

Office of the Director General of Police
Commandant General, Home Guards &
Director of Civil Defence and
Director General Karnataka State Fire &
Emergency Services

No. 1, Annaswamy Mudaliar Road
Bangalore - 560 042



Phone : 25570733
: 22971501
Fax : 22971512

No. GBC(1)615/2013

20-08-2014

To
The Commissioner,
Bruhat Bangalore Mahanagara Palike,
N.R. Square,
Bangalore-560002

Sir,

Sub: Issue of No Objection Certificate for the construction of High Rise Residential Buildings at Sy. No. 28/2, Khatha No. 30 (Old No. 31), Whitefield Main Road, Hoodi Village, K.R. Puram Hobli, Bangalore – reg.

Ref: Letter dated 28-11-2013 of the Authorised Signatory, M/s. United Oxygen Company Pvt. Ltd., No. 10, Museum Road, Pride Elite, 4th floor, Bangalore-560 001.

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With reference to the letter of the Authorised Signatory, M/s. United Oxygen Company Pvt. Ltd., cited above, the Regional Fire Officer, Bangalore West Range of this department has inspected the site of proposed High Rise Residential Building with 2 Towers i.e. Tower-A with 3 Wings i.e. Wing-A1, A2 & A3 – joined together, Tower-B with 3 Wings i.e. Wing-B1, B2 & B3 – joined together and a Club House at Sy.No.28/2, Khatha No. 30 (Old No. 31), Whitefield Main Road, Hoodi Village, K.R. Puram Hobli, Bangalore on 10-05-2014 with reference to the drawings submitted by the applicant and has furnished the details as follows :-

A. Details of the premises.

1. Address of the premises : Sy.No. 28/2,
Khatha No. 30 (Old No. 31),
Whitefield Main Road,
Hoodi Village,
K.R. Puram Hobli,
Bangalore-560 048.
2. Number of Buildings : One Building with 2 Towers i.e. Tower-A with
3 Wings i.e. Wing-A1, A2 & A3 – joined together,
Tower-B with 3 Wings i.e. Wing-B1, B2 & B3 –
joined together and a Club House.

3. Number of floors

Tower – A & B	:	Each with common Basement, common ground & 17 upper floors.
Club House	:	Common Ground & 2 upper floors.

4. Type of Occupancy : Residential.

5. Floor wise details of the OccupancyTower – A, B & Club House

Common Basement	:	For parking 511Cars, 2 D.G. Rooms & 2 Pump Rooms.
Common Ground floor	:	For parking 203 Cars, 14 flats, 2 Electrical Rooms, 1 Retail Space, 1 Staff Room, 2 Drivers Rooms, 1 Pharmacy, 1 IBM Room, 1 Library Café, 1 Pantry, 1 Kitchen, 1 Lounge & Waiting Area, 1 Squash Court; 1 Gallery, 1 Home Theatre and 1 Multipurpose Hall/Exhibition space.

Tower – AWing – A1, A2 & A3

1 st floor	:	14 flats, 1 Yoga/Aerobics & Dance Room, 1 Conference Room and 1 Office.
2 nd floor	:	14 flats, 1 Store, 1 Carom, 1 Billiards, 1 Chess Board Room, & 1 Association Room.
3 rd floor to 12 th floor	:	16 flats on each floor x 10 floors = 160 flats.
13 th floor to 15 th floor	:	14 flats on each floor x 3 floors = 42 flats.
16 th floor	:	12 flats, out of which 4 flats are duplex type.
17 th floor	:	8 flats & upper portion of duplex flats.



Tower – B**Wing – B1, B2 & B3**

1 st floor	:	14 flats, 1 Yoga/Aerobics & Dance Room, 1 Conference Room and 1 Office.
2 nd floor	:	14 flats, 1 Store, 1 Carom, 1 Billiards, 1 Chess Board Room, & 1 Association Room.
3 rd floor to 12 th floor	:	16 flats on each floor x 10 floors = 160 flats.
13 th floor to 15 th floor	:	14 flats on each floor x 3 floors = 42 flats.
16 th floor	:	12 flats, out of which 4 flats are duplex type.
17 th floor	:	8 flats & upper portion of duplex flats.
Total :		514 flats.

