

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEADQUARTERS: DELHI FIRE SERVICE
Connaught Place: New Delhi-110001

No. F.6/DFS/MS/ BP/ 2021/ 316

Dated: 18/07/2021

To,

The Executive Engineer (Bldg.) HQ
South Delhi Municipal Corporation,
9th floor, Civic centre, Minto Road
New Delhi 110002

Subject: Approval of building plans from fire safety point of view in r/o construction of Residential building at Khasra No. 8/26/2, Village Kapashera, New Delhi.

Sir,

Please refer your ID No. 10073838 dated 07.07.2021 on the above cited subject. In this connection, this is to inform you that the online building plans in respect of proposed building have been scrutinized by this department from fire safety point of view. The brief details are as under:-

S.No.	Particulars	Details proposed
1.	Occupancy	Residential
2.	No. of floors	2B+ Ground+10 upper floors
3.	Plot area	9090.26 m ²
4.	Ground and typical basement covered area	3600.883 m ² and 6750.069 m ² respectively
5.	Height	36.30 m
6.	No. of Staircases	A total of 10 staircases of 1.5 m width each are proposed in the building. 05 are serving up to topmost terrace out of them 03 are fire towers. 09 staircases are serving to basement level.
7.	Lifts	10 no. passenger lifts serving from 2 nd basement to terrace level.

There is no objection to this department for the construction of the said building subject to the compliance of the following fire safety recommendations:-

- 1. Access to building:** The plot abuts 24.688 meter wide road and the building is accessible through 06 meter wide main gate. The entrance gate shall fold back for free movement of fire service vehicles against the compound wall of the premises thus leaving the exterior access way within the plot. The archway, if any, shall not be at a height less than 5 meters. Clear-cut 06 meter wide motorable road with 09 meter turning radius for fire tender movement shall be ensured as per clause 8.2 of UBBL-2016.
- 2. Number, width, Type and Arrangement of Exits:** The staircases as mentioned in the table above are proposed in the buildings, which meet the requirement of travel distance. The staircases serving to basement shall be segregated at ground floor as per clause 8.4.5(c) of UBBL 2016. Clear-cut width of staircase and exit door not less than 1.5 m shall be maintained at the time of completion. Assembly area shall be served with 02 meter wide exit doors. Further, the fire towers in the building shall be as per clause 1.4.46 / 9.3.13 of UBBL 2016. The lifts including of the fire tower shall be serving to terrace floor as per clause 7.28(b) of Modified UBBL-2016.
- 3. Protection of exits by means of fire check doors and or pressurization:** The fire check doors of minimum 2 hrs fire resistance rating shall be ensured at the entrance of each

Khasra No. 8/26/2, Village Kapashera, New Delhi



staircase/lift lobby in all residential buildings and basements. The entry to the staircase & lift lobby shall be through Fire check Door as per clause 8.4.3 (g) of UBBL-2016. The Pressurization system for lift well and lift lobbies/ staircase and smoke control facilities in corridors shall be installed as per NBC Part 4 and as per clause 9.3.2 of UBBL-2016. The doors of the Electric substation, Kitchen in community facility block shall be fire rated as per NBC part-4.

4. **Compartmentation:** The building shall be suitably compartmentalized so that the fire / smoke remain confined to the area where fire incidents have occurred and does not spread to the remaining part of the building. This shall conform to clause 8.4.6 of UBBL-2016 & 4.5 of NBC-IV.
 - a. The services, standby generator, store etc. must be segregated from other by erecting fire-resisting wall of not less than 04 hours rating. Each of the compartments must be individually ventilated and the opening for entry into each of these compartments must be fitted with self-closing fire / smoke check doors of not less than one hour fire rating fitted with magnetic latches.
 - b. All electric cables ducts and shafts shall be properly sealed at all floors with fire resisting material of similar rating. These shafts shall be minimum 02 hours fire rating.
 - c. Under no circumstances, two services shall pass through the same shaft, i.e. separate shaft be used for different purpose.
 - d. The entry to the staircase from all levels shall be segregated with a self-closing fire / smoke check door of not less than 02hour fire resistance rating. All vertical and horizontal openings including the gap between the glazing and the slab at each level in entire building shall be sealed properly with the non-combustible material having 02 hr fire resistance. Wherever false ceiling / suspended ceiling is provided, the same shall be of non-combustible in nature and that the compartmentation shall be extended up to ceiling level.
5. **Smoke Management System:** Smoke venting facilities shall be provided as per NBC Part IV, Fire and Life Safety. Mechanical extractors shall have an interlocking arrangements and the system shall be of such design as to operate on actuation of heat/ smoke sensitive detectors, sprinklers. Smoke extraction system shall be designed to permit 12 air changes per hour in case of fire in basement. A system of fresh air supply shall be provided at floor level and smoke outlet at ceiling level. Following points shall be ensured.
 - a. All ducting shall be constructed of substantial gauge metal conforming to IS: 655. Air duct serving main floor areas, corridors etc. shall not pass through the staircases enclosures.
 - b. Automatic fire dampers shall be provided in the ducts at the inlets of the fresh air and return air of each compartment/floor.
 - c. Automatic fire dampers shall be closed automatically upon operation of a detector/sprinkler.
 - d. The air ducts for every floor/compartment shall be separated. In no way inter-connected with the ducting of any other compartment.
 - e. Under no circumstances, plenum shall be used as "Return Air Passage" for air conditioning purposes.
6. **Fire Extinguishers:** The portable fire extinguishers of ISI mark suitable to risk shall be provided in all buildings in accordance with IS -2190/ 1992.
7. **First aid Hose Reel:** Hose reel containing 30m length of 20 mm bore terminating into a shut-off nozzle of 5 mm outlet connected directly to riser shall be provided in all buildings. This shall conform to IS: 884/1998.
8. **Automatic Fire Detection and Alarming Systems:** Not required as per NBC Part-IV 2016.
9. **Manually operated fire alarm system:** Manually operated fire alarm system in all the buildings shall be installed as per National Building Code part-4 -2016 and the same shall conform to IS-2189/1999.

