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No. GBC(1) 423/2013

6-05-2016

To

**The Commissioner,
Bruhath Bangalore Mahanagara Palike,
N.R. Square,
Bangalore-560002.**

Sir,

Sub: Issue of Revised NOC for the construction of High Rise Mixed Occupancy Building at Sy. No. 32/1(P), 32/2(P), 32/3, 32/4, 35, 37, 38, 39, 40, 41, 42/1, 42/2, 43/1, 43/2, 44 & 45, Chokkanahalli Village, Yelahanka Hobli, Bangalore North Taluk.

Ref: 1. This office NOC No. GBC(1)423/2013, dated 12-04-2014.
2. Letter dated 18-01-2016 of the Authorized Signatory, M/s. Bhartiya City Developers Pvt., Ltd., No.100/1, Anchorage-1, Richmond road, Bangalore-560025.

With reference to the subject cited (1) above NOC was issued for the construction of a High Rise mixed occupancy building i.e. Block-2 with 4 wings joined together i.e., Wing-A (Hotel) consisting of 03 common Basements, ground floor and 18 upper floors, Wing-B (Retail) consisting of 3 common Basements, ground floor and 6 upper floors, Wing-C (Retail) consisting 3 Basements, ground and 4 upper floors and Wing-D (Residential) consisting of 3 common basement, common ground to 3rd floor and 4th floor to 22nd upper floors, at Sy. No. 32/1(P), 32/2(P), 32/3, 32/4, 35, 37, 38, 39, 40, 41, 42/1, 42/2, 43/1, 43/2, 44 & 45, Chokkanahalli village, Yelahanka hobli, Bangalore. Now the builder has modified the plan & requested to issued Revised NOC.

Accordingly, The Chief Fire Officer, Bangalore West Zone has inspected the site proposed for the construction of High-rise mix occupancy building at Sy. No. 32/1(P), 32/2(P), 32/3, 32/4, 35, 37, 38, 39, 40, 41, 42/1, 42/2, 43/1, 43/2, 44 & 45 Chokkanahalli Village, Yelahanka Hobli, Bangalore North Taluk, on 02-03-2016 and scrutinized the Revised drawings submitted by the applicant and has furnished the details as follows.

A. Details of the premises.

1. Name & Address of the premises. : Sy. No. 32/1(P), 32/2(P), 32/3, 32/4, 35, 37, 38, 39, 40, 41, 42/1 42/2, 43/1, 43/2, 44 & 45 Chokkanahalli village, Yelahanka hobli, Bangalore north taluq.
2. Number of Block/Buildings : One Block i.e., Block-2 with 4 wings - i.e., Wing- A, B, C & D - joined together.
3. Number of floors in each Block/Building.
 - Wing -A (Hotel) : 3 common basements, ground 18 upper floors and Helipad on Terrace floor.
 - Wing - B (Retail & Multiplex) : 3 common basements, ground and 5 Upper floors.
 - Wing - C (Retail) : 4 common basements, ground and 4 Upper floors.
 - Wing - D (Residential) : 3 common basement, common ground floor on 3rd floor & from 4th and 23rd floor (Residential) and Helipad on Terrace floor.
4. Floor wise details of the Occupancy
 - Wing - A, B, C & D
 - Basment-04 : for parking 111 nos cars, 02 office mechanical Area, 1 retail , Mechanical Area,02 Retail Utility area.
 - Common Basement - 3 : For parking 648 Cars, 2 ventilation for rooms, retail pump room, hotel pump room, utility areas, 1 Hotel STP room, 1 Retail STP room, 1 Residential STP room, 1 fan room, 1 residential pump room, 1 TES Tank Room 3 electrical rooms, 1 ventilation panel room & other services rooms, 1 Office HVAC TES tank rooms, 1 office fire pump rooms.



Common Basement – 2	For parking 1100 cars, (single & Stack Parking) 2 ventilation rooms, 2 WTP fire panel rooms, 1 hotel plant room, 1 hotel boiler room, 2 A/c plant room. utility areas. 3 electrical rooms & 1 A/c Chiller room. 1 Exhaust fan room, 1 ventilation panel room. 1 office HVAC chiller plant room.
Common Basement -1	For parking 466 cars, 2 ventilation room, 1 shopping arcade. mechanical service rooms, administration office areas, kitchen facilities, 3 D.G. rooms, A.H.U Rooms, Retail AC plant room, utility areas, 3 transformer rooms, 6 electrical panel rooms, 1 UPS room and battery room.
Common Ground floor	For Parking 36 cars. 1 Departmental store, 5 locker rooms, 1 Telephone exchange room, 2 class room, 1 library, 1 doctor room, 1 uniform room, 1 office, 1 staff cafeteria, 1 kitchen, 1 administration office, 1 storage & receiving room, 7 retail storage, 60 retail shops, 1 mini anchor shop 6 electrical room, A.H.U Rooms 3 Hotel Pumps Rooms, 1 Panel room & 1 D.G.Room. 1 transformer.