6. Height of the Building

Tower – A & B : Each of 54.30 mtrs.

7. Site Area : 42,592.81 Sq. mtrs.

8. Built-up area of each floor :-**Tower – A, B & Club House**

Common Basement : 19,678.73 Sq. mtrs.

Common ground floor : 11,522.00 Sq. mtrs.

Tower – A**Wing-A1, A2 & A3**

1st floor : 2,232.27 Sq. mtrs.

2nd floor : 2,244.15 Sq. mtrs.



3rd floor to 6th floor : 10,139.60 Sq. mtrs.
(2,534.99 Sq. mtrs. on each floor
x 4 floors)

7th floor to 12th floor : 15,403.98 Sq. mtrs.
(2,567.33 Sq. mtrs. on each floor
x 6 floors)

13th floor to 15th floor : 7,721.70 Sq. mtrs.
(2,573.90 Sq. mtrs. on each floor
x 3 floors)

16th floor : 2,418.11 Sq. mtrs.

17th floor : 2,235.29 Sq. mtrs.

Tower – B

Wing-B1, B2 & B3

1st floor : 2,232.27 Sq. mtrs.

2nd floor : 2,244.15 Sq. mtrs.

3rd floor to 6th floor : 10,139.60 Sq. mtrs.
(2,534.99 Sq. mtrs. on each floor
x 4 floors)

7th floor to 12th floor : 15,403.98 Sq. mtrs.
(2,567.33 Sq. mtrs. on each floor
x 6 floors)

13th floor to 15th floor : 7,721.70 Sq. mtrs.
(2,573.90 Sq. mtrs. on each floor
x 3 floors)

16th floor : 2,418.11 Sq. mtrs.

17th floor : 2,235.29 Sq. mtrs.

9. Total Built-up area : 1,15,991.65 Sq. mtrs.



10. Surrounding properties :-

East	:	Private Property.
West	:	9.00 mtrs. wide Service Road.
North	:	Private Property.
South	:	Vacant land belongs to the applicant & 24.60 mtrs. wide Whitefield Main Road thereafter.

B. The plan shows the following structural details indicating the fire prevention, fire fighting and evacuation measures. These measures are considered adequate as follows:-

