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

No. F.6/DFS/MS/BP/2020/ 74 Dated: 18 /02/2020

To

The Chief Architect,
New Delhi Municipal Council,
Palika Kendra, Sansad Marg, New Delhi- 110001.

Sub:- **Conditional Approval** of Bldg. Plans from fire safety point of view in R/o proposed construction of Residential Building at 88/1A, Lady Hardinge Road known as 14, Lady Hardinge Road, New Delhi-110001.

Sir,

Please refer to ID No. NDMC/BP/0039/19-20, dated 07.01.2020 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 and observed that there is a proposal of construction of Residential Building Block at 88/1A, Lady Hardinge Road known as 14, Lady Hardinge Road, New Delhi-110001 on a plot area of 3540.96 m^2. The proposed building comprised of three basements, ground plus nine upper floors having covered area of 1754.50m^2 at 3rd and 1869.25m2 at 2nd and 1st basement each, 1570.24m^2 at ground floor, 598.17m2 at 1st floor, 1330.79m2 at 2nd floor and 1345.22m2 at each floor from 3rd to 8th floor & 161.78m2 at ninth floor. Total covered area including basements is 17225.39m^2. The proposed height of the building block is 33 meters upto terrace level.

The plot abuts on 30 meter wide road and premises is approachable through 6.0 meter wide main gates. Six meters wide motor-able road with 09 meter turning circle is proposed to be provided all around the proposed building block for fire tender movement. The fire safety arrangements such as fire extinguishers, hose reel, wet riser, automatic sprinkler system in entire basement floors, MOEFA, underground fire water storage tank of 2,00,000 liters capacity, overhead tank of 25,000 liters capacity and fire pump house having one electric pump of 2280 LPM capacity, one standby diesel pump of 2280 LPM capacity, one jockey pumps of 180 LPM capacity and tewrrace pump of capacity 900 LPM for sprinkler and for hydrant are proposed for the building block.

Open set back area is not checked as it shall be checked by concerned Building authority / competent authority. The approval of building plans shall be valid only for the present layout of the floors; any subdivision of the floors shall only be done by ensuring the proper means of escape, with the prior approval of this department.

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

1. **Access to building:** The plot abuts on 30 meter wide road and the building is proposed to be accessible through 6 meter wide main gate. The entrance gate shall fold back against the compound wall of the premises thus leaving the exterior access in the plot. The archway, if any, shall not be at a height less than 5 meters. It must be ensured that 6 meter wide fire tender movement road all around high rise building block as proposed on the plans must be kept clear all the time for free movement of fire engines.
2. **Number, width, Type and Arrangement of Exits:** Three numbers of the staircases having width 2=1.5 meters each and one number of 1.05m are proposed from 3rd basement to ground floor, three numbers of staircases having width 2=1.5meters each and one number of 2meters wide are proposed upto 2nd floor and than two numbers of staircases having width of 1.5 meters each are proposed upto terrace floor. Out of these staircases one is fire tower continuous from 3rd basement to terrace floor and these are meeting the requirement of travel distance as per UBBL-2016. The staircases serving from basements shall be segregated on ground floor.

   Conditions: There shall be no opening in the fire tower and if fixed glass is provided that should be of fire rated equal to fire tower.

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 building plans. Pressurization system for staircases, lift well and lift lobbies or corridors shall be installed as per NBC Part IV and as per clause 9.3.2 of UBBL-2016. The exit doorways shall be openable from the side which they serve as per clause 7.12.5 of UBBL 2016.
    - **The width of the doors shall not be less than the required width of the staircases excluding framework.**
    - **Recreational hall and senior citizen club shall be provided minimum two exits of two meters wide each in each compartment against the proposed single exit.**
    - **Entry to the store room at 2nd basement shall be through fire check door.**
    - **Entry shall be through fire check door in place of proposed rolling shutter at DG Room in 2nd basement.**
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 & NBC-Part IV.
    i. 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.
    ii. 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.
    iii. Under no circumstances, two services shall pass through the same shaft, i.e. separate shaft be used for different purpose.
    iv. 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. The glass facade of the building shall conform to clause no. 8.4.9 of UBBL 2016. 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. Glass used as compartment wall shall be two hour fire resistant.

    Condition: Fire pump room shall be of double height as per UBBL 2016.
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 or sprinklers. Smoke extractor system shall be designed to permit 12 air changes per hour in case of fire in upper floors and 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.
6. **Fire Extinguishers:** The portable fire extinguishers of ISI mark suitable to risk shall be provided in building and maintained in accordance with IS -2190/1992.

