



ODISHA FIRE SERVICE
FIRE SAFETY RECOMMENDATION

FORM-II

[Under Rule-12 (5)]



RECOMMENDATION No:	RECOMM1101020042021000054	APPLICATION No:	FSR1101020042021000001
Date of Issue:	15-02-2021	Date of Receipt of Application:	06-02-2021

1.	Name & Address of the proposed Building/Premises:	B+G+23 floors Residential Building (Block-D), LB+UB+G+23 floors Residential Building (Block-E, Duplex), LB+UB+G+23 floors Residential Building (Block - G, H, J & K), LB1+LB2+UB+G+23 floors Residential Building (Block-L, M & O) and LB+UB+G+23 floors Residential-cum-Commercial Building (Block-N), over Plot No.1017, 1021 & others, Mouza-Nuahata, PS-Cuttack Sadar, No.273, Tahasil-Cuttack, Dist-Cuttack.
2.	Name and Address of the Applicant(s):	Sri Ashish Garg, Owner, Grand Bazaar LLP, Plot No. N-34/48, IRC Village, Nayapalli, Bhubaneswar - 751012
3.	Proposed Occupancy (Type of Building):	As per the plan B+G+23 floors Building (Block-D), LB+UB+G+23 floors Building (Block-E, Duplex), LB+UB+G+23 floors Building (Block-G, H, J & K) and LB1+LB2+UB+G+23 floors Building (Block - L, M & O) are coming under "Residential Building" and LB+UB+G+23 floors Residential-cum-Commercial Building (Block-N) is coming under "Mixed Use Building" as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Residential Building (Group-A) Sub-Division A-4 and "Mixed Occupancy Building" of Mercantile, Assembly and Residential i.e. Group-A, D & F as per NBCI-2016.
4.	Area with Plot Number and Khata	Total Plot area - 99,751.63 sqm. Plot No.1017, 1021 & others, Mouza-



	Number:	Nuahata, Dist-Cuttack.
5.	Date of Inspection:	10-02-2021

6. Recommendation:

The Fire Safety Recommendation for the following building(s) is/are as follows: -

A.	Structural and construction site requirements:	
i.	Details of the building(s) like height, no. of floors, area on each floor, built up area, etc	<p>Common Basement</p> <ol style="list-style-type: none"> 1) Lower Basement – 1 – 40226.72 sqm. – Parking & Services 2) Lower Basement– 2 – 8,841.18 sqm. – Parking & Services 3) Upper Basement – 84,583.16 sqm. – Parking & Services <p>B+G+23 floors Residential Building (Block-D)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 1038.30 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential Building (Block-E, Duplex)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 746.58 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential Building (Block-G)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 1377.39 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential Building (Block-H)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 861.82 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential Building (Block-J)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 560.10 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential Building (Block-K)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 742.66 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB1+LB2+UB+G+23 floors Residential Building (Block-L)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 334.20 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB1+LB2+UB+G+23 floors Residential Building (Block-M)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 1171.39 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB1+LB2+UB+G+23 floors Residential Building (Block-O, EWS)</p> <ol style="list-style-type: none"> 1) Ground to 23rd floor – 1388.84 sqm. (each floor) – Apartment 2) Terrace – Open to sky. <p>LB+UB+G+23 floors Residential-cum-Commercial Building (Block-N)</p> <ol style="list-style-type: none"> 1) Ground floor – 7098.07 sqm. – Anchor Shop, Retail Shop. 2) 1st floor – 7484.82 sqm. – Anchor Shop, Retail Shop 3) 2nd floor – 10377.63 sqm. – Anchor Shop, Retail Shop, Food and entertainment court. 4) 3rd floor - 10377.63 sqm. – Retail Shop and food stall. 5) 4th floor – 10377.63 sqm. – Community hall and deck area. 6) Typical 5th to 23rd floor – 3524.84 sqm. (each floor) – Apartment. 7) Terrace – Open to sky. <p>The height of the proposed B+G+23 floors (Block - D) Residential Building shall be 72 mtrs., LB+UB+G+23 floors (Block-E, Duplex) Residential Building shall be 72 mtrs., LB+UB+G+23 floors Residential Building (Block-G, H, J & K) shall be 72 mtrs., LB1+LB2+UB+G+23 floors Residential Building (Block-L, M & O) shall be 72 mtrs. and LB+UB+G+23 floors Residential-cum-Commercial Building (Block-N) shall be 92.1 mtrs. from ground level.</p>



