GOVERNMENT OF WEST BENGAL
Office of the Director General
West Bengal Fire & Emergency Services
13-D, Mirza Galib Street, Kolkata – 700 016.

Memo. No. : WBFES /6774 / 17/ Kol-RBC/324/17(324/17) *Date:* 30.08.17

From : **Divisional Fire Officer**
Fire Prevention Wing
West Bengal Fire & Emergency Services.

To : **Basant Kumar Parakh,**
Authorised Representative of
Ganges Estate Pvt. Ltd.,
1, Garstin Place,
Kolkata – 700 001.

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Sub : Fire Safety Recommendation for Proposed Construction of B+G+XV Storied Wing 2 & G+III Storied Wing 1 Under Group Residential Building at the Premises No- 1, Lower Rowdon Street, Ward No.-69, Borough No.-VIII, Kolkata-700 020.

This is in reference to your Letter No. Nil, Dated. 27.02.2017, Regarding Fire Safety Measure Proposed Construction of B+G+XV Storied Wing 2 & G+III Storied Wing 1 Under Group Residential Building at the Premises No- 1, Lower Rowdon Street, Ward No.-69, Borough No.-VIII, Kolkata-700 020.

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 office is issuing **Fire Safety Recommendation** in favour of the aforesaid building subject to the compliance of the following fire safety measure. However, necessary sanction and approval for such construction and occupancy must be obtained from competent authorities.

Enclose:

1. One set of plan.
2. Recommendation.

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Fire Prevention Wing
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RECOMMENDATION

A. CONSTRUCTION:

1. The whole construction of the proposed building shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
2. The floor area exceeds 750 m^2 shall be suitably compartmented by separation walls up to ceiling level having at least two hours Fire resisting capacity.
3. The interior finish decoration of the building shall be made low flame spread materials conforming L.S. specifications.
4. Provision of ventilation at the crown of the Central core-duct of the building shall be provided.
5. Arrangements shall have to made for sealing all the vertical ducts by the materials of adequate Fire resisting capacity.
6. Pressurization of staircases & lift lobbies shall be done as per the provision of Table-6 of NBC part-4, 2016.

B. OPEN SPACE & APPROCH:

1. The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliance with turning facility.
2. The approach roads 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 less than 5M – 5.5 M respecting the abutting road.

C. 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 openable sashes at the 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 be conforming the relevant building rules with up-to-date amendments.
4. All the staircase shall be extended up to terrace of the building and shall be negotiable to each floor.
5. Fire and smoke doors at the entrances of all the staircase enclosures 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 flitted with self-closing type open able in the direction of escape.

D. LIFT:

1. The walls of the lift enclosure shall be at least two hours Fire Resisting type.
2. Collapsible gate shall not be permitted.
3. One of the lift in each block shall be designed for Fire Lift. The Word "FIRE LIFT" shall be conspicuously written at ground floor.

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4. In case of failure of normal electric supply, it shall automatically trip to alternate supply and also shall have manually operated change over facility. Alternatively, the lift shall be so wired that in case of power failure, it comes down at the ground level stands still with door open.
5. All other requirements shall conform the I.S. specification including the communication facility in the lift cars connecting with the Fire Control Room of the building.

E. REFUGE AREA

1. Refuge area is not less than 15 Sqm. Shall be provided on the external wall with cantilever projection or other suitable means at above 26.968 mtr., 40.768 mtr. & 54.568 mtr. Level of the building as shown in the drawings.
2. The Refuge Areas shall be of Fire resisting construction and protected with self-closing F.C.D at the entrance from the corridors at staircase lobbies.
3. The position of Refuge Areas shall be such so that they are negotiable by the Fire Services Ladder from the Ground.

F. BASEMENT

1. The Basement shall be adequately ventilated with aggregate cross sectional area of not less than 2.5% of the area spread evenly round the perimeter of the basement shall be provided in the form of grills.
2. Mechanical smoke venting arrangements shall be provided to all the basements conforming the I.S. Specification.
3. The exit from the basement shall be form open Air and form any points the travel distance shall not exceeds 15 M to reach any exit. Continuation of staircase from the basement to upper floor will not be allowed i.e. all staircases shall be segregated on the ground floor level.
4. The basement shall be protected with Auto Sprinkler System conforming to I.S. 3844-1989.
5. The staircase of basement shall be of enclosed type having Fire resistance of not less than 4 hrs. and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such position that smoke from any Fire in the basement shall not obstruct any exit having the upper floor of the building.
6. Mechanical extractors shall have an alternative source of supply.
7. Mechanical extractor shall have an internal locking arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of Fire Detectors.
8. Mechanical extractors shall be designed to permit 30 Air changes per hour in case of Fire or distress call.

G. FIRE FIGHTING WATER:

Underground water reservoir having water capacity of 1,50,000 Ltrs. and overhead reservoir of two nos. 20,000 Lts. Capacity each on wing II exclusively for Firefighting purpose as shown with replenishing arrangements @ 2000 lts./min preferably from two different sources of water supply shall be provided. The Water Reservoir 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.

H. 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 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 outlet. In both cases the running pressure shall not be less than 3.5 Kgs/Sq. cm. All other requirements shall conforming I.S. 3844-1989.

2. Provision for Hose Reel in conjunction with Wet Riser shall be made at each floor level. Conforming the relevant I.S. Specifications.
3. Ring Main Hydrant with provision of four numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S specification.

I. SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in the Ground floor of wing I & entire building of wing II including basement as per I.S. 9972. Alarm gong to be incorporated along with the sprinkler system.

J. 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 preferably be of diesel driven type.

A separate Fire pump shall be installed for the total Sprinkler installation of the building. Provision of two Nos. of Jockey Pump shall also have to be made to keep the water based suppression 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.

K. 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 building as laid down in I.S specification 1946-1982.
2. The vertical & horizontal electrical ducts shall be sealed at each floor level by approved Fire resisting material.
3. The electrical installation shall be adequately protected with Automatic Fire Detection & Suppression system as per relevant I.S. specification.
4. Alternate 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 building in case of normal power failure.

L. DETECTION AND ALARM SYSTEM:

1. Manually operated Electrical Fire Alarm system with at least two 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 the entrance of Ground Floor of the building, other requirements of the system shall be made conforming I.S 2189-1988.

2. Auto fire detection system with the help of heat 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 the system shall be made in accordance with I.S 2189-1988.
3. Hooter 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.

M. 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.

N. TWO LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM:

1. Structural Design – The M L C P shall be constructed structural steel construction.
2. Vertical Deck Separation – For M L C P having M.L.C.P level, vertical Fire separation between the upper & lower decks by using a non perforated and non combustible materials (structural steel plate) shall be provided. This is to minimize direct impingement of flame to the car in the upper deck and also to prevent dripping of any possible leaking fuel to the lower deck. Proper drainage system shall have to be provided for accidental leaking of oil from the car and sand bed shall be provided at the ground level.
3. Water based suppression system shall be provided in accordance with the provision of N.B.C. Part-IV, 2016 & relevant I.S. Specification.
4. Natural Ventilation – Each car parking deck shall be provided with at least 50% external ventilation opening of the perimeter wall areas and uniformly distribution.

Operating System – Both mechanized and manual type operating system shall have to be provided.

P. 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. Disposable type B.A. Musk to be kept always for emergency fire situation.
3. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
4. Floor numbers and directional sign of escape route shall be displayed prominently.
5. 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.
6. 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.
7. A crew of trained firemen shall be maintained round the clock for safety of the building.
8. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.
9. Each year 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 & Fire Safety arrangements and installation of the building.

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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 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.

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