Kalyan Dombivli Municipal Corporation

Fire & Emergency Service

Phone : 2310155 / 2315101 / 2365101 / 2470357 / 2400447

FIRE/HQ/ KDMC/OW/2020/439 Date: 24/11/2020

To,
The Assistant Director Town Planning,
Town Planning Department,
Kalyan Dombivli Municipal Corporation,
KALYAN.

Subject : Grant of revised provisional NOC stipulating Fire Protection & Fire Fighting requirements for the construction of 2 building, Revised Residential Building Type A Gr + 15th & Type B Commercial Building Gr + 2 floors on land bearing S.No. 60/6, 66/2/2, 66/2/3, 66/4/2 C.T.S.NO. 4431, 4433 Mouje: Mohane Tal. Kalyan, Dist. Thane.

Ref. :
1] Application from Architect- Shri. Anil Nirgude
2] P.O.A. Holder: Mr. Vikas M Kokane
3] KDMC/FIRE/HQ/1201800001657/2018-19 Dt. 28/12/18
4] Site Visit: 23/11/2020.

Dear Sir,

Architect's proposal of construction of 2 building, Residential Building Type A Gr + 15th & Type B Commercial Building Gr + 2 floors on land bearing S.No. 60/6, 66/2/2, 66/2/3, 66/4/2 C.T.S.NO. 4431, 4433 Mouje: Mohane Tal. Kalyan, Dist. Thane.

Building	Occupancy	Municipal BUA Sq.mtr	Gross/Total BUA Sq.mtr	Height Meter
Type A Gr + 15th Floors	Residential	7872.68	12591.88	50.25
Type B Gr + 2th Floors	Commercial	849.32	3095.80	11.70

In view of above this department has no objection to allow permission to construct a building as CC will given by Town Planning Department subject to satisfactory compliance of Kalyan Dombivli Municipal Corporation D.C. Rules & following Fire Protection conditions.

OBSERVATION & DIRECTIVES:

1) Net Plot area under reference is **6315.20** mtrs. in area.
2) The said plot is approachable by **24 mtr DP road.**
3) Open spaces is proposed around the building by architect. However, from the point of fire & life safety **Suggestions are given.**

4) 3 staircase having the width of **1.5 mtrs** from ground level to terrace level are shown in the plan for proposed residential building Type A & 2 staircase having the width of **1.5 mtrs** from ground level to terrace level are shown in the plan for proposed Type B. **Suggestions are given.**

5) **4 Passenger lifts** are shown for proposed residential building Type A. **Suggestions are given.**

6) Refuge areas are provided at **5TH, 8th, 13th floor** location and area is acceptable to dept. **Suggestions are given.**

Considering the above situation following fire prevention & fire protection measures are recommended in the proposed buildings.
(Suggestions to Architect & Town Planning Dept. of KDMC)

Main road / D.P. road :
The said plot is approachable by by **24 mtr proposed DP road. No suggestion.**

Entry Gate :
1) Minimum **2 entry gates** shall be proposed for the building. (If gate provides)
2) The height clearance & width of these gates shall be minimum **6 Mtrs.**
3) Both these gates shall be at distance from each other.

Height:

As per prevailing DC Rules of KDMC.

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OPEN SPACE:

Though this department suggest the requirement of marginal open space as per prevailing DC Rules of KDMC.

But in any case open spaces on all its sides shall not be less than as per dc rule sanctions provided for fire tender movement. The same shall be hard surface capable of taking the mass of fire tender, weighing up to 45 t minimum. Which shall be kept free of obstructions and shall be motor able. The compulsory open spaces around the building shall not be used for parking.

In this compulsory open space, **no any projections/podium** etc of the building **up to 6 mtrs. height from ground level.** (Garden, Parking, Pump Room or any construction is not permitted in compulsory minimum open space).

COURT YARDS:

1) Available Courtyards on all the sides of the building shall be paved suitably to bear the load of fire engines weighing up to 45 m. tones each.
2) All the courtyards shall be in one plane.
3) The Courtyards shall be kept free from obstructions at all times.
4) Astro turf etc. shall not be permitted in the courtyard.