ii.	Parking	<p>Provision of parking area at Basement floor has been shown in the proposed plan.</p> <p>Provision of parking shall be made in accordance to Rule-37 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
iii.	Access To The Building	<p>As per the plan the proposed building abuts on a road of width 37.1 mtrs. which shall be made as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>The main entrance to the premises shall not be less than 06 (six) meters in width in order to allow easy access to fire engine and the gate shall fold back against the compound wall of the premises, thus leaving the exterior access way, within the plot, free for the movement of fire service vehicles. If archway is provided over the main entrances, the height of the archway shall not be less than 5 (five) meters. Besides, there is provision of two entry/exit of width 09 mtrs. each, which shall be made as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
iv.	Open spaces (In Mtrs.)	<p>Provision of following open space has been shown in the plan which satisfies the requirement as per Rule-33 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>B+G+23 floors Residential Building (Block-D) Front-15.15 mtrs, Rear-10.54 mtrs, Left-14.91 mtrs, Right-16.61 mtrs.</p> <p>LB+UB+G+23 floors Residential Building (Block-E, Duplex) Front-28.83 mtrs, Rear-14.23 mtrs, Left-10.29 mtrs, Right-11.46 mtrs.</p> <p>LB+UB+G+23 floors Residential Building (Block-G) Front-12.04 mtrs, Rear-18.54 mtrs, Left-12.18 mtrs, Right-9 mtrs</p> <p>LB+UB+G+23 floors Residential Building (Block-H) Front-17.55 mtrs, Rear-9.04 mtrs, Left-11.40 mtrs, Right-12.24 mtrs</p> <p>LB+UB+G+23 floors Residential Building (Block-J) Front-17.19 mtrs, Rear-11.39 mtrs, Left-12.24 mtrs, Right-12 mtrs.</p> <p>LB+UB+G+23 floors Residential Building (Block-K) Front-17.19 mtrs, Rear-11.41 mtrs, Left-12 mtrs, Right-9.95 mtrs</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-L) Front-9.22 mtrs., Rear-9.62 mtrs., Left-9.59 mtrs., Right-13.45 mtrs.</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-M) Front-11.07 mtrs., Rear-12.81 mtrs., Left-11.96 mtrs., Right-13.91 mtrs.</p> <p>LB1+LB2+UB+G+23 floors Residential-cum-Commercial Building (Block-N) Front-37.83 mtrs., Rear-22.75 mtrs., Left-10.17 mtrs., Right-18.95 mtrs.</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-O) Front-10.04 mtrs., Rear-9.29 mtrs., Left-12.25 mtrs., Right-13.03 mtrs.</p> <p>The space set apart for providing access within the premises shall not be used as parking space or spaces for other amenities required for the building.</p> <p>As proposed in the plan, 9 mtrs. of driveway has been shown around all blocks of buildings. If there is any provision of landscape area over the driveway then, the same shall be made hard surface capable of taking the mass of fire tender, weighing 45 ton minimum and the same shall be kept un-built for all time. As shown in the plan, the roof of the basement extends beyond the plinth line into the driveway, hence roof of the basement shall have also load bearing capacity of 45 ton minimum and load bearing capacity certificate from the competent authority shall be obtained to that effect. The clear open space around the building and driveway shall be made as per Rule – 33 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>



v.

Exits (Type, Number, Dimension & Ramp Arrangement)

As shown in the plan provision of following staircases shall be made in the building.

B+G+23 floors Residential Building (Block-D)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB+UB+G+23 floors Residential Building (Block-E, Duplex)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB+UB+G+23 floors Residential Building (Block-G)

As shown in the plan there is provision of 3 Nos. of staircases running from basement to terrace floor.

LB+UB+G+23 floors Residential Building (Block-H)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB+UB+G+23 floors Residential Building (Block-J)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB+UB+G+23 floors Residential Building (Block-K)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB1+LB2+UB+G+23 floors Residential Building (Block-L)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB1+LB2+UB+G+23 floors Residential Building (Block-M)

As shown in the plan there is provision of 2 Nos. of staircases running from basement to terrace floor.

