



**Government Of West Bengal
Office Of The Deputy Director
West Bengal Fire & Emergency Services
Station Feeder Road, P.O & P.S Siliguri,
District: Darjeeling, Pin - 734005**

Memo no.:FSR/0125186220500244

Date: 07-11-2022

From:
Deputy Director
North Zone, HQ Wing,
West Bengal Fire & Emergency Services

To: D.M. VENTURES REPRESENTED BY ONE OF ITS PARTNER MRINAL AGARWAL AND OTHERS
HILL CART ROAD, SILIGURI

Sub: Fire Safety Recommendation for Proposed construction of B+LG+UG+5 storied commercial Building under group of Mercantile in the name of D.M. VENTURES REPRESENTED BY ONE OF ITS PARTNER MRINAL AGARWAL AND OTHERS at the Premises no :- Plot No. :- 8805,8806,8014,8803/8908, RS, 3848, 3859,6137,6140,3861L.R, MOUZA – Siliguri RS,Siliguri Madhya LR,J.L. – 88(110)RS,88LR, KHATIAN – LR 13191,13200,13199,RS5669, 2384,2412, 5600, Sheet no- 09RS,58LR,Pargana-Baikunthapur, PS- SILIGURI, DIST. – DARJEELING, 734005.

This is in reference to your application no. 0125186220500244 dated 23-09-2022 regarding the Fire Safety Recommendation for Proposed construction of B+LG+UG+5 storied commercial Building under group of Mercantile in the name of D.M. VENTURES REPRESENTED BY ONE OF ITS PARTNER MRINAL AGARWAL AND OTHERS at the Premises no :- Plot No. :- 8805,8806,8014,8803/8908, RS, 3848, 3859,6137,6140,3861L.R, MOUZA – Siliguri RS,Siliguri Madhya LR,J.L. – 88(110)RS,88LR, KHATIAN – LR 13191,13200,13199,RS5669, 2384,2412, 5600, Sheet no- 09RS,58LR,Pargana-Baikunthapur, PS- SILIGURI, DIST. – DARJEELING, 734005.

The plan submitted by you was scrutinized and marked as found necessary from Fire Safety point of view. In returning one set of plan with recommendation, this is issuing Fire Safety Recommendation in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:

CONSTRUCTION:

- 1.The whole construction of the existing building shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipality Body.
- 2.The floor area exceeds 3000 m² shall be suitably compartmented by separation walls up to ceiling level having two hours fire resisting capacity.
- 3.The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specifications.
- 4.Provision of ventilation at the crown of the central core-duct of the building shall be provided.

5. Arrangement shall have to be made for sealing all the vertical and horizontal ducts by the materials of adequate fire resisting capacity.

OPEN SPACE AND APPROACH:

1. The open spaces surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire Appliances with turning facility.
2. The approach roads shall be sufficiently strong to withstand the load of Fire Engine weighting 45M.T.
3. The width and height of the access gate into the premises shall not be less than 4.5 mts. and 5.0 mts. respecting the abutting road.
4. Drive way should be free from any type of obstruction. No parking will be allowed on the drive way.
5. All the Passage way should be kept clear for free access.

STAIRCASE:

1. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks/R.C.C. type having fire resisting capacity not less than 4 hours.
2. The staircase of the building shall have permanent vents at the top and open able sashes at each floor level in the external wall of the building.
3. The width of the staircases shall be made as shown in the plan. Corridors and the exit doors shall conforming the relevant building rules.
4. All the staircase shall be extended up to terrace of the building and shall be negotiable to each other connecting through a common corridor.
5. Fire and smoke doors at the entrances of all the staircase enclosure as marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least one hour fire resisting wire glass window fitted with self-closing type open able in the direction of escape.
6. 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 the ground level only from the open air and in such positions that smoke from any fire shall not obstruct any exit serving the lower ground and upper mall of the building.