STILT/GROUND / PODIUM FLOOR PARKING:

1) Sides of car parking shall not be enclosed except for parapet walls.
2) Drive ways shall be properly marked and maintained unobstructed.
3) Appropriate illuminated signage for escape routes shall be provided at prominent locations.
4) If podium is not accessible by fire tender, the podium may be such that it is not extended beyond the building footprint to an extent more than 3 m. on the side for the fire tender access.

Means of escape :

- **3 staircases** having the width of **1.5 mtrs** from ground level to terrace level are proposed for building Type A. It should be remote from each other. At least one of them shall be on external walls of building and shall open directly to the exterior open space or to an open place of safety. **(KDMC DC Rule clause 140, 148(ii) & 149, and NBC-2016 Part IV)**
- Treads & risers of the each building is as per existing by-laws.
- Staircase of each proposed building should allow movement of fresh air.
- The layout of staircase of the each building should be of enclosed type for the entire height.
- **2 hours fire resistance fire doors for both staircases of building adhering to IS 3614(Part-II):1992 (Reaffirmed 2002) with good quality door closer should be provided at all escape routes, and for the same the certificate with test report/certificate shall be attached from Licensing Agency authorized by Director of Maharashtra Fire Services only at the time of final Noc. (Particularly at the entrance to lift lobby and stair well, Refuge Room, Electric Duct)**

Suggestions:

- Travel Distance should be maintained as per KDMC's DC Rules cluse 140 and exits and staircase guidelines as per National Building Code 2016 SP-7.
- Fire escape constructed of M.S. angels is not permitted.
- Opening of the Fire Escape Staircase should be from outside.
- Fire Escape staircase should be enclosed type. These should always be kept in sound operable condition.
- Exists door shall open outwards, that is away from the room, but shall not obstruct the travel along any exit.
- Fire Escape Staircase shall be directly connected to the ground.
- Entrance to the Fire Staircase shall be separate and remote from the internal staircase.
- Care shall be taken to ensure that no wall opening or window opens on to or close to Fire Escapee Stairs.
- The route to the external staircase shall be free of obstructions at all times.
- The Fire Escape stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have the required fire resistance.
- No Staircase, used as a fire escape, shall be inclined at an angel greater than 45 from the horizontal.

Refuge Area:

Clause no. 153 of DC Rule Of KDMC, buildings more than 15 mtrs. in height refuge area of 15 Sq. mtrs. Or an area equivalent to 0.3 Sq. mtrrs. per person to accommodate the occupants of two consecutive floors, whichever is higher shall be provided for proposed each buildings and it should be easily assessable for Fire Brigade Vehicles.

A) One refuge area on the floor immediately above 16 M.
B) For floors above 24 Mts. & up to 36 Mts. One refuge area on the floor immediately above 24 Mts.
C) For floors above 36 Mts. One refuge area on the floor immediately above 36 Mrs. And so on after every five floors above 36 mtrs. shall be provided.

Provided refuge are location is acceptable to dept.

As well as open terrace of the building shall be treated as a refuse areas in case of emergency and same shall be comply with the following suggestions.

2 hours fire resistance fire doors with good quality door closer should be provided to Refuge Room.
NOTE: Refuge area provided in excess of the requirements shall be counted towards FAR.

Suggestion:

Following additional suggestions are recommended for the proposed refuge areas:

- Each refuge area shall be ventilated and provided with first aid box, fire extinguishers, public address speaker, fire man talk back, and adequate emergency lighting as well as drinking water facility.
- The layout of refuge area shall not be changed / modified at any time in future.
- Refuge area shall be segregated by brick masonry partition wall of 9" thickness & access to the refuge area shall be gained through 2 hours fire resistant self-closing door.
- Lifts & / or open type staircases shall not be open into refuge area.
- Clear height of the refuge areas below the beam/drop paradi shall be as per existing by-laws.
- The refuge areas shall be ear-marked exclusively for the use of occupants as a temporary shelter & for the user of fire brigade department & any other organization dealing with fire or other emergencies when occurs in the building & also for exercise / drills if conducted by the fire brigade department.
- The refuge area shall not be allowed to be used for any other purposes & it shall be responsibility of the owner / occupier to maintain the same clean & free of encumbrances & encroachment at all times.
- A prominent sign bearing the words "Refuge Area" shall be installed at the entry of the refuge area and also containing information about the location of refuge areas on the floors above and below this floor. The

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same signage shall also be conspicuously located within the refuge area.