LB1+LB2+UB+G+23 floors Residential Building (Block-O)

As shown in the plan there is provision of 3 Nos. of staircases. Out of which 01 is running from basement to terrace floor and another 02 are running from ground to terrace floor.

LB1+LB2+UB+G+23 floors Residential-cum-Commercial Building (Block-N)

As shown in the plan there is provision of 6 Nos. of internal staircases and 2 Nos. of external staircases have been proposed from basement to 4th floor. Besides, 5 Nos. of internal staircases have been proposed from 5th floor to terrace floor.

The minimum width of stairway for residential blocks shall be 1 mtrs. and for residential-cum-commercial building shall be 1.5 mtrs. The exits/staircases must be placed as remote from each other as possible and also comply to other provisions i.e. permissible travel distance, dead end corridor length in exit access, width of tread and height of riser etc, as per the provisions of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.

2) All the exits required to be accessible from the entire floor area at all floor levels.

3) No exit doorway shall be less than 01 meter in width. Doorways shall be not less than 02 meter in height. Doorways for bathrooms, water closet and stores shall be not less than 0.75 meter wide.

4) The minimum number of exit and their width required on every floor of the buildings and their dimensions must be in accordance to Clause-4.2.1 to 4.4.2.4.2 of Part-IV, NBCI-2016 and exit requirements of Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.

5) The escape routes should be well ventilated and provided with safety lighting and free from obstructions.

6) Exits must be clearly visible and all routes to reach the exit have to be clearly marked and sign posted to guide the population of the floor concerned. Signages required to be illuminated and wired to an independent electrical circuit on an alternative source of supply.

7) Access to the staircases be gained through automatic closing fire check doors of 02 hrs rating.

8) The internal staircases not with external wall of the building shall be pressurized and the internal staircases constructed with external wall shall be cross ventilated or pressurized. Wherever pressurized staircase is to be connected to unpressurized area, the two areas shall be segregated by 120 min fire resistant wall. Pressurization of the staircases shall be done as



		<p>per Clause-4.4.2.5, 4.6, 6.1.1.3 & Annexure-E of Part-4, NBCI-2016.</p> <p>In addition to above all other provisions for exits / doorways / stairways, means of escape and exit shall be made as per Clause 4.2 to 4.6.2 of NBCI-2016, Annexure- IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
vi.	Firefighting Shaft	<p>1) One firefighting shaft shall be planned for each residential building/tower and in a mercantile/assembly/business occupancy types the same shall be required for each compartment.</p> <p>2) The protected area of the firefighting shaft shall have 120 min. Fire resistance rating & comprising of protected lobby, staircase & fireman's lift.</p> <p>3) It shall have connectivity directly to exit discharge or through exit passageway with 120 min fire resistance walls at the level of exit discharge to exit discharge.</p> <p>4) Besides, it shall have provision of fireman talk back, wet riser & landing valve in its lobby. Staircase & fire lift lobby of firefighting shaft shall be smoke controlled.</p> <p>5) Firefighting shaft (fire tower) shall be made as per Clause-2.24 of Part-IV, NBCI-2016.</p>
vii.	Lifts	<p>B+G+23 floors Residential Building (Block-D) As shown in the plan there is provision of 8 Nos. of lifts running from basement to top floor.</p> <p>LB+UB+G+23 floors Residential Building (Block-E, Duplex) As shown in the plan there is provision of 3 Nos. of lifts running from basement to top floor.</p> <p>LB+UB+G+23 floors Residential Building (Block-G) As shown in the plan there is provision of 9 Nos. of lifts running from basement to top floor.</p> <p>LB+UB+G+23 floors Residential Building (Block-H) As shown in the plan there is provision of 7 Nos. of lifts running from basement to top floor.</p> <p>LB+UB+G+23 floors Residential Building (Block-J) As shown in the plan there is provision of 5 Nos. of lifts running from basement to top floor.</p> <p>LB+UB+G+23 floors Residential Building (Block-K) As shown in the plan there is provision of 6 Nos. of lifts running from basement to top floor.</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-L) As shown in the plan there is provision of 3 Nos. of lifts running from basement to top floor.</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-M) As shown in the plan there is provision of 9 Nos. of lifts running from basement to top floor.</p> <p>LB1+LB2+UB+G+23 floors Residential Building (Block-O) As shown in the plan there is provision of 25 Nos. of lifts running from basement to top floor.</p> <p>LB1+LB2+UB+G+23 floors Residential-cum-Commercial Building (Block-N) As shown in the plan there is provision of 31 Nos. of lifts running from basement to top floor.</p> <p>2) Provision of firemen lift shall be made in all blocks as per Clause 4.4.2.5 of part-4 and 'Building Services, Section 5 Installation of Lifts, Escalators and Moving Walks, Sub-Section 5 A Lifts of Part-8 of National Building Code of India, 2016.</p> <p>3) The Lifts shall not open in staircase landing. Grounding switch (es) at ground floor level shall be provided to enable the fire service to ground the lifts. Besides, telephone / talk back communication facilities shall be provided. Collapsible gates shall not be permitted for lifts and shall have solid doors with fire resistance of at least 1 hour.</p> <p>4) Lift lobby shall be cross ventilated or pressurized as per Clause-4.4.2.5 of Part-IV, NBCI-2016. The mechanism for pressurization shall act automatically with the fire alarm; it shall also be possible to operate this mechanically. The lift lobbies at basement floor shall be pressurized with self-closing fire rated doors. Telephone or other communication facilities shall be provided in lift cars and to be connected to fire control room for the building.</p> <p>5) Construction and provisions of fire and life safety measures of lifts shall be in accordance with Annexure – IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Clause 4.4.2.5 of Part-4 and 'Building Services, Section 5 Installation of Lifts, Escalators and Moving Walks, Sub-Section 5 A Lifts of Part-8 of National Building Code of India, 2016.</p>