Wing – A

1 st floor	Hotel lobby, luggage room, 21 front office area, 1 cashier & reservation room, lounge bar, all day restaurant, 1 kitchen, 6 restaurant, 1 Banquet storage, 1 office, 5 café and 2 electrical rooms.
2 nd floor	1 support office, 7 directors room, 1 G.M room, 1 conference room, 1 sales office, 4 meeting room, 1 board room, 9 retail shops, 4 banquet halls, 1 pre function hall, 1 banquet kitchen, 1 electrical room 1 developers office & 1 Business center.



3 rd floor	1 SPA, 1 relaxation room, 1 salon, 1 gym 1 swimming pool, 1 kitchen, 1 cold food section, 1 dry store, 1 pool restaurant, 1 kitchen, 2 electrical rooms and 8 retail shops.	
4 th floor	service floor, 1 banquet storage, 1 pre-function Hall, 2 banquet hall and 2 A.H.U rooms.	
5 th floor	22 guest rooms, 1 electrical room, 1 house keeping room and 1 hotel TFA room & 1 refuge area of 34.00 Sq.Mtrs.	1.2
6 th floor to 8 th floor	22 guest rooms, 1 electrical room, 1 house keeping room and 1 hotel TFA room on each floor.	6.6
9 th floor	22 guest rooms, 1 electrical room, 1 house keeping room and 1 hotel TFA room & 1 refuge area of 34.00 Sq.Mtrs.	1.2
10 th to 12 th floor	22 guest room, 1 electrical room, 1 house keeping room and hotel TFA room on each floor.	6.6
13 th floor	22 guest rooms, 1 electrical rooms, 1 house keeping room, 1 hotel TFA room & 1 refuge area of 34.00 Sq.Mtrs.	1.2
14 th to 16 th floor	22 guest rooms, 1 electrical room, 1 house keeping room and 1 hotel TFA room on each floor.	6.6
17 th floor	22 guest rooms, 1 electrical room, 1 House Keeping room, 1 hotel TFA Room & 1 refuge terrace of 34.00 Sq.Mtrs.	1.2
18 th floor	02 Royal Club area., 1 kitchen, 1 pantry, 1 electrical room, 1 meeting room.	



Wing – B

1 st floor	1 anchor, 2 AHU rooms & 2 electrical rooms.
2 nd floor	1 anchor shop, 1 AHU room & 2 electrical room.
3 rd floor	Cinema hall i.e, Multiplex -1 with 162 seats, Multiplex -2 with 357 seats, Multiplex-3 with 190 seats, Multiplex -4 with 183 seats, Multiplex -5 with 146 seats, Multiplex -6 with 220 seats, Multiplex -7 with 202 seats, 01 Cinema back Office, 1 Housekeeping room & Box office-Total 1460 seats in 7 Multiplexes.
4 th floor	Upper portion of all the Cinema Halls & service corridor.
5 th floor	07 AHU Rooms, & Projector area.

Wing – C

1 st floor	50 Retail shops, 1 mini anchor. 2 AHU rooms & 3 electrical rooms.
2 nd floor	50 retail shops, 1 mini anchor, 2 AHU rooms & 3 electrical rooms.
3 rd floor	8 F & B retails, 1 food court. 12 Kiosks, & 3 electrical rooms.
4 th floor	Mechanical service floor and 1 pool pump room.

Wing – D (4th to 23rd floor)

4 th floor	Mechanical Service floor & 1 Pool Pump room.
5 th floor	2 treated fresh air room, 1 club bar, 1 games room, 4 pantry, 1 club lounge, 1 crèche, 1 gym, 1 business center, 1 music Room, 1 mini theater, 1 golf simulator room, Squash room & 1 SPA. 1 Chef room.



