



OFFICE OF THE FIRE OFFICER,
CENTRAL RANGE, BUXI BAZAR, CUTTACK-753001

FORM-II
[See rule-12 (5)]
Fire Safety Recommendation

File No. IX-3-A-292

1. Address of the proposed building/premises :- Mouza-Rudrapur and Jaipur,
Bhubaneswar, Dist-Khurda
2. Name and Address of the applicant (s) :- Sri Sashi Bhusan Mishra,
Authorized Signatory,
Assotech Sun Growth Adobe LLP &
others, Flat No.203, Soumya Enclave,
F-15, BJP Nagar,
Bhubaneswar-7510014
3. Date of receipt of application :- 14.03.2019
4. Proposed Occupancy (type of building) :- Proposed Tower-B1 (MIG), B2 & B3
(HIG), B4 & B6 (MIG), C1 (LIG), C2
(EWS) and A3 (EWS) is coming under
"Residential Apartment" buildings as per
Bhubaneswar Development Authority
(Planning and Building Standard)
Regulation, 2018 and (Apartment houses-
A4) as per NBCI-2016.
Proposed 'Club Building' is "Assembly
building" as per Bhubaneswar
Development Authority (Planning and
building Standards) Regulations, 2018
and Group-D (Assembly) as per NBCI,
2016.
5. Area with plot number and khata number :- Plot Area-48956.42 sqm,
Khat No.412/1079 & others,
Over Plot No-274/9190 & others,
6. Date of Inspection :- 17th June 2019.


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original
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7. Recommendation: -

