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Government Of West Bengal
Office Of The Divisional Fire Officer,Paschim Bardhaman
West Bengal Fire & Emergency Services
Bhangakhuti, Purba Burdwan, P.O.:- Rajbati, Pin :- 713104

Memo no.:FSR/0125186239100252 Date: 10-07-2023

From:
Divisional Fire Officer,Paschim Bardhaman
West Bengal Fire & Emergency Services

To: TRINAYANI VYAPAAR PRIVATE LIMITED.
R.S. DAG NO.- 151,146 L.R. DAG NO.- 169,172,182 R.R.AND L.R. KHATIAN NO.-2002,J.L.No.- 18 MOUZA - AMRASOTA HOLDINGNO.-11 WARD NO.-34 P.S.- RANIGANJ , DISTRICT PASCHIM BARDDHAMAN UNDER ASANSOL MUNICIPAL CORPORATION, W.B

Sub: Fire Safety Recommendation for the Proposed Construction of B+G+12 storied (Block – 3A, 3B, 3C, 3D) along with podium and G+12 Storied (Block – 1 & 2) Under Group Residential Building Situated at Premises no.- At R.S. Dag No.- 151, 146, L.R. Dag No.- 169, 172, 182, R.S./L.R. Khatian No.- 2002, J.L. No.- 18, Mouza.- Amrasota, Holding No.- 11, Ward No.- 34, P.S.- Raniganj, District.- Pashim Barddhaman, Under Asansol Municipal Corporation, W.B.

This is in reference to your application no. 0125186239100252 dated 21-06-2023 regarding the Fire Safety Recommendation for the Proposed Construction of B+G+12 storied (Block – 3A, 3B, 3C, 3D) along with podium and G+12 Storied (Block – 1 & 2) Under Group Residential Building Situated at Premises no.- At R.S. Dag No.- 151, 146, L.R. Dag No.- 169, 172, 182, R.S./L.R. Khatian No.- 2002, J.L. No.- 18, Mouza.- Amrasota, Holding No.- 11, Ward No.- 34, P.S.- Raniganj, District.- Pashim Barddhaman, Under Asansol Municipal Corporation, W.B.

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 buildings shall be carried out as per approved plan drawings conforming the relevant buildings rules of local Municipal Body.

2. The interior finish decoration of the buildings shall be made of low flame spread materials conforming to I.S. specifications.

3. Provision of ventilation at the crown of the central core-duct of the buildings shall be provided.

4. Arrangements shall have to be made for sealing all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity & the doors of service ducts / shafts of 2hr. Fire rating.

OPEN SPACE & APPROACH:

1. The open spaces surrounding the buildings shall conform the relevant building rules as well as permit the accessibility and manoeuvrability of Fire Appliances with turning facility.

2. The approach road shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.

3. The width and height of the access gates into the premises shall not be less than 4.5 and 5 M respecting abutting the road.

4. The Drive way as shown/approved shall be free from any obstruction for free movement of Fire Service Vehicle.

5. The FCDs Shall have to be provided as shown or marked or as per NBC Part IV 2016.

Basement

•Mechanical Extractor shall have alternate source of supply.
•Mechanical Extractor shall have inter-locking Arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the Actuation of Fire Detector(s) and or sprinkler system with back up by DG Set.
•Mechanical Extractor shall be designed to permit 12 ACPH in case of Fire or distress call.
•The basement shall be protected with Auto sprinkler system integrated with alarming system and several hydrant points.

STAIRCASE:

1. All the principal staircases as shown or marked in the approved plan drawing from ground to top floor shall be pressurized. A positive pressure of 25-30 Pa. shall be maintained inside the staircases.

2. The staircases of the building shall be enclosed type, entire construction shall be made of brick / R.C.C. type having Fire resisting capacity not less than 4 hours respectively marked in the plan.

3. The staircases of the building shall have permanent vents at the top equal to 5% of the cross sectional area of the staircase enclosures and open able sashes at each floor level equal to 15% of the said cross section are shall have to be provided in the external wall of the building.

4. The width of the staircases and corridor and travel distance of different categories of occupancies shall have to conform the relevant building rules.

5. Fire and Smoke check doors at each the entrances of all the Staircase enclosures 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. 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 regards..

LIFT:

1. The walls of the lift enclosure of the building shall be at least two hours FIRE resisting type and lift shaft shall be pressurized as pre-existing norms and provision of NBC Part IV, 2016

2. All the lifts of the building shall be designed as high speed “FIRE LIFT” and shall be conspicuously indicated / marked.

