

ODISHA FIRE SERVICE FIRE SAFETY RECOMMENDATION

FORM-II

[Under Rule-12 (5)]

RECOMMENDATION No:	RECOMM1204130012022000435	APPLICATION No:	FSR1204130012021000465
Date of Issue:	24-01-2022	Date of Receipt of Application:	20-01-2022

1.	Name & Address of the proposed Building/Premises:	STALWART PRIDE, LB+UB (BLOCK-A G+12) + (BLOCK-B G+12) STORIED RESIDENTIAL CUM COMMERCIAL BUILDING OVER REV. PLOT NO.1146/2852, 1145/2853, 1146, 1145, 1157, 1158/3181 & 1141, KHATA NO.1133/66, 1133/1954, 1133/435, 1133/3181 & 1133/7230, MOUZA-JAGAMARA, BHUBANESWAR
2.	Name and Address of the Applicant(s):	Sri Sharat Kumar Sahu, Managing Director, Stalwart Projects Pvt. Ltd., Plot No.1, Tulsivihar Complex, Sailashree Vihar, Bhubaneswar-751021
3.	Proposed Occupancy (Type of Building):	As per the proposed plan B1+B2+G+12 floors (Block-A) is coming under "Mixed Use Building" as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and "Mercantile" & "Residential" (Group-A & F, Sub-Division F-2 and A-4) as per NBCI-2016. Besides, B1+B2+G+12 floors (Block-B {MIG}) building is coming under "Residential Building" as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Residential Building Group-A Sub-Division-A-4 as per NBCI-2016.
4.	Area with Plot Number and Khata Number:	Plot Area as per Document - 3611.10 sqm. Plot Area as per Possession - 3590.10 sqm. REV. PLOT NO.1146/2852, 1145/2853, 1146, 1145, 1157, 1158/3181 & 1141, KHATA NO.1133/66, 1133/1954, 1133/435, 1133/3181 &



		1133/7230
5.	Date of Inspection:	19-12-2021

6. Recommendation:

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

Α.	Structural and construction site requirements:	
i.	Details of the building(s) like height, no. of floors, area on each floor, built up area, etc	Basement – 1 Common Basement Floor area for Block-A & Block-B (MIG) – 2743.25 sqm. – Parking and Electric Panel Room. Basement – 2 Common Basement Floor area for Block-A & Block-B (MIG) – 2743.25 sqm. – Parking Block – A 1) Ground to 2nd floor – 549.58 sqm. (each) – Shopping Complex / Shop 2) 3rd to 11th floor – 529.73 sqm. (each) – Residential Block-B (MIG) 1) Ground floor – 825.56 sqm. – Residential, Society Office, Visitors Parking, Society Room & Security Room. 2) 1st to 12th floor – 865.35 sqm. (each) – Residential The height of the proposed B1+B2+G+12 floors (Block – A) shall be 39.80 mtrs. from ground floor level and B1+B2+G+12 floors (Block – B {MIG}) shall be 37.70 mtrs. from ground floor level. Besides, as per Rule-39 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, the height of basement floor shall not be included in the height of the aforesaid building, if the height of the ceiling of the basement floor roof is not exceeding 1.5 meter.
ii.	Parking	Provision of parking area at Basement -1 and Basement - 2 have been shown in the proposed plan. Provision of parking shall be made in accordance to Rule-37 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
iii.	Access To The Building	As per the plan the proposed building abuts on a road of width 30 mtrs., which shall be made as per Rule-31 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. As per Odisha Development Authorities (Planning and Building Standards) Rules, 2020, 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 entry and exit gate of width 6 mtrs. (each) which shall be made as per Rule-71 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
iv.	Open spaces (In Mtrs.)	Provision of following open space/setbacks has been shown in the plan which satisfies the requirement as per Rule-33 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. Block – A Front-6.23 mtrs. (Max) & 6.03 mtrs. (Min) Rear-6.13 mtrs. (Max) & 06 mtrs. (Min) Left-7.54 mtrs (Max) & 6.39 mtrs. (Min) Right-6.70 mtrs. (Max) & 6.27 mtrs. (Min) Block-B (MIG) Front-9.73 mtrs. (Max) & 6.01 mtrs. (Min) Rear-6.40 mtrs. (Max) & 06 mtrs. (Min)



