Annexure A

Buildings of more than 18 meters up to 25 meters (from ground level to top floor ceiling height)

1. **Stair Case:**

   If the Lifts and staircase from higher floors go directly to the basements then this area shall be protected by 1 hours fire resistant construction including fire doors subject to opinion and requirement of the local fire authority in specially designed building have to be considered and observed.

   a. Stair Case - For above 18 meters up to 25 meters height (excluding parapet wall, lift & Stair cabin, oH tank,)

   i. Width of the staircase:- 1.5 meters clear inside to inside

   b. If a centrally located staircase is provided with pressurization and fire resistant doors, this central staircase shall be in addition to the ventilated staircases required for the floor area , maintaining the travel distance.

2. **Fire lifts:**

   Fire lifts to be provided for commercial buildings.

3. **Electric duct:**

   Electric duct should have sealed metal doors with metal frame or Fire rated doors at each floor level. Opening of the duct shall be from basement to terrace level.

4. **Hollow Plinth:**

   Hollow plinth parking shall be protected with sprinklers (gravity fed for buildings below 18 meters and gravity cum powered for buildings above 18 meters

5. **Sprinklers:**

   a. GROUND LEVEL:- For any height of building – Basement, shops & Hollow plinth parking – Sprinklers. (Gravity fed sprinklers for lower then 18 meters also.)

   b. For building with more than 18 meters up to 25 meters – Sprinklers for basement, hollow plinth parking / shops-showrooms or any commercial use except office.

6. **MARGIN / OPEN SPACE AROUND THE BUILDING:**

Sr.No.	Plot Size (Sq.Mt.)	Open Space Adjacent to building in mt.
1	Up to 750	3
2	$\geq$ 750	4

7. **Open space between two such buildings,**

   a. Open Space between two buildings shall be not less then 6 meters.

8. **Ramp**

   a. Ramp for basement, to be permitted on side or rear.

9. **Fire protection:-**

   In addition to respective regulations of The Fire Prevention and Life Safety Measures Regulations -2016

   a. Basement as mentioned above

   b. Ground floor and other floors for Commercial use Fire Protection as mentioned above

c. staircase as mentioned above

d. Fire Protection-Hydrant system:

i. Riser cum Down-commer of 75 mm. internal diameter with fire service inlet at bottom / hose reel hose 25 mm. with 8 mm. shut-off nozzle / Fire pump ON-OFF switch, at each floor (1 set for each 1200 sq. meters). Fire pump may be at terrace level for a single block or at bottom level tanks. UG water tank for fire fighting shall be 50000 liters in excess of the domestic water tank only if number of buildings are more than one in one plot. 450 lpm @ 3 bar measured at terrace level.

ii. Electric shafts shall be ventilated from the bottom and the terrace level and be closed at each floor by a fire resistant door or a MS frame & door. OR the electric shafts shall be kept on the external part of the building and in no way shall obstruct the escape route in case of fire.

e. HIGH PRESSURE MIST SYSTEM FOR HANDHELD FIRE FIGHTING :

iii. (High pressure mist system is an alternate to the installation of conventional type of hydrant system.)

a. minimum 60 to 75 lpm @ 100 bar (per hose reel).
b. High pressure pump minimum 150 LPM @ 110 bar.
c. High pressure line 25 mm. made of seamless SS pipes.
d. ON / OFF switches at each floor near the hose reel.
e. Fog gun with jet and fog variation and 18 meters throw.
f. water tank capacity minimum 5000 liters or shall depend on the pump capacity and no. of hose reels per floor.
g. High pressure quick connectors to be provided for high pressure Fire service inlet with ball valves.

10. DOCUMENTS REQUIRED FOR PROCESSING FIRE NOC FOR BUILDINGS as per Form A:

a. Request letter for inspection with requisite charges to be paid.
b. Refilling and test certificates for each extinguishers as required.
c. Annual maintenance contract (between contractor & developer / builder / owner, of Rs.100 Judicial stamp paper and duly Notarized.
d. Photos and videos of operational Fire protection system installed in the building, on a CD to be submitted for a new building.

