. from the floor.

(v) At least one sink (washbasin) in each floor shall have a knee room of 70 cms. high under the sink and 900 mm. width both in front and on the transfer side, adjacent to water closet

(vi) Locks if any, of such toilet doors shall be of a type that can be opened from outside in case of emergency.

(8) Parking facilities:

(a) Two accessible parking lot should be provided for every 25 car parking spaces or part thereof exclusively for persons with disabilities with maximum travel distance of 30 meters from the building entrance.

(b) The width of such parking bay shall be minimum of 3.6 meters.

Specific sign boards should be available for notifying reserve parking for persons with disabilities in all building structures/recreational spaces specified in regulation 16.1.

(9) Walks and paths:

(a) Walks shall be smooth with hard level surface suitable for walking and wheeling. Avoid grates and manholes in walks. If grates cannot be avoided, then bearing bar shall be perpendicular to the travel path and opening between bars shall not be greater than 12 mm. in width.

(b) The walkway shall not cross vehicular traffic.

(10) Other Special Treatments:

(a) All obstructions and projections up to a minimum of 2.1 metre height

from the finished floor level shall be avoided.

(b) Recoil doors shall be avoided, wherever there is access to the general public

(c) Appropriate signages shall be provided at salient locations for facilitating the persons with disabilities. Graphical and simple, prominent signage as per standard requirements of colour and contrast should be provided.

(d) In the buildings meant for the predominant use of the children, it will be necessary to suitably alter the height of the handrail and other fittings and fixture etc.

Note: Whatever not specifically specified in these regulations shall be as per Harmonised Guidelines and Space Standards for Barrier Free Environment for Persons with Disability and Elderly Persons as issued by the Government of India and as amended from time to time."

11. *Substitution of Annexure-III.*— For Annexure-III of the principal regulations, the following Annexure shall be substituted, namely:—

"ANNEXURE-III

27.III.

1. Lift:

The requirements for lift shall be as per provisions of section 5 of Part 8 of the National Building Code of India, 2016.

2. Fire Lift:

The requirements for fire lift shall be as per provisions of section 5 of Part 8 of the National Building Code of India, 2016.

3. Basement: As provided under Annexure-VI at 27.VI.

3.1 Requirements:

(a) Basement exits shall be sufficient to provide for the capacity of the basement as determined in accordance with 15.9.3. In no case there shall be less than two independent basement exits.

(b) Basements having incidental occupancies to main occupancy shall be planned with exit requirements of the basements for the actual occupancy within the basement.

(c) Where basement is used for car parking and also there is direct approach from any occupancy above to the basement, door openings leading to the basement shall need to be protected with fire doors with 120 min fire rating, except for exit discharge doors from the basement.

(d) The basement shall be partitioned and in no case compartment shall be more than 500 sq. m. and less than 50 sq. m. area except parking. Each compartment shall have ventilation standards as laid down in Regulations separately and independently. The partition shall be made in consultation with the Director, Directorate of Fire and Emergency Services.

(e) The first basement (immediately below ground level) can be used for services/parking /other permissible services. Lower basement, if provided, shall exclusively be used for car parking only.

(f) Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills or breakable starboard lights or pavement lights or by way of shafts. Alternatively a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level. Inlets and extracts may be terminated at ground level with starboard or pavement lights as before. But ducts to convey fresh air to the basement floor level have to be laid. Starboard and pavement lights should be in positions easily accessible to the firemen and clearly marked "SMOKE OUTLET" or AIR INLET" with an indication of area served at or near the opening.

(g) The staircase of basement shall be of enclosed type having fire resistance of not less than two hours and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such positions that smoke from any fire in the basement shall not obstruct any exit serving the ground and upper storeys of the building and shall communicate with basement through a lobby provided with fire resisting self closing door of one hour rating. In case of basement

being used as car parking only, the travel distance shall be 45 meters.

(h) In multi-storeyed basements, intake duct may serve all basements levels, but each basement and basement compartment shall have separate smoke outlet duct or ducts. Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The system shall be of such design as to operate on actuation of smoke, heat sensitive detectors/sprinklers, if installed, and shall have a considerably superior performance compared to the standard units. It shall also have an arrangement to start it manually.