viii.

Building Services

Electrical Service

- 1) An independent, ventilated or air conditioned MV panel room must be provided on the ground level. This room required to be provided with access from outside. The MV panel room must be provided with fire resistant walls and doors of fire resistance of not less than 120 min.
- 2) A substation or a switch station with oil filled equipment must not be allowed to be functional inside the building.
- 3) All transformers must be protected by high velocity water spray systems or nitrogen injection system. As per the plan the placement of transformer has not been clearly shown.
- 4) The sub-station must not be located below the 1st basement and above the ground floor.
- 5) A stand-by electric generator must be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pumps, pressurization fans and blowers, smoke extraction and damper system in case of failure of normal electric supply.
- 6) The staircase and corridor lighting must be on separate service and must be independently connected so as it 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.
- 7) Staircase and corridor lighting required to be connected to alternate supply from parallel high-tension supply or to the supply from the stand-by generator. All wires and other accessories used for emergency light must have fire retardant property.
- 8) The electric distribution cables or wiring shall be laid in separate duct which shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling run in separate conduits. Water mains, telephone cables, intercom cables, gas pipes or any other service line need not be laid in the duct for electric cables.
- 9) All the transformers shall be protected with high velocity water spray system / Nitrogen Injection System Carbon Dioxide total flooding system in case of oil filled transformer. In addition to this, manual control of auto high velocity spray system for individual transformers shall be located outside the building at ground floor.
- 10) Electric substation transformer shall have clearance on all sides as per BBL/relevant electric rules.
- 11) Electrical Installations in the building must be comply to the provisions given in Clause 3.4.6 to 3.4.7.4 of Part-4 NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
- 12) The electric substation shall have electric supply from alternate source for operation of vent System lighting arrangements.
- 13) Cable trenches shall be filled with sand.
- 14) Party walls shall be provided between two transformers as per the rules.
- 15) Electric control panels shall be segregated.
- 16) Provision for lightning protection must be made in the proposed building as per IS/IEC 62305-4:2010.

Air Conditioning

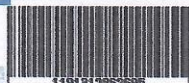
- 1) Air conditioning systems circulating air to more than one floor area should be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke.
- 2) Escape routes like staircases, common corridors, lift lobbies must not be used as return air passage.
- 3) Air ducts serving main floor areas, corridors, must not pass through the staircase enclosure.
- 4) The air-handling units must be separate for each floor and air ducts for every floor must be separated and in no way inter-connected with the ducting of any other floor.
- 5) Wherever the ducts pass through fire walls or floors, the opening around the ducts must be sealed with materials having fire resistance rating of the compartment. Such duct required to be provided with fire dampers at all fire walls and floors unless such ducts are required to perform