Form- A

1. Name of Building :
2. Address of building :
3. Name and address of builder / developer / organizer:
4. Plot area :
5. No. of floors :
6. Height from ground level to top ceiling / slab height:
7. Area of Basement :
8. Occupancy use floor wise:
9. No. of risers:
10. No. of Hydrant valves on floors:
11. No. of hose reel hoses :
12. No. of Fire lifts:
13. No. of each type of portable Fire extinguishers provided:
14. PA system provided In the building ?:
15. Width of staircase:
16. Communication provided in Lifts ?:
17. No. of Fire pumps provided :
18. Capacity of Fire pumps: _____ LPM @ _____ bar.
19. Fire rating of Fire doors floor wise :
20. Type of ventilation provided in basements:
21. Staircase Ventilated :

FIRE PROTECTION FOR HIGH-RISE BUILDINGS (Above 25 METERS and UP TO 45 METERS)

1. **Stair Case:**
   a. For buildings up to 45 meters (excluding parapet wall, lift & Stair cabin, OH tank,)and each floor area of more than 3000 sq. meters – Ventilated from two sides / cross ventilated / external staircases connected through a lobby- Travel distance not to exceed 25 meters.
   b. If a centrally located staircase is provided with pressurization and fire resistant doors, this central staircase shall be in addition to the ventilated staircases required for the floor area , maintaining the travel distance.
   c. Width of the staircase shall be, 2 meters width for all buildings.
   d. If the Lifts and staircase from higher floors go directly to the basements then this area shall be protected by 2 hours fire resistant construction including fire doors.

2. **Lift:**
   One fire lift for each 1200 sq. meters of floor area on each level.
3. **Electric duct:**
   Electric duct should have sealed metal doors with metal frame or Fire rated doors at each floor level. opening of the duct shall be from basement to terrace level
4. **Hollow Plinth:**
   Hollow plinth parking shall be protected with sprinklers.
5. **Sprinklers:**
   a. GROUND LEVEL (Ground floor)- For any height of building – Basement, shops & Hollow plinth parking – Sprinklers.
   b. For building with more then 18 meters up to 50 meters – Sprinklers for basement, hollow plinth parking / shops-showrooms or any commercial use except office.
6. **MARGIN / OPEN SPACE AROUND THE BUILDING:**

Sr.No.	Plot Size (Sq.Mt.)	Open Space in mt.	
		Front	All sides
1	Any	7.5	6.0
Note: 6 meters front open space permitted if there is no boundary wall or no obstruction for motorable space in the front.			

7. **Open space between two such buildings,**
   Open Space between two buildings shall be 9 meters.
8. **Ramp:**
   a. with plot size of less then 2000 sq.meters- Ramp to be permitted on one side of the building if possible.
9. **REFUGE AREA:**
   General wash area if protected by Fire door the wash area can be used as refuge area for each residence, if provided on external facade of the building. Balconies of Residential flats can be used as refuge area. Buildings with no such provisions as protected wash

area and balconies shall have to provide separate Refuge area at each cantilevered floor level. Each refuge area shall be minimum 15 sq. meters and be more in numbers as required by the floor area of 1200 sq. meters. Refuge area to be provided at 18 meters – 25 meters - 39 meters. The above mentioned height levels of Refuge area can be permitted + or – 2 meters. **Refuge area shall not be towards ramp side.**

10. Fire protection:-

In addition to respective regulations of The Fire Prevention and Life Safety Measures Regulations -2016

a. If Commercial with mixed occupancies more than 3 types of occupancies & commercial (multi plex / Parking-shops-show rooms – offices-residence) the whole building needs to be sprinklered.

b. Basement fire protection as mentioned above

c. Ground floor and other floors for Commercial use Fire Protection as mentioned above

d. staircase as mentioned above

e. Fire lift as mentioned above

f. Riser cum Down-commer of 100 & 150 mm. internal diameter with fire service inlet at bottom / hose reel hose / hydrant valves / Fire pump ON-OFF switch, at each floor (1 set for each 1200 sq. meters). Fire pump to be at bottom level tanks. water tank shall be 100000 liters in excess to the domestic water tank.

