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Government Of West Bengal
Office Of The Director General
West Bengal Fire & Emergency Services
13D, Mirza Ghalib Street, Kolkata - 16

Memo no.:FSR/0225186238701296 Date: 02-02-2024

From:
Director
Fire Prevention Wing,
West Bengal Fire & Emergency Services

To: SUNIL AGARWAL
058,27,,MATHESWARTOLA ROAD

Sub: Fire Safety Recommendation for proposed construction of one no. B + G + 31 storeyed Serviced Apartment Building termed as Block- A, one no. B + G + 10 storeyed Hotel Building termed as Block- B under group Residential Building and one no. B + G + 2 storeyed Car parking (MLCP) building termed as Block-C,at the premises no. 27,MATHESWARTOLA ROAD, Ward No. 058, Borough VII under KMC, P.S. Pragati Maidan, Kolkata 700 0046.

Application Reference : KMC (CAF-2023070262) received on 19-12-2023 regarding the Fire Safety Recommendation for proposed construction of one no. B + G + 31 storeyed Serviced Apartment Building termed as Block- A, one no. B + G + 10 storeyed Hotel Building termed as Block- B under group Residential Building and one no. B + G + 2 storeyed Car parking (MLCP) building termed as Block-C,at the premises no. 27,MATHESWARTOLA ROAD, Ward No. 058, Borough VII under KMC, P.S. Pragati Maidan, Kolkata 700 0046.

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 proposed project shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
2.The interior finish decoration of the buildings shall be made with low flame spread ,low smoke and non toxic gas generating categories of materials conforming relevant I.S. specifications.
3.Provision of ventilation of the entire buildings including Basements shall be done as per NBC Part 4, 2016.
4.Arrangements shall have to be made for sealing of all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity. Service ducts and shafts shall be enclosed by materials of 2 hour fire resistance capacity.
5. Fire rating test certificate of all the FCDs and interior finish decoration shall have to be submitted prior to occupancy.
6.Respective provisions of NBC Part 4, 2016 must be incorporated in respect of construction and maintenance of fire and

life safety arrangement for the entire project.

OPEN SPACE & APPROCH:

1.The open space surrounding the buildings shall conform the relevant building rules as well as permit the accessibility and manoeuvrability of Fire appliance including Aerial Ladders with turning facility.

2.The approach roads, internal road / driveway and dedicated space 9 M X 15M for Fire Service Aerial Ladder shall be sufficiently strong to withstand the load of Fire Engine weighing up to 45 M.T.

3.The clear width and height of the access gates into the premises shall be not less than 6.0 M & 5.5 M respecting the drive way and abutting road.

STAIRCASE:

1.The staircases of the buildings shall be enclosed type as shown. Entire construction shall be made of bricks/ R.C.C type having Fire resisting capacity not less than 4 hours.

2.The Staircases of the buildings shall have permanent vents at the top and openable sashes at each floor level in the external wall of the building.

3.The width of the staircases shall be made as marked in the plan. Corridors and the exit doors shall conform the relevant building rules, with up-to-date amendments.

4.All the principal staircases shall be extended upto terrace of the buildings and shall be negotiable to each other without entering into any occupied area.

5.Fire and smoke check doors (FCDs) at the entrances of all the staircases enclosures as shown in the plan drawing shall be provided. The F.C.D. shall be of at least two hours Fire resisting wire glass window flitted with self-closing type, openable in the direction of escape.

6.Considering the staircases are only means of evacuation, emergency lighting arrangement,directional & exit sign etc. shall be made conforming the relevant I.S. Code in this regard.

7.Pressurization, as shown, shall be done and maintained.

LIFT:

1.The walls of the lift enclosure of the building shall be at least four hours FIRE resisting type and all the lift lobbies and shafts shall be pressurized as per existing norms and provision of NBC Part 4, 2016.

2.The lifts of the buildings shall be designed at high speed “Fire Lift” and shall be conspicuously indicated / marked.