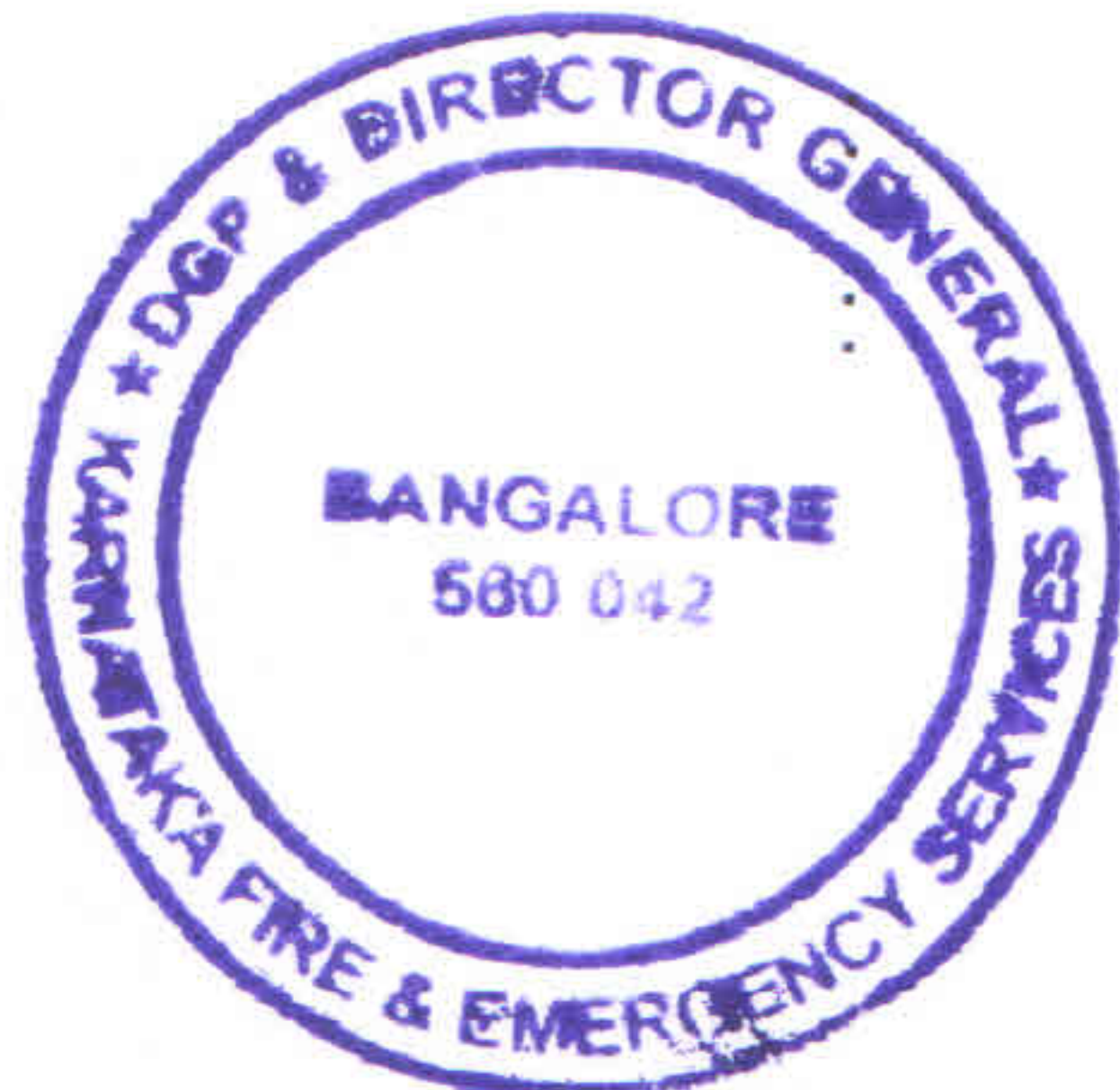
Details (1)	Existing (2)
1. Width of the road to which the building abuts and whether it is hard surfaced to carry the weight of 45,000 kgs.	The premises is abutting 24.60 mtrs. wide Whitefield Main Road, located on the Southern side and 9.00 mtrs. wide Service Road, located on the Western side. Both the roads are hardened to carry weight of 45,000 kgs.
2. Number of entrances and width of each	Proposed to provide 4 entrances, 2 each of 6.00 mtrs. width from 24.60 mtrs. wide Whitefield Main Road, located on the Southern side and 2 entrances, one of 8.75 mtrs. width & another of 7.30 mtrs. width from 9.00 mtrs. wide Service Road, located on the Western side.
3. Height clearance over the entrance	No arch or any other constructions have been proposed over the entrances.

4. Width of open space (Setbacks):-

Tower – A

Wing – A1, A2 & A3

Front (South)	:	Minimum 27.00 mtrs.
Rear (North)	:	Minimum 28.80 mtrs.
Side (East)	:	Minimum 16.00 mtrs.
Side (West)	:	Minimum 16.00 mtrs.



(1)

(2)

Tower – BWing – B1, B2 & B3

Front (South)	:	28.80 mtrs.
Rear (North)	:	Minimum 16.00 mtrs.
Side (East)	:	Minimum 16.00 mtrs.
Side (West)	:	Minimum 16.00 mtrs.

5. Arrangement for parking the Cars : Provision has been made to park 511 cars at common Basement parking area, 203 Cars at ground floor parking area and 61 Cars on the setback available all around the Building. This open parking shall be after leaving 8.00 mtrs. wide driveway from the Building line.

Proposed to provide 2 ramps for the vehicles to reach the common Basement parking area.

6. Number of Staircases

Tower – A	:	8. (2 in each wing).
Tower – B	:	8. (2 in each wing).

7. Location of the staircases : All the staircases have been designed to abut one of its side to the external wall and are terminated at ground floor level. 11 separate staircases have been proposed to reach the common basement parking area from the ground floor. Further provision has made to enclose all the staircases at each floor level.



(1)

(2)

8. Staircase size:-

- (a) Width of the staircases : Each of 1.20 mtrs.
- (b) Width of treads : 30 Cms.
- (c) Height of riser : 15 Cms.
- (d) Number of risers in a flight : Maximum 10 risers per flight.
- (e) Height of hand rails : 1.00 mtr. As proposed, the hand rails should be provided at a height of 1.00 mtr. The gap between two verticals should not exceed 15 cms.
- (f) Head room clearance : Minimum 2.40 mtrs.

