MUNICIPAL CORPORATION OF GREATER MUMBAI

MUMBAI FIRE BRIGADE

Sub: Fire protection & fire-fighting requirements for construction of proposed low-rise residential cum commercial building on plot bearing CTS No. 195/191 of Village Ghatkopar, Plot No. 193 of Garodia Nagar at Ajay Ahuja Road, Ghatkopar (E), Mumbai-077.

Ref: Online submission from L.S. Nitin B. Tiwaskar of M/s. Tiwaskar & Associates under file no. P-9882/2021/(195/191)/N/Ward/Ghatkopar/337/1/NEW

L.S.- Nitin B. Tiwaskar
of M/s. Tiwaskar & Associates,

This is a proposal for the construction of low-rise residential cum commercial building having ground floor part on stilt + 1st to 9th upper residential floors with total height of 31.99 mtrs. measured from general ground level up to terrace level and also proposed mechanized car parking tower attached to the North-West side of the building with total height of 31.99 mtrs. measured from general ground level up to top level of the car parking tower having separate M.S. staircase of 01.00 mtr. width & 01.00 mtrs. wide platform with railing at every alternate floor level as shown on the plans.

THE FLOOR-WISE USE OF BUILDING ARE AS FOLLOWS:

Floors	**Occupancy of Floors**
Ground floor part on stilt	Double height entrance lobby + surface car parking + two-wheeler parking + 04 no. of shops with loft + electric meter room + D.G. set + pump room.
1st floor	04 no. of residential flats + void for double height entrance lobby
2nd floor	04 no. of residential flats + society office
3rd floor	04 no. of residential flats
4th floor	04 no. of residential flats + fitness center
5th to 9th floors	04 no. of residential flats on each floor
Terrace floor	Open to sky (treated as refuge area)

REFUGE AREA-

The height of the building is less than 32.00 mtrs., Hence, terrace of the building will be treated as refuge area as per DCPR 2034.

The site abuts 18.30 mtrs. wide existing Ajay Ahuja road on south side as shown on the plans.

Side	**Open space from building line to plot boundary**
North	01.50 mtrs. (from mechanized car parking tower) to 07.15 mtrs.
South	04.50 mtrs. + 18.30 mtrs. wide existing Ajay Ahuja road
East	04.60 mtrs. to 04.70 mtrs.
West	01.50 mtrs. (from mechanized car parking tower) to 05.85 mtrs.

THE DETAILS OF STAIRCASES AND LIFTS:

No. of staircase	**Type of staircase**	**Width (in mtrs.)**	**From - to**
01	Open	01.50	Leading from Ground floor to terrace level
The proposed staircase of the building is externally located & adequately ventilated to outside air as shown in plans.			

LIFTS:

No. of lifts	**Type of lifts**	**Profile**
03 Nos. of lift	Passenger lifts	Leading from ground floor to top floor level
One of the passenger lift shall be converted into fire lift as per norms. Lift lobby & common corridor at each floor level is naturally ventilated to outside air through staircase as shown on the plan.		

The proposal has been considered favorably due to following:

a. The site abuts 18.30 mtrs. wide existing Ajay Ahuja road on south side as shown on the plans.
b. The height of the building is less than 32.00 mtrs., Hence, terrace of the building will be treated as refuge area as per DCPR 2034.
c. Recommended to provide automatic sprinkler system in each shop, car parking area on ground floor & entire mechanized car parking tower covering each level of car parking as per relevant I.S. specification.
d. Recommended to provide automatic smoke detection system in each shop, electric meter room, pump room, lift machine room, society office, fitness center & in D.G. set; same should be connected to main console panel on ground floor level, as per B.I.S. specifications.
e. During construction stage and prior to final occupation party shall comply with any additional fire safety requirements stipulated by Mumbai Fire Brigade Department, if any.

In view of the above, as far as this department is concerned, these Fire protection & fire-fighting safety requirements are issued for the low-rise residential cum commercial building having ground floor part on stilt + 1st to 9th upper residential floors with total height of 31.99 mtrs. measured from general ground level up to terrace level and mechanized car parking tower attached to the North-West side of the building with total height of 31.99 mtrs. measured from general ground level up to top level of the car parking tower

having separate M.S. staircase of 01.00 mtr. width & 01.00 mtrs. wide platform with railing at every alternate floor level, as per the details shown on the uploaded plans signed in token of approval subject to satisfactory compliance of the following requirements:

1. ACCESS:

There shall be no compound wall on 18.30 mtrs. wide existing Ajay Ahuja road on south side of the building. However, chain link fencing with removable bollards may be permitted and the courtyards shall be flushed to road level.