(i) Mechanical extractors shall have an internal locking arrangement so that extractors shall continue to operate and supply fans shall stop automatically with the actuation of fire detectors. Mechanical extractors shall be designed to permit 30 air changes per hour in case of fire or distress call. However, for normal operation, only 30 air changes or any other convenient factor can be maintained. (i) Mechanical extractors shall have an alternate source of power supply.

(j) Ventilating ducts shall be integrated with the structure and made out of brick masonry or RCC as far as possible and when this duct crosses the transformer area of electrical switchboard, fire dampers shall be provided.

(k) Kitchens working on gas fuel shall not be permitted in basement/sub-basement.

(l) If cutouts are provided from basement to the upper floors or to the atmosphere, all side cutout openings in the basements shall be protected by sprinkler heads at closed spacing so as to form a water curtain in the event of a fire.

(m) Dewatering pump shall be provided in all basements.

(n) Additional provisions shall apply to parking structures of the closed or open type, within buildings above or below grade as per Annex H of Part 4 of the National Building Code of India, 2016.

4. All high-rise buildings having height above 200 meters shall have provision for a Helipad on the terrace for specific requirements like landing of fire equipment and support facilities or other emergencies. The same shall be subject to approval of the Airport Authority and Structural Safety from

Indian Institute of Technology/National Institute of Technology.

5. Service Ducts/Refuse Chute:

Service Ducts/Refuse Chute shall be as per Clauses 3.4.5.4 and 3.4.5.5 of Part 4 of the National Building Code of India, 2016.

6. Electrical Services:

Electrical Services shall be as per Clause 3.4.6 to Clause 3.4.6.2 of Part 4 of the National Building Code of India.

7. Staircase and Corridor Lights:

The staircase and corridor lighting shall be as per Clause 3.4.7 to 3.4.7.2 of Part 4 of the National Building Code of India, 2016.

8. Air-Conditioning:

Air-conditioning shall be as per Clause 3.4.8 to 3.4.9 of Part 4 of the National Building Code of India, 2016.

9. Fire Dampers:

Fire Dampers shall be as per Clause 3.4.8.4 of Part 4 of the National Building Code of India, 2016.

10. Boiler Rooms:

Boiler Rooms shall be as per Clause 3.4.9.2 of Part 4 of the National Building Code of India, 2016.

11. Alternate Source of Electric Supply:

Alternate Source of Electric Supply shall be as per Clause 3.4.6.4 of Part 4 of the National Building Code of India, 2016.

12. Safety Measures in Electric Sub-Station:

Safety Measures in Electric Sub-Station shall be as per Clause 3.4.6.3 to 3.4.6.3.2 of Part 4 of the National Building Code of India, 2016.

13. Control room:

Control room/Fire Command Centre shall be as per Clause 3.4.12 of Part 4 of the National Building Code of India, 2016."