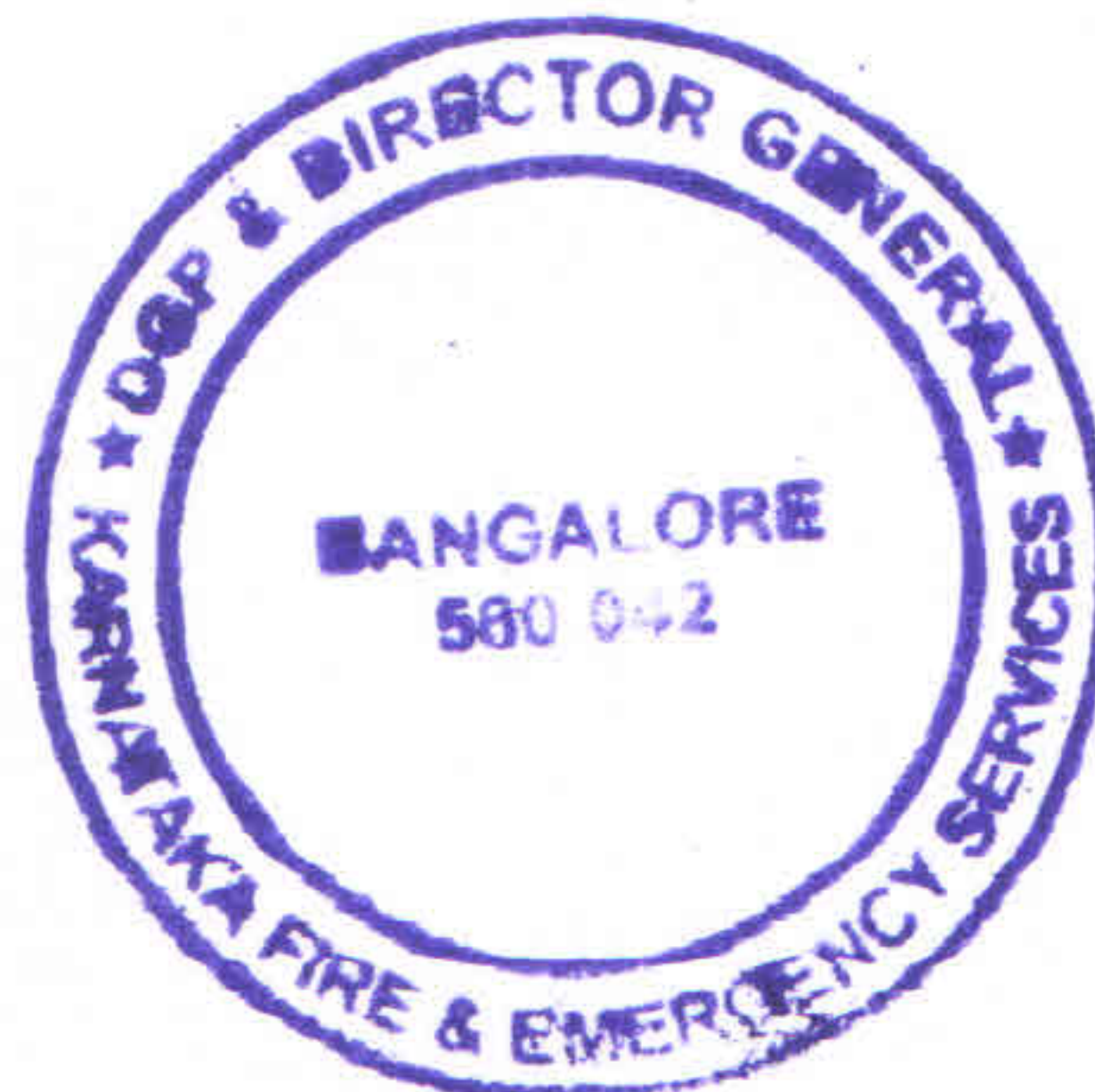
9. Travel distance from the farthest point and from the dead-end of the corridor to the staircases. : Maximum 30.00 mtrs. from the farthest point to staircases in Basement.