2. COURTYARDS:

a. The entire available courtyards on all the sides of the building shall be paved suitably to bear the weight of fire engines of 28 tones with a point load of 10 Kgs. per sq.cms.
b. All the courtyards shall be in one plane.
c. No structure of any kind shall be permitted in courtyards of the building.

3. STAIRCASE:

a. The layout of the staircase of the building shall be open type as shown in the plan throughout its height and shall be approached (gained) at each floor level.
b. The flight width of the staircase shall not be less than 01.50 mtrs throughout its height.
c. Open able sashes or R.C.C. grills with clear opening of not less than 0.5 sq.mtrs. per landing on the external wall of the staircase shall be provided.
d. Nothing shall be kept or stored in staircase / corridor/passage.

The staircase door at terrace shall be provided in the following manner:

a) The top half portion of the doors shall be provided with louvers.
b) The latch-lock shall be installed from the terrace side at the height not more than 1mtrs.
c) The glass front of 6 inch diameter with the breakable glass shall be provided just above the latch lock, so as to open the latch in case of an emergency by breaking glass.

4. ELECTRIC CABLE DUCT AND ELECTRIC METER ROOM:

i) Electric cable Duct shall be exclusively used for electric cables or shall be taken in concealed manner and should not open in staircase enclosure.
ii) Electric duct shall be sealed at each floor level with noncombustible materials such as vermiculite concrete. No storage of any kind shall be done in electric duct.
iii) Electric wiring/ cable shall be halon-free, non-toxic, non-flammable, low smoke hazard having copper core for the entire building with provision of ELCB/MCB.
iv) Electric meter panel/room shall be provided at location marked on the plan. It shall be adequately ventilated.
v) Low & medium voltage wiring running in shaft & in false ceiling should run in separate conduits.

vi) Water mains, telephone lines, intercom lines, gas pipes or any other service line should not be laid in the duct for electrical cables.

5. MECHANIZED CAR PARKING TOWER:

i) All the structural steel members of the system i.e. columns, beams, external cladding with coated steel sheets etc. shall be protected with the fire resisting / retardant materials and methods as stipulated under relevant I.S. specification. Certificate to that effect that the fire resistance protection has been provided as above shall be furnished form the chartered Structural Engineer.

ii) The cars shall be separated by perfect partition of 4.5 mm thick steel pallets between two cars, to prevent spread of fire from one level to next level.

iii) The mechanized car parking block has door at the bottom and covered opening at the top to create natural drafts, to prevent spreading of fire.

iv) The electrical cables used internally shall be fire retardant and heat resistant of 105 degree centigrade.

v) Fire detectors (heat) shall be installed to detect any increased temperature beyond 80 degree centigrade and control panel shall be on the ground floor.

vi) Automatic sprinkler system conforming to the standards laid down by relevant I.S. specification shall be provided to cover each car parking with sprinkler head at engine side.

vii) The car engine shall be shut off at ground level before parking at higher level.

viii) M.S. staircase with 01.00 mtr. width & 1.00 mtrs. wide platform with railing shall be provided at alternate car parking level, as shown on the plans.

ix) Fins if provided to the car parking tower shall be of non-combustible material or painted with one hour fire resistance material and shall have sufficient distance to have adequate ventilation.

x) Wet riser of internal dia. of 10 cms. of G.I. 'C' Class pipe shall be provided as shown on the plan.

xi) Only trained operator certified by company installing car system shall operate automatic car parking.

a) Mechanized car parking tower shall be segregated from building by four hours fire resistance wall.

6. CORRIDOR / LIFT LOBBY:

a. Corridor / lift lobby at each floor level shall be ventilated to the outside air as shown on the plan.

b. The common corridor / lift lobby at each floor level shall be kept free from obstructions at all times.

c. Permanent ventilation to corridor / lift lobby / staircase area shall not be bricked up or closed at any time in the future.

7. ESCAPE ROUTE LIGHTING:

i) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that they could be operated by one switch installation on the ground floor easily accessible to firefighting staff at any

time irrespective of the position of the individual control of the light points, if any.

ii) Staircase and corridor lighting shall also be connected to alternate supply.

8. ENTRANCE DOORS:

i) Entrance doors & kitchen doors (if provided) of all the flats shall be of solid core having fire resistance of not less than one hour.

ii) The fire resistance rating for entrance F.R.D. & the lift doors shall be as per N.B.C. provisions.

iii) Rolling shutters having fire resistance of not less than one hour shall be provided for shops.