13. Amendment of Annexure-IV, 27.IV.—The ANNEXURE-IV, 27.IV of the principal Regulations shall be omitted.

14. Amendment of Annexure-VI, 27.VI.—In Annexure VI, 27.VI of the principal Regulations in clause (2),—

(i) for sub-clause (j), the following clause, shall be substituted, namely,

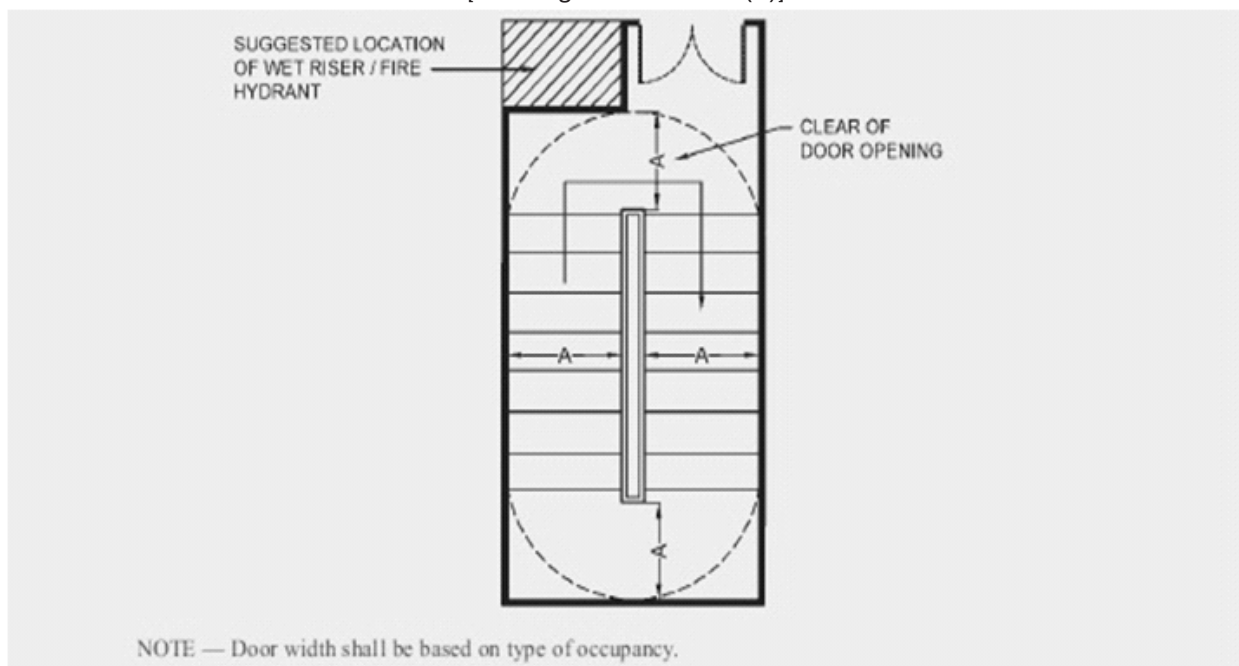
“(j) Fire and Safety requirements as applicable to each basement floor shall be as per Annexure-III, regulation 27.III.”;

(ii) sub-clause (k) shall be omitted.

15. *Amendment of Annexure-VII, 27.VII.*—In Annexure VII, 27.VII of the principal Regulations, in Clause 7.3, in sub-clause (c), for the words “Chief Fire Officer”, the expression “Director, Directorate of Fire and Emergency Services” shall be substituted.

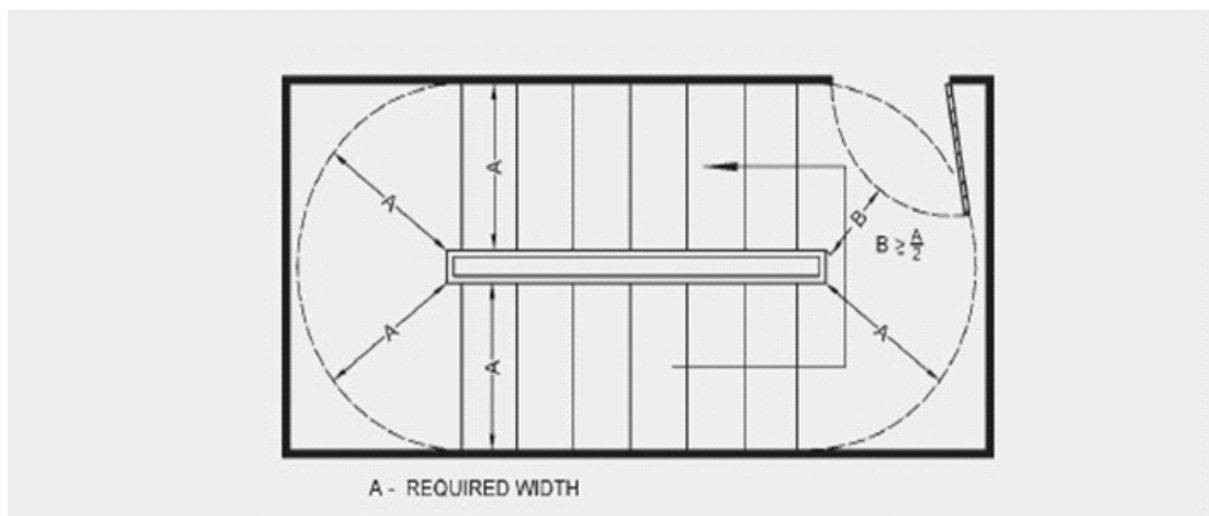
16. *Insertion of Sketches.*— After Sketch No 7 of the principal Regulations, the following sketches shall be inserted, namely:—

“Sketch No. 8.A Door Location at Landing in Fire Exits
[See Regulation 15.9.2 (h)]