Left-6.16 mtrs. Right-7.64 mtrs. (Max) & 6.38 mtrs. (Min) 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. The required open space/setback shall be kept unbuilt. It shall be constructed of hard surface capable of taking load of fire engine weighing up to 45 tonnes. As per Rule-33 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, driveway around the aforesaid building shall be provided. However, 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. Exits (Type, Number, As shown in the plan there is provision of 7 Nos. of staircases in respect of B1+B2+G+12 Dimension & Ramp floors (Block - A). Out of which: -Arrangement) 1) One is continuing from basement (B2) to 12th floor. 2) One is continuing from ground to 12th floor. 3) Two numbers are continuing from ground to 2nd floor. 4) Three numbers are continuing from 11th to 12th floor in dwelling units. Similarly, there is provision of 2 Nos. of staircases in respect of B1+B2+G+12 floors (Block – B {MIG}). Out of which: -1) One is continuing from basement to terrace floor. 2) One is continuing from ground to terrace floor. As per Rule-2 (iii & iv) of Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, the minimum width of stairway for residential buildings shall be 1 mtrs., the width of tread shall be 250 mm and the maximum height of riser shall be 190 mm. In case of mercantile buildings the width of stairway shall be 1.5 mtrs. & the width of tread shall be 300 mm and the maximum height of riser shall be 150 mm. As per Rule-72 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, exits shall be so arranged as to provide continuous means of access to the exterior of a building or exterior open space leading to a street without passing through any occupied unit. Besides, other provisions i.e. permissible travel distance, dead end corridor length in exit access, connectivity, positioning etc. shall be made as per Rule-72 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. As per Rule-1 (Annexure-IX) and Clause-4.4.2.4.1 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020, no exit doorway shall be less than 01 meter in width. Doorways shall be not less than 02 meter in height. In case of society hall at ground floor doorways shall not be less than 2 mtrs. Doorways for bathrooms, water closet and stores shall be not less than 0.75 meter in width. 1) The access to the basement shall be separate from the main and alternative staircase providing access and exit from higher floors shall be provided and where the staircase is continuous in the case of buildings served by more than one staircase, the same shall be of enclosed type serving as a fire separation from the basement floor and higher floor. 2) The escape routes should be well ventilated and provided with safety lighting and free from obstructions. 3) 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. 4) Access to the staircases be gained through automatic closing fire check doors of 02 hrs 5) 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 per Clause-4.4.2.5, 4.6, 6.1.1.3 & Annexure-E of Part-4, NBCI-2016. In addition to above all other provisions for exits / doorways / stairways, means of escape and exit shall be made as per Rule-72 and Annexure- IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.



Firefighting Shaft

1) Fire fighting shaft (fire tower) shall be made in aforesaid buildings as per Clause-2.24 of