The fire safety recommendation is as follows: -


A.	No's of blocks & Floor wise occupancy with area	<ul style="list-style-type: none"> ➤ Common Podium area for Tower-B1 (MIG), B2 & B3 (HIG), B4 & B6 (MIG), and Club house building -20809.05 m² Usage-Parking. ➤ Stilt floor area of Tower C1 (L.I.G) and C2 (E.W.S)- 1500.48 m²- Usage-Parking. ➤ Stilt floor area of Tower A3 (E.W.S)- 366 m²- Usage- Parking. <li style="text-align: center;"><u>Tower-B1- (M.I.G)</u> ➤ Stilt Floor—Usage-Parking ➤ Typical Floor (1st to 14th)- 1249.66 m² in each floor- Usage- Apartment Houses. <li style="text-align: center;"><u>Tower-B2 & B3 (H.I.G)</u> ➤ Stilt Floor- Usage- Parking ➤ Typical Floor (1st to 14th) - 1465.82 m² in each floor- usage - Apartment Houses <li style="text-align: center;"><u>Tower- B4 (M.I.G)</u> ➤ Stilt Floor-Usage-Parking ➤ Typical Floor (1st to 14th)-1249.66 m² in each floor- Usage- Apartment Houses. <li style="text-align: center;"><u>Tower- B6 (M.I.G)</u> ➤ Stilt Floor-Usage-Parking ➤ Typical Floor (1st to 14th)-1200.94 m² in each floor- Usage- Apartment Houses. <li style="text-align: center;"><u>Tower-C1 (L.I.G)</u> ➤ Stilt Floor- Usage-Parking ➤ Typical Floor (1st to 14th)- 588.58 m² in each floor- usage- Apartment Houses. <li style="text-align: center;"><u>Tower-C2 (E.W.S)</u> ➤ Stilt Floor- Usage-Parking ➤ Typical Floor (1st to 14th)- 549.71 m² in each floor- usage- Apartment Houses. <li style="text-align: center;"><u>Tower-A3 (E.W.S)</u> ➤ Stilt Floor- Usage- Parking ➤ Typical Floor (1st to 5th)- 313.71 m² in each floor- Usage- Apartment Houses. <li style="text-align: center;"><u>Club House Building</u> ➤ 1st floor-1071.57 m² - Usage-Lounge, Banquet, Kitchen, GYM room, Cafeteria etc. ➤ 2nd floor- 636.16 m² - Usage- Kids Play Zone, Creche Play Zone, Snooker, Billiards, Table Tennis, Air Hockey room etc.
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		<ul style="list-style-type: none"> ➤ 3rd floor- 838.27 m² - Usage- squash court, multipurpose hall, video game room, Store & Theater room.
B.	Height	<ul style="list-style-type: none"> ➤ The height of the said proposed residential building for different block as shown in the plan are as under: - ➤ Tower - B1- (M.I.G) - Block will be 43.50 mtrs. ➤ Tower - B2 & B3 (H.I.G) - Block will be 43.50 mtrs. ➤ Tower - B4 (M.I.G) - Block will be 43.50 mtrs. ➤ Tower - B6 (M.I.G) - Block will be 43.50 mtrs. ➤ Tower - C1 (L.I.G) - Block will be 43.50 mtrs. ➤ Tower- C2 (E.W.S) - Block will be 43.50 mtrs. ➤ Tower- A3 (E.W.S) - Block will be 17.49 mtrs. ➤ Club House Building - 14.33 mtrs.
C.	Parking	<ul style="list-style-type: none"> ➤ Provision of Podium parking, Stilt parking & open parking have been proposed in the plan. ➤ Provision of parking shall be made in accordance to Regulation-37 of BDA(P&BS) Regulations, 2018. ➤ The parking space to be provided shall be in addition to the minimum setbacks as required under Regulation-32 of BDA (P&BS) Regulations, 2018.
D.	Access to the building	<ul style="list-style-type: none"> ➤ Width of abutting Road or Means of Access proposed to the plot - 91.46 mtrs. ➤ The width of main entrance and exit gates are not mentioned in the plan whereas, the main entrance to the premises shall not be less than 06 mtrs in width as per BDA (P&BS) Regulations, 2018. ➤ The main gate shall fold back against the compound wall of the premises. ➤ If the main entrance gate is built over, the height of the same shall not be less than 05 mtrs. ➤ As per the plan, the width of internal road proposed varies from 7.50 mtrs to 09.14 mtrs for different towers. ➤ There shall be minimum 7.50 mtrs drive way all around the buildings as per BDA(P&BS) Regulations, 2018. ➤ The drive way shall be made hard surface capable of taking the mass of fire tender, weighing 45 ton minimum and the same shall be kept unbuilt. ➤ 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. Besides, in no case, be included in the calculation of requirements pertaining to parking spaces. <p>Provisions for access to the building as shown in the plan fulfil the requirement as per BDA(P&BS) Regulations, 2018.</p>
E.	Setbacks (in mtrs.)	<ul style="list-style-type: none"> ➤ As per plan the provision of Setbacks around the blocks are as follows.


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		<ul style="list-style-type: none"> ➤ Tower - B1- (M.I.G) - Front-11.48 mtrs, Rear-13.95 mtrs, Left-11.51 mtrs, Right-36.92 mtrs ➤ Tower - B2 (H.I.G) - Front- 7.50 mtrs, Rear-17.75 mts, Left-13.95 mtrs, Right-11 mtrs. ➤ Tower - B3 (H.I.G) - Front-70.20mtrs, Rear-14.08 mtrs, Left-11 mtrs, Right-13.95 mtrs ➤ Tower - B4 (M.I.G) - Front-13.95 mtrs, Rear-11.04 mtrs, Left-11.01 mtrs, Right-11 mts ➤ Tower - B6 (M.I.G) - Front-70.20 mtrs, Rear-12.21 mtrs, Left-11 mtrs, Right-11.09 mtrs. ➤ Tower - C1 (L.I.G) - Front-11 mtrs, Rear-11.18 mtrs, Left-11.02 mtrs, Right-12.13 mtrs. ➤ Tower- C2 (E.W.S) - Front-11 mtrs, Rear-11.02 mtrs, Left-11.37 mtrs, Right-12.63 mtrs. ➤ Tower- A3 (E.W.S) - Front-11.92 mtrs, Rear-11 mtrs, Left- 7.50mtrs, Right-20.87 mtrs. ➤ Club House Building Front-12.22 mtrs, Rear-7.50 mtrs, Left-7.50 mtrs, Right-11.36 mtrs ➤ The Provision of setbacks proposed in the plan satisfies the requirement except the front open space of Block-B2 as per Regulation-33 of BDA(P&BS) Regulations, 2018. The front open space of Block-B2 shall be 11 mtrs as per BDA(P&BS) Regulations, 2018. ➤ The covering slabs of underground water tank, soak pit, recharge tank, septic tank etc, if any which are proposed to be positioned in the compulsory open space area must have appropriate load bearing capacity. ➤ The space set apart for providing access within the premises shall be open to the sky and not to be used as parking space and shall be free from obstruction at all the time. ➤ Besides, the entire specified compulsory open space area and driveway 7.5 mtrs shall be kept unbuilt and the driveway shall be constructed of hard surface capable of taking load of fire engine weighing up to 45 tons for easy access of fire engine as per Regulations-33 of BDA(P&BS) Regulations, 2018. Load bearing capacity certificate from the competent authority shall be obtained to that effect.
F.	Podium	<ul style="list-style-type: none"> ➤ As shown in the plan, there is provision of one common Podium for Tower-B1 (MIG), B2 & B3 (HIG), B4 & B6 (MIG), and Club house building. The roof of the Podium shall have also load bearing capacity 45 ton minimum and load bearing capacity certificate from the competent authority shall be obtained to that effect. ➤ There is provision of 02 nos Vehicle Ramp of width 7.50 mtrs to the podium and driveway of 7.50 mtrs for movement of fire tenders as shown in the plan satisfies as per NBCI-2016.