3. The Electric power shall be from separate supply mains in the building and cables run with in the lift shafts, light 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 over alternate power supply.

4. Exit doors of the lift lobby shall be through a self- closing smoke stop door of 1 hour fire resistance for Residential Towers.

6. The speed of the fire lifts in the building shall be such that it can reach the top from the ground floor within 1 minute. Visual indications of floor numbers shall be incorporated in the lift cars.

7. All other requirements shall conform relevant I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the building.

REFUGE AREA:

1. The Refuge areas/ at floor level shall be provided on the external wall as cantilever projection for Residential Buildings as shown in plan drawings not less than 15 Sq. mtr. area or as shown or marked at the designated level as shown / marked in the plan.

2. The refuge areas shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance from the corridor or the staircase landings.

3. The position of refuge Areas shall be such that they are negotiable by the Fire service Aerial Ladder from the ground floor.

FIRE FIGHTING WATER:

•Under Ground Water Reservoir of 100,000 ltrs capacity and and Over Head Water Reservoir of 9450 Ltrs. at (Block- 2, 3A & 3B) & Block- 1 = 11400 Ltrs. & Block- 3C & 3D = 11445 Ltrs. (for Fire) capacity exclusively for Fire Fighting purpose with replenishing arrangements @2000 ltrs/min. preferably from two different sources of water shall have to be provided. The water reservoirs shall have overflow arrangement with the domestic water reservoir as well as to prevent stagnancy of water. The water reservoirs shall be kept full at all time.

WATER LAYOUT SYSTEM:

1.The building shall be provided with separate Wet Risers of 150 mm 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. The system shall be so designed that shall be kept charged with Water all the time under pressure and capable to discharge 2850 lts/min. at the ground floor level outlet and minimum 900 lts/min. at the top most and farthest outlet. In both cases the running pressure shall not be

less than 3.5 Kgs/Sq.cm. All other requirements shall be conforming I.S. 3844 – 1989.
2.Provision for Hose Reel units on swiveling drum in conjunction with Wet Riser shall be made near each landing valves.
3.Yard Hydrant / Ring Main Hydrant 150 mm with provision of adequate numbers of Pillar type Hydrant shall be installed surrounding the building in accordance with relevant I.S. specifications.
4.Provision of suitable Fire Service Inlet (four way) shall be made as per relevant I.S specification.

FIRE PUMP:

• Provision of the Fire Pump shall have to be made to supply water at the rate-designed pressure and discharge into the Water based system, which shall be installed in the building. One such pump shall always be kept on stand-by be of diesel driven type.

•Provision of Jockey Pump/Stand by 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.
•The Discharge Capacity of Jockey shall have to be 180LPM considering other IS specification.
•The Discharge Capacity of Main shall have to be 2850 LPM considering other IS specification.

•The Discharge Capacity of Stand by shall have to be 2850 LPM considering other IS specification.
• Provision of separate fire pump for sprinkler system of same capacity of main pump shall have to be made to keep the Water based system under pressurized condition at all the time and shall be installed.

Water Projector Protection:-

•The Electric installation viz. transformer (if oil type) switch gear etc. shall be protected by high velocity water projector/DCP modular system as per suitability.
Sprinkler Installation:

The automatic Sprinkler installation shall be provided in basement, all resident activity areas, all floor corridor of each block, car parking area, all assembly area, kitchen area as per provision of NBC Part – IV, 2016 and relevant I.S. 9972. Alarm gong to be incorporated along with the sprinkler system.

Electrical Installation & Distribution:

1.The electrical installation including transformers, Switch Gears, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire safety in general buildings as laid down in I.S. specification 1946 – 1982.
2.Electrical distribution system shall conform all the requirements as laid in I. S. 1646-1982.
3.The electrical installation shall be adequately protected with automatic CO2/D.C.P.
4.All electrical installation viz. Transformer Switch Gear L. T., H. T. rooms shall be protected with both auto detection and suppression systems as per suitability.
Alternative Power Supply:

Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Pump for deep Tube-well, Fire Alarm System, etc. and also for illuminating the Staircase, corridors etc. and other

places of assembly of the buildings incase of normal power failure.

DETECTION, ALARM AND SUPPRESSION SYSTEM:-

•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, talk back system at each floor connecting with audio-visual panel board shall be made in control Room. The control Room shall be located at the entrance of Ground Floor of the building, other requirements of the system shall be made conforming I.S. 2189-1988.