Part-IV, NBCI-2016. 2) The protected area of the firefighting shaft shall have 120 min. Fire resistance rating & comprising of protected lobby, staircase & fireman's lift. 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. 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. Lifts vii. As shown in the plan there is provision of 4 Nos. of lifts in respect of B1+B2+G+12 floors (Block - A). Out of which: a) Two numbers are continuing from basement (B2) to 12th floor. b) Two numbers are continuing from basement (B1) to 2nd floor. Similarly, there is provision of 4 Nos. of lifts in respect of B1+B2+G+12 floors (Block – B {MIG}) which are continuing from basement (B2) to 12th floor. 1) Provision of firemen lift shall be made in aforesaid building 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. 2) 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. 3) 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. 4) 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. viii. **Building Services Electrical Service** Electrical Installations in the blocks must be comply to the provisions given in Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. 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)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. 5) 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 individuate control of the light points, if any. 6) Staircase and corridor lighting required to be connected to alternate supply from parallel hightension supply or to the supply from the stand-by generator. All wires and other accessories used for emergency light must have fire retardant property. 7) 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.
	8) 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 if the capacity exceeds 10 MVA.
	9) Electric substation transformer shall have clearance on all sides as per BBL/relevant electric rules.
	10)The electric substation shall have electric supply from alternate source for operation of vent System lighting arrangements.
	11) Cable trenches shall be filled with sand.
	12) Party walls shall be provided between two transformers as per the rules.
	13) Electric control panels shall be segregated.
Air Conditioning	Air Conditioning & mechanical ventilation requirements of different rooms or areas of the blocks must be as per the provisions given in Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
	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.
	Escape routes like staircases, common corridors, lift lobbies must not be used as return air passage.
6.7	3) Air ducts serving main floor areas, corridors, must not pass through the staircase enclosure.
132	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 for fire safety operation.
	6) The Air Conditioning required to be coupled with fire detection and alarm system.
	7) Metallic ducts must be used even for the return air instead of space above the false ceiling.
1500	8) The materials used for insulating the duct system (inside or outside) must be of non-combustible material.
Fire Command Centre	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.
	2) Fire Command Centre must have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016.
	The owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department.
	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.
В.	Fixed Fire Fighting Installations :
Fire Extinguisher	Provision of fire extinguishers must be made in all floors of aforesaid buildings as per BIS:2190:2010.
First- Aid Hose Reel	First-aid hose reel must be provided on each floor of aforesaid buildings in accordance with BIS 884:1985 & BIS 3844:1989.
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		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.
iii.	Wet Riser	The aforesaid buildings 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 50 mtr. Provision of wet riser shall be made conforming to BIS standards. (IS-3844:1989, 884:1985 and 9668:1990).
iv.	Automatic Sprinkler System	Automatic water sprinkler system with sprinkler heads shall be provided in upper and lower basement floors of the above buildings. Sprinkler shall be fed water from both underground static water storage tank and terrace tank. (IS-9972:2002 & 15105:2002).
V.	Manually Operated Electronic Fire Alarm System	Manually operated electronic fire alarm system at conspicuous places in each floor of aforesaid buildings including basement floors shall be provided. (IS/ISO 7240-11:2011).
vi.	Underground Static Water Storage Tank	Underground Static water storage tank capacity of 75,000 ltrs. shall be made for aforesaid buildings. 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.
vii.	Terrace Tank	Terrace tank of 30,000 ltrs. capacity shall be provided at the top of B1+B2+G+12 floors (Block – A) and 5,000 ltrs. capacity must be provided at the top of B1+B2+G+12 floors (Block – B {MIG}) for fire fighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than fire fighting.
viii.	Pump Near Underground Static Water Storage Tank	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 one Electric & one Diesel pumps (Stand by) of capacity 2280 LPM & one electric pump of capacity 180 LPM shall be provided for entire buildings. 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.
	500	Installation of pumps shall be made in accordance to Clause-5.1.2.2 of Part-IV, NBCI-2016.
ix.	Pump At Terrace Tank Level With Minimum Pressure Of 3.5 Kg/Cm2	Provision of terrace pump of 1350 LPM capacity shall be provided in B1+B2+G+12 floors (Block – A) having connectivity to terrace tank and wet riser shall be made in the building. Installation of pumps shall be made in accordance to Clause-5.1.2.2 of Part-IV, NBCI-2016.
X.	Basement	Besides, there is provision of 02 Nos. of ramps of width 4.16 mtrs. and 3.92 mtrs. which are continuing from basement (B2) to ground floor. 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.
		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
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		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.
		3) The use and construction of the basement shall confirm to the provisions given in Rule-41 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Clause – 12.9 of Part-III and Clause –4.5 & 4.6 of Part-IV, NBCI – 2016.
xi.	Refuge Area	1) Refuge area shall be provided for the buildings of height more than 24 meters. Refuge area shall be approachable from the space they serve by an accessible means of egress. Refuge area (s) shall be provided at/or immediately above 24 mtrs. and thereafter at every 15 mtrs or so. The refuge area shall always be kept clear. No storage of combustible products and materials, electrical and mechanical equipment, etc. shall be allowed in such areas. 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 mentioned in Annexure-E (E-4).
		2) Refuge area shall be made as per Annexure-E-4 of Part-IV, NBCI-2016.
xii.	Construction	As per Clause-3.3 & 3.4.3 of Part-4, National Building Code of India-2016, Non-combustible materials with appropriate fire resistance rating shall be used for construction of the buildings. Besides, during construction of the buildings necessary minimum fire protection measures shall be adopted.
xiii.	Service Ducts and Shafts	Openings in walls or floors which are necessary to be provided to allow passages of all blocks 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 Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
xiv.	Stand-By Source of Power Supply	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. as per Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. 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.
XV.	Lightning Protection	Provision for lightning protection shall be made in the proposed blocks as per NBCI-2016 and in accordance to relevant BIS specifications. Routing down of conductors (Insulated or UnInsulated) of lightning protection shall not be made through electrical or other service shafts.
xvi.	Compartmentation	 a) Compartmentation shall be made in the aforesaid buildings as per Clause-4.5 of Part-4 (Fire and Life Safety), NBCI-2016. b) Exit access corridors from a compartment to another compartment shall be divided at the compartment intersection by a fire door of 120 min fire rating in the fire compartment wall.
C.	Opinion :	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: - 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. 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.





Signature valid
Signed by: SHR
MAHESWAR SWAIN
Date: 24-01-2022 21:03:47

Chief Fire Officer, Odisha

NOTE

- (i) It is a digitally signed electronically generated certificate and therefore needs no ink-signed signature.
- (iii) 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.