- Refuge areas shall be approachable from the space they serve by an accessible means of egress.
- Refuge areas shall connect to firefighting shaft (comprising fireman's lift, lobby, and staircases) without having the occupants requiring to return to the building spaces through which travel to the area of refuge occurred.
- The refuge area shall always be kept clear. No storage of combustible products and materials, electrical and mechanical equipments, etc shall be allowed in such areas.
- Refuge area shall be provided with adequate drainage facility to maintain efficient storm water disposal.
- Entire refuge area shall be provided with sprinklers.
- Where there is a difference in level between connected areas for horizontal exits, ramps of slope not steeper than 1 in 12 shall be provided. (and steps should be avoided)

Means of entry: (Suggestions for PWD and Lift Contractor)

- **4 Passenger lifts** are shown for building Type A.
- All Passenger lifts are detached from each other.
- **All Passenger** lifts should be nomenclature as **"Fire Lift"**
- The lifts of the building are of high speed in Nature.
- Automatic rescue device should be provided for all lifts so that in case of power failure, lift cannot be stuck. & also proper power back up should be provided for all lifts.

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Suggestions:

- Planning & Design of the lifts shall be in accordance with the latest National Building Code (i.e. Section 5, Installation of Lifts & Escalators)
- Lifts of the building are to be provided with automatic steel doors for lift cars & landings.
- Both lifts in the building shall be designed as **fire lift.** These lift shall be equipped with fireman's switch for grounding it in the event of fire.
- The Fire Lift shall have floor area not less than 1.4 Sq. mtrs. It shall have loading capacity of not less than 545 Kg. (8 person Lift) for residential building & as per lift norms for commercial building with automatic closing doors of minimum 0.8 m. width.
- Fire fighting lift shall be provided with a ceiling hatch for the use in case of emergency. So that when lift car get stuck up, it shall be easily open able.
- Walls of each lift enclosure shall have fire resistance of not less than 2 hours. Separating wall of 2 hours fire resistance railing shall be provided between the lift shafts.
- Lift car doors shall have fire resistance of 2 hours.
- Fire lift of the building can however be used for the purposes under normal conditions.

- Lift motor room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
- Collapsible gates shall not be permitted for lifts and shall have solid doors with fire resistance of at least 1 hrs.
- Lifts shall not normally communicate with the basement; if, however, lifts are in communication, the lift lobby of the basements shall be pressurized, with self-closing door.
- Grounding switch (es), at ground floor level, shall be provided on all the lifts to enable the fire service to ground the lift.
- Telephone or other communication facilities shall be provided in lift cars. Communication system for lifts shall be connected to fire control room of the building.
- Suitable arrangements such as providing slope in the floor of lift lobby shall be made to prevent water used during fire fighting, from entering the lift shafts.
- 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 stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the locations of the stairways.
- In case of failure of normal electric supply, it shall automatically trip over 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.
- It must be ensured that, power cables to fire lift are laid along the route, which is fire safe.
- The word **'Fire Lift'** shall be conspicuously displayed in fluorescent paint on the lift landing doors at each floor level.
- The speed of the fire lift shall be such that it can reach the top floor from ground level within **1 min.**

Electrical Installation: (Suggestion for Electric Contractor and MSEDL).