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		<ul style="list-style-type: none"> ➤ Topmost podium slab which is open to sky may be landscaped and/or be used as recreational open space, subject to provision of 1.6mtrs parapet wall. ➤ Construction & Firefighting system shall be provided for the Podium as BDA(P&BS) Regulations, 2018 & NBCI-2016.
6.	Exits (Type, Number, Dimension & arrangement)	<ul style="list-style-type: none"> ➤ As shown in the plan 02 nos continuous staircases in Tower-B1 (MIG), B2 & B3 (HIG), B4 & B6 (MIG) having connectivity form stilt to terrace floor. Besides, 02 nos continuous staircases for Tower C1 (L.I.G), C2 (E.W.S) and A3 (E.W.S) having connectivity from stilt to terrace floor have been shown in the plan. Besides, the dimension of each staircases of the aforesaid residential buildings shall not be less than 1.25mtrs in width, height of riser-190 mm and, width of tread-250 mm as per BDA(P&BS) Regulations, 2018. ➤ 03 nos of staircases are proposed in the Club House Building, out of which 02 nos having connectivity from stilt to terrace floor and another one is from stilt to 1st floor. Besides, the dimension of staircases of Club house building shall not be less than 02 mtrs in width, height of riser-150mm and width of tread-300mm as per BDA(P&BS) Regulations, 2018. ➤ Hence the provision of staircases in the buildings/towers shall be made accordingly. ➤ Adequate numbers of exit/staircases and protected escape routes as per provisions of BDA(P&BS) Regulations, 2018 shall be provided in the buildings on all floors to enable its occupants to reach place of safety in case of emergency and in no case there shall be minimum of two exits to provide direct access in separate directions from any point in the area served on every floor. ➤ The exits/staircases shall be placed as remote from each other as possible and also comply to other provisions i.e. permissible travel distance i.e 20 mtrs for residential apartments and 30 mtrs for Club House building, dead end corridor length in exit access etc, as per the provisions of BDA(P&BS) Regulations, 2018. ➤ The exit doorways of said building shall be of clear width not less than 01 mtrs each and have height minimum of 2.0 mtrs. All the corridors & passageways in the buildings shall be of width not less than the calculated aggregate width of exit doorways leading from therein the direction of travel to the exit. ➤ The minimum width of a corridor in a residential building shall be 1.0 mtrs for single loaded and 1.8 mtrs for double loaded. ➤ The internal staircases with external wall shall be pressurized or cross-ventilated for buildings height more than 30 mtrs and naturally ventilated or pressurized for Tower-A3 & Club House building. Besides,