6 th floor (Double Height)	upper portion of 5 th floor.
7 th floor to 21 st floor	11 flats on each floor x 15 floors = 165 flats.
22 nd floor	11 flats, of which 4 flats area duplex type.
23 rd floor	Upper portion of duplex flats (4 lounges)
5. Height of the Building	(Wing A, B, C & D joined together) maximum height is 94.93 Mtrs.
Wing – A	79.38 Mtrs.
Wing – B	29.90 Mtrs.
Wing – C	26.88 Mtrs.
Wing – D	94.93 Mtrs.
6. Site Area	4,29,063.08 Sq.mtrs.
7. <u>Built-up area of each floor :-</u>	

Wing A, B, C and D

Basement - 4	6,720.99 Sq mts.
Common Basement – 3	36,841.98 Sq.Mtrs.
Common Basement – 2	40,241.35 Sq.Mtrs.
Common Basement – 1	35,410.07. Sq.Mtrs.
Common ground floor	24,607.80 Sq.Mtrs.
Common 1 st floor	17,005.85 Sq.Mtrs.
Common 2 nd floor	16,878.21 Sq.Mtrs.



Common 3 rd floor	11,527.97 Sq.Mtrs.
Common 4 th floor	10,790.47 Sq.Mtrs.
5 th floor	5,098.57 Sq.Mtrs.
6 th floor	1,915.21 Sq.Mtrs.
7 th floor	3,420.33 Sq.Mtrs.
8 th floor	3,308.15 Sq.Mtrs.
9 th floor	3,342.17 Sq.Mtrs.
10 th floor	3,308.15 Sq.Mtrs.
11 th floor	3,308.15 Sq.Mtrs.
12 th floor	3,308.15 Sq.Mtrs.
13 th floor	3,342.17 Sq.Mtrs.
14 th floor	3,308.15 Sq.Mtrs.
15 th floor	3,308.15 Sq.Mtrs.
16 th floor	3,308.15 Sq.Mtrs.
17 th floor	3,342.17 Sq.Mtrs.
18 th floor	2,911.45 Sq.Mtrs.
19 th floor	1,946.26 Sq.Mtrs.
20 th floor	1,948.25 Sq.Mtrs.
21 st floor	2,103.22 Sq.Mtrs.
22 nd floor	1,962.22 Sq.Mtrs.
23 rd floor	515.20 Sq.Mtrs.



8. Total Built-up area **2,55,028.95 Sq.mtrs.**

9. Surrounding properties :-

East	Vacant land belongs to the applicant for future development.
West	24.00 Mtrs. wide RMP road & open land for future development.
North	Open land & Block-I Residential Buildings.
South	Vacant land & proposed 100 Mtrs. wide peripheral ring road.

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)
01. Width of the abutting Road/ Roads and condition (Hard surfaced or not)	The premises is abutting 24.00 Mtrs. wide RMP Road located on the western side and it is connected to 30.00 mtrs wide Thanisandra road located on the western side through a 21.00 Mtrs. Wide internal approach road. All the roads are hardened to carry the weight of 45,000 kgs.
02. Number of entrances and width of each entrance to the premises.	Proposed to provide 03 entrance each of 6.00 Mtrs. width one remote to the other from 24.00 Mtrs. wide RMP road, which is connected to 30.00 Mtrs. wide Thanisandra main road.
03. Height clearance over the entrances.	Open to sky.



(1)	(2)
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04. Width of open space (Setbacks):-

(Wing A, B, C & D – Joined together)

Front (North)	47.97 Mtrs. (interbuilding setback)
Rear (South)	Minimum 33.99 Mtrs.
East (side)	Minimum 16.00 Mtrs.
West (side)	16.00 Mtrs.

- 05. Arrangement for parking the** Provision has been made to park 111 cars at common 4th basement area, 648 cars at common 3rd Basement, 1110 cars at common 2nd Basement, 466 cars at common 1st basement parking area, 36 cars at ground floor parking area.

Proposed to provide 8 ramps for the vehicles to reach each Basement parking area.

- 06. Number of Staircases** **Wing - A** 9 at 1st floor, 7 at 2nd floor, 4 at 3rd floor, 5 at 4th floor & 3 from 5th floor & 2 from 6th floor onwards.

Wing – B 9 at 1st floor, 4 from 2nd floor to 4th floor, & 3 at 5th floor .

Wing – C 5 staircases from 1st to 3rd floor & 4 at 4th floor .

Wing – D 4 at 4th floor & 5 staircases on typical floors (from 5th floor onwards).