9. LIFT:

A) PASSENGER LIFT:

i) Walls enclosing lift shaft shall have a fire resistance of not less than two hours.

ii) Shafts shall have permanent vent of not less than 0.2 sq. mtrs in clear area immediately under the machine room.

iii) Landing doors and lift car doors of the lifts shall be of steel shuttered with fire resistance of one hour. No collapsible shutter shall be permitted.

iv) One of the lift shall be converted into fire lift and shall be as per specifications laid down under the regulations.

B) FIRE LIFT:

i) To enable fire services personnel to reach the upper floors with the minimum delay, one fire lift shall be provided, and shall be available for the exclusive use of the firemen in an emergency.

ii) The lift shall have a floor area of not less than 1.4 sq. mtrs. It shall have loading capacity of not less than 545 k.g. (8 persons lift) with automatic closing doors of minimum 0.8 m. width.

iii) The electric supply shall be on a separate service from electric supply mains in a building and the cables run in a route safe from fire, that is, within the lift shaft.

iv) Light & fans in the elevators having wooden paneling or sheet steel construction shall be operated on 24 volt supply.

v) Fire lift should be provided with a ceiling hatch for use in case for emergency. So that when the car gets stuck up, it shall be easily openable.

vi) In case of failure of normal electric supply, it shall automatically changeover to alternate supply. For apartment houses, 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.

vii) The operation of fire lift should be by a simple toggle or two – button switch situated in glass-fronted box adjacent to the lift at the entrance level. When the switch is on, landing call points will become inoperative and the lift will be on car control only or on a priority control device. When the switch is off, the lift will return to normal working. So this lift can be used by the occupants in normal times.

viii) The words 'Fire lift' shall be conspicuously displayed in fluroscent paint on the lift landing doors at each floor level.
ix) Fire lift shall be constructed as per prevailing Indian & International standard.

10. FALSE CEILING (if provided) :

False ceiling if provided in the building shall be of non-combustible material. Similarly, the suspenders of the false ceiling shall be of no combustible materials.

11. MATERIALS FOR INTERIOR DECORATION/FURNISHING:

The use of materials which are combustible in nature and may spread toxic fume/gases should not be used for interior decoration/furnishing.

12. LOFT:-

The loft provided in each shop on ground as shown on the plan shall strictly adhere to the following requirements:-

i) The construction of loft shall be sound engineering.
ii) The loft shall be structurally strong enough to bear the expected load.
iii) The loft shall not be enclosed except for hand rail of about 3 feet height.
iv) The clear head-room under the loft shall not be less than 2.2 m. and that above it shall not be more than 1.5 m.
v) The permission of A.E (Concerned MCGM ward) shall be obtained.
vi) The loft shall be used for storage purpose only.
vii) The loft shall not be used as a work place, installation of machineries, etc.
viii) No storage of flammable / combustible type of material shall be permitted on the loft.
ix) Cooking, smoking, dwelling, use of naked flame shall be strictly prohibited in the loft.
x) The loft shall be at least 2.00 mtrs away from the entrance door.
xi) M.S. ladder shall be provided with hand railing shall be kept for easy access to the loft

13. FIRE-FIGHTING REQUIREMENTS:

A) UNDERGROUND WATER STORAGE TANK:

An underground water storage tank of 30,000 ltrs. capacity shall be provided at location marked on the plan as per design specified in the rules with baffle wall and fire brigade collecting breaching. The design shall be got approved form H.E.'s department prior to erection. The slab of the U.G. tank shall be designed to take point load of 10kg/cm^2.

B) OVERHEAD WATER STORAGE TANK:

A tank of 20,000 ltrs capacity shall be provided on staircase shaft above terrace level. The design shall be got approved form H.E.'s department prior to erection. The tank shall be connected to the down comer through a booster pump through a non-return valve and gate valve.

C) DOWN COMER:

A down comer having internal diameter of 10 cms. of G.I.C class pipe shall be provided with single hydrant outlet & hose reel on each floor in such a way as not to reduce the width of passage. Pressure reducing discs or orifices shall be provided at lower level so as not to exceed the pressure of 3.2 Kgs/sq.cm. A fire service inlet on the external face of the building directly fronting courtyards shall be provided to connect the mobile pump of the fire service to the down comer.

D) WET RISER: (for mechanized car parking tower)

Wet riser of internal diameter of 10 cms. of G.I. 'C' class pipe shall be provided with single hydrant outlet and hose reel shall be provided to mechanized car parking tower. Pressure reducing discs or orifices shall be provided at lower level so as not to exceed the pressure of 3.2 Kgs/sq.cm.