		<p>for fire safety operation.</p> <p>6) The Air Conditioning required to be coupled with fire detection and alarm system.</p> <p>7) Metallic ducts must be used even for the return air instead of space above the false ceiling.</p> <p>8) The materials used for insulating the duct system (inside or outside) must be of non-combustible material.</p> <p>9) Air Conditioning & mechanical ventilation requirements of different rooms or areas of the building must be as per the provisions given in Part-8, NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
	Fire Command Centre	<p>1) There must be a Fire Command Centre on entrance floor of the building having direct access. The Fire Command Centre must have the main fire alarm panel with communication system (suitable public-address system). All controls and monitoring of fire alarm systems, Detection system, pressurization systems, smoke management systems must be operated from this room. Integrated building management system must be provided for Fire Command Centre.</p> <p>2) Fire Command Centre must have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016.</p> <p>3) The owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department.</p> <p>4) The site is suitable for construction of above proposed structure subject to condition that the owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department.</p>
	B.	Fixed Fire Fighting Installations :
i.	Fire Extinguisher	Provision of fire extinguishers must be made in all floors of all blocks as per BIS:2190:2010.
ii.	First- Aid Hose Reel	<p>First-aid hose reel must be provided on each floor of all blocks in accordance with BIS 884:1985 & BIS 3844:1989.</p> <p>Adequate Hose reels so that Hose reel Hose available within 30 mtrs. from any point at each floor level and the horizontal distance between any two adjacent points need not exceed 50 mtrs on each floor and Hose reels hose must be directly connected to Wet riser.</p>
iii.	Wet Riser	All the aforementioned proposed blocks are required to be provided with risers adequately so that available within 30 mtrs. from any point at each floor level and horizontal distance between any two adjacent risers must not exceed 50mtr. Provision of wet riser shall be made conforming to BIS standards.
iv.	Yard Hydrant	Yard hydrant required to be provided around all blocks. The yard hydrants installation should have provision of landing valves at every 30 m apart. The yard hydrant installation should be in accordance to BIS specifications.
v.	Automatic Sprinkler System	Automatic water sprinkler system with sprinkler heads shall be provided in entire building including basement floor of all the blocks. Sprinkler shall be fed water from both underground static water storage tank and terrace tank.
vi.	Manually Operated Electronic Fire Alarm System	Manually operated electronic fire alarm system at conspicuous places in each floor of all the blocks including basement floor shall be provided. (IS/ISO 7240-11:2011).
vii.	Automatic Detection Alarm System	Automatic Detection and Alarm Systems required to be provided both below and above the false ceiling (If void space exceeds 800 mm) in all the blocks including inside the electrical shafts & lift machine rooms etc. Electrical rooms, cabins & other areas in car parking shall have also provision of fire detection system. Installation of automatic fire detection and alarm system must be in accordance to IS 2189:2008.
viii.	Underground Static Water Storage Tank	Underground Static water storage tank capacity of 2,00,000 ltrs. shall be made. All static tanks must entirely be accessible to fire appliances of the local Fire Service. Provision of suitable