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		<p>connectivity from stilt to top floor is proposed in the building.</p> <ul style="list-style-type: none"> ➤ As per plan provision of 04 lifts in Tower-A3 (E.W.S) having connectivity from stilt to top floor is proposed in the building. ➤ As per plan provision of 03 lifts in Club House Building having connectivity from podium to top floor is proposed in the building. ➤ Grounding switch at ground floor level shall be provided. ➤ Lift car door shall have a fire resistance rating of 01 Hr. ➤ Collapsible gates shall not be permitted for lifts and shall have solid doors with fire resistance of at least 01 Hr. ➤ A sign shall be posted and maintained on every floor at or near the lift indicating floor plan of each floor showing the locations of the stairways. ➤ The required fire safety measures in fire man lift shall be made as per Clause-7.1 of Part-8, Section-5 NBCI-2016 and Annexure-II of Bhubaneswar Development Authority (Planning and Building Standards) Regulations, 2018. ➤ The words 'FIRE LIFT' shall be conspicuously displayed in fluorescent paint on the lift landing doors at each floor level. ➤ The speed of the fire lift shall be such that it can reach to the top floor from ground level within one minute. ➤ A sign shall be posted and maintained on every floor at or near the lift indicating floor plan of each floor showing the locations of the stairways. ➤ The lift lobbies shall be pressurized or cross-ventilated for buildings height more than 30 mtrs and naturally ventilated or pressurized for buildings height above 15 mtrs up to 30 mtrs as per table- 6 and Clause -4.4.2.5 & E-2 of Part-IV, NBCI-2016. <p>In addition to above, other provisions of lift shall comply to the requirements as specified in '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 and Regulation-42 & Annexure-IV of Bhubaneswar Development Authority (Planning and Building Standards) Regulations, 2018.</p>
I	Construction	<ul style="list-style-type: none"> ➤ During construction of the proposed high rise building the following fire protection measures shall be provided: - <ol style="list-style-type: none"> i. Dry riser of minimum 100 mm diameter pipe with hydrant outlets on the floors. ii. Drums of 2000 liter capacity filled with water with 02 fire buckets on each floor. iii. A water storage tank of minimum 20,000-liter capacity. ➤ The minimum fire resistance ratings of structural and non-structural Elements (minute) shall be as given in Table-1 of NBCI-2016.


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- The false ceiling, including all fixtures used for its suspension shall be of non-combustible material and shall provide adequate fire resistant to the ceiling in order to prevent spread of fire across ceiling.
- The provision of fire safety measures and other requirements for kitchen and use of LPG in the building shall comply to the provisions given in Annexure-G of Part-IV of NBCI-2016 and IS:6044.
- As the area of each floor is more than 750 sqm, all floors shall be compartmented/zoned with area of each compartment not more than 750 sqm. The fire barrier of such compartments shall have fire resistance rating of 120 min. The maximum size of the compartment in case of sprinklered basement/building is as follows: -


i. Assembly building -2000 sqm

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 sqm.

- Refuse area(s) shall be provided at/or immediately above 24 mtrs and thereafter at every 15 mtrs or so. Refuse area shall be so planned as to accommodate the occupants of two consecutive floors by considering area of 0.3 m² per person for the calculated number of occupants and shall include additionally to accommodate one wheelchair space of an area of 0.9 m² for every 200 occupants, portion thereof, based on the occupant load shall be derived on basic of 12.5 m² of gross floor area or a minimum of 15 m² whichever is higher. It shall have provision of first-aid box, fire extinguishers, Public address speaker, fireman talk back and adequate emergency lighting as well as drinking water facility. 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 and mentioned Annex-E-4 of Part-IV, NBCI-2016.
- Refuse chutes, if any provided in the building, shall have opening at least 1 m above roof level for venting purpose and they shall have an enclosure wall of non-combustible material with fire resistance of not less than 120 min. They shall not be located within the staircase enclosure or service shafts, or air conditioning shafts. Refuse chutes inspection panel and doors shall be tight fitting with 60 min fire resistance. Sprinkler protection system shall be provided for the refuse chutes. Refuse chutes shall be at least 6 m away from exits.
- Provision for lightning protection shall be made in the building. Routing of down conductors (Insulated or Un-Insulated) of lightning protection shall not be made through electrical or other service shafts.
- The structural safety design and construction of the building shall be