3.Exit doors of the lift shafts shall be through a self- closing smoke stop door of 2 hours fire resistance.

4.The speed of the fire lifts in the buildings shall be such that it can reach the top from the ground floor within stipulated time. Audio Visual indications of floor numbers shall be incorporated in the lift cars.

5.The Electric power shall be from separate supply mains in the buildings and cables run within the lift shafts, lights and fans in the lift cars shall be operated from 24 volts supply on emergency, in case of failure of normal power supply, lift shall automatically trip to alternate power supply.

6.All other requirements shall conform relevant I.S. specification including the communication facility in the lift cars which shall be connected with the Fire Control Room of the building.

7.A positive pressure,as per provision of NBC Part 4, 2016 and relevant I.s specification shall be maintained inside the lift well and lobby. The pressurization, as shown, shall be maintained round the clock.

REFUGE AREA:

1.The Refuge area of not less than 15 sq. m. each shall be provided on the external wall as cantilever projection or any other suitable means at the level as shown in approved plan drawing.

2.Each Refuge area shall be separated completely from adjacent part of building by means of Fire barrier / wall of 2 (Two) hour rating.

3.The refuge area shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance.

4.The position of Refuge Areas shall be such that they are negotiable by the Fire service Ladder/appliances from the ground level.

5.Fire and Life safety arrangements in each Refuge area shall be as per provision of NBC Part 4, 2016.

FIRE FIGHTING WATER:

1.Underground water reservoir having water capacity of each of Block A and Block B shall be not less than 2,00,000 L (Two Lac Litre) each, shall be provided. Reservoirs shall be kept full at all time.

2.Overhead reservoir of not less than 10,000 L (Ten thousand Litre) Capacity, exclusively for Firefighting purpose,shall be provided for each Block A & B. Reservoirs shall be kept full at all time.

3.The water reservoirs shall have overflow arrangement with the domestic water reservoirs as well as to avoid stagnancy of water.

Provision of necessary manhole shall be made on the top of this reservoirs as per provision of NBC Part 4, 2016.

4.Provision of replenishment at the rate of at least 2000 LPM from two separate sources of water supply shall be made.

5.The deep tube wells for the replenishment of the reservoirs,if any, shall be incorporated with auto starting facility with actuation of auto detection and suppression arrangement of the premises and shall also be connected with duel power supply units.

6.Provision of placing Fire Appliances near the underground water reservoir to be made to draw water in case of emergency.

WATER LAYOUT SYSTEM (FOR BLOCK -A,B AND C):

1.Ring main hydrant system: Minimum 150 mm internal diameter Ring main hydrant system with provision of adequate nos. of pillar type yard hydrants with door hose boxes, containing 2 lengths of 15 M long and 63mm dia delivery hose and short branch pipes shall be provided at all strategic location and surrounding the building conforming relevant I.S specification. The system shall always be charged under pressure and capable to discharge 2850 LPM. The running pressure shall not be less than 3.5 Kg /Sq.cm at the farthest point.

2.The buildings shall be provided with separate Wet Riser for sprinkler system & hydrant system of 150 mm. internal diameter Pipe Line each, with provision of landing valves at the Staircase landings / half landings at the rate of one such riser for 1000 Sq.m. of floor area.

3.The system shall be so designed that shall be kept charged with Water all the time under pressure and capable to discharge 2850 LPM at the ground floor level outlet and minimum 900 LPM at the top most and furthest outlet. In both cases the running pressure shall not be less than 3.5 Kg /Sq.cm. All other requirements shall be conforming I.S. 3844 – 1989.

4.Provision for Hose Reel units on swivelling drum in conjunction with Wet Riser shall be made near each landing valves. Entire floor shall be within the reachability of Hose reel hose.

5.Provision of suitable Fire Service Inlet shall be made as per relevant I.S specification and provision of NBC Part 4, 2016.