Tower – A & B

Maximum 26.00 mtrs. from the farthest point and Maximum 12.00 mtrs. from the dead end of the corridor to the staircases in upper floors. Increased travel distance both from the farthest and dead end of the corridor are acceptable as all the floors of both the towers are proposed to be covered with automatic sprinkler system.

10. Number of lifts and capacity

- Tower – A : 12 lifts , 8 passengers lifts each of 13 passengers capacity & 4 service lifts each of 2,000 Kgs. capacity.
- Tower – B : 12 lifts , 9 passengers lifts each of 13 passengers capacity & 3 service lifts each of 2,000 Kgs. capacity.



C. While constructing the building the following fire safety measures should be incorporated:-

Details (1)	Existing (2)	Recommendation (3)
1. Condition of the open space.	--	Out of the required and allowed setbacks of minimum 16.00 mtrs. around each Tower, setback to an extent of 8.00 mtrs. from each Building line should have a RCC slab of 200 mm thickness to carry the load of 45,000 kgs., being the weight of a fire unit. This driveway all around each building, should always be kept free and clear. It would be advantageous to the builders and the users to elevate this portion by a few inches and even provide for a different colour, so that people are aware that this is the emergency route for fire fighting vehicles, ambulances etc. The total setbacks shall be at even level without any structure and projections up to a height of 5.00 mtrs. These setbacks shall be always kept free from any construction or utilization like garden, landscaping parking etc.
2. Structural materials.	---	RCC materials and brick walls of not less than two hours fire resistance should be used for the construction of structures. Only fire resistant materials or materials treated with fire retardant chemicals, should be used for interior decoration work. While attending the interior decoration the fixed fire fighting systems like sprinklers/risers etc., should not be covered or shifted from their original location.
3. Design of the staircases.	Not indicated	All the staircases should be constructed with non-combustible materials and should be completely enclosed at each landing to prevent smoke and fire traveling from the lower floors to the upper floors. Enclosures to staircases should be provided with self-closing smoke-stopping swing-door, fitted with door closing devices at the exit to the lobby. These doors should have at least two hours fire resistance capacity. The staircase area should be without glazing or glass brick walls to avoid reflections. Any area of dwelling or storage should not open directly to the staircase.



(1)	(2)	(3)
4. Specification of lift.	Not indicated	<p>The brick walls, enclosing the lift shafts, should be of 90 mm thickness and have a fire resistance of not less than two hours. Shaft should have permanent vent of not less than 0.2 sq. mtrs. clear area, immediately under the machine room. Lift motor rooms should be preferably located at the top of the shaft and separated by the enclosing wall of shaft or by the floor of the machine room. Landing doors of lift enclosures should open into a ventilated lobby having one hour fire resistance. Lift car doors should be of metal finish, operating automatically and should have fire resistance capacity of one hour. Exit from the lift lobby should be through a self closing smoke stopping door of 15 mm thickness, having one hour fire resistance capacity. This is to prevent smoke and fire traveling from the lower floors to the upper floors. The lift machine rooms should be separate and no other machinery should be installed therein. Each lift should be connected to an alternative source of power (generator). Grounding switches at the ground floor level to enable the Fire & Emergency Services personnel to ground all the lift cars and use them as ' FIRE LIFT' in an emergency should be provided. All the lifts, extended up to the common Basement, shall be terminated at the ground floor level or the lift lobby at the basement level shall be enclosed and pressurized with positive pressure.</p>
5. Service ducts/shafts.	---	<p>Service ducts should be enclosed by walls of 100 mm. thickness to have at least two hrs fire resistance capacity. A vent, opening at the top of the service shafts, should be provided between one fourth and half of the area of the shafts. The electrical distribution cables and wiring should be laid in a separate duct. All the ducts should be sealed at every alternate floor with non-combustible metal doors having at least two hours fire resistance capacity.</p>



(1)	(2)	(3)
		Water mains, telephone lines, intercom lines or any other service lines should not be laid in the duct, meant for electric cables.
		The inspection panel doors and any other opening to the shafts should be provided with airtight doors of at least two hours fire resistance capacity.
6. Escape route.	Not indicated	Direction in which the inmates should have to move in the event of any emergency have to be indicated in the corridor/passage on each floor as a guide during evacuation. These marking should be in luminous paint.

