



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

Memo no.:FSR/0125186230500015

Date: 08-02-2023

From:

Divisional Fire Officer,Darjeeling
West Bengal Fire & Emergency Services

To: Sri Subhash Banik and others

Mouza-siliguri,J.L no-110(88),Plot no-2236 LR,Rs-6868,Kh no-4515,13375,13376,13377,13378,13379,13380,13381,13382,13383,13384,13385,13386 LR,4021 RS,Holding No-42/149/137/464,WardNo-18,P.S-Siliguri,Dist-Darjeeling

Sub: Fire Safety Recommendation for the G+3 storied Residential Building under group Residential in name of Sri Subhash Banik and others having Mouza-Siliguri,J.L no-110(88),Plot no-2236 LR,Rs-6868,Kh no-4515,13375,13376,13377,13378,13379,13380,13381,13382,13383,13384,13385,13386 LR,4021 RS,Holding No-42/149/137/464,WardNo-18,P.S-Siliguri,Dist-Darjeeling.

This is in reference to your application no. 0125186230500015 dated 25-01-2023 regarding the Fire Safety Recommendation for the G+3 storied Residential Building under group Residential in name of Sri Subhash Banik and others having Mouza-Siliguri,J.L no-110(88),Plot no-2236 LR,Rs-6868,Kh no-4515,13375,13376,13377,13378,13379,13380,13381,13382,13383,13384,13385,13386 LR,4021 RS,Holding No-42/149/137/464,WardNo-18,P.S-Siliguri,Dist-Darjeeling.

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:

Recommendations:-As per NBC &Fire risk assessment,

A) Construction Part:-

- i) The whole construction of the proposed building shall be carried out as per approved plan of the Municipality/local authority & conforming the relevant building rules of said local authority.
- ii)The floor area exceeds 500 sq.miter shall be suitably compartmented by separation walls up to ceiling level having at least two hrs fire resisting capacity.
- iii) The interior finish decoration of the building shall be made of low flame spread materials conforming I.S Specification.
- iv) All construction materials should be of four hrs. Fire resisting type.

v) Doors & windows should be of at least 2 hrs of fire resisting type.

vi) All opening of services ducts, void, gap, joints etc. should be sealed with fire check materials.

B) Open Space & approach:-

i) 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.

ii) The approach roads shall be sufficiently strong to withstand the load of fire engine weighting up to 45 M.T.

iii) The width and height of the access gates into the premises shall not be less than 4.5 meters & 5 meters respectively abutting the roads.

C) Means of escape:-

i) The Staircases of the building shall be enclosed type & construction shall be made of bricked/RCC type having fire resistance capacity not less than 4 hrs.

ii) Time of evacuation should be as per I:S 1644-1988 i.e. 2.5 minutes.

iii) The width of the staircases shall be 1.5 meters. Corridors of the building and the exit doors shall conforming the relevant building rules.

iv) The staircases shall be extended up to terrace of the building and shall be negotiable to each other without entering into any room.

v) Fire & Smoke doors at the entrance of all the staircases/lifts if it passes from any hazardous area or from the parking area. The F.C.D shall be at least two hour fire resisting with self closing type open able in the direction of the escape.

vi) In no way the travel distance from any point of the building exceeds the limit of 22.5 meters.

vii) 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.

D) Electrical Installation: 1946:1982:- (I:S-694)

i) All electrical installation should be done in accordance with National Electrical code & part –viii “Building Service” section -2 “Electrical installation” good practice.[4(10)].

ii) All cable should be of FRLS type & all wiring should be done by the copper wire along with appropriate gauge such as 1.2 sq. mm for light, fan, bulbs etc. 2.5 sq. mm for freeze, TV & 4 sq. for gezeer, washing machine etc.

iii) Electrical installation shall be tested by the licensed Electricians.

E) In-case of Air Condition:- I:S 659-1991:- It shall conform to the following:-

i) Escape routes like corridors, lift lobbies etc. shall not be used as return air passages.

ii) Regular checkup of all split type window machine to prevent dust, foreign materials in the air inlet should be maintained to prevent spontaneous combustion.

iii) In case of central A.C. system, the same shall be incorporated with automatic dampers with fusible link with a view to shut down the system automatically.

iv) Regular checking, testing, cleaning the Air inlet is must.

v) AHU room shall not be used for storage of combustible articles.