6.Sprinkler Installation: The automatic Sprinkler installation shall be provided for all floor areas of the entire building, as per provision of NBC Part 4, 2016 and relevant I.S specification. Alarm gong to be incorporated along with the sprinkler system.

7.All the other requirements of water based suppression system shall be made as per I.S. Specification 3844-1989 ,with upto date amendment.

FIRE PUMP:

1.Provision of separate Fire Pumps (2850 LPM capacity each) for hydrant and sprinkler system shall have to be made to supply water at the rate-designed pressure and discharge into the Water based suppression system, which shall be installed in the respective pump rooms of BLOCK -A and BLOCK-B.

2. One such pump of diesel driven type shall always be kept on stand-by .

3.Provision of separate Jockey Pumps shall also have to be made to keep the Water based suppression systems, i.e. hydrant and sprinkler system separately under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities.

4.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.

5.The fire pumps shall be multi stage, multi outlet creating pressure zones.

6.The Number and type of fire pumps and the FIRE FIGHTING PUMP HOUSE shall be as per provision of N. B. C. Part - 4, 2016.

MULTI LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM (DOUBLE LAYER M.L.C.P.):

1.Structural design:- The M.L.C.P. shall be constructed of structural steel construction.

2.Vertical Deck Separation:- For M.L.C.P. having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non- perforated and non-combustible materials (Structural Steel Plate) shall be provided. Proper drainage system shall have to be provided for accidental leaking of oil from the Car. Sand bed shall be provided at the Base level.

3.Fire Engine Access way:-Access way shall be provided for the Fire Engine to gain access to the car park entrance and exit.

4.Fire Hydrant:- Fire hydrants are to be provided in accordance with the provision of NBC Part IV, 2016and relevant I.S. specification.

5.Sprinkler & Detection System: Automatic Sprinkler along with detectors shall be provided in all Parking & M.L.C.P. areas as per relevant I. S. Specification.

6.Operating System:- Both Mechanical and Manual type operating system for M.L.C.P shall have to be provided.

ELECTRICAL INSTALLATION & DISTRIBUTION:

1.The electrical installation including transformers, Switch Gears, L. T., H. T. Rooms, panel rooms, 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 1946 – 1982.

2.Electrical distribution system of the building shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to earth. Cables shall be I.S. marked and be of F.R.L.S. categories.

3.The vertical & horizontal ducts shall be sealed at all floor level by approved fire resisting materials.

4.The electrical installation shall be adequately protected with automatic fire detection and suppression system as per provision of N. B. C. Part- IV, 2016 and relevant I. S. specification.

5.ALTERNATIVE POWER SUPPLY :

Arrangements shall have to be made to supply power with the help of generators of suitable capacity to operate at least the Fire Pumps, Pumps for deep Tube-well, Fire Detection and Alarm System, PA system, Magnetic door hold open devices,Fire man’s lift including all lifts, pressurization, ventilation, signage etc. and also for illuminating the Staircases, corridors etc. and other places of assembly of the building,Fire command system & Security room etc. in case of failure of normal power supply.

INTELLIGENCE ANALOGUE ADDRESSABLE SYSTEM:

1.Auto Fire Alarm System with analogue addressable smoke / heat and Gas leak detectors(at the usage point) as per suitability shall be installed in all floors of the building.

2.Addressable analogue manual call boxes incorporating with sounders shall be installed at each floor area of the building in such a manner that maximum travel distance shall not be more than 22.5 m in order to reach any of the call point.

3.Both way public address systems linked between all floors and Control Room and talk back facility shall have to be maintained.

4.All the installations shall also be satisfy the I.S. specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part-4, 2016.

5.CC TV & Public Address System :-

Public address system with talk back facility and CC TV surveillance system linked between all floors common areas and Fire Control Room shall have to be provided with 24 X 7 monitoring arrangement.