D. The builder should arrange for the following fire fighting and evacuation measures:-

Details (1)	Existing (2)	Recommendation (3)
1. Electric power supply.	---	<p>Circuits for water pumps, lifts, staircase lighting in the building should be by separate line and independently connected so that they can be operated by one switch installed the ground floor. Dual operated switches should be installed in the service room for terminating the standby supply.</p> <p>Proposed to provide 4 standby generators, each of 500 KVA capacity shall be installed at common Basement to supply alternative power for staircase lighting, corridor lighting, fire fighting systems, lifts etc., in the event of failure of electricity supply, in the building.</p>
2. Wet riser-cum-down comer.	Proposed to provide 8 Wet riser-cum-down comer systems (4 in each Tower).	As proposed 8 Wet Riser-cum- down comer systems (4 in each Tower), near the staircase shall be provided. Each riser should be of 150 mm internal diameter and of G.I. 'C' Class pipe. From each riser double hydrant outlets should be provided at each landing. Hose reel hose of minimum 19 mm size of adequate length to reach



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(2)

(3)

the farthest point of each floor should be provided with a shut off branch having a nozzle of 5 mm size. The hose reel hose should be connected at each landing by means of an adaptor. A minimum of 2 external hydrants at a suitable locations (adjacent to the compound wall) with adequate space between them should also be provided from each system. Adequate B.I.S. marked reinforced rubber lined delivery hoses of 63 mm size to reach the farthest point of the floor/ setbacks from the system should be provided with a branch pipe near each hydrant outlet (both internal and external) in a proper box to protect it from withering. At least two fire service inlets to boost the water in the riser directly from the mobile pump should also be provided. These inlets should be located at an easily accessible position, preferably near the entry point to the premises.

Each Wet riser-cum-down comer system of Tower-A should be connected to an overhead tank of 10,000 litres capacity and an underground tank of 75,000 litres capacity. One diesel driven pump and one electrically driven pump, each capable of delivering 2280 litres of water per minute at 0.3N/mm² pressure and an jockey pump with a capacity of 180 LPM shall be installed near the combined underground tank

Similarly each Wet riser-cum-down comer system of Tower-B should be connected to an overhead tank of 10,000 litres capacity and an underground tank of 75,000 litres capacity. One diesel driven pump and one electrically driven pump, each capable of delivering 2280 litres of water per minute at 0.3N/mm² pressure and an jockey pump with a capacity of 180 LPM shall be installed near the combined underground tank. The impeller of all the pumps should be made of bronze.



(1)	(2)	(3)
3. Manually operated fire alarm system	Proposed to provide manually operated electrical fire alarm system with call boxes near each staircase landing	Manually operated electrical fire alarm system should be installed with call boxes located near each staircase landing of each tower. The call boxes should be of "break glass" type, where the call is transmitted automatically to the control room when the glass of the system is broken. This system should also be connected to an alternative source of power supply (diesel generator). The call boxes should be so installed that their location can be easily noticed from either direction and should be at a height of one meter from the floor level.
4. Automatic sprinkler system.	Proposed to provide automatic sprinkler system with sprinkler heads as indicated below:-	Adequate. Separate water and pumps for sprinkler system to use 10% of the sprinkler system for about 30 minutes shall be provided.

Tower	Floor	Sprinkler heads
Tower-A, B & Club House	Common Basement	1,414
	Common ground floor	803
Tower-A	1 st floor	135
	2 nd floor	152
	3 rd floor to 6 th floor	132 on each floor
	7 th floor to 15 th floor	134 on each floor
	16 th floor	119
	17 th floor	112
Tower-B	1 st floor	136
	2 nd floor	150
	3 rd floor to 6 th floor	132 on each floor
	7 th floor to 15 th floor	134 on each floor
	16 th floor	120
	17 th floor	112