- Meter room is not permitted below staircase at ground floor. It should be provided in separate room.
- The electric distribution cables/wiring shall be laid in a separate shaft. The shaft shall be sealed at every floor with fire stop materials having the fire resistance as that of floor. (non-combustible material such as vermiculite concrete).
- Separate circuits for water pumps, lifts, staircases & corridor lighting shall be provided directly from the switch gear panel & these circuits shall be laid in separate conduit pipes so that, fire in one circuit will not affect the others. Master switches controlling essential services circuits shall be clearly labeled.
- For requirements regarding electrical installations from the point of view of fire safety reference may be made to good practice part 8 ' Building Services, Section 2 Electrical and Allied Installations' of the National Building Code 2016.

- Location of the substation should mark on the plan. The location of D.G. set room & electrical meter room should mark on the plan. Before finalizing the substation, transformer location, D.G room & meter room, a clearance from the fire brigade is to be taken separately.
- Water mains, telephone lines, inter-com lines or any other service line should not be laid in the duct for electric cables.
- High, medium & low voltage wiring shall be running in shaft & in false ceiling shall run in separate shaft/ conduits.
- Electric cable shafts shall be exclusively used for electric cables and shall not open in the staircase enclosure.
- Electric meter rooms shall be provided at stilt floor level in a close room. And room shall be adequately ventilated.
- Inspection door for the shaft if provided shall have two hours fire resistance.
- Escape route lighting (staircase, & corridor lights) shall be on independent circuits as per rules.
- Staircase and corridor lighting shall also be connected to alternative supply. The alternative source of supply may be provided by battery continuously trickle charged from the electric mains.

A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pump, pressurization fans and blowers, smoke extraction and damper systems in case of failure of normal electric supply.

ACTIVE FIRE PROTECTION REQUIRED FOR RESIDENTIAL TOWERS & COMMERCIAL BUILDING AS PER SP-7 PART IV NBC- 2016:

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Underground water storage tank:

An underground water storage tank **for Building Type A 75000 Ltrs & for Building Type B 50000 ltrs** water capacities **exclusively for firefighting purpose** shall be provided at ground level of the proposed residential building, as per the design specified in the rules with baffle walls & fire brigade collecting breaching. Underground tank shall be connected to wet risers & court yard hydrant system with fire pump.

Overhead (Terrace) Water Storage Tank:

Overhead (terrace) water storage tank for **Building Type A 25000 Ltrs** & **Building Type B 5000 ltrs** water capacity for each residential wing shall be provided at terrace level **exclusively for Firefighting** purpose only. The approval of design & layout of this tank shall be taken from concerned department prior to its erection. The tank shall be connected to wet riser/down commer through a booster pump with N.R. Valve & Gate Valve.

Fire Pump & Booster Pump:

a. **2 No. electric driven** and **1 No. diesel driven fire fighting pump** at underground water storage tank Pump Room of capacity not less than **2850 LPM** capable of giving pressure of not less than **3.5 Kg/cm²** at terrace level and **2 electric pump** of capacity **240 LPM** should be provided for Building Type A. (Kirloskar/Crompton make)

b. **1 No. electric driven** and **1 No. diesel driven fire fighting pump** at underground water storage tank Pump Room of capacity not less than **1620 LPM** capable of giving pressure of not less than **3.5 Kg/cm²** at terrace level and **1 electric pump** of capacity **180 LPM** should be provided for Building Type B. (Kirloskar/Crompton make)

c. **Diesel pump is must. Battery of diesel engine operated fire pump shall have separate charger from emergency power supply circuit.**

d. Installation of negative suction arrangement and submersible pumps not be allowed.

e. Booster pump on terrace level of Kirloskar/Crompton make electrical driven of capacity **900 LPM.** (15HP & 10HP) giving a pressure of not less than **3.5 Kg/cm** at top most hydrant with **ISI mark Electrical auto starter at ground floor as on terrace level and at 2 to 3 alternate above floor also.**

f. Electric supply (normal) to these pumps shall be on independent circuits.