7. **First aid Hose Reel:** A hose reel containing 30 meter length of 20 mm bore terminating into a shut-off nozzle of 5 mm outlet connected directly to riser shall be provided in building as per clause 9.3.9 of UBBL-2016. This shall conform to IS: 884/1998.
8. **Automatic Fire Detection and Alarming Systems:** Not required as per clause 9.3.9 of UBBL-2016.
9. **Manually operated fire alarm system**: Manually operated electric fire alarm (MOEFA) and talk back system shall be provided near escape point in the building including machine rooms, electrical shafts, air handling ducts and above false ceiling as per clause 9.3.9 of UBBL-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 entire basements as per clause 9.3.9 of UBBL-2016 and it shall conform IS: 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:** The Wet riser system shall be provided in building as per clause 9.3.9 of UBBL-2016 and the same shall conform to IS 3844/1989. Its design shall be such that it can be readily opened in an emergency. Each box shall contain two lengths of 63 mm diameters, 15 m length, rubber line delivery hoses confirming to IS : 636 complete with 63 mm instantaneous coupling conforming to IS :903 with nozzle of 16 mm diameter.
13. **Pumping Arrangements:** As proposed pump house having one electric pump of 2280 LPM capacity, one standby diesel pump of 2280 LPM capacity having suitable head for sprinkler & hydrants, one jockey pump of 180 LPM capacity for sprinkler and hydrant system shall be provided. As per requirement of NBC Part-IV terrace pump 900LPM capacity shall be provided separately on terrace floor. 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 firefighting:** As proposed underground water storage tank of 2,00,000 liters capacity shall be provided for firefighting only. The replenishment through bore well or from the town main shall be ensured @ 1000 LPM. This shall conform to the requirements given in National Building Code of India Part IV. As per requirement of NBC Part-IV overhead tank having 25,000 liters capacity shall be provided separately on terrace floor. The underground water storage tank shall be approachable by the fire engine. Draw off connection/ fire service inlet shall be provided. Further, a ladder or any other form of open access to the overhead tank for inspection shall be provided as per clause 7.10.3 of UBBL 2016.
15. **Exit Signage:** Exit signage 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 color of the exit signs shall be as per IS 9457: 1980.
16. **Provision of lifts: 02** lifts and 01 fire lift in fire tower are proposed in the building block from 3rd basement to terrace floor. The lifts in buildings, shall be equipped with a fireman's grounding switch so that, it is possible to ground the lift during a fire/ emergency. The lifts shall be installed strictly in accordance with the provision of clause 9.3.3 of UBBL-2016. Pressurization system for staircases, lift well and lift lobbies shall be installed as per the requirement of NBC Part IV/UBBL-2016.

17. **Standby Power Supply:** As per clause 8.5.3 of UBBL-2016, emergency lighting, exit signs, staircase and corridor lighting circuit, fire 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 Floor and Refuse Area**: Not required as per clause 9.3.6 of UBBL2016.
19. **Fire Control Room:** As proposed on the building plan one Fire Control Room shall be established at entrance floor in accordance with the provisions contained in clause 9.3.10 of UBBL-2016. Trained fire officer and fire personal shall be appointed round the clock to look after the fire protection arrangements in the building.
20. **Special Fire Protection Systems for protections of Special risks:** 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. Special protection systems as applicable shall be provided as per clause 3.4.6.3, 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.
    f. The fire protection of kitchens shall be done as per clause G 5.2 of Part 4 NBC 2016.
    g. Atrium shall be strictly as per Annexure F of NBC Part-IV.

All the fittings / equipments shall be ISI marked. All firefighting equipment shall be suitably located and clearly marked by luminous signs. It shall be ensured that provisions of all requisite fire and life safety measures stipulated in UBBL-2016 & National Building Code of India Part-IV shall be complied in letter and spirit before the occupancy of the building under intimation to this department.

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 occupancy shall only be done with the prior approval of the building sanctioning authority concerned.

The building sanction authority shall ensure correction in the building plans as mentioned above at Sr. No 2, 3 & 4 in bold letters of this approval letter No. F6/DFS/MS/BP/2020/74 **dated** 18-2-20 **before release of plans.**

Yours faithfully

(ATUL GARG)
Director
Delhi Fire Service

Residential Building at 88/1A, Lady Hardinge Road known as 14, Lady Hardinge Road, New Delhi