ODISHA FIRE SERVICE

FIRE SAFETY RECOMMENDATION

FORM-II

[Under Rule-12 (5)]

RECOMMENDATION No:	RECOMM1204130012022000472	**APPLICATION No:**	FSR1204130012022000683
Date of Issue:	16-02-2022	**Date of Receipt of Application:**	11-02-2022

1.	Name & Address of the proposed Building/Premises:	**CSS SJ RESIDENCY, Mouza – BJB Nagar, Bhubaneswar, Dist-Khurda.**
2.	Name and Address of the Applicant(s):	**Shri Gobind Chandra Singh, Partner, CSS SJ Homes.**
3.	Proposed Occupancy (Type of Building):	**The proposed 2B+S+10 floors building is coming under "Residential Building" as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Residential Building (Group-A) Sub-Division-A4 as per NBCI-2016.**
4.	Area with Plot Number and Khata Number:	**Total plot area – 1538.36 sqm. Plot Number- 419, Khata Number- 325**
5.	Date of Inspection:	15-02-2022

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	Floor wise area with occupancy:- Lower Basement floor – 970.09 sqm. - Parking & Service Area Upper Basement floor – 975.50 sqm. - Parking & Service Area Stilt floor – 509.72sqm. – Parking & Utility, Gym etc. 1st to 7th floor – 586.41 sqm. - Apartments 8th floor – 612.49 sqm. - Apartments 9th floor – 586.41 sqm. - Apartments 10th floor – 586.41 sqm. - Apartments Terrace floor – Open to sky Height:- As shown in the plan, the height of the proposed LB+UB+S+10 floors Residential Building shall be 33 mtrs. from plinth level.
ii.	Parking	Provision of Basement floor parking & Stilt floor parking has 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 to 12.19 mtrs. road. The same abutting road/means of access shall be made as per Rule-31 of 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. The main entrance to the proposed plot 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 has been shown in the plan. Front-6.05 mtrs, Rear-6.91 mtrs, Left-6.51 mtrs, Right-6.64 mtrs. 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, the requirement of compulsory open space around the aforesaid residential building shall be made as per Rule-33 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020. As proposed in the plan 6 mtrs. of drive way has been shown in the plan. 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 un built. 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 & 34 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
v.	Exits (Type, Number, Dimension & Ramp Arrangement)	As shown in the plan there is provision of 02 Nos. of staircases shall be made in the building. Out of which, 01 No. of staircase is continuing from lower basement to terrace floor and other staircase is continuing from Stilt floor to terrace floor. The clear width of the stairway of the staircases shall not be less than 1.25 mtrs. The minimum width of treads without nosing shall be 250 mm. The maximum height of riser shall be 190 mm and shall be limited to 12 risers per flight. Hence the width of the staircase satisfies the requirement as per Annexure-III, clause-4.4.2.4.3.2 of ODA (P&BS) Rules, 2020. All the exits required to be accessible from the entire floor area at all floor levels. The travel distance to an exit on any floor shall not exceed 20 meters. Provision of exits proposed in the building satisfies the requirement as per Regulations 72, ODA (P&BS) Rules, 2020. Exit doorways shall not be less than 01 meters in width and not less than 02 meters in height. The staircases are required to be pressurized or provision of natural ventilation be made at each floor landing. The natural ventilation requirement of the staircases shall be achieved through opening at each landing of an area 0.5 m 2 in the external wall. 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 basement. External exit door of staircase enclosure at ground level shall open directly to the open spaces

