



GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEAD QUARTERS: DELHI FIRE SERVICE: NEW DELHI - 110 001



No. F. 6. / DFS / MS / BP / 2023/ 40

Dated: 10/02/2023

To,

The Dy. Director (L&I) Bldg.,
 Delhi Development Authority,
 Vikas Sadan, INA,
 New Delh-110023.

Sub: Clearance of online building plans in r/o Residential Group Housing Complex at P. No. 254 VII, sector-19 B, Dwarka, New Delhi – 110075 from fire safety point of view.

Sir,

Please refer your online file No. DW19/0161/2022 dated 25.01.2023 on the subject cited above. In this connection it is to inform you that the referred online building plans have been examined from fire safety point of view and observed that there is a proposal of construction of seven residential blocks including community facility at P.No. 254 VII, sector-19 B, Dwarka, New Delhi – 110075 on a plot area of 15434.400 SQM. The plot abuts on 60.0 meter wide road and accessible through 6.0 meter wide main gate. The detail of covered area, height, use etc. is as under:

S. No. ↓	Description →	Height (M)	No. of floors	Covered area (SQM) Floor-wise		Use	No. and width of staircases	No. of lifts
	Name of Block ↓							
1	Tower – A	49.3	Gr./Stilt +13	Ground	1489.86	Residence & Community Facility	02(1.5 m) & 01 spiral (2.0m)	07
				1 st Floor	1003.74			
				2 nd to 12 th	964.87			
				13 th Floor	548.50			
2	Tower – B	49.3	Gr./Stilt +13	Ground	1037.18	Residence	02(1.5 m)	05
				1 st & 12 th	953.35			
				13 th Floor	545.10			
3	Tower – C	49.3	Gr./Stilt +13	Ground	582.56	Do	02(1.5 m)	03
				1 st to 12th	532.83			
				13 th Floor	330.52			
4	Tower – F	49.3	Gr./Stilt +13	Ground	430.01	Do	02(1.5 m)	03
				1 st to 12th	520.61			
				13 th Floor	312.98			
5	Tower – G	49.3	Gr./Stilt +13	Ground	511.23	Do	02(1.5 m)	03
				1 st to 12th	520.61			
				13 th Floor	312.30			
6	Tower – H	49.3	Gr./Stilt +13	Ground	463.58	Residence & Convenient Shops on Gr.	02(1.5 m)	03
				1 st to 12th	531.43			
				13 th Floor	320.10			
7	Tower – E (EWS)	47.0	Gr./Stilt +15	Ground	527.63	Residence	03(1.5 m)	04
				1 st Floor	536.54			
				2 nd to 14 th	515.80			
				15 th Floor	401.61			
9	Basement	--	Two tire	L. Basement	9991.62	Parking & Services	08	28
				U. Basement	9313.96	Parking & Services	08	28

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There is no objection to this department for the construction of proposed Residential Towers subject to the compliance of the following fire safety recommendations:

1. **Access to building:** The plot abuts on 60.0 meter wide road and the premises is approachable through 6.0 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 9.0 meter wide road for fire tender movement with 12.0 meter turning radius shall be ensured all around each high rise blocks, for free movement of fire tender as marked on the plans as per clause 8.2 of UBBL-2016.
2. **Number, width, Type and Arrangement of Exits:** As per the above table, staircases are proposed in the buildings. All staircases shall be continuous to terrace. Staircases, serving from basement, shall be segregated on ground/stilt floor. Further, out of the aforesaid staircases one staircase has been made fire tower in each tower. The fire towers shall meet the requirement of clause 9.3.13 of UBBL – 2016. The staircases shall meet the requirements of UBBL-2016. The width of exit in assembly area shall not be less than 2.0 meter. Clear-cut width of staircases, corridor and doors shall be maintained at the time of completion.
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 provided as marked on plans. Pressurization system for lift well and lift lobbies/ staircases or corridors shall be installed as per NBC Part IV and as per clause 9.3.2 of UBBL-2016. The fire check doors shall conform to IS 3614:2021.
4. **Compartmentation:** Floors of buildings 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 and clause 4.5 of NBC part-4. Further, all doors in the lift lobby including unit's doors, as marked on the plans, shall be fire check doors of minimum 2 hrs. fire rating.
5. **Smoke Management System:** Smoke venting facilities in building including basement 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.
 - i. 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.
 - ii. Automatic fire dampers shall be provided in the ducts at the inlets of the fresh air and return air of each compartment/floor.
 - iii. Automatic fire dampers shall be closed automatically upon operation of a detector/sprinkler.
 - iv. The air ducts for every floor/compartment shall be separated. In no way inter-connected with the ducting of any other compartment.
 - v. 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 each blocks in accordance with IS -2190/ 1992.
7. **First aid Hose Reel:** Hose reel containing 30 m length of 20 mm bore terminating into a shut-off nozzle of 5 mm outlet connected directly to riser shall be provided in buildings. This shall conform to IS: 884/1998.
8. **Automatic Fire Detection and Alarming Systems:** Not applicable.
9. **Manually operated fire alarm system:** Manually operated fire alarm call points with talk back system at suitable locations on each floor of towers shall be installed as per National Building Code and the same shall conform to IS-2189/1999.
10. **Public Address System:** The public address system shall be provided in 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 as per UBBL-2016.
11. **Automatic Sprinkler System:** The Automatic sprinkler system shall be installed in each blocks including basements in accordance with BIS: 15105 / 2021 and as per Annexure H of NBC-Part-4, 2016. 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:** Wet riser system in all Towers near staircases shall be provided 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, 15 m 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. Yard hydrants shall be provided in accordance with 13039/1991.
13. **Pumping Arrangements:** One fire pump house having two electric pumps of 2280 LPM capacity, one standby diesel pump of 2280 LPM, one electric pump of 2280 LPM capacity for water curtain, and two jockey pumps of 180 LPM capacity is proposed for all towers and basements. The suitable orifice plate /reducer shall be provided to maintain the requisite pressure of 3.5 Bars at the remotest point. One set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case more than one pump set installation, both sets shall be interconnected at their delivery headers. All the pumps shall be automatic in operation. This shall conform to NBC-IV.
14. **Captive Water Storage for fire fighting:** Two underground fire water storage tanks of 2,70,000 liters capacity each are proposed for firefighting. Further, one overhead water tank of 10,000 liters capacity each shall be provided on the terrace of all towers. The overhead fire tank shall be made of steel/RCC. 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 signage shall be provided in all buildings at appropriate locations. Floor level marking, all exits and exit way marking signs on all floors 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 building. 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 clause E-3 of National Building Code of India Part IV-2016 and clause 8.4.4 & 9.3.3 of 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 1 hour and 30 minutes. The emergency lighting shall be provided to be put on within 5 second of the failure of the normal lighting supply.
18. **Refuge Area:** Not applicable.
19. **Fire Control Room :** As proposed on the building plans a Fire Control Room shall be established at the entrance floor of the building with communication system (suitable public address system) to all floors and facilities for receiving the message from different floors. Details of all floor plans along with the details of fire fighting equipment and installations shall be maintained in the fire control room in digital form also. The fire control room shall also have facilities to detect the fire on any floor through indicator board connections, fire detection and alarm systems on all floors. The fire staff in-charge of the fire control room shall be responsible for the maintenance of the various services and fire fighting equipment and installations in co-ordination with security, electrical and civil staff of the building in accordance with the provisions contained in clause 9.3.10 of UBBL - 2016.
20. **Special Fire Protection Systems for Protection of Special Risk:** The electric sub-station, installation of Transformer, LT & HT panels shall be as per the provisions specified by the Electrical Authority. However, the following points shall be followed:-

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- a. The HT & LT panels shall be separated with the walls of 02 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. Special protection systems as applicable shall be provided as per clause 5.1.4, 5.1.5 & 5.1.6 of NBC-IV-2016.
- b. The electrical 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 electrical cables; use of bus ducts/ solid rising mains instead of cables is preferred.
- d. Separate circuit for fire fighting 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 shafts shall be provided with air tight doors having fire resistance of not less than 2hrs. The electric installations shall be as per BIS 1646.
- f. Nothing in contravention of the notification No. CEI/1/9/2020/263-294 dated 03.05.2021, issued by Central Electricity Authority as modified up-to date.

The Open set back area is not checked as it shall be checked by concerned building sanctioning authority. The approval of building plans shall be valid only for the propose 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 life and fire safety measures stipulated in National Building Code of India Part-IV-2005 and 2016 shall be complied in letter and spirit before the occupancy of the building under intimation to this department. This shall not be treated as FSC/NOC from fire department.

Yours faithfully


(Virendra Singh)
Chief Fire Officer
For Director
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