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		done as per Clause-3.3 & 3.4 of NBCI-2016 and Regulation-73 of BDA(P&BS) Regulations, 2018.
J	Building Services	<p>Electrical Services: -</p> <ul style="list-style-type: none"> ➤ A stand-by electric generator shall 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. ➤ The staircase and corridor lighting shall be on separate service and shall 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. ➤ Staircase and corridor lighting shall also 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 shall have fire retardant property. ➤ 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 shall run in separate conduits. Water mains, telephone cables, intercom cables, gas pipes or any other service line shall not be laid in the duct for electric cables. ➤ Transformer if housed at stilt floor level shall be cut-off from the other portion of premises by Fire Resisting Walls of 4 hours rating. ➤ Electrical Installations in the building shall comply to the provisions given in Clause 3.4.6 to 3.4.7.4 of part-4 NBCI-2016 and Annexure-XI of BDA(P&BS) Regulations, 2018 ➤ Provision for lightning protection shall be made in the proposed building as per IS/IEC 62305-4:2010. <p>Air Conditioning: -</p> <ul style="list-style-type: none"> ➤ Escape routes like staircases, common corridors, lift lobbies shall not be used as return air passage. ➤ Air ducts serving main floor areas, corridors, shall not pass through the staircase enclosure. ➤ 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. ➤ 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. Such duct shall also be provided with fire dampers at all fire walls and floors unless such ducts are required to


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		<p>perform for fire safety operation.</p> <ul style="list-style-type: none"> ➤ The Air Conditioning shall also be coupled with fire detection and alarm system. ➤ Metallic ducts shall be used even for the return air instead of space above the false ceiling. ➤ The materials used for insulating the duct system (inside or outside) shall be of non-combustible material. ➤ Air Conditioning system in the building shall comply to the provisions given in Clause 3.4.8 to 3.4.8.4.2 of part-4 NBCI-2016 and Annexure-XI of BDA(P&BS) Regulations, 2018. <p>Service Ducts and Shafts: -</p> <ul style="list-style-type: none"> ➤ 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. shall be protected by enclosure in the form of ducts / shafts and such shaft and inspection doors fitted thereto shall have fire resistance rating not less than as specified in Clause 3.4.5.4 of NBCI-2016 and BDA(P&BS) Regulations, 2018.
K. Fixed Fire Fighting Installations		<p>The following fixed firefighting installations are required to be provided for different towers of the premises as per NBCI-2016 and BIS specifications as follows.</p> <p>a. <u>FOR TOWER-B1 (MIG), B2 & B3 (HIG), B4 & B6 (MIG), C1 (LIG) & C2 (EWS) EACH.</u></p> <ul style="list-style-type: none"> i. <u>FIRE EXTINGUISHER:</u> -Provision of fire extinguishers shall be made for each block in accordance with IS: 2190:2010. ii. <u>FIRST-AID HOSE REEL:</u> - The distribution of first-aid hose reel hose installation in the building shall be so situated as not to be farther than 30 mtrs from any point in the area covered and First-aid hose reels shall not be more than 50 mtrs apart in horizontal. (BIS 884:1985 & BIS 3844:1989). iii. <u>WET RISER:</u> - The proposed buildings are required to be provided wet riser with provision of hydrant outlet and hose reel on each floor landing connected to the fire pump. Fire Service inlets at ground level fitted with non-return valves shall also be provided to the rising main for charging it by Fire Service pump in case of failure of static fire pump. The riser should be fully charged and automatic in operation with adequate pressure at all times (BIS: 3844:1989). <p>The internal diameter of the riser main should be not less than 100 mm. Each hydrant should be preferably of single outlet and comprise of 63 mm. Gun metal landing valve fitted with 63 mm instantaneous coupling conforming to IS: 901:1988.</p> <p>Sufficient length of rubber lined fire hoses subject to minimum two</p>

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lengths of 15 mtrs length fitted with coupling together with branch pipe and nozzle conforming to IS: 903:1984 should be provided and kept adjacent to the hydrant in hose boxes.