Fire Duct:

2 Fire duct shall be provided at each floor level (with glass door) for Building Type A

Wet- Riser:

Two wet-riser in each staircase of wing, of internal diameter of **150 mm,** G.I. 'C' Class ISI mark pipe preferably **Tata, Zenith, Jindal** make from ground level up to terrace level of residential building for hydrant and sprinkler system, shall be provided in the fire duct from pump room to terrace level water tank adjoining the staircase with hydrant valves & hose reel for outlet on each floor in such a way as not to reduce the width of corridor. Pressure reducing discs or ore fiches shall be provided at lower level so as not to exceed pressure of **5.5 Kgs/cm²**. A fire service inlet on the external face of the building near the static tank directly fronting the courtyard shall be provided to connect the mobile pump of fire service to the wet riser along with non return valve, air valve, main valve & other subsequent valves.

Hydrant valve/ Landing valves:

Twin fire Hydrant valves/ Landing valves of 63 mm dia ISI marked shall be provided on each floor & each riser of residential building Type A.

Hose Reel hose:

Type II Hose Reel hose with jet & spray multipurpose Nozzle confirming to IS: 884: 1985 not less than **30 Mtrs.** shall be provided on each floor & each riser & above & below podium car parking area.

Hose Boxes:

Near every Hydrant valve/ Landing valves, hose boxes are to be provided. Each box shall be equipped with 1 x 15 meter length of 63 mm rubber line hose along with standard branch pipe, for residential building & each car parking level. It shall confirm to latest IS code 636 & 903 respectively.

Fire Service Inlet:

Four ways Fire service inlet with hydrant valve outlet should be provided to each residential building & commercial building at ground level & it should be accessible for fire service personnel for easy operation

Ring main & External Hydrants:

External Hydrants shall be provided within the confines of the site on the wet riser at the distance 25 mtrs. from each other. The underground Periphery ring main along the compound, **150 mm** dia. G.I. **'c'** class with necessary coating & warping shall be provided. Wet riser outlet and hose reel at a distance of 100 ft. shall be provided on periphery of all car parking floors to cover the fire risk at all floor level.

Automatic Fire Sprinkler System:

It's a High rise residential building taking in to account the local firefighting facility available, automatic pendent type sprinkler system with flow switch on each floor should be provided and car parking, common corridors, lobbies and commercial total area at each floor level of building Type A & B as per Confirming to IS.

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Fire Alarm System:

Glass break type good sound Manual Operated Call Point shall be provided at each floor lobby near staircase (escape route) in residential building. The layout of fire alarm system shall be in accordance with IS Specification. In addition, it should be get approved from the dept.

Portable Fire Extinguishers:

Fire Extinguishers for **ABC** class of fire shall be provided as per IS 2190 at strategic location and each floor of the residential & commercial building

1) CO2 type fire extinguishers of 4.5 kg. capacity with ISI marks at electric meter room, lift machine room and in commercial part of the building if any.
2) ABC type fire extinguishers of 6 kg. capacity having IS certification mark shall be provided on all floor & spread over each level of commercial area.
3) Buckets filled with dry clean sand- 4 Nos. for each wing of residential building, commercial building.

SIGNAGES:

Self-glowing / fluorescent exit signs in green color showing the means of escape, refuge are, fire duct etc. shall be provided in all wings/buildings as well as on car parking area.

Approval Of the drawing of total active fire protection system along with pumping arrangement & sprinkler system, Drencher System shall be taken from this department before commencement of the work.

The Architect & Developer shall strictly adhere to the requirements given in this Provisional NOC by this Department and Kalyan Dombivli Municipal Corporation DC Rules to be complied.

General Requirements and Conditions for the fire and life safety of the buildings :

1) Inflammable / Explosive storages are prohibited in the basement or in building.
2) All materials to be used of ISI make.
3) After completion of the building civil work prior Approval of undersigned should be taken before commencement of fire Fighting Work and list of material.
4) The entire system must be painted with post box RED in colour.
5) If the documents attached with this proposal are illegal or misguided, the NOC will be considered as cancelled and overall responsibility will be held by the applicant/Land owner / developer for any consequence.
6) All the fire fighting equipments shall be well maintained and should be easily accessible in case of emergency.
7) It shall be ensured that security staffs of the building are trained in handling fire fighting equipments & fire fighting.
8) Cautionary boards such as **"DANGER", "NO SMOKING", "EXIT", "FIRE ESCAPE", "EXTINGUISHER", "HYDRANT", "MANUAL CALL POINT"** etc. should be displayed on the strategic location to guide the Occupants in case of emergency. The signs should be of florescent type and should glow in darkness.
9) The Fire Evacuation Drill should be planed & instruction should be given to the staff minimum **four times in a year** and drill should be carried out twice in a year.