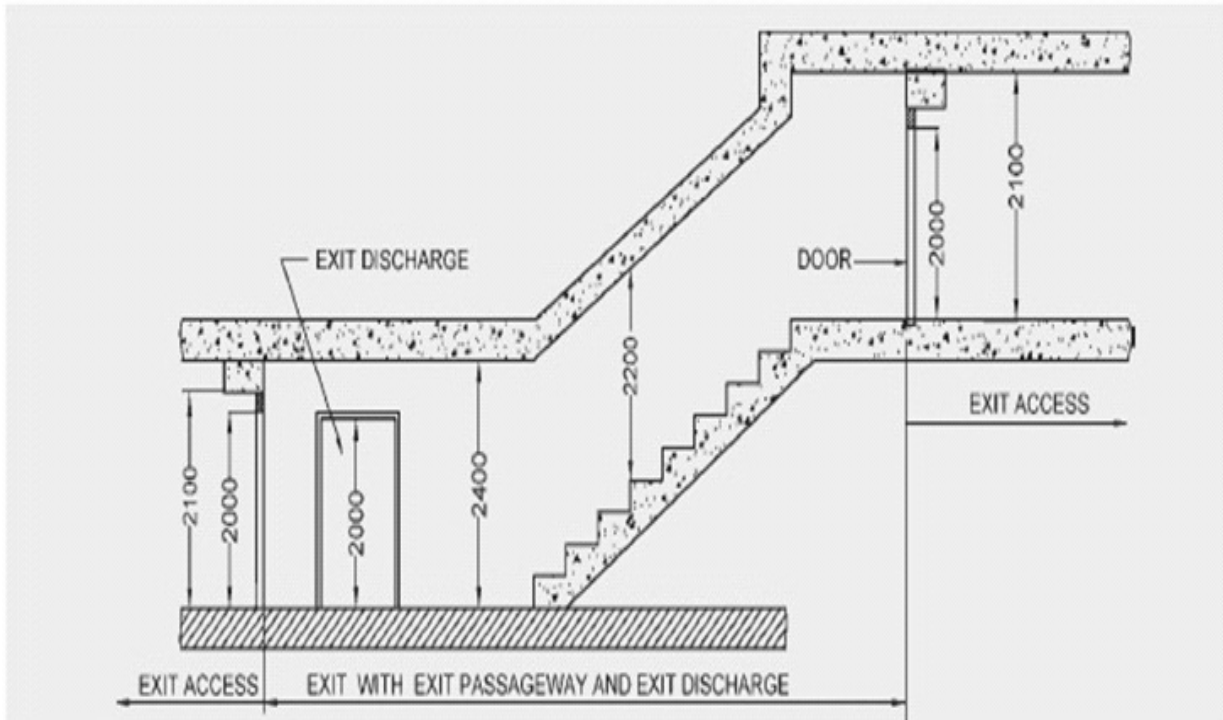
Minimum Required Unobstructed Clearance with Door Leaf Encroaching on Landing In Institutional and Assembly Buildings

Sketch No. 8B. Door location at Landing in Fire Exits (See Regulation 15.9.2 (h))



Minimum Required Unobstructed Clearance with Door Leaf Encroaching on Landing

Sketch No. 9. Minimum Head Room Measurement
(See Regulation 15.9.2 (j))



Sketch No. 10. Display Board Regarding Maximum Occupancy
(See Regulation 15.8.4)

MAXIMUM OCCUPANCY

**___ PERSONS PERMITTED
WITHIN THIS SPACE/ROOM**

IT IS CONFIRMED THAT THE FIRE EXITS
ARE PLANNED FOR EGRESS OF THE
OCCUPANCY AS MENTIONED ABOVE AND
OCCUPANCY MORE THAN THE ABOVE IS
NOT PERMITTED IN THE SPACE/ROOM AS
FOLLOWS:

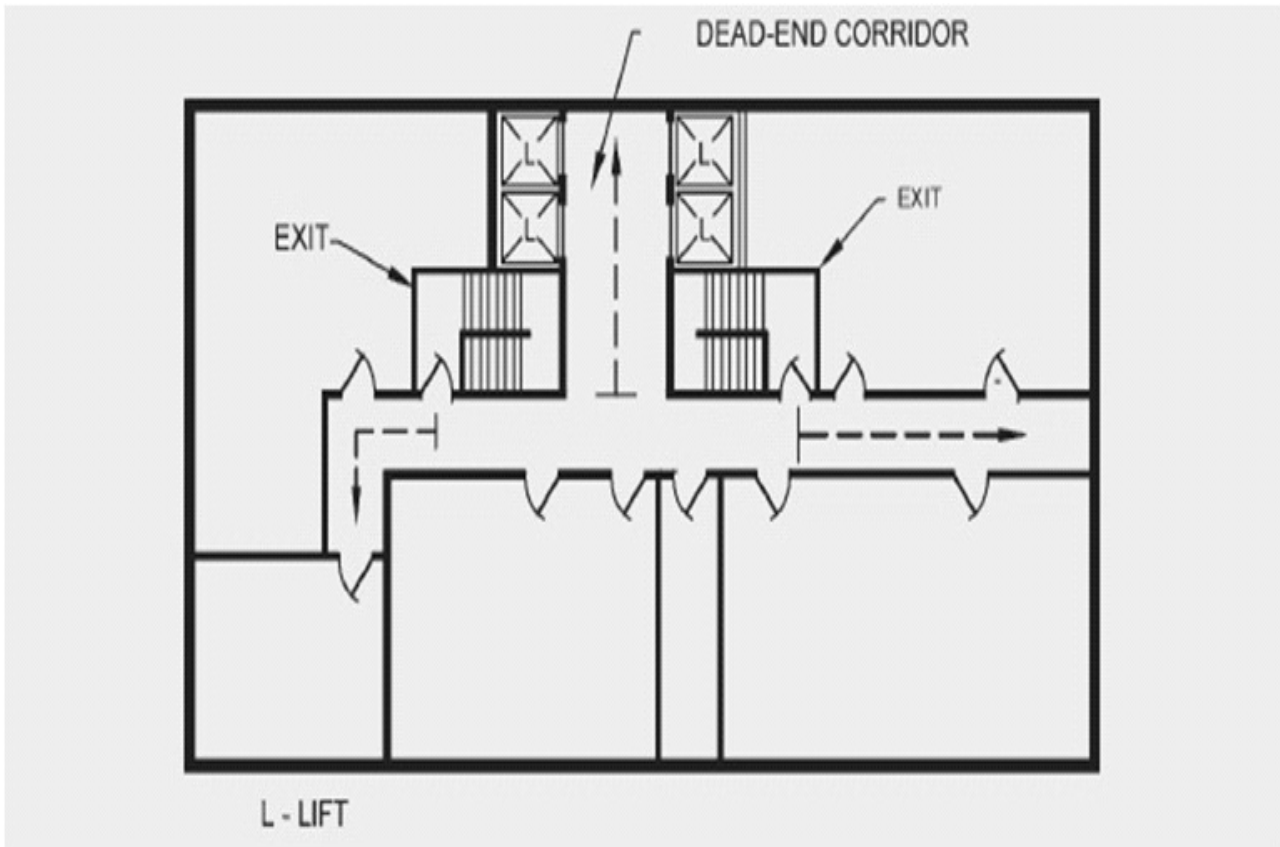
SPACE/ROOM DETAIL: _____

FLOOR NO. _____

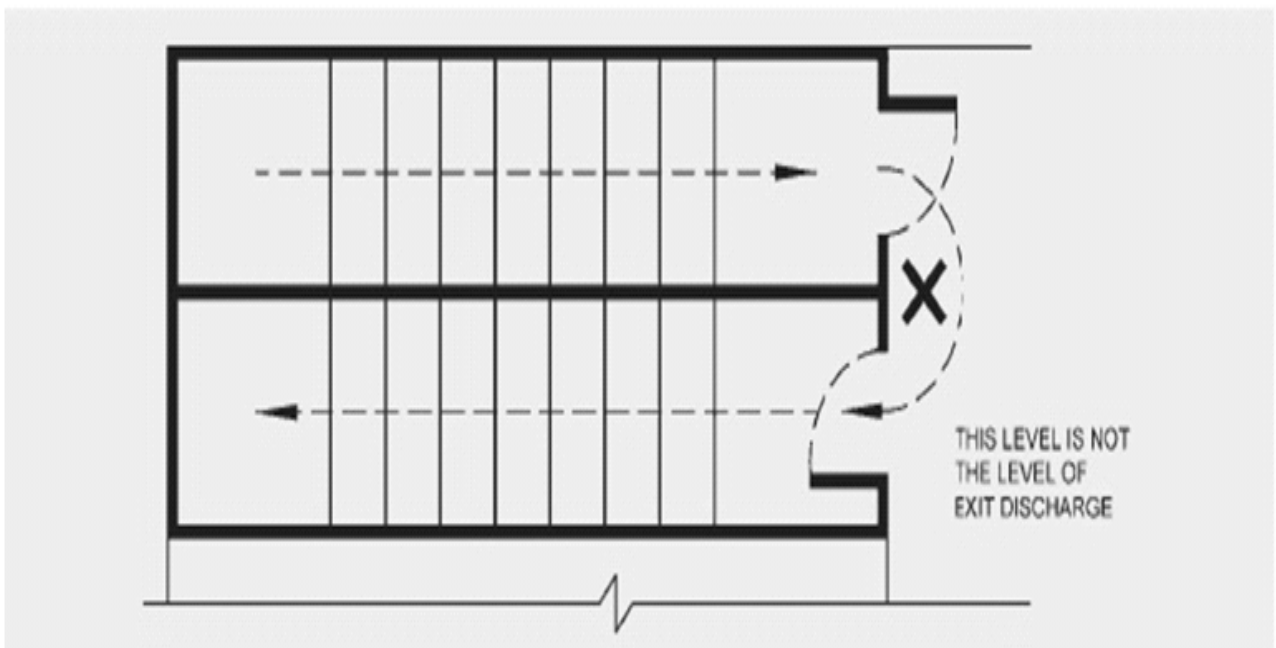
SIGN: _____ DATE: _____

(MANAGER/AUTHORIZED SIGNATORY)