(1)	(2)
09. Location of the staircases extended to the basement or terminated at ground floor level)	All the staircases have been designed to abut one of its side to the external wall and terminated at ground floor level. 25 separate staircases from ground floor to reach basement has been proposed to provide. Further provision has been made to enclose all the staircases of all the wings at each floor level.
10. Width of staircases	Wing A – each of 1.50 Mtrs. (Hotel) Wing B – 2.50 Mtrs. (Retail with Multiplex) Wing C – 1.80 Mtrs. (Retail) Wing D – 1.20 Mtrs. (Residential)
11. Width of Treads	Each of 30 cms.
12. Height of Riser	Each of 15 cms.
13. No. of Risers in a flight	Each 15 Risers per flight.
14. Height of Hand Rails	1.00 mtr.
15. Head Room Clearance	2.40 mtrs.
16. Travel distance from the farthest point and from dead-end of the corridor to the staircase.	Maximum 45.00 mtrs. from the farthest point to staircases in Basement. Maximum 33.75 mtrs. from the farthest point and maximum 16.875 mtrs. from the dead end of the corridor to the staircases in Wing – A. Maximum 35.00 Mtrs. from the farthest point and maximum 22.50 Mtrs. from the dead end of the corridor to the staircases in Wing – B.



(1)	(2)
	Maximum 45.00 Mtrs. from the farthest point and maximum 5.00 Mtrs. from the dead end of the corridor to the staircases in Wing – C .
	Maximum 30.00 Mtrs. from the farthest point and maximum 16.00 Mtrs. from the dead end of the corridor to the staircases in Wing – D . Increased travel distance from both farthest point and dead end of the corridor is acceptable as the entire building is proposed to be covered with automatic sprinkler system.

17. Number of lifts and Capacity

Wing – A	①	4 guest lifts, each of 13 passengers capacity and 3 service lifts, each of 1,000 kgs capacity.
Wing – B	①	One service lift of 1,000 kgs capacity.
Wing – C	③	3 passengers lifts, each of 13 passengers capacity and 5 service lifts, each of 1,000 kgs capacity.
Wing – D	③	8 passengers lift, each of 13 passengers capacity and 3 service lifts, each of 1,000 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 required and allowed setbacks of Min 16.00 mtrs. all around the building. The setbacks to an extent of 8.00 mtrs. from the Building line should have a RCC slab of 200 mm thickness to carry the load of 45,000 kgs., being the weight of



(1)	(2)	(3)
		a fire unit. This driveway all around the 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 5.50 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	Both 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	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. Both the lifts, extended up to the lower Basement, shall be terminated at the ground floor level or the lift lobby at each basement level shall be enclosed and pressurized with positive pressure.
5. Service ducts/shafts.	—	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. Water mains, telephone lines, intercom lines or any other service lines should not be laid in the duct, meant for electric cables.



(1)	(2)	(3)
6. Basements Ventilation	Not indicated	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. Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5% of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills, or breakable stall board lights or pavement lights or by way of shafts. Alternatively, a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level. Inlets and extracts may be terminated at ground level with stall board or pavement lights as before, but ducts to convey fresh air to the basement floor level have to be laid. Stall board and pavement lights should be in positions easily accessible to the fire brigade and clearly marked 'SMOKE OUTLET' or 'AIR INLET' with an indication of area served at or near the opening. In multi-storey basements, intake ducts may serve all basement level, but each basement levels and basement compartment shall have separate smoke outlet duct or ducts. Ducts so provided shall have the same fire resistance rating as the compartment itself. Fire rating may be taken as the required smoke extraction time for smoke extraction ducts. Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat / smoke sensitive detector or sprinklers, if installed, but shall have a considerably superior performance compared to the standard units. It shall also be an arrangement to start it manually.



(1)	(2)	(3)
		Mechanical extractors shall have an internal locking arrangement, so that extractors shall continue to operate and supply fan shall stop automatically with the actuation of fire detectors. Mechanical extractors shall be designed to permit 30 air changes per hour in case of fire or distress call. Mechanical extractors shall have an alternative source of supply. Ventilating ducts shall be integrated with the structure and made out of brick masonry or reinforced cement concretes as far as possible and when this duct crosses the transformer area or electrical switchboard, fire dampers shall be provided. Use of basements for kitchens working on gas fuel shall not be permitted, unless air conditioned. If cut outs are provided from basements to the upper floors or to the atmospheres, all sides cut out openings in the basements shall be protected by sprinkler head at close spacing so as to form a water curtain in the event of a fire.
6. Specification of Air conditioning	Not indicated.	The air-conditioning shall conform to the following: - Escape routes like staircases, common corridors, lift lobbies, etc. shall not be used as return air passage. - The ducting shall be constructed of substantial gauge metal in accordance with good practice. - Wherever the ducts pass through fire walls or floors, the opening around the ducts shall be sealed with materials having fire resistance rating of the compartment.