F) Alternate power supply:-Arrangement shall be made to supply power with the help of a Generator to operate at least the fire pump, pump for deep tube-well, illumination of stairs, corridors, means of escape etc. in case of normal power failure.

G) Terrace Tank:-One Terrace Tank of capacity Minimum 2500 liter should be installed in the building along with suitable terrace pump & wet riser cum down comer system for residential purposes otherwise it will be minimum 5000 liters.

H) Fire Fighting Water:-The building should be provided with 20000 liters capacity of underground stored water with replenishing arrangement @ 1000 liters of water per minutes preferably from two different sources. The height of the reservoir should not be exceeding 30 cm from the ground level. Fire water reservoir shall have overflow and connected with the domestic water reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all times.

ii) The location of the underground reservoir should be such so that the Fire Service vehicle may get access to the site of

the reservoir with a view to drawn the waters from said reservoir.

I) Hose Reel System: -IS 884-1985, the Hose reel hose system should be provided at each floor of the building. The internal dia of the said hose reel shall be 19 mm to 32 mm and the discharge capacity not less than 22.5 LPM. While the length of the hose reel not more than 36.50 miters. The distance of such

Installation should be in such a way that no part of the floor is more than 6 miters distance from a hose nozzle when fully extended.

J) Pumps for fire fighting Installation.IS-12469-1988.

i)The pump should be installed and arranged in such manner so that it will start automatically due to fall in pressure as prefixed in the installation by installing a Jockey pump. As per NBC the discharge capacity of the said pump minimum 900 liters per minutes,

ii) All the pumps shall be so designed as to supply water at the designed pressure and discharge into the water-based system which shall be installed in the building.

iii) One such pump shall always be kept on stand by preferably be of diesel driven type.

iv)All the pumps shall be incorporated with both normal and auto starting facilities , the suction of the pump shall preferably of positive type or in case of negative suction the system shall be wet riser- cum- down comers with suitable terrace pump fitted with over head tank.

K) In case of only residential then the terrace pump of capacity 900 lpm with stand by pump shall be provided for down comer system accordingly, the capacity of the tank to be increased as per requirement.

L) Small gears:-I:S 903-1993:- Hose box, 15 miters permoline delivery hose/CRL & Gun metal short branch half inch dia @ one set each at or near all the pillar hydrant, landing valve on all floors of the building should be installed.

M) Internal Hydrant System: -IS:3844:1989:-Pressurized wet risers of dia 100 mm should be provided at each staircases with a provision of landing valves at each landing and half landing position of the building as per the above IS code of practice. The designed will be in such a manner that it should be kept charged with water at all time and capable of discharge 1800 liters of water per minutes at the ground level and 900 liters of water per minutes at the top most point of the building.(For commercial only. In case of residential the down comer will serve the purpose.

N) Sprinkler System: -IS:9972:2002:-As per the code of practice the parking part of the building should be protected by this system at all the passages corridors, escape routes and other and all vulnerable points of the building.

O) First aid firefighting system: -IS 2190-1992. Sufficient Nos. of Portable fire extinguishers of ABC type, Water type and Sand and water bucket should be provided at different places of the building and it should be within the reach of all concern as stated in the IS Code i.e. one no.@ 1000 sq. miters floor area or as per vulnerability.

P) Lighting Protection of the Building: - This protection for buildings shall be provided as given in Part-VIII building services, section-2 electrical installation.

Q) In case of Lift:-

i)The walls of the lift enclosures shall be at least two hrs. fire resisting type and collapsible gates shall not be permitted. The lift materials should be 4 hrs.fire resisting types, the door of the lift should be 1 hr. fire resisting type, the landing door should be ½ hr.fire resisting type and area of the lift should be minimum 1.4 sq.meters.

ii)The load bearing capacity of the lift should be minimum 554 kg.

iii)In case of power failure it shall automatically trip over to alternate power supply. This change over of supply could be done through manually operated change over switch alternatively, the lift shall be so wired that in case of any power failure, it comes down at the ground floor and comes to stand still with door open.

iv) 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 stair unless instructed otherwise. The sign shall also contain a plan for each floor showing the locations of stairways.