		manhole shall be made available for inspection, repair and insertion of suction hose etc. Provision of additional water shall be made if basement floor is compartmented through water curtain. Static Underground tank must be constructed in accordance to Clause-5.1.2.1 of Part-IV, NBCI-2016.
ix.	Terrace Tank	Terrace tank of 10,000 ltrs. capacity must be provided at the top of Block-D, E, G, H, J, K, L, M & O and 20,000 ltrs. of capacity shall be provided at the top of Block-N for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.
x.	Pump Near Underground Static Water Storage Tank	<p>Pump house should preferably be installed at ground level. It shall be situated so as to be directly accessible from the surrounding ground level. When installed in the basement staircase with direct accessibility or through enclosed passageway with 120 min fire rating from the ground shall be provided. Required number of sets of pumps each consisting of two Electric & one Diesel pumps (Stand by) of capacity 2850 LPM & two electric pumps of capacity 180 LPM shall be provided for entire building. The pumps are to be automatic in action. Installation of negative suction arrangement and submersible pumps shall not be allowed. In addition to above provision of another pump of desired capacity shall be provided if basement floor is compartmented through water curtain. Lower levels in high rise buildings 60 m or above in height are likely to experience high pressure and therefore, it is recommended to consider multi-stage, multi-outlet pumps (creating pressure zones) or variable frequency drive pumps or may other equivalent arrangement.</p> <p>Besides, one set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case of more than one pump set installation, both pump sets shall be interconnected at their delivery headers. Further, alternative to provisions of additional set of pumps, the objective can be met by providing additional diesel pump of the same capacity and doubling the water tank capacity as required for one set of pumps.</p>
xi.	Basement	<p>1) Basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent 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 mechanical ventilation shall be provided so as to permit 12 air changes per hour in case of fire or distress call. Ventilation system shall start automatically on actuation of detector provided in the basement area in addition to provision of manual control. Doors provided in such exit passageway shall be fire rated doors of 2 hrs rating. Smoke exhaust and pressurization of areas shall be done as per the provisions given in Clause- 4.6 of Part-4, NBCI-2016.</p> <p>2) The basement shall be used for designated purpose only. Adequate provision of exits and ramps shall be made in the basements as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and NBCI-2016. The ramp providing access to basement shall be constructed leaving required open space around the building. Door openings leading from upper floors to basement shall need to be protected with fire doors with 120 min. Fire rating except for exit discharge doors from the basements. Adequate arrangement shall be made, so that surface drainage does not enter the basement. The wall and floors of the basement shall be water-tight and be so designed that the effect of the surrounding soil and moisture, if any, are taken in to account in design and adequate damp proofing treatment is given.</p> <p>3) All floors shall be compartmented/zoned with area of each compartment being not more than 750 m² for Residential Buildings. The maximum size of the compartment shall be as follows, in case of sprinklered basement/building:</p> <ul style="list-style-type: none"> i) Basement car parking - 3000 m² ii) Residential Building - 750 m² iii) Mercantile and Assembly Building – 2000 m² <p>In addition, there shall be requirement of a minimum of two compartments if the floor plate size is equal or less than the areas mentioned above. However, such requirement of minimum two compartments shall not be required, if the floor plate is less than 750 m².</p> <p>4) Basement floor of the building shall be compartmented / zoned into two compartments with fire barrier or with water curtain nozzle (K-23) or with combination thereof. The fire barrier of each compartment shall have fire resistance rating of 120 min. Automatic deluge system comprising deluge valve, piping nozzles, etc shall be used to zone the compartment in case of water curtain system. In case of water curtain, required additional provision of water with independent electric pump of adequate capacity shall be made. Compartmentation of floors in the building shall be done as per the provisions given in clause 4.5 and Annexure-H of Part-IV, NBCI-2016.</p> <p>5) As per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 in case of parking spaces provided in basement and upper storey of parking floors, at least two</p>