g. Extinguishers as required.

   i. Extinguishers at each floor level (per 1200 sq. meters) ; 1 unit of CO2 of 4.5kgs & 1 unit of DCP 4 kgs.

h. Fire Lift, Fire alarm with manual call points, Lightening arrester, escape route signs.

i. Power supply to the emergency systems / equipment shall be maintained even if building electrical supply is switched off.

j. Electric shafts shall be ventilated from the bottom and the terrace level and be closed at each floor by a fire resistant door or a MS frame / door. OR the electric shafts shall be kept on the external part of the building and in no way shall obstruct the escape route in case of fire.

k. Opinion and requirement of the local fire authority in specially designed building have to be considered and observed .

l. HIGH PRESSURE MIST SYSTEM FOR HANDHELD FIRE FIGHTING :

(High pressure mist system is an alternate to the installation of conventional type of hydrant system.)

   i. minimum 60 to 75 lpm @ 100 bar (per hose reel).
   ii. High pressure pump minimum 150 LPM @ 110 bar.
   iii. High pressure line 25 mm. made of seamless SS pipes.
   iv. ON / OFF switches at each floor near the hose reel.
   v. Fog gun with jet and fog variation and 18 meters throw.
   vi. water tank capacity shall depend on the pump capacity and no. of hose reels per floor.

vii. High pressure quick connectors to be provided for Fire service inlet with ball valves.

m. HYDRANT SYSTEM (CONVENTIONAL)

i. Fire pump capacity to discharge 900 liters per minute @ 3 bar pressure measured at terrace level.

ii. One hydrant valve and one hose reel hose with ON / OFF switch for the fire pump (one set per floor area of 1000 sq. meters.)

iii. Riser Cum Down commer to be provided 100 mm. diameter up to 30 meters, 150 meters for buildings above 30 meters.

iv. One unit of CO2 extinguisher 4.5 kgs and one unit of DCP extinguisher of 6 kgs. per floor (one set per 1000 sq. meters)

v. Fire service inlet to be provided at the ground level.

11. DOCUMENTS REQUIRED FOR PROCESSING FIRE NOC FOR BUILDINGS as per Form A1:

a. request letter for inspection with requisite charges to be paid.
b. refilling and test certificates for each extinguishers as required.
c. Valid Fitness certificate of FIRE LIFT form inspector of lifts.
d. Annual maintenance contract (between contractor & of Rs.100 Judicial stamp paper and duly Notarized.
e. Photos and videos of Fire protection system installed in the building, on a CD to be submitted for a new building.

12. CINEMA / MULTIPLEX:

Cinema /Multiplex shall have automatic hydrant system with hose reel hose optional high pressure mist system. with water tank of a capacity of 11 liters per person sitting capacity.

a. CO2 extinguishers of 4.5kgs. capacity.
b. Ventilated staircase of 2 meters width.
c. Beam smoke detectors installed across in the auditorium.
d. Sprinklers installed on the side wall at 3 meters height.
e. The material used for seats and lining shall be of Fire resistant material.
f. EXIT signs placed on all doors which shall be illuminated with alternate source of power.
g. All doors of the halls shall open outwards and be of 1.5 meters width and shall be kept unlocked during the show time.
h. The foyer and the halls shall have emergency lights operating automatically in case of electricity failure.