(1)	(2)	(3)
		d) Where duct crosses a compartment which is fire rated, the ducts shall be fire rated for same fire rating. Further depending on services passing around the duct work, which may get affected in case of fire temperature rising, the ducts shall be insulated. e) As far as possible, metallic ducts shall be used even for the return air instead of space above the false ceiling. f) Where plenum is used for return air passage, ceiling and its fixtures shall be of non-combustible material. g) The materials used for insulating the duct system (inside or outside) shall be of non-combustible materials. Glass wool shall not be wrapped or secured by any material of combustible nature. h) Air ducts serving main floor areas, corridors, etc. Shall not pass through the staircase enclosure. i) The air handling units shall be separate for each floor and air ducts for every floor shall be separated and in no way inter-connected with the ducting of any other floor. j) If the air-handling unit serves more than one floor, the recommendations given above shall be complied with in addition to the conditions given below: 1) proper arrangements by way automatic fire dampers working on smoke detector/ or fusible link for insulating all ducting at every floor from the main riser shall be made. 2) When the automatic fire alarm operates, the respective air handling units of the air-conditioning system shall automatically be switched off.



(1)	(2)	(3)
		a) The vertical shaft of treated fresh air shall be of masonry construction. b) The air filters of the air-handling units shall be of non-combustible materials. c) The air-handling unit room shall not be used for storage of any combustible materials. d) Inspection panels shall be provided in the main trucking to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers. e) No combustible material shall be fixed nearer than 150 mm to any duct unless such duct is properly enclosed and protected with non-combustible material (glass wool or sunglass with neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2 mm thick and which would not readily conduct heat. f) Fire Dampers: 1) These shall be located in conditioned air ducts and return air ducts / passages at the following points: i) At the fire separation wall. ii) Where ducts / passages enter the central vertical shaft. iii) Where the ducts pass through floors. iv) At the inlet of supply air duct and the return air duct of each compartment on every floor.



(1)	(2)	(3)
7. 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.	—	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. As proposed 3 Generators, each of 1000 KVA capacity at common upper Basement for Wing A, 6 generators, each of 2250 KVA capacity at common upper basement for Wing B & C & 2 generators each of 1250 KVA capacity at common basement for Wing - D 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
2. wet riser-cum-down comer system	Proposed to provide 20 wet riser-cum-down system (6 in wing - A, 4 in wing - B, 7 in wing - C & 3 in wing - D.	As proposed to 20 wet risers-cum-down comer system near the staircases, shall be provided each riser should be of 150 mm internal dia 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 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 17 external hydrants at a suitable locations (adjacent to the compound wall) with adequate space between them should also be provided



(1)	(2)	(3)
		from the 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 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 should be connected to an RCC overhead tank of 20,000 ltrs. capacity and an underground tank of 2,00,000 ltrs. capacity. Two electrical driven pumps (one for hydrant and one for sprinkler) & one diesel driven pump, each capable of delivering 2850 liters water per minute at 0.3 N/mm² pressure and a jockey pump capable of delivering 180 ltrs. of water per minute shall be installed near each combined underground tank at the rate of one set of pumps for every 4 risers (total 7 set of pumps). The Impeller of the pumps should be made of bronze.
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 the Building. 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.



(1)	(2)	(3)
4. Automatic fire detection system.	proposed to provide automatic fire detection system with 41 smoke detectors head at Basement – 4, 117 smoke detectors head at common basement -3, 110 smoke detectors head at common basement -2, 210 smoke detector heads & 68 heat detectors head at common basement 01, 328 smoke detectors head & 14 heat detectors heads at common ground floor, 254 smoke detectors heads & 12 heat detectors heads at common 1st floor, 248 smoke detectors head & 10 heat detectors head at common 2nd floor, 178 smoke detectors heads & 08 heat detectors heads at common 3rd floor, 128 smoke detectors & 08 beam detectors heads at common 4th floor, 68 smoke detectors head at 5th floor, 134 smoke detectors heads & 02 heat detectors heads at 6th floor, 34 smoke detectors heads at each floor i.e 7th floor to 16th floor, 31 smoke detector heads at 17th floor and 25 smoke detector heads at 18th floor of Wing – A, 45 smoke detectors heads & 10 heat detectors head at each floor i.e 7th floor to 21st floor & 45 smoke detectors, 11 heat detectors heads at 22nd floor and 8 smoke detector heads at 23rd floor of Wing D.	As proposed automatic fire detection system shall be provided with its 'console' at the ground floor level.