•Auto Fire Detection System (Analogue Addressable) with the help of Flint and smoke detector shall be installed in all places of below and preferably above false ceiling of the building. The system shall also be made in places of rooms where valuable articles have been kept. The other requirements of system shall be made in accordance with I.S 2189-1988.

•The Suppression system shall be made with Fire Extinguishers and total flooding system with CO2/F.M.-200 particularly in computer and Electrical processing and data room and in a room of irreplaceable articles.

•Hotter will be sounded in such a manner so that an operation of a Detector or Manual call point Hooters will sounded on the same floor and immediate alternate floor.

•Auto Fire Alarm System with smoke/heat detector as per suitability shall be installed in all floor area of the Restaurant & LPG Bank & LPG Sensor in Gas Bank.

INTELLIGENCY ANALOGUE SYSTEM:

•Auto Fire Alarm System with Analogue addressable smoke/heat detector as per suitability shall be installed in each floor.

•Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the building in such a manner that maximum travel distance shall not be more than 22.5 Mtrs. In order to reach any of the call point.

•Micro Processor based fire alarm panel shall be installed and all shall also be connected with main panel at the Fire Control Room of the premises having direct dialing facility to the local fire service unit.

•Both way public address systems shall be made available in all floors of the building. The system shall be connected to the Main Control Room.

•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-IV.

ELECTRICAL INSTALLATION & DISTRIBUTION:

•The electrical installation including transformers, Switch Gears, 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.

•The vertical ducts shall be supply sealed at alternative floor level.

•The electrical installation shall be adequately protected with CO2/D.C.P. or Medium Velocity / Projector system.

•Alternative power supply:

•Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire pump, pump for deep Tube-well, Fire Alarm system, Fire Lift etc and also for illuminating the staircase, corridors etc and other places of assembly of the building in case of normal power failure.

AIR CONDITIONING SYSTEM: (If any)

•The A.H.U. shall be separated for each floor with the system Air Ducts for individual floors.

•Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning system.

•The system of auto shut down of A.H.U. shall be incorporated with auto detection and alarm system.

•The air handling Units room shall not be used for storage of any combustible materials.

•The A.H.U. shall be separated for each floor with the system .Air ducts for individual floors.

•Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the air conditioning system.

•The system of Auto shut down of A.H.U. shall be incorporate with the auto detection and alarm system.
•Escape route like staircase, common corridors lift lobby etc. shall not be used as return air passage.
•The A.H.U. room shall not be used for storage of any combustible materials.
•Arrangements shall be made for isolation at the strategic location by incorporating auto dampers in the Air Conditioning System.
•Wherever the ducts pass through Fire Wall of Floors, the opening around the ducts shall be sealed with fire resisting materials such as asbestos etc.
•The metallic ducts shall be used even for the return air instead of space above the false ceiling.
•The material used for insulating the duct system (inside or outside) shall be of non-combustibl materials .Glass wool shall not be wrapped or secured by any materials of combustible nature . If the air handling unit serve more than one floor, the recommendation given above shall be complied with in addition as below:---
(a) proper arrangement by way of automatic fire dampers working on fusible link for isolating all ducts at every floor from main riser shall be made.
(b) The vertical shafts for treated fresh air shall be of masonry construction.
(c) The air filter for A.H.U. shall be of non-combustible materials.
(d) The A.H.U. room shall not be used for storing any combustible material.
(e) Inspection panel shall be provided in the main trunk to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
FIRE DAMPER:--
•Fire dampers shall be located in conditional air ducts and return air ducts/passage at the following points:--
1)at the fire separation wall.
2) there ducts/passage enter the central vertical shaft.
3) where the ducts pass through floors.
4) at the inlet of supply air duct and the return air duct of each compartment in every floor.
5) The damper shall operate automatically and shall simultaneously switch off the air Handling fans. Manual operation facilities shall also be provided.
6) Automatic Fire Dampers Shall be so arranged so as to close by gravity in the direction of air movement and to remain rightly closed open operation of a fusible link.
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
Public Address System :-
oPublic address system linked between all floors and Control Room shall have to be established.
(N)GENERAL RECOMMENDATIONS:
•Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
•Fire Notice for Fire fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
•Floor numbers and directional sign of escape route shall be displayed prominently.
•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.
•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.
•Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.

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 and installations of the building.

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, F. S. C. 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 cancelled.

Signature Not Verified
Digitally signed by SHYAM CHANDRA MONDAL
Date: 2023.07.11 12:30:38 IST

Divisional Fire Officer,Paschim Bardhaman
West Bengal Fire & Emergency Services