- iv. **MANUAL OPERATED ELECTRIC FIRE ALARM SYSTEM:** -Manually operated fire alarm system at convenient places in each floor of the buildings shall be provided in accordance to relevant BIS specifications. (IS/ISO 7240-11:2011).
- v. **UNDER GROUND STATIC WATER STORAGE TANK:** - Static underground storage tank of capacity 75,000 liters shall be provided. The tank shall 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. The covering slab shall be able to withstand the vehicular load of 45 tons. Static Underground tank shall be constructed in accordance to Clause-5.1.2.1 of Part-IV, NBCI-2016 & BDA Regulations-2018.
- vi. **TERRACE TANK:** - Terrace tank of 5,000 liters capacity for each block shall be provided at the top of the building for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.
- vii. **FIRE PUMPS:** -Pump house should preferably be installed at ground level. It shall be situated so as to be directly accessible from the surrounding ground level. Required number of sets of pumps each consisting of one Electric & one Diesel pump (Stand by) of capacity 2280 LPM & one electric jockey pump of capacity 180 LPM shall be provided. Installation of pumps shall be made in accordance to Clause-5.1.2.2 of Part-IV, NBCI-2016 and relevant BIS specifications. One set of pump 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. 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.

b. FOR CLUB HOUSE BUILDING.

- i. **FIRE EXTINGUISHER:** -Provision of fire extinguishers shall be made for each block in accordance with IS: 2190:2010.
- ii. **FIRST-AID HOSE REEL:** - The distribution of first-aid hose reel hose installation in the building shall be so situated as not to be farther than 30 mtrs from any point in the area covered and First-aid hose reels shall not be more than 50 mtrs apart in horizontal. (BIS 884:1985 & BIS 3844:1989).

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iii. **WET RISER:** - The proposed building is required to be provided wet riser with provision of hydrant outlet and hose reel on each floor landing connected to the fire pump. Fire Service inlets at ground level fitted with non-return valves shall also be provided to the rising main for charging it by Fire Service pump in case of failure of static fire pump. The riser should be fully charged and automatic in operation with adequate pressure at all times (BIS:3844:1989).

The internal diameter of the riser main should be not less than 100 mm. Each hydrant should be preferably of single outlet and comprise of 63 mm. Gun metal landing valve fitted with 63 mm instantaneous coupling conforming to IS:901:1988.

Sufficient length of rubber lined fire hoses subject to minimum two lengths of 15 mtrs length fitted with coupling together with branch pipe and nozzle conforming to IS:903:1984 should be provided and kept adjacent to the hydrant in hose boxes.

iv. **MANUAL OPERATED ELECTRIC FIRE ALARM SYSTEM:**-Manually operated fire alarm system at convenient places in each floor of the buildings shall be provided in accordance to relevant BIS specifications. (IS/ISO 7240-11:2011).

v. **AUTOMATIC DETECTION AND ALARM SYSTEM:** - Automatic Detection and alarm system shall require to be provided both below and above the false ceiling (if void space exceeds 800mm) in entire building 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 shall be accordance with relevant BIS specifications (IS/ISO 2189:2008).

vi. **UNDER GROUND STATIC WATER STORAGE TANK:** - Static underground storage tank of capacity 1,00,000 ltrs shall be provided. The tank shall 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. The covering slab shall be able to withstand the vehicular load of 45 tons. Static Underground tank shall be constructed in accordance to Clause-5.1.2.1 of Part-IV, NBCI-2016 & BDA Regulations-2018.

vii. **TERRACE TANK:**- Terrace tank of 5,000 ltrs capacity shall be provided at the top of the building for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.

viii. **Terrace Pump:** - Provision of terrace pump of 450 lpm. Capacity having connectivity to terrace tank and down comer pipes shall be made in the building.