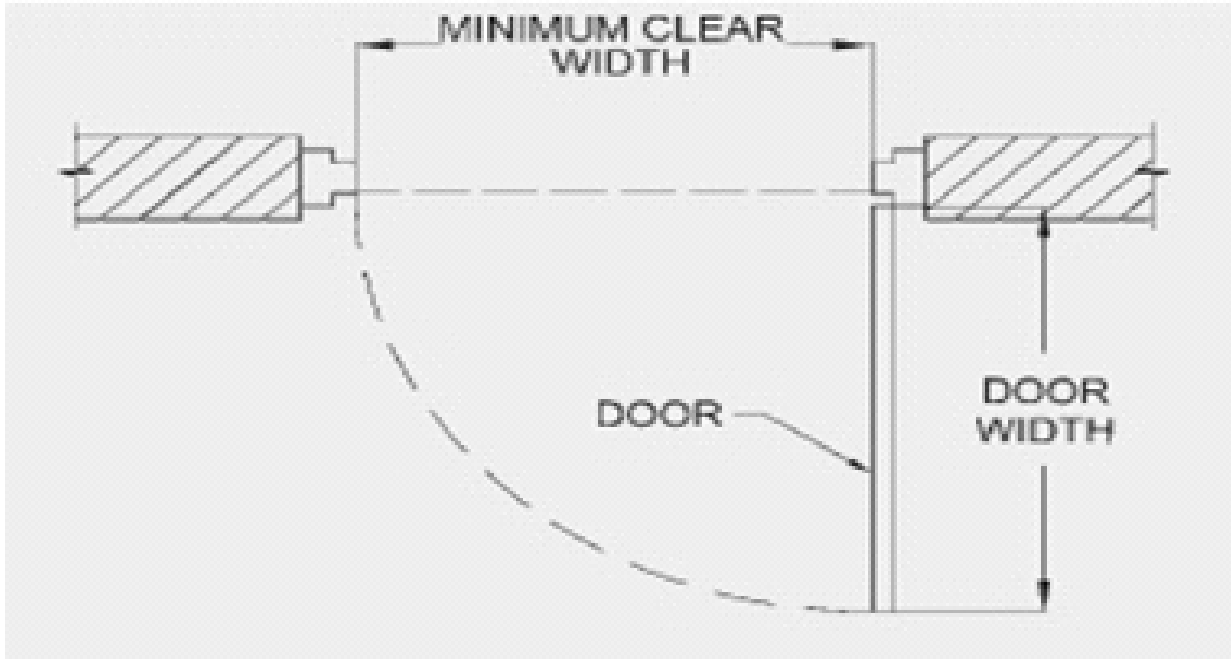
Sketch No. 11. Dead end corridor
(See Regulation 15.9.4 (c))



Sketch No. 12. Unacceptable Arrangement for Enclosing a Stair Serving as Required Exit
(See Regulation 15.9.7 (a))