		<p>ramps of one way of width 03 mtrs. each and the minimum one ramp of two way of width 06 mtrs. to be provided to the parking floors. As per the plan there is provision of two ramps of 06 mtrs. width each, which shall be made as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>6) The use and construction of the basement shall conform to the provisions given in Clause-41 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, Clause – 12.9 of Part-III and Clause – 4.4.2.5, 4.5 & 4.6 of Part-IV NBCI – 2016.</p> <p>7) The provision of podium shall be made as per Clause-4.6.1 of Part-III, NBCI-2016.</p>
xii.	Refuge Area	<p>1) Refuge area shall be provided in buildings of height more than 24 meters. Refuge area shall be approachable from the space they serve by an accessible means of egress. Refuge areas shall be provided at/or immediately above 24 mtrs and thereafter at every 15 mtrs or so. Refuge area shall be approachable from the space they serve by an accessible means of egress. High rise apartment buildings with apartments having balcony, need not be provided with refuge area; however, apartment buildings without balcony shall provide refuge area as given above. Refuge areas for apartment buildings of height above 60 mtrs. while having balconies shall be provided at 60 mtrs. and thereafter at every 30 mtrs.</p> <p>2) Refuge area shall be made as per Annexure-E-4 of Part-IV, NBCI-2016.</p>
xiii.	Construction	<p>1) Non-combustible materials with appropriate fire resistance rating shall be used for construction of the buildings.</p> <p>During construction of the buildings the following fire protection measures shall be provided.</p> <p>a. Dry riser of minimum 100 mm diameter pipe with hydrant outlets on the floors.</p> <p>b. Drums of 2,000 liters capacity filled with water with 02 fire buckets on each floor.</p> <p>c. A water storage tank of minimum 20,000 ltrs. Capacity.</p> <p>2) Installation of chimney & heating apparatus shall be in accordance to relevant BIS specification. All kitchens should have one or more opening such as windows and ventilators opening directly to the external air or into an open veranda for the admission of light and air.</p> <p>3) The basement and upper floors shall be compartmented / zoned with area of each compartment should be not more than 3,000 sqm. The fire barrier of such compartments shall have fire resistance rating of 120 min.</p> <p>4) Smoke exhaust system having make-up air and exhaust air system shall be planned for large lobbies and which have exit through staircase leading to exit discharge. All exit passageways (from exit to exit discharge) shall be pressurized or naturally ventilated. The mechanical pressurization system shall be automatic in action with manual controls in addition. Doors provided in such exit passageway shall be fire rated doors of 2 hrs rating. Smoke exhaust and pressurization of areas shall be done as per the provisions given in clause- 4.6 of part-4, NBCI-2016.</p>
xiv.	Service Ducts and Shafts	<p>Openings in walls or floors which are necessary to be provided to allow passages of all building services like cables, electrical wirings, telephone cables, plumbing pipes, etc. Must be protected by enclosure in the form of ducts /shafts and such shaft and inspection doors fitted thereto must have fire resistance rating not less than as specified in Clause 3.4.5.4 of NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
xv.	Stand-By Source of Power Supply	<p>There shall be provision for dedicated emergency power supply to fire pumps, lifts, fire alarm system, pressurization system, emergency lighting, escape route lighting, exit signage, public address system, lighting in fire command centre, magnetic door hold open devices, etc. The power supply to the panel /distribution board of these fire and life safety systems shall be through fire proof enclosures or circuit integrity cables or through alternate route in the adjoining fire compartment to ensure supply of power is reliable to these systems and equipment. Cables for fire alarm and PA system shall be laid in metal conduits or armoured to provide physical segregation from the power cables.</p>
xvi.	Lightning Protection	<p>Provision for lightning protection shall be made in the proposed building as per NBCI-2016 and in corporate to relevant BIS specifications. Routing down of conductors (Insulated or Un-Insulated) of lightning protection shall not be made through electrical or other service shafts.</p>



xvii.	Fire Safety Supervisor	As the aforementioned Residential Buildings or Complexes of height more than 45 mtrs. and having more than 400 dwelling units a Fire Safety Supervisor shall be appointed before occupancy as per Rule – 15 (e) of Odisha Fire Prevention and Fire Safety Rules, 2017.
C.	Opinion :	<p>After completion of the construction work including installation of fixed firefighting measures as suggested, the applicant shall be required to apply for Fire Safety Certificate as per Rule-13 (1) of Odisha Fire Prevention and Fire Safety Rules, 2017 along with following documents: -</p> <p>i. The applicant shall produce a certificate to be issued by the office/person concerned to the effect that all the provisions of Bye-laws / Regulations of Odisha Development Authority and Recommendations issued from Chief Fire Officer, Fire Prevention Wing, Cuttack have been incorporated in the building.</p> <p>ii. The applicant shall produce a certificate of the Competent Authority concerned to the effect that electrical installations have been done as recommended and as per provisions given in Part-8 "Building Services, Section-2 Electrical and allied installations" of NBCI-2016 and Section-7 of National Electrical Code, 2011.</p> <p>iii. The Applicant shall produce a certificate of the agency concerned to the effect that installation of firefighting measures has been done as recommended and as per provisions given in Part-4 of National Building Code of India-2016 and relevant BIS specifications.</p>



Validity unknown

Signed by : SHRI
SUKANTA SETHI
Date : 15-02-2021 13:28:18

Chief Fire Officer, Odisha

NOTE

- (i) It is a digitally signed electronically generated certificate and therefore needs no ink-signed signature.
- (ii) This Certificate is issued as per section 4, 5, & 6 of Information Technology Act 2000 and its subsequent amendments in 2008.
- (iii) For any Query or Verification, Agency /Department / Office may visit <http://agnishamaseva.odisha.gov.in>
- (iv) Tampering of this Certificate will attract penal action.