10) Interconnectivity between fire water tank & domestic water tank should be provided so that during emergency the stored water in domestic water tank can be utilized for fire fighting.

11) All the fire fighting systems drawing / layout should be approved from the Chief Fie Officer, KDMC, before starting any work.

12) In case of emergency, the alternate power supply should be provided for the Fire Pumps, Fire Lifts etc. **The Certificate from electric engineer regarding this should be provided at the time of Final NOC.**

13) **Fire fighting work must be carried out by Licensing Agency authorized by Director of Maharashtra Fire Services only.**

14) **Care & maintenance contract should be made with Licensed Agency to keep the system in good and efficient condition and Hamipatra of the same should be given at the time of final NOC.**

15) The provision of Ring hydrant/Court yard hydrant system should be provided to entire complex. The distance between two hydrants should not be more than 30 Mtrs.

16) As per the D.C. Rules requirement all the marginal open spaces around the building should be kept open and obstruction free for easy mobility of fire engines.

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17) Telephone numbers of **"Responsible persons of the office", "Fire Brigade", "Hospital" "Police", "Doctors",** should be displayed on the board. This board should be displayed on prominent place. Preferably at the Fire Control Room, security office and in Reception area.

18) All other provisions of D.C. Rules of Kalyan Dombivali Municipal Corporation & National Building Code of India-2016 & Maharashtra Fire Prevention & Life Safety measures Act, 2006 should be strictly adhered.

19) The plans of the proposed building should be approved by the competent authority of Kalyan Dombivali Municipal Corporation.

20) Well equipped fire control room shall be provided on the ground Floor of the building & A qualified Fire Officer from National Fire Service College, Nagpur shall be employed to maintain all fire prevention & protection arrangements provided to Various buildings

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21) The glassing and façade other Glasses should have at least one hour fire resistance and should be UL approved and in accordance with NFPA requirements.

22) The glass faced should be protected with coating film so that in case of breaking of glass the glass can remain in its place for some hours before replacement. This will reduce the risk of injuries to occupants and fire & rescue personal. In the event of blast the shock wave created which created the damage to glass faced the use of film will help to reduce the damages due to glass Breaking.

Regular Training and Maintenance of these systems should be carried out by the **housing society/ builders.** As per provisions made in Maharashtra Fire Prevention and Life Safety Act 2006.

Considering this situation, above fire prevention & fire protection majors are recommended in the proposed buildings up to height mentioned in this provisional NOC only. If Architect/Developer makes any changes in height, area or location the above fire preventive majors, refuge area, staircase location, side margin etc. will change. And according to that the revised provisional NOC will be issued.

This is a **"Provisional No Objection Certificate"**, After providing the above fire prevention and fire protection system and compliance of above recommendations the inspection of the fire prevention and fire protection arrangements will be carried out and after satisfactory inspection **"Final No Objection Certificate"** will be issued to your building for obtaining final occupancy certificate from Kalyan Dombivli Municipal Corporation.

This provisional NOC conditions are valid for the period of one year. The undersigned reserves right to amend any additional recommendations deemed fit during the stage wise inspection due to the statutory provisions amended from time to time and in the interest of the protection of the subject mention building.

Please contacts authorities when & where required for these purpose.

If any additional requirement is suggested by fire department Party have also agree to comply the same.

Capitation Fee Rs 02,50,120/- Paid By Receipt No. 34555 Dt. 23/11/2020
Capitation Fee Rs 03,46,440/- Paid By Receipt No. 54635 Dt. 27/12/2018

Chief Fire Officer
Fire & Emergency services
Kalyan Dombivli Municipal Corporation

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Copy to :- Architect/Developer