R) General recommendations: -

i)Mock drill & evacuation drill should be conducted periodically & in this regard a register for the recording of mock fire drill , evacuation drill ,testing and checking of whole fire fighting installation ,electrical installation should be maintained & shall be liable to produce the same to the authorized Officer of this department on demand.

ii) Fire notice should be provided and shall be displayed at all places of the building as per clause 5.5 of N.B C.

iii) Floor No. and Directional Sign of escape route should be displayed prominently as per clause 5.5 of the N.B Code.(Auto glow type).

iv) All the occupants and other peoples shall be conversant with the installed fire fighting equipments of the building so that they can operate the same in case of exigency.

v) Arrangement shall be made for regular checking, testing and proper maintenance of all fire fighting equipments and keep them in good working condition at all time it should be written in the Register.

vii) Good housekeeping should be maintained.

Note-The Fire Service recommendations are issued subject to the free from any Court Case or legal re-encumbrances.

Recommendations:-As per NBC. And Risk assessment

A) Construction Part:-

i) The whole construction of the proposed building shall be carried out as per approved plan of the Municipality/local authority & conforming the relevant building rules.

ii) The interior finish decoration of the building shall be made of low flame spread materials conforming I.S Specification.

iii) All construction materials should be of four hrs. Fire resisting type.

iv) Doors & windows should be of at least 2 hrs of fire resisting type.

v) All opening of services ducts, void, gap, joints etc. should be sealed with fire check materials.

B)Open Space & approach:-

i)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.

ii) The approach roads shall be sufficiently strong to withstand the load of fire engine weighting up to 45 M.T.

iii) The width and height of the access gates into the premises shall not be less than 4.5 meters & 5 meters respectively abutting the roads.

C) Means of escape: -

i)The Staircases of the building shall be enclosed type & construction shall be made of bricked/RCC type having fire resistance capacity not less than 4 hrs.

ii) Time of evacuation should be as per I:S 1644-1988 i.e. 2.5 minutes.

iii) The width of the staircases shall be 1.25 meters. Corridors of the building and the exit doors shall conforming the relevant building rules.

iv) The staircases shall be extended up to terrace of the building and shall be negotiable to each other without entering into

any room.

v) In no way the travel distance from any point of the building exceeds the limit of 22.5 meters.

vi) The staircase of the building shall have permanent vents at the top and openable sashes at each floor level in the external wall of the building.

vii) Staircase should be free from any obstruction at all times.

D) Electrical Installation: 1946:1982:- (IS-694)

i) All electrical installation should be done in accordance with National Electrical code & part –viii “Building Service” section -2 “Electrical installation” good practice.[4(10)].

ii) All cable should be of FRLS type & all wiring should be done by the copper wire along with appropriate gauge such as 1.2 sq. mm for light, fan, bulbs etc. 2.5 sq. mm for freeze, TV & 4 sq. for gezer, washing machine etc.

iii) Electrical installation shall be tested by the licensed Electricians.

E) External Yard hydrant System:-IS: 13039:1991:-The pillar type hydrant should be installed surrounding the building towers as per the said code of practice i.e. @ one pillar hydrant per 1000 sq. meters of floor area as per the vulnerability.

F) Alternate power supply :-Arrangement shall be made to supply power with the help of a Generator to operate at least the fire pump, pump for deep tube-well, illumination of stairs, corridors, means of escape etc. in case of normal power failure.

G) Terrace Tank:-One Terrace Tank of capacity Minimum 2500 liter should be installed in the building along with suitable terrace pump & wet riser cum down comer system.

H) Hose Reel System:-IS 884-1985, the Hose reel hose system should be provided at each floor of the building. The internal dia of the said hose reel shall be 19 mm to 32 mm and the discharge capacity not less than 22.5 LPM. While the length of the hose reel not more than 36.50 meters. The distance of such Installation should be in such a way that no part of the floor is more than 6 meters distance from a hose nozzle when fully extended.