(1)	(2)	(3)
5. Automatic sprinkler system	Proposed to provide automatic sprinkler system with 383 sprinkler heads at basement – 4, 2346 sprinklers heads at common basement – 3, 3791 sprinkler heads at common basement -2, 2436 sprinkler heads at common basement- 01, 1696 sprinkler heads at common ground floor, 943 sprinkler heads at common 1 st floor, 1110 sprinkler heads at common 2 nd floor, 950 sprinkler heads at common 3 rd floor, 593 sprinkler heads at common 4 th floor, 157 sprinkler heads at 5 th floor, 316 sprinkler heads at 6 th floor of wing A, B, C & D. 80 sprinkler heads at each floor i.e from 7 th floor to 16 th floor, 109 sprinkler heads at 17 th floor and 82 sprinkler heads at 18 th floor of Wing – A. 120 sprinkler heads at each floor from 7 th floor to 21 st floor and 120 sprinkler heads at 22 nd floor & 30 sprinkler heads at 23 rd floor of Wing – D.	Adequate, separate water and pump for sprinkler system to use 10% of sprinkler for about 30 minutes shall be provided in the building.
6. Automatic water curtains.	Not indicated	Automatic water curtain shall be provided in each basement floor at the rate of two per floor to create smoke stop and fire barrier compartmentation in the event of fire accident.



(1)	(2)	(3)
7. Automatic Fire & Smoke Control Curtains.	Not indicated.	Automatic Fire and Smoke control curtains shall be provided in each floor of Wing-D at the rate of two per floor to create smoke stop and fire barrier compartmentation in the event of fire accident, there by safeguarding elevator area, lobby area, stair area etc. It shall be of minimum 2 hours rating.
8. 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.
9. 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.
10. Portable fire extinguishers.	Proposed to provide suitable type of portable fire extinguishers as per the requirements.	a) One ABC Powder extinguisher of 6 kgs. capacity for every 8 Cars at each Basement parking area and also on the open space parking area under shelter. 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. c) One ABC Powder extinguisher of 6 kgs. capacity should be provided near the transformer, if installed and near the diesel generator.



(1)	(2)	(3)
		d) One ABC Powder extinguisher of 6 Kgs. capacity should be kept near each staircase landing on every floor.
		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.

11. Fire safety plan.

A Fire safety plan for preventing and extinguishing any accidental fire in the building 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 the building and should be displayed on every floor.

A Fire Command Station should be established in the lobby of the building 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.

A Fire Safety Director should be nominated for the building. 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.



(1)	(2)	(3)
12. Fire Officer	---	A qualified Fire Officer with experience of not less than 3 years should be appointed as a caretaker for the entire premises. He should be entrusted with the responsibility of maintaining the systems suggested above, to layout fire orders and fire operational plans and to liaise with the local Fire & Emergency Services. The Fire Officer should be appointed before approaching the department for final clearance and should be present at the site at the time of final inspection for issue Clearance Certificate.
13. Helipad	---	2 nos of helipad has to be provide on the terrace level of wing – A & wing- D with all fire prevention and fire fighting measures as per the specification.
14. Training	Not indicated	40% of the occupant/employees should be Got trained in fire prevention and 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. 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.
- 9) Apart from the above, the building shall be constructed by following all the norms / measures stipulated in Part-3 & Part-4 of National Building Code and as per local Zoning Regulations strictly, failing which the NOC issued will not be valid.
- 10) The NOC is issued from the Fire Prevention and Fire Fighting point of view. Karnataka State Fire & Emergency Services Department will not endorse the ownership of the premises and not responsible for any disputes which may arise in due course.

Subject to the strict adherence to the conditions laid down as above, issue of revised NOC for the construction of High Rise mix occupancy building at Sy. No. 32/1(P), 32/2(P), 32/3, 32/4, 35, 37, 38, 39, 40, 41, 42/1, 42/2, 43/1, 43/2, 44 & 45 Chokkanahalli Village, Yelahanka Hobli, Bangalore North Taluk may please be considered.



Yours faithfully,

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

Copy to

- 1) The Authorized Signatory, M/s. Bhartiya City Pvt., Ltd., No. 100/1, Anchorage 1, Richmond road, Bangalore.
- 2) The Chief Fire Officer, Bangalore West Zone, Bangalore.