E) AUTOMATIC SPRINKLER SYSTEM:

Automatic sprinkler system shall be provided in each shop, car parking area on ground floor & entire mechanized car parking tower covering each level of car parking as per relevant I.S. specification.

F) FIRE PUMP, SPRINKLER PUMP, JOCKEY PUMP & BOOSTER PUMP:

i) Wet riser shall be connected to a fire pump at ground level of 1400 litres / min capacity giving a pressure of not less than 3.2 kgs / sq.cms. at the topmost hydrant.
ii) Booster pump of capacity of 900 liters / min. having a pressure of not less than 3.2 kgs./sq.cms. at the hydrant outlets of the wet riser shall be provided at the terrace level of the building.
iii) Sprinkler pump of suitable capacity along with jockey pump shall be provided for automatic sprinkler system.
iv) Electric supply (normal) to these pumps shall be on independent circuit.
v) Only surface mounted pump or vertical turbine pump shall be installed for fire-fighting system. Submersible pumps are not permitted.
vi) Fire-fighting panel shall be provided at ground level at easily accessible / noticeable place.
vii) Switch for booster pump shall be provided at terrace level as well as on ground floor level.

G) EXTERNAL HYDRANTS:

External courtyard hydrants shall be provided at the distance of 30 mtrs within the confines of the site on the down comer system.

H) HOSES & HOSE BOXES:

One Hose Box with two hoses of 15mts length of 63mm dia along with branch shall be provided near down comer landing valve on ground floor and on every alternate floor level.

I) AUTOMATIC SMOKE DETECTION SYSTEM:

Automatic smoke detection system shall be installed in each shop, electric meter room, pump room, lift machine room, society office, fitness center & in D.G. set; same should be connected to main console panel on ground floor level, as per B.I.S. specifications.

J) PORTABLE FIRE EXTINGUISHERS:

a. One dry chemical powder (ABC type) fire extinguisher of 09 kgs. capacity having BIS certification mark and two buckets filled with dry, clean sand shall be kept in electric meter room, pump room & in lift machine room.
b. One dry chemical powder (ABC type) fire extinguisher of 09 kgs. capacity having BIS certification mark shall be kept in society office & fitness center.
c. One dry chemical powder (ABC type) fire extinguishers each of 09 kgs. capacity having BIS certification mark and two buckets filled with dry, clean sand shall be provided near mechanized car parking tower at ground floor & near D.G. set.

K) FIRE ALARM SYSTEM:

Entire building shall be provided with manual fire alarm system with main control panel at ground floor level and pillbox and hooters at each of the upper floors. The layout of the fire alarm system shall be in accordance with I S Specification.

L) SIGNAGES:

i) Self-Glowing / Fluorescent exit signs in 'Green' colour shall be provided in passage area of the building showing the direction of Escapes / Staircase / Exits etc.
ii) All the exit routs shall be marked with fluorescent/radium painted & exits signs at strategic locations.

M) TRAINED SECURITY GUARDS:

Trained FIRE staff / Security guards having basic knowledge of fire-fighting & using fix fire-fighting installation shall be provided/posted in the building.

N) Alternate Source Of Power Supply:

An alternate source of LV/HV supply from a separate sub-station OR from a D.G. set with appropriate changeover switch shall be provided for fire lifts, fire pumps, booster pump, sprinkler pump, jockey pump, staircase and corridor lighting circuits, detection and fire alarm system. It shall be housed in separate cabin

O) PANEL BOARD OF FIREFIGHTING SYSTEM:

Fire alarm system, alternate supply, etc. panels shall be installed on ground floor at the location shown in the plans & which shall be manned 24 hrs.

14. D.G. SET:-

a. D.G. set with appropriate change over switch shall be provided for fire pumps, sprinkler pump, booster pump, staircase and corridor lighting circuits, manual fire alarm system & Fire lift.
b. For proposed D.G. Set acoustic enclosure will be provided for safe operation.
c. Entire Installation of D.G. Set shall be conforming to the Indian Electrical Act / Rules in practice.
d. A deep tray shall be kept under the fuel tank of the D.G. Set to collect the spillage and the same shall be disposed off daily without fail.
e. Cables in the cable trenches shall be coated with fire retardant material.
f. Electric wiring shall be having copper core having the fire resistance and low smoke hazard cables for the entire building with provision of ELCB/MCB.
g. Adequate air and ventilation for Switchgear Room is essential to prevent condensation of moistures.
h. The capacity of the D.G. Set shall be 40 KVA and as per BEST's requirements.
i. The door of D.G. Set room shall be of two hours fire resistance.
j. The D.G. Set shall be properly grounded.
k. Exhaust of D.G. set shall not be directed in to the exit / entrance of any adjoining structures.
l. Automatic built-in circuit breaker shall be provided to the D.G. Set.
m. Structural stability of the building regarding absorption of the vibrations of D.G. set shall be checked by Structural Engineer before installation of D.G. set.
n. Two Foam type fire extinguishers of 9 litres capacity each with ISI certification mark coupled with four buckets filled with dry, clean.