Form- A1

1. Name of Building :
2. Address of building :
3. Name and address of builder / organizer:
4. Plot area :
5. No. of floors :
6. Height from ground level to top ceiling / slab height:
7. Area of Basement :
8. Occupancy use floor wise:
9. No. of risers:
10. No. of Hydrant valves on floors:
11. No. of hose reel hoses :
12. No. of Fire lifts:
13. No. of each type of portable Fire extinguishers provided:
14. PA system provided in the building ?:
15. Width of staircase:
16. Communication provided in Lifts ?:
17. No. of Fire pumps provided :
18. Capacity of Fire pumps: _____ LPM @ _____ bar.
19. Capacity of generator provided :
20. Fire rating of Fire doors floor wise :
21. Type of ventilation provided in basements:
22. Staircase Ventilated :
23. Location of Refuge area / no. of refuge areas provided :

FIRE PROTECTION FOR HIGH-RISE BUILDINGS (Above 45 METERS AND MORE IN HEIGHT)

1. **Stair Case:**
   a. For more than 45 meters (excluding parapet wall, lift & Staircabin, OH tank,)and each floor area of more than 3000 sq. meters – Ventilated from two sides / cross ventilated / external staircases connected through a lobby- Travel distance not to exceed 25 meters.
   b. If a centrally located staircase is provided with pressurization and fire resistant doors, this central staircase shall be in addition to the ventilated staircases required for the floor area , maintaining the travel distance.
   c. Width of the staircase shall be, 2 meters width for all buildings.
2. **Lift:**
   a. If the Lifts and staircase from higher floors go directly to the basements then this area shall be protected by 2 hours fire resistant construction including fire doors.
3. **FIRE LIFTS –**
   a. One fire lift for each 1200 sq. meters of floor area on each level. (Fire Lift otherwise can be used as common passenger lift).
   b. GROUND LEVEL (Ground floor)- For any height of building – Basement, shops & Hollow plinth parking – Sprinklers. up to 50 meters – Sprinklers for basement, hollow plinth parking / shops-showrooms or any commercial use except office.
4. **Electric duct:**
   a. Electric duct should have sealed metal doors with metal frame or Fire rated doors at each floor level. Opening of the duct shall be from basement to terrace level.
5. **Hollow Plinth:**
   a. Hollow plinth parking shall be protected with sprinklers.
6. **Sprinklers:**
   GROUND LEVEL (Ground floor)- For any height of building – Basement, shops & Hollow plinth parking – Sprinklers. up to 50 meters – Sprinklers for basement, hollow plinth parking / shops-showrooms or any commercial use except office.
7. **MARGIN/ OPEN SPACE AROUND THE BUILDING:**

Sr.No.	Plot Size (Sq.Mt.)	Open Space in mt.	
		Front	All sides
1	Any	9.0	8.0

8. **Open space between two such buildings:**
   Open Space between two buildings shall be 12 meters.
9. **Ramp:**
   No ramps permitted in margin space.
10. **REFUGE AREA:**
    a. General wash area if protected by Fire door the wash area can be used as refuge area for each residence, if provided on external facade of the building. Balconies of Residential flats can be used as refuge area. Buildings with no such provisions as protected wash area and balconies shall have to provide separate Refuge area at

each cantilevered floor level. Each refuge area shall be minimum 15 sq. meters and be more in numbers as required by the floor area of 1200 sq. meters.

b. Refuge area to be provided at 18 meters – 25 meters - 39 meters – 54 meters- 69 meters – 84 meters. The above mentioned height levels of Refuge area can be permitted + or – 2 meters. Refuge area shall not be towards ramp side.

c. Opinion and requirement of the local fire authority in specially designed building have to be considered and observed .

11. Fire Protection:

a. The lift lobbies and staircase area shall be separated (from basement to all floors) by 2 hours Fire resistant doors.

b. If Commercial with mixed occupancies more than 2 type of occupancies & commercial (multi plex / Parking-shops-show rooms – offices-residence) the whole building needs to be sprinklered. For buildings of 50 to 60 meters, all floors above 50 meters to be sprinklered in commercial building.

c. for buildings above 60 meters all floors above 50 meters shall be sprinklered in commercial building.

d. A control room should be provided at ground level, if the floor plate exceeds 3000 sq. meters (it should be equipped with PA system for the building, detail floor plans, fire fighting installation plan, monitors of fire detection, alarm for all floors, monitoring of CC cameras. ON/OFF control switches for all Air handling units.

   i. The control room staff shall be responsible for operation and maintenance of all controls installed in the control room and shall control all emergency systems like fire lifts, fire pumps, staircase lighting.