(1)	(2)	(3)
5. Public address system.	Proposed to provide public address system with two way communication facility.	As proposed a public address system with two way communication facility should be provided at each floor near each staircase landing with its console at the control room, located on the ground floor.
6. Assembly Area	Not marked.	An area at an appropriate place in the allowed/ required setbacks shall be earmarked with a proper board as 'ASSEMBLY AREA' for the occupants to assemble after evacuation during practice drill and in an emergency.
7. Portable fire extinguishers.	Proposed to provide suitable type of portable fire extinguishers as per the requirements	<p>a) One ABC Powder extinguisher of 6 kgs. capacity for every 8 Cars at common basement & common ground floor parking area and also on the open space parking area (under shelter).</p> <p>b) One ABC extinguisher of 2 kgs. capacity should be provided near the entrance to each main switch board room, inside each lift machine room and inside each kitchen.</p> <p>c) One ABC Powder extinguisher of 6 kgs. capacity should be provided near the transformer, if installed & near the entrance of D. G. Room.</p> <p>d) One ABC Powder extinguisher of 6 kgs. capacity should be kept near each staircase landing on every floor of each Tower.</p> <p>e) All the extinguishers suggested above should be with B.I.S. markings and should be located at an easily accessible position without obstructing the normal passage.</p>



(1)	(2)	(3)
8. Fire safety plan.	---	<p>A Fire safety plan for preventing and extinguishing any accidental fire in each Tower and action to be taken by the occupants in case of such fire should be prepared in advance and got approved by the Director, Karnataka Fire & Emergency Services. The fire safety plan, so approved, should contain the telephone numbers of the nearest Fire Control i.e., 101, 22971500, 22971550 and 22971600. The plan should be distributed to all the occupants and employees in each Tower and should be displayed on every floor.</p> <p>A Fire Command Station should be established in the lobby of each Tower on the entrance floor and such command station should be adequately illuminated. The main control of the public address system and fire alarm system should be at the Fire Command Station.</p> <p>A Fire Safety Director should be nominated for each Tower. He should conduct fire and evacuation drills periodically. He should nominate a Fire Warden for each floor and ensure that no individual of the building does anything which causes or stimulates an accidental fire and in case of lapses in respect of fire prevention measures, he should take action as deemed fit to ensure the safety from the fire point of view. If the action is beyond his capacity he should inform the Fire & Emergency Services department.</p>
9. Training	Not indicated	<p>40% of the occupant/employees should be got trained in fire prevention & fire fighting at the R.A. Mundkur Fire & Emergency Services Academy, Bannerghatta Road, Bangalore -560 029 within 6 months from the date of occupation of the building.</p>