LIFT:

1. Walls of all lift enclosures shall have a fire rating of two hours; lifts shafts have a vent area not less than 0.2 M²
2. Lift Motor Room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
3. Landing doors in all lift enclosures shall have a fire resistant of not less than 1 hour.
4. All Lift Car door shall have a fire resistance rating of half an hour.
5. Exit from the lift lobby, if located in the core of the building, shall be through a self closing smoke stop door of half an hour fire resistance.
6. Grounding Switch(es), at ground floor level shall be provided on all the lifts to enable the fire service to ground the lifts..
7. Collapsible gates shall not be permitted for lifts and shall have solid lift doors with fire resistance of at least 1h.
8. A sign shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the locations of the stairways.
9. In case of failure of normal electric supply, it shall automatically trip over to alternate supply. This changeover of supply could be done through manually operated changeover switch. Alternatively, the lift shall be so wired that in case of power failure, it comes down at the ground level and comes to stand still with door open.

BASEMENT:

1. The basement shall be adequately ventilated.

2. Additional staircase from the open air as shown in the drawing shall be constructed beside the ramps conforming relevant I.S. specification.
3. The basement shall be protected with auto sprinklers system/hose reel system etc.
4. Mechanical extractors for smoke venting system from lower/upper basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat/smoke sensitive detector or sprinkler. It shall also have an arrangement to start it manually.
5. Mechanical extractors shall have an alternative source of supply.

FIRE FIGHTING WATER:

Underground water reservoir having water capacity of 150000 ltrs. and overhead water reservoir having capacity of 10000 ltrs. exclusively for fire fighting purpose with replenishing arrangements @ 1000 ltrs/min. preferably from two different sources of water supply shall be provided. The water reservoirs shall have overflow arrangement with the domestic water reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all time.

HYDRANT SYSTEM:

1. The building shall be provided with Wet Riser of 150 mm. internal diameter pipe line with provision of landing valves at the staircase landings/half landings at the rate of one such riser for 1000 sqm. of floor area. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2280 ltrs /min. at the ground level outlet and minimum 900 ltrs/min. at the top most outlet. In both cases the running pressure shall not be less than 3.5 kgs/sq.cm. All other requirements shall conforming I.S. specifications.
2. Provision for Hose Reel in conjunction with Wet Riser shall be made at each floor level and conforming the relevant I.S. Specifications.
3. Provision of standard Hose Reel Hose supplied from the overhead or underground reservoir through Booster Pump shall have to be made in all the floor of the building satisfy the code of I.S. specification.
4. Yard Hydrant/ Ring Men Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building with two numbers of Fire Service Inlet shall be installed in accordance with relevant I.S. specifications.

SPRINKLER INSTALLATION:

The automatic sprinkler installation shall be provided in basement and in all floor areas of the building as per I.S. specifications. Alarm Gong to be incorporated along with the sprinkler system.

FIRE PUMP:

1. Provision of the Fire Pump shall have to be made to supply water at the rate-designed pressure and discharge into to the Water based system, which shall be installed in the building. One such pump shall always be kept on stand-by preferably be of diesel driven type.
2. A Separate Fire Pump shall preferably be made for the total Sprinkler Installation of the building. Provision of the Jockey Pump shall also have to be made to keep the water based system under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. The suction of pumps shall preferably of positive type or in case of negative suction the system shall be wet riser-cum down comer with suitable terrace pump with overhead tank.

ELECTRICAL INSTALLATION AND DISTRIBUTION:

1. The electrical installation including Transformers, Switch Gear, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire Safety in general building as laid down in I.S. specification.
2. The vertical and horizontal electrical ducts shall be sealed at each floor level by fire resisting materials.

- 3.The electrical installation shall be adequately protected with CO2/D.C.P. Fire Extinguishers conforming I.S. specification.
- 4.Transformer to be protected by High Velocity Water Spray Projection System as per relevant I.S. specification.
- 5.Arrangement for alternative power supply shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Deep Tube-Well Pump, Fire Alarm System etc. and also for illuminating the Staircase, Corridors, Lobbies etc. and other places of assembly of the building in case of normal power failure.

DETECTION AND ALARM SYSTEM:

- 1.Manually operated Electrical Fire Alarm System with at least three numbers of break glass type call boxes fitted with Hooters along with Public Address System at each floor connecting with visual panel board shall be made in Control Room. The Control Room shall be located at entrance of ground floor of the building, other requirements of the system shall be made conforming I.S. specifications.
- 2.Auto Fire Detection System with the help of Heat and Smoke Detectors shall be installed in all places of below and preferably above false ceiling of the building. The system shall also be made in place of rooms where valuable articles have been kept. The other requirements of the system shall be made in accordance with I.S. specifications.
- 3.The suppression system shall be made with Fire Extinguishers particularly in Computer, Electrical processing and Data Room and in all rooms of irreplaceable articles.
- 4.Hooters will be sounded in such a manner so that an operation of a Detectors or Manual Call Point. Hooters will be sounded on the same floor and immediate alternate floor.
- 5.Public Address System linked between all floors and Control Room shall have to be established.