10. **Public Address System:** The public address system shall be provided in the building, having loudspeakers in the common area. The microphone, amplifier and control switches of public address system shall be installed in the fire control room.
11. **Automatic Sprinkler System:** The Automatic sprinkler system shall be installed in the entire basement in accordance with BIS: 15105 / 2002. Flow alarm switch/gong shall be incorporated in the installation for giving proper indication/sound. The pressure gauge shall also be provided near the testing facility. The entire system including pump capacity and head, size of pipe network, orifice control etc. shall be provided in accordance with the relevant code. Fire service inlet shall also be provided at ground floor level.
12. **Internal Hydrant and Yard Hydrant:** As proposed wet riser near staircases shall be provided in all buildings as per IS 3844-1989. Hose box of suitable dimension shall be provided near each internal hydrant. Its design shall be such that it can be readily opened in an emergency. Each box shall contain two lengths of 63 mm diameter, 15m length, rubber lined delivery hoses conforming to IS: 636 complete with 63 mm instantaneous coupling conforming to IS: 903 with a nozzle of 16 mm diameter.
13. **Pumping Arrangements:** As proposed, one fire pump house having one electric driven pump of 2850 LPM capacity for hydrants, one electric driven pump of 2850 LPM capacity for sprinkler system, one electric driven pump of 1800 LPM capacity for water curtain, two jockey pump of 180 LPM capacity each, one diesel driven stand by pump of 2850 LPM capacity shall be provided in the complex. The suitable orifice plate /reducer shall be provided to maintain the requisite pressure of 3.5 Bars at the remotest point. All the pumps shall be automatic in operation.
14. **Captive Water Storage for fire fighting:** As proposed an underground fire water storage tank of 3,00,000 litre capacity and terrace tank of 1,00,000 litres capacity against the required 5,000 liters capacity on the terrace shall be provided. The underground water storage tanks shall be approachable by the fire engine. Draw off connection/ fire service inlet shall be provided. The replenishment through bore well or from the town main be ensured @ 1000 LPM. One ladder or any other form of open access to the overhead fire water tank for inspection, shall be provided as per clause 7.10.3 of UBBL-2016. This shall conform to the requirements given in National Building Code of India Part IV/UBBL-2016.
15. **Exit Signage:** Exit signages shall be provided in the building at appropriate locations. Floor level marking, all exits and exit way marking signs in entire complex must be illuminated and wired to independent circuit supplied by alternate source of power supply. Wiring for the illuminated exit signs shall be suitably protected against fire. Illuminated / glowing paint strips shall be provided at each level to guide the direction for escaping towards a safe place. The size and colour of the exit signs shall be as per IS 9457: 1980.
16. **Provision of lifts:** Lifts as mentioned in the table above are proposed to be provided in the various buildings. The lifts shall be equipped with a fireman's grounding switch so that, it is possible to ground the lift during a fire/ emergency. In case of failure of normal supply, it shall automatically trip over to the alternate supply. Suitable slope in the floor of lift lobby shall be made to prevent water, used during fire fighting etc. at any landing, from entering into lift shaft. All other conditions and provisions shall be provided strictly in accordance to National Building Code of India Part IV/UBBL-2016.
17. **Standby Power Supply:** Emergency lighting, exit signs, staircase and corridor lighting circuit, lift, fire pumps smoke extraction system and pressurization shall be powered from an additional source of power supply like generator and shall be automatic in action. The emergency lighting system shall be capable of continuous operation for a minimum duration of 1hour and 30 minutes. The emergency lighting shall be provided to be put on within 1 second of the failure of the normal lighting supply.
18. **Refuge Area:** Not applicable as per NBC part-4.
19. **Fire Control Room:** Fire control room shall be established at entrance floor in accordance with the provisions contained in clause 9.3.10 of UBBL-2016. Trained personal shall be appointed round the clock to look after the fire protection arrangements in the building.



20. **Special Fire Protection Systems for Protection of Special Risk:** The electric sub-station if constructed installation of Transformer, LT & HT panels shall be as per the provisions specified by the Electrical Authority. However, the following points shall be followed:-

- a. The HT & LT panels shall be separated with the walls of 2 hours fire resistance rating. It is necessary to separate shield wall extending up to the one meter on sides above the highest point of the transformer. All electrical panel should be provided with special fire protection systems as applicable shall be provided as per clause 5.1.4, 5.1.5, 5.1.6 of Part 4 NBC 2016.
- b. The electric distribution cables/wiring shall be laid in a separate duct. The duct shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits;
- c. Water mains, telephone lines, intercom lines, gas pipes or any other service line shall not be laid in the duct for electric cables; use of bus ducts/solid rising mains instead of cables is preferred.
- d. Separate circuit for firefighting pumps, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fire in one circuit will not affect the others.
- e. The inspection panel doors and any other opening in the shaft shall be provided with air tight doors having fire resistance of not less than 2 Hrs. the electric installations shall be as per BIS 1646.

The open setback area is not checked as it shall be checked by the concerned building sanction authority. The approval of building plans shall be valid only for the proposed occupancy/layout of the floors shown on the plans and any subdivision of the floors and change of trade/ use shall only be done with the prior approval of this department. It shall be ensured that provisions of all requisite fire and life safety measures stipulated in UBBL-2016 and National Building Code of India 2016 shall be complied in letter and spirit before the occupancy of the building under intimation to this department.

Yours faithfully

(Atul Garg)

DIRECTOR

011-23414000

१८१२०५