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		<p>ix. FIRE PUMPS: -Pump house should preferably be installed at ground level. It shall be situated so as to be directly accessible from the surrounding ground level. Required number of sets of pumps each consisting of one Electric & one Diesel pump (Stand by) of capacity 2280 LPM & one electric jockey pump of capacity 180 LPM shall be provided. Installation of pumps shall be made in accordance to Clause-5.1.2.2 of Part-IV, NBCI-2016 and relevant BIS specifications.</p> <p>c. FOR TOWER-A3.</p> <p>i. FIRE EXTINGUISHER: -Provision of fire extinguishers shall be made for each block in accordance with IS: 2190:2010.</p> <p>ii. FIRST-AID HOSE REEL: - The distribution of first-aid hose reel hose installation in the building shall be so situated as not to be farther than 30 mtrs from any point in the area covered and First-aid hose reels shall not be more than 50 mtrs apart in horizontal. (BIS 884:1985 & BIS 3844:1989).</p> <p>iii. Down Comer: - Down Comer shall be provided in each floor of the building. The distribution of down comer installation in the proposed building shall be so situated as not to be farther than 30 meters from any point in the area covered and shall not be more than 50 meters apart in horizontal. At each floor landing there shall be provision of hose box to accommodate 02 Nos. RRL Delivery Hoses of 15 meters length each of 63 mm dia and 01 Nos. branch pipe. (BIS 3844:1989).</p> <p>iv. MANUAL OPERATED ELECTRIC FIRE ALARM SYSTEM:-Manually operated fire alarm system at convenient places in each floor of the building shall be provided in accordance to relevant BIS specifications. (IS/ISO 7240-11:2011).</p> <p>v. TERRACE TANK: - Terrace tank of 25,000 liters capacity shall be provided at the top of the building for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.</p> <p>vi. Terrace Pump: - Provision of terrace pump of 900 lpm. Capacity having connectivity to terrace tank and down comer pipes shall be made in the building.</p>
L.	Fire Command Centre	<p>➤ There shall be a Fire Command Centre on entrance floor of each building/towers having direct access. The Fire Command Centre shall have the main fire alarm panel with communication system (suitable public-address system). All controls and monitoring of fire alarm systems, pressurization systems, smoke management systems shall happen from this room. Fire Command Centre shall have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016.</p> <p>The applicant shall provide any additional fire requirements in future if the recommendation is issued by this department.</p>

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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 and Read with Odisha Fire Prevention and Fire Safety (Amendment) Rules, 2019 along with following documents: -

- i. The applicant shall produce a certificate to be issued by the person concerned to the effect that all the provisions of Bye-Laws / Rules of Bhubaneswar Development Authority (Planning and Building Standard) Regulations, 2018 issued from this office have been incorporated in the building.
- 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.
- 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.


By order of the Director of Fire Service


Fire Officer
Central Range, Cuttack
(Bhubaneswar Circle)
Fire Officer,
Central Range, Cuttack

Memo No. 900 /CR-FPS

Date 29.10.2019

Copy to Sri Sashi Bhusan Mishra, Authorized Signatory, Assotech Sun Growth Adobe LLP & others, Flat No.203, Soumya Enclave, F-15, BJP Nagar, Bhubaneswar-7510014 for information and necessary action.


Fire Officer
Central Range, Cuttack
Fire Officer,
Central Range, Cuttack

Memo No. _____ /CR-FPS

Date. .10.2019

1. Copy to the Planning Member, Bhubaneswar Development Authority, Bhubaneswar for information.
2. Copy to the Commissioner, Bhubaneswar Municipal Corporation, Bhubaneswar for information.

Sd/-
Fire Officer,
Central Range, Cuttack

Memo No. _____/CR-FPS

Date. .10.2019

Copy to the Deputy Fire Officer, Bhubaneswar Circle, Bhubaneswar for information.

Sd/-

Fire Officer,

Central Range, Cuttack

Memo No. _____/CR-FPS

Date. .10.2019

Copy submitted to the Chief Fire Officer, Fire Prevention Wing, FS Directorate,

Cuttack for information with reference to the letter No. C-162-2019/10790/FPW

Dt. 25.10.2019.

Sd/-

Fire Officer,

Central Range, Cuttack