		or can be reached without passing through any door other than a door provided to form a drought lobby. The exit sign with arrow indicating the way to the escape route shall be provided at all conspicuous places and shall be illuminated by electric light connected to corridor circuits. All landings of floor shall have floor indication boards indicating the number of floor. In addition to above all other provisions for exits/doorways/stairways/corridor shall be made as per Clause 4.2 to 4.6.2 of NBCI-2016 and Annexure-III of ODA (P&BS) Rules, 2020..
vi.	Firefighting Shaft	Fire fighting shaft is required for aforementioned building. The protected area of the fire fighting shaft shall have 120 min. fire resistance rating & comprising of protected lobby, staircase & fireman's lift. 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. Besides, it shall have provision of fireman talk back, wet riser & landing valve in its lobby. Staircase & fire lift lobby of fire fighting shaft shall be smoke controlled. Fire fighting shaft (fire tower) shall be made as per Clause-2.24 of Part-IV, NBCI-2016.
vii.	Lifts	02 (two) nos. Lift (Stretcher lift-01 no & passenger lift-01 nos) have been proposed in the building plan which are serving from basement to top floor. Provision of firemen lift in aforementioned building shall be made 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. 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. 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. 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	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. A substation or a switch station with oil filled equipment must not be allowed to be functional inside the building. 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. The sub-station must not be located below the 1st basement and above the ground floor. 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. 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. 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. 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. 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. Electric substation transformer shall have clearance on all sides as per BBL/relevant electric rules. Electrical Installations in the building must be complying with 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. The electric substation shall have electric supply from alternate source for operation of vent System lighting arrangements. Cable trenches shall be filled with sand. Party walls shall be provided between two transformers as per the rules. Electric control panels shall be segregated.Provision for lightning protection must be made in the proposed building as per IS/IEC 62305-4:2010

Air Conditioning	If provided, 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- IV of Odisha Development Authority (Planning and Building Standards) Regulations, 2020.
Gas supply	If Gas pipe line provided, construction and provision of fire safety measures and fire fighting measures shall be as per relevant BIS.
Others	Construction :- The minimum fire resistance ratings of structural and non-structural Elements (minute) shall be as given in Table-1 of NBCI-2016. 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 structural safety design and construction of the building shall be done as per Clause-3.3 & 3.4 of NBCI-2016 and Odisha Development Authorities (Planning and Building Standards) Rules, 2020. 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. Basement- As shown in the plan there is provision of two ramps of width 3.40 meter each connectivity from lower basement to Ground Floor. 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 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. 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. 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. The use and construction of the basement shall confirm to the provisions given in Clause-41 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Clause – 4.4.2.5, 4.5 & 4.6 of NBCI – 2016. Service Ducts and Shafts: - 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. 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. 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. LIGHTNING PROTECTION: - 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.

ix.	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. Fire Command Centre must have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016.
B.	**Fixed Fire Fighting Installations :**	
i.	Fire Extinguisher	Provision of fire extinguishers must be made in all floors of the aforementioned building as per BIS:2190:2010.
ii.	First- Aid Hose Reel	First-aid hose reel must be provided on each floor of the aforementioned building in accordance with BIS 884:1985 & BIS 3844:1989. 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 Down Comer.
iii.	Down Comer	Down Comer shall be provided in each floor of the Buildings. 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 no. branch pipe. Installation of down comer shall be in accordance to BIS 3844:1989.
iv.	Automatic Sprinkler System	- Automatic water sprinkler system with sprinkler heads shall be provided only in both upper and lower basement floors of the aforementioned building. Sprinkler shall be fed water from both underground static water storage tank and terrace tank
v.	Manually Operated Electronic Fire Alarm System	Manually operated electronic fire alarm system at conspicuous places in each floor of the aforementioned building including basement floor shall be provided. (IS/ISO 7240-11:2011).
vi.	Terrace Tank	Terrace tank of 25,000 ltrs. capacity must be provided at the top of the aforementioned building for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.
vii.	Pump At Terrace Tank Level With Minimum Pressure Of 3.5 Kg/Cm2	Provision of terrace pump of 900 LPM. Capacity having connectivity to terrace tank and down comer pipes shall be made in the building.
viii.	Public Address system :-	Public Address system shall be made for building in accordance with Clause-3.4.12 of Part-4, NBCI-2016.
ix.	Refuge Area	Refuge area shall be provided 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. Refuge area shall be made as per Annexure-E-4 of Part-IV, NBCI-2016.
C.	Opinion :	The owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department. 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. 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 person concerned to the effect that all the provisions of Bye-Laws / Regulations of Odisha Development Authority and Recommendations 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.

Range Fire Officer, Central Range-II,Bhubaneswar

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

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(iv)Tampering of this Certificate will attract penal action.

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