CENTRALLY AIR CONDITIONING SYSTEM: (Where applicable)

- 1.The A.H.U shall be separated for each floor with the system Air Ducts for individual floors.
- 2.Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in Air Conditioning system.
- 3.The system of auto shut down of A.H.U shall be incorporated with the auto detection and alarm systems.
- 4.Escape routes like staircases, common corridors, lift lobbies etc. shall not be used as return air passage.
- 5.Wherever the ducts pass through Fire Wall of the floors, the opening ground the ducts shall be sealed with Fire resisting materials as such as asbestos rope vermiculite concrete etc.
- 6.As far as possible metallic ducts shall be used even for the return air instead of space above the false ceiling.
- 7.The material used for insulating the ducts system (inside or outside) shall be of non combustible materials glass wool shall not be wrapped or secured by any materials of combustible nature.
- 8.Area more than 750m² on individual floor shall be segregated by a Fire wall and automatic Fire Dampers for isolation shall be provided.
- 9.Air ducts serving main floor area, corridors etc. shall not pass through the staircase enclosure.
- 10.The Air handling units shall be separated for each floor and air ducts for every floor shall be separate and in no way interconnected with the ducting of any other floor.
11. If the air handling units serve more than one floor, the recommendation given above shall be complied with in addition to the conditions given below:-
 - a)Proper arrangements by way of automatic Fire Dampers working on fusible links for insulating all ducting at every floor from the main riser shall be made.
 - b)When the automatic fire alarm operates the respective air handling units of the air conditioning system shall automatically be switched off.
- 12.The vertical shaft for treated fresh air shall be of masonry construction.
- 13.The Air filters for air handling units shall be of non combustible materials.
- 14.The air handling unit room shall not be used for storage of any combustible materials.

15. Inspection panel shall be provided in the main trucking to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of Fire dampers.

16. No combustible materials shall be kept nearer than 15cm to any duct unless such duct is properly enclosed and protected with non combustible materials (glass wool or spun wool with neoprene facing enclosed and wrapped with Aluminum sheeting) at least 3.2 mm thick and which would not readily conduct heat.

17. FIRE DAMPERS:

I) There shall be located in conditioned are ducts and return ducts / passages at the following points:

a) At the Fire Separation wall.

b) Where ducts / passages enter the central vertical shaft.

c) Where the ducts pass through floors

d) At the inlet of supply air duct the return air duct of compartment on every floor.

II) The dampers shall operate automatically and shall simultaneously switch off the air handling fans. Manual operation facilities shall also be provided.

III) Automatic Fire Dampers shall be so arranged so as to close by gravity in the direction of air movement and to remain tightly closed on operation of a fusible link / smoke detector.

GENERAL RECOMMENDATIONS:

1. Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.

2. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.

3. Floor numbers and directional sign of escape route shall be displayed prominently.

4. The employees and security staffs shall be conversant with installed Fire Fighting Equipments of the building and to operate in the event of Fire and Testing.

5. Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.

6. A crew of trained Fireman under the experienced Fire Officer shall be maintained round the clock for safety of the building.

7. Mock Fire practice and Evacuation Drill shall be performed periodically with participation of all occupants of the building.

8. After every three years a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Life and Fire Safety arrangements installation of the building.

On compliance of all the above Life and Fire Safety Recommendation, the Director General, West Bengal Fire & Emergency Services shall be approved for necessary inspection and testing of all the installation, Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of safety aspects of installation of the building.

N.B. : Any deviation and changes the nature of use of the building in respect of the approved plan drawing, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancel

Signature valid

Digitally Signed.
Name: RATAN KUMAR HALDER
Date: 07-Nov-2023 15:53:02
Reason: Approved
Location: West Bengal

Deputy Director
West Bengal Fire & Emergency Services

Memo No.:FSR/0125186220500244