Air Conditioning System (If Any):

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 the Air Conditioning

system.
3.The system of auto shut down of A.H.U. shall be incorporated with the auto detection and alarm system.
4.The air handling unit room shall not be used for storage of any combustible materials.
5.Escape route like staircases, common corridors, lift lobbies etc. shall not be used as return air passage.
6.Wherever the ducts pass through Fire wall of floors, the opening around the ducts shall be sealed with Fire resisting materials.
7.The metallic ducts shall be used even for the return air.
8.The materials used for insulating the duct system (inside or outside) shall be of non- combustible materials, glass wool shall not be wrapped or secured by any materials of combustible nature.
9.Area more than 750 sq. m. on individual floor shall be segregated by a Fire wall and automatic fire damper for isolation shall be provided.
10. Air ducts shall not pass through the staircase enclosures.
11. The air handling units shall be separation for each floor, and air ducts for every floor shall be separated and in no way interconnected with the ducting of any other floor.
12. If the air handling units serve more than 1 floor, the recommendation given above shall be complied with in addition to the conditions given below:-
13. Proper arrangements by way of automatic Fire dampers working on fuseable link for isolating all ducting at every floor from the main riser shall be made.
14. When the automatic Fire alarm operates ,the respective air handling units of the air conditioning system shall automatically switched off.
15. The vertical shaft for treated fresh air shall be of masonry construction.
16. The air filters for air handling units shall be of non-combustible materials.
17. Inspection panel shall be provided in the main trucking to facility the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
18. No combustible materials shall be fixed nearer than 150 cm to any duct unless such duct 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. However, the entire air conditioning system shall be made in accordance with relevant I.S. specification.
Fire Kiosk:
Each Fire Kiosk for the proposed buildings, the following fire fighting and rescue equipments, shall be provided/ maintained:
i)4 nos. 4.5 kg. CO2 extinguisher.
ii)4 nos. 4.5 kg. ABC type extinguisher.
iii)2 nos. ceiling hook.
iv)4 nos. Fire Bucket.
v)1 no. Lock Cutter.
vi)2 nos. 14 lb. Hammer.
vii)2 nos. Crowbar.
viii)1 no. Insulated Axe.
ix)2 nos. Stretcher.
x)2 nos. Smoke Hood.
xi)2 nos. Torch Light.
Details of all floor plans along with details of Fire Fighting equipment and installations shall be maintained in fire kiosk.

FIRST AID FIRE FIGHTING SYSTEM:
First Aid Fire fighting arrangement in the style of placing suitable type of portable Fire Extinguishers, Fire Buckets etc. in all

floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.

GENERAL RECOMMENDATIONS:

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

2. Necessary sanction and approval for such construction and occupancy of this project must be obtained from competent authorities.

3.Lightning arrestor and air craft warning lights shall have to be installed as per existing norms and relevant IS specification.

4.Disposable type B. A. Musk, smoke hood of sufficient quantity to be kept always available for emergency situation.

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

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

7.The employees and security staff shall be conversant with installed Fire Fighting equipments of the building and to operate in the event of Fire and Testing.

8.The Department of Fire & Emergency Services, Government of West Bengal, shall not take any responsibility in respect of any legal dispute if pending or arises about the title of land / property.

9.This Fire Safety Recommendation cannot be treated in any case of regularizations of any unauthorized construction.

10. The management of the organization/buildings, as the case may be, shall maintain the fire prevention and safety measures in good repair and in efficient condition at all the times which are installed in the building for use at the time of fire or other emergencies.

11. A crew of trained Fireman under an experienced officer shall be maintained round the clock for safety of the buildings.

12. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants and employees of the buildings.

13. Accordingly, a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services, certifying about the satisfactory services, performance of all the Fire and Life Safety arrangements and installation of the buildings.

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

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

Signature Not Verified
Digitally Signed.
Name: ABHIJIT PANDEY
Date: 02-Feb-2024 16:03:20
Reason: Approved
Location: West Bengal

DIRECTOR
West Bengal Fire & Emergency Services