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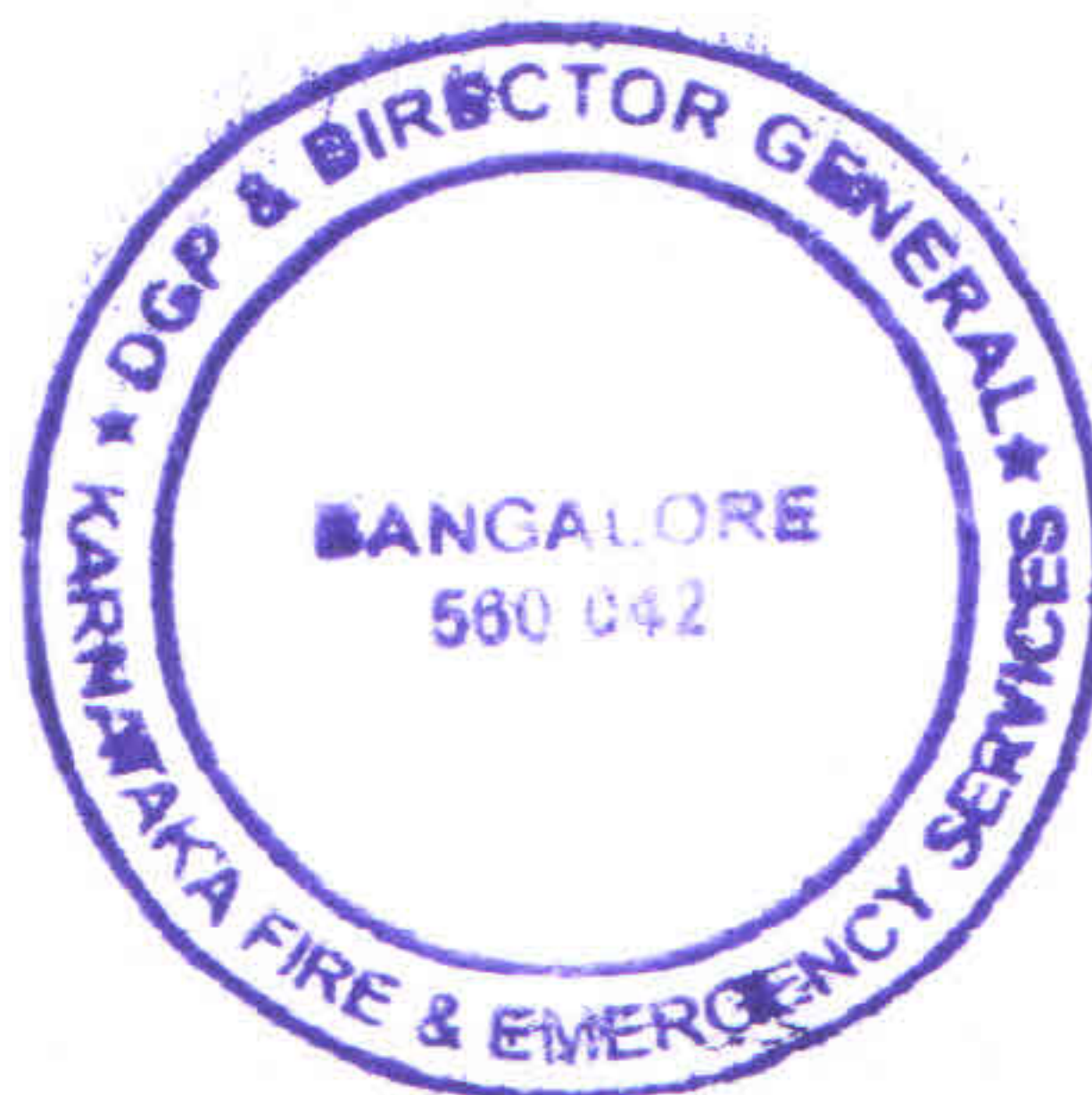
(2)

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For this purpose, before approaching this department for final clearance certificate, the applicant should give an undertaking in the form of an affidavit regarding the maintenance of the fire prevention and fire fighting measures suggested above and arranging training of 40% of the occupants in fire prevention and fire fighting within 6 months from the date of issue of the clearance certificate.

E. General:-

- 1) All the fire prevention, fire fighting and evacuation measures suggested / recommended in B, C & D shall be strictly adhered to adopted.
- 2) Hazardous materials such as petroleum products, explosives, chemicals etc. should not be stored on any floor of the building.
- 3) Refuse dumps or storage should not be permitted in any of the floors.
- 4) Liquefied petroleum gas should not be stored in the building, except limited quantity required for each kitchen.
- 5) Plan & occupancy should not be changed without informing the Fire & Emergency Services and without taking clearance.
- 6) The occupancy certificates should not be issued without obtaining the clearance certificate from the Fire & Emergency Services department as per Chapter 3.16 (v) of the Zoning Regulation 2007 of the Bangalore Development Authority.
- 7) Such reasonable changes/modifications as may be found necessary, after the building is fully constructed, will have to be agreed to be done by the builder/occupants of the building.
- 8) All the metal fittings of wet riser system and all the extinguishers suggested above should have B.I.S markings.



Subject to the strict adherence to the conditions laid down as above, issue of license for the construction of High Rise Residential Building with 2 Towers i.e. Tower-A with 3 Wings i.e. Wing-A1, A2 & A3 – joined together and Tower-B with 3 Wings i.e. Wing-B1, B2 & B3 – joined together at Sy. No. 28/2, Khatha No. 30 (Old No. 31), Whitefield Main Road, Hoodi Village, K.R. Puram Hobli, Bangalore may please be considered.



Yours faithfully,

H. C.
(Director General of Police
and Director General,
Karnataka Fire & Emergency Services.

Copy to

- 1) The Authorised Signatory, M/s. United Oxygen Company Pvt. Ltd., No. 10, Museum Road, Pride Elite, 4th floor, Bangalore-560 001.
- 2) Regional Fire Officer, Bangalore West Range, Bangalore.