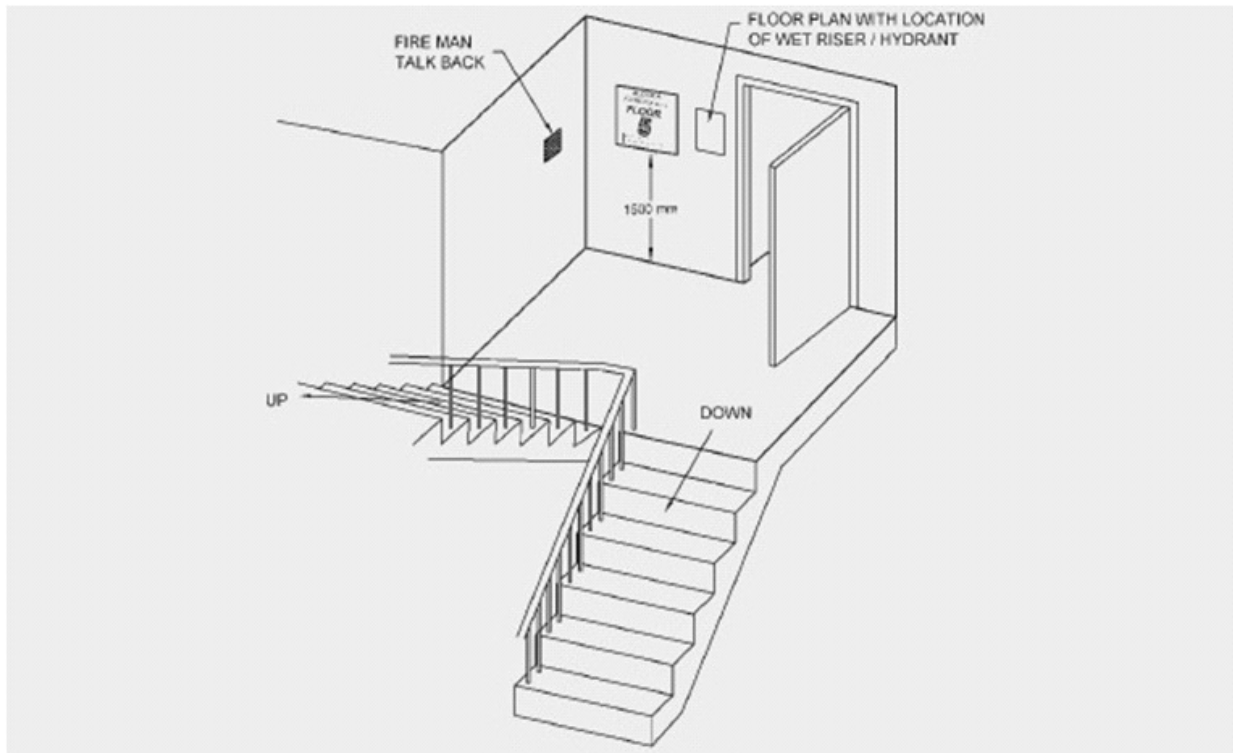
Sketch No. 13. Minimum Clear Door Width
(See Regulation 15.9.7 (b))



Sketch No. 14. Floor Indication Board
(See Regulation 15.11)



14a. Example of a Stairway Marking Sign (Floor Indication Board)



14b. Stair Sign Placement

By order and in the name of the Governor of Goa.

James Mathew, Chief Town Planner (Admn. TCP) & ex officio Jt. Secretary.

Panaji, 22nd June, 2021.



Department of Transport

Directorate of Transport

—

Notification

D.Tpt/Est/2306/2021/1652

Read:- Public Notice dated 18-05-2021, published in the local newspaper, namely, Bhaangar Bruin, Pudhari, Navhind Times, The Goan Everyday, Navprabha, Tarun Bharat, Goan Varta and Herald dated 20-05-2021.

In exercise of the powers conferred by sub-rule (1) of rule 140 of the Goa Motor Vehicles Rules, 1991, I, Shri Rajan Satardekar, the Director of Transport, hereby notifies the 20th day of May, 2021 for the purposes of said sub-rule (1) of rule 140 of the said Rules.

Rajan Satardekar, Director (Transport) & ex officio Additional Secretary.

Panaji, 30th June, 2021.

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