15. REFUGE AREA:

Terrace of the building shall be treated as refuge area & shall be provided as under:

i) The necessary facilities such as emergency lighting, drinking water etc. shall be provided.
ii) The access door/s from the enclosed staircase/s to the terrace floor shall be having louvers at top half portion of the door.
iii) The entrance doors to the terrace shall be painted or fixed with a sign painted in luminous paint mentioning "REFUGE AREA".

16. OTHER NOC / PERMISSIONS:

Necessary permissions / N.O.C. for licensable trade activity, addition/ alteration, interior work, etc. shall be obtained from competent Municipal Authorities & CFO's Department.

17. ELEVATION FEATURES

a. The Elevation treatment shall be of non- combustible materials and it should not obstruct fire-fighting activities.

b. Elevation features of the building shall be as per requirement stated in the circular u/no. CHE/DP/110/Gen, Dated 2019-2020.

The Party has paid the scrutiny fees of Rs. 2,15,000/- vide Receipt No., CHE/BP/75371/22 dated 17/01/2022 on total built up area of 3,530.84 sq. mtrs. as certified by the L.S.

However, E.E.B.P.(E.S.) is requested to verify the gross built up area & inform this department if it is more for the purpose of levying additional Scrutiny fee, if necessary.

Architect / L.S. has certified height of the building as 31.99 mtrs. & total built up area 3,530.84 sq. mtrs. for the said low-rise residential building & as per schedule II of section 11(1) of Maharashtra fire prevention & life safety measure act 2006, has paid **Fire Service Fee** of Rs. 40,000/- vide receipt no. CHE/CFO/75591/22 dated 18/01/2022.

Note for E.E.B.P.(E.S.) & Architect/ L.S. .:

1. The firefighting installation shall be carried out by approved Licensed Agency.
2. The area size to consult with MEP Consultant for the sprinkler system, Detection system, Fire alarm system, Wet riser system, Public address system, Electrical duct, etc. to be verified & examine.
3. There shall be no any tree located in the access way near the Entrance gates & compulsory open space.
4. No any addition / alteration shall be done in the structure of the office/ building without the previous consent of all the concerned / occupier as per the provision of Section 7 of MOFA.
5. The plans approved along with this approval are approved from Fire Risk / Fire Safety point of view only. Approval of these plans does not mean in any way of allowing construction of the building. It is Architect / Developer's responsibility to take necessary prior approval from all concerned competent authorities for the proposed construction of the building.
6. This approval is issued only from Fire Protection & Fire-Fighting requirements point of view & issued on the request letter from Architect. Any authorized or legal matter shall be cleared by Owner / Occupier / Developer / Architect / L.S. etc.
7. The width of abuts road, open spaces, area of the plot for proposed podium mentioned in plans as submitted by the Architect attached herewith. These parameters shall be verified by E.E.B.P. before granting any permission (I.O.D. / C.C. / further C.C.) If found any contradiction, the proposal shall be referred back to this Department.
8. Necessary permission shall be obtained from competent authority for elevation at terrace level.
9. E.E.B.P. shall examine the proposal as per relevant Regulations of DCPR-2034.
10. As per section 3 of Maharashtra Fire Prevention and Life Safety Measures Act 2006, it is the liability of Owner/Occupier to provide the Fixed Fire Fighting installations and shall be maintained in good working order& in

efficient condition all the time, in accordance with the provisions of Maharashtra Fire Prevention and Life Safety Measures Act or the rules.

11. This approval is issued from fire risk point of view only without prejudice to legal matters pending in court of law, if any.

VINAYAK MOTIRAM MAINKAR
Digitally signed by VINAYAK MOTIRAM MAINKAR
Date: 2022.01.25 15:48:50 +05'30'

Div. Fire officer
(Scrutinized& Prepared by)

Deepak Kalipada Ghosh
Digitally signed by Deepak Kalipada Ghosh
Date: 2022.01.27 10:45:39 +05'30'

Dy. Chief Fire Officer
(Final Approval)

COPY TO:

1. E.E.(B.P.)E.S.