I) Pumps for fire fighting Installation.IS-12469-1988.

i) The pump should be installed and arranged in such manner so that it will start automatically due to fall in pressure as prefixed in the installation by installing a Jockey pump. As per NBC the discharge capacity of the said pump minimum 900 liters per minutes,

ii) All the pumps shall be so designed as to supply water at the designed pressure and discharge into the water based system which shall be installed in the building.

iii) One such pump shall always be kept on stand by preferably be of diesel driven type.

iv) All the pumps shall be incorporated with both normal and auto starting facilities, the suction of the pump shall preferably be of positive type or in case of negative suction the system shall be wet riser- cum- down comers with suitable terrace pump fitted with over head tank.

J) Small gears:-IS 903-1993:- Hose box, 15 meters permoline delivery hose & gun metal short branch half inch dia @ one set each at or near all the pillar hydrant, landing valve on all floors of the building should be installed.

K) Fire Fighting Water: -The building should be provided with 20000 liters capacity of underground stored water with replenishing arrangement @ 1000 liters of water per minutes preferably from two different sources. The height of the reservoir should not be exceeding 30 cm from the ground level. Fire water reservoir shall have overflow and connected with the domestic water reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all times.

ii) The location of the underground reservoir should be such so that the Fire Service vehicle may get access to the site of the reservoir with a view to draw the waters from said reservoir.

L) Internal Hydrant System:-IS:3844:1989:-Pressurized wet risers of dia 100 mm should be provided at each staircases with a provision of landing valves at each landing and half landing position of the building as per the above IS code of practice.

M) First aid fire fighting system:-IS 2190-1992(IS-15683). Sufficient Nos. of Portable fire extinguishers of ABC/ DCP type, Water type and Sand and water bucket should be provided at different places of the building and it should be within the reach of all concern as stated in the IS Code i.e. one no.@ 1000 sq.meters floor area or as per the vulnerability.

N) Lighting Protection of the Building: - This protection for buildings shall be provided as given in Part-VIII building services, section-2 electrical installation.

O) In case of Lift:-

i)The walls of the lift enclosures shall be at least two hrs. fire resisting type and collapsible gates shall not be permitted. The lift materials should be 4 hrs.fire resisting types, the door of the lift should be 1 hr. fire resisting type, the landing door should be ½ hr.fire resisting type and area of the lift should be minimum 1.4 sq.meters.

ii)The load bearing capacity of the lift should be minimum 10 persons.

iii) 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 stair unless instructed otherwise. The sign shall also contain a plan for each floor showing the locations of stairways.

P) Detection & Alarm System, Suppression system & public address system:-IS 2189-1988.

i) Sufficient Nos. of manually operated electrical fire alarm system of break glass type call boxes and fitted with alarm like hooters at each floor of the building should be installed. . The Control room shall be located at the entrance of the ground floor of the building where a panel board, resister etc. shall be available for recording different occurrence

Q) Sprinkler system:- IS-9972 all the vulnerable points/parking area/commercial area to be protected by Sprinkler system.

R) General recommendations: -

i)Mock drill & evacuation drill should be conducted periodically & in this regard a resister for the recording of mock fire drill , evacuation drill ,testing and checking of whole fire fighting installation ,electrical installation should be maintained & shall be liable to produce the same to the authorized Officer of this department on demand.

ii) Fire notices should be provided and shall be displayed at all places of the building as per clause 5.5 of N.B C.

iii) All the occupants and other peoples shall be conversant with the installed fire fighting equipments of the building so that they can operate the same in case of exigency.

iv) Arrangement shall be made for regular checking, testing and proper maintenance of all fire fighting equipments and keep them in good working condition at all time it should be written in the Register.

v) Good housekeeping should be maintained.

vi) Parking area shall be protected by first aid fire fighting device and no storage shall be allowed.

vii)The roof of the buildings shall be free at all time.

iii) The Fire Service recommendations are issued subject to the free from any Court Case or legal re-encumbrances.

Memo No.:FSR/0125186230500015

Divisional Fire Officer, Darjeeling
West Bengal Fire & Emergency Services