e. Basement fire protection as mentioned above

f. Ground floor and other floors for Commercial use Fire Protection as mentioned above

g. staircase as mentioned above

h. Fire lift as mentioned above

i. Riser cum Down-commer of 150 mm. internal diameter with fire service inlet at bottom / hose reel hose / Fire pump ON-OFF switch, at each floor (1 set for each 1200 sq. meters). Fire pump to be at bottom level tanks. water tank shall be 100000 liters in excess to the domestic water tank.

j. Extinguishers as required.Extinguishers at each floor level (per 1200 sq. meters) ; 1 unit of CO_2 of 4.5kgs & 1 unit of DCP 4 kgs.

k. Fire alarm with manual call points, Lightening arrester, escape route auto glow signs.

l. Power supply to the emergency systems / equipment shall be maintained even if building electrical supply is switched off.

m. Escape or access to the lift lobbies and staircase shall be through FIRE RESISTANT DOORS, Where ever required.

n. Electric shafts shall be ventilated from the bottom and the terrace level and be closed at each floor by a fire resistant door . OR the electric shafts shall be kept on

, the external part of the building and in no way shall obstruct the escape route in case of fire.

o. Opinion and requirement of the local fire authority in specially designed building have to be considered and observed .

12. DOCUMENTS REQUIRED FOR PROCESSING FIRE NOC FOR BUILDINGS as per Form A2:

a. request letter for inspection with requisite charges to be paid.
b. refilling and test certificates for each extinguishers as required.
c. Valid Fitness certificate of FIRE LIFT form inspector of lifts.
d. Annual maintenance contract (between contractor & of Rs.100 Judicial stamp paper and duly Notarized.
e. Photos and videos of Fire protection system installed in the building, on a CD to be submitted for a new building.

13. CINEMA / MULTIPLEX:

a. shall have automatic hydrant system with hose reel hose optional high pressure mist system. with water tank of a capacity of 11 liters per person sitting capacity.
b. CO2 extinguishers of 4.5kgs. capacity.
c. Ventilated staircase of 2 meters width.
d. Beam smoke detectors installed across in the auditorium.
e. Sprinklers installed on the side wall at 3 meters height.
f. The material used for seats and lining shall be of Fire resistant material.
g. EXIT signs placed on all doors which shall be illuminated with alternate source of power.
h. All doors of the halls shall open outwards and be of 1.5 meters width and shall be kept unlocked during the show time.
i. the foyer and the halls shall have emergency lights operating automatically in case of electricity failure.
j. Basement shall be used for car parks and plant room, Transformers of any type shall not be permitted. The basement shall be protected with sprinklers, hydrants, hose reels, extinguishers.
k. The projection room shall have DCP extinguishers and shall have doors on two extreme sides.

14. HIGH PRESSURE MIST SYSTEM FOR HANDHELD FIRE FIGHTING :

(High pressure mist system is an alternate to the installation of conventional type of hydrant system.)

a. minimum 60 to 75 lpm @ 100 bar (per hose reel).
b. High pressure pump minimum 150 LPM @ 110 bar.
c. High pressure line 25 mm. made of seamless SS pipes.
d. ON / OFF switches at each floor near the hose reel.
e. Fog gun with jet and fog variation and 18 meters throw.

f. water tank capacity shall depend on the pump capacity and no. of hose reels per floor.

g. High pressure quick connectors to be provided for Fire service inlet with ball valves.

h. HYDRANT SYSTEM (CONVENTIONAL)

i. Fire pump capacity to discharge 900 liters per minute @ 3 bar pressure at terrace level.

ii. One hydrant valve and one hose reel hose with ON / OFF switch for the fire pump (one set per floor area of 1000 sq. meters.)

iii. Riser Cum Down commer to be provided 100 mm. diameter up to 30 meters, 150 meters for buildings above 30 meters.

iv. One unit of CO2 extinguisher 4.5 kgs and one unit of DCP extinguisher of 6 kgs. per floor (one set per 1000 sq. meters)

v. Fire service inlet to be provided at the ground level.