

GOVERNMENT OF MAHARASHTRA

No. MFS/51/2021/518

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Directorate of Maharashtra Fire Service

Maharashtra Fire Service Academy

Vidyanagri, Hans Bhugra Marg,

Santacruz (East), Mumbai – 400 098

Date: 12.10.2021

To,  
**The Assistant Engineer,**  
Nagpur Metropolitan Region  
Development Authority (NMRDA)  
Nagpur.

**Sub: Fire Provisional No-Objection Certificate of proposed construction of Educational Building of M/s. Carmel Academy Primary & Secondary School on Survey No. 54/2(PART), PH. No. 06, Mouza-Waddamna, Tal-Hingna, Dist - Nagpur.**

**Ref : Application No. MFS 845.08.21, Dated 26.08.2021**

This is a proposal for construction of Educational Building having ground floor and 03 upper floors with a total height of 14.85 mtrs. from general ground level to terrace level.

The said parcel of land is under the jurisdiction of Nagpur Metropolitan Region Development Authority, Nagpur (NMRDA, Nagpur) and as the said Authority is a Special Planning Authority and as such as per Section 21 of The Maharashtra Fire Prevention & Life Safety Measure Act-2006, it is the responsibility of the Planning Authority to maintain the Fire Station and at present the said Planning Authority does not have any set up of Fire Service and thus no fire station are available with them and thus it is recommend that NMRDA, Nagpur to develop their own Fire Services.

The Plot Area of the said Institution is **23,516.15 Sq. Mtrs** & the proposed built up area is **6690.43 Sq. Mtrs (incl area free of FSI)**. The height of the building is **14.85 Mtrs**. The area wise details of said institution are as under:

Floor	Built up Area (Existing + Proposed)	Height in Mtrs
Ground Floor	1712.19	14.85
First Floor	1700.06	
Second Floor	1700.06	
Third Floor	1578.12	

The site abuts on 15 mtrs. wide Road on North side. The open spaces around the building are as follows:

Direction	Building line to plot boundary (Mtrs)
West	29.45
North	12.00
East	8.39
South	20.00



**Provisions of Maharashtra Fire Prevention and Life Safety Measures Act, 2006**

1. Under **Section 3** of "Maharashtra Fire Prevention and Life Safety Measures Act, 2006" (hereinafter referred to as "said Act"). The applicant (developer, owner, occupier by whatever name called) shall comply with all the Fire and Life Safety measures adhering to National Building Code of India, 2016 and as amended from time to time failing which it shall be treated as a violation of the said Act.
2. As per the provision as **under :- 10** of the said Act. No person other than the License Agency shall carry out the work of providing Fire Prevention and Life Safety Measures or performing such other related activities required to be carried out in any place or building or part thereof provided that,
  - A) No Licensed Agency or any other person claiming to be such Licensed Agency shall give a certificate under **sub-section (3) of section 3** regarding the compliance of the fire prevention and life safety measures or maintenance thereof in good repair and efficient condition, without there being actual such compliance or maintenance.
  - B) The names of the License Agencies approved by Directorate of Maharashtra is available in our website [www.mahafireservice.gov.in](http://www.mahafireservice.gov.in)
3. Though certain conditions are stipulated from the said Act and the National Building Code of India, it is obligatory on part of the applicant that is developer, builder, occupier, owner, tenant, by what so ever named called to abide with the provisions of the said Act failing which it shall be actionable under the provisions of said act.
4. The plans of the building should be approved by The Concern Competent Authority.
5. The Occupancy certificate should be obtained from The competent authority. **The O.C. shall be issued subject to "Final No-Objection Certificate" from this Department.**
6. Proper roads in the premises should be provided for easy mobility of the Fire Brigade Appliance & marginal spaces should be kept free from obstructions all the time. The load bearing capacity of internal roads shall not be less than **45 Tons**. The width of the road shall not be less than **6.0 Mtrs**.
7. All portable fire fighting equipments installed at various locations as per local hazard such as Co2-DCP, Foam, Fire buckets should be strictly as per and confirming to **IS: 15683**.
8. All the fire fighting equipments shall be well maintained and should be easily accessible in case of emergency.
9. Emergency Telephone numbers like "Police", "Fire Brigade", "Hospital", "Doctors", and "Responsible persons of the company" should be displayed in security cabin & office of the school building.
10. It shall be ensured that security staff & every employee of the school are trained in handling fire fighting equipments & fire fighting.
11. "Fire Extinguisher", "Fire Bucket" "Danger" "No Smoking" caution boards should be displayed at the places easily visible from a distance.
12. The house keeping shall be well maintained within the entire school building.
13. Fire buckets **06 Nos.** filled in with fine sand will have to be installed on strategic locations and should be easily accessible in case of emergency.
14. No hot job should be permitted in the school building without prior permission from the concerned responsible officer of the school.



15. In future if the school intends to carry out any expansion of the building, an approval of this department must be obtained before commencing proposed construction.

16. Requirement and Provision: - The following active fire protection system will be required for the safety of the building :-

Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
1.	Portable Fire Extinguishers	Required	IS: 15683 & 2190.	
2.	Hose Reel	Required at prominent places.	In all staircases	On each floor in the Staircase landing for Fire Fighting. The first aid hose reel shall be connected directly to riser/down comer main and diameter of the hose reel shall not be less than 19mm <b>confirming to IS 884:1985</b>
3.	Down Comer	Required	In all staircases	Required to provide in the Staircase and Fire Escape Staircase. Landing of Valve should be installed <b>confirming to IS:5290.</b>
4.	Manually Operated Fire Alarm System	Required	At Various strategic location	MOEFA system also include talk-back system and PA System; it should be connected to alternate power supply.
5.	Underground Static Storage Tank	Required 50,000 ltrs.		This water storage should be exclusively for Fire Fighting.
6.	Terrace Level Tank	Required 5000 Ltrs.		On each Terrace
7.	Fire Pump	1.No. 450 lit/min electric driven		On each Terrace
8.	Fire Brigade Connection For Static Water Tank and For Hydrant System	Required at the Main Gate		
9.	Sign Indicators for all fire safety, safe evacuation of occupants in case of emergency signs	Required at Prominent Places.	Sign indicators should provided at prominent places as per the guidelines given in <b>IS:9457 for Safety colour and Safety IS:12349 for Fire Protection Safety Signs IS:12407 for Graphics symbols for Fire Protection Plan.</b>	
10	Manual Call Point	Required	Manual Call Point should be provided at prominent places.	

**NOTE:** Fix fire fighting installations such as risers, hydrant connections, hose reels etc. shall be provided in separate shaft having opening at floor level with Glass cabinet having locking arrangement to avoid theft and damage.



### **GUIDELINES FOR INTERNAL STAIRWAYS as per NBC 2016**

- a) Stairways shall be constructed of non-combustible materials throughout. Hollow combustible construction shall not be permitted. Width of Staircase should not be less than 1.50 M. No Gas piping shall be laid down in the stairway.
- b) Internal staircase shall be constructed as a self-contained unit with at least one side adjacent to external walls and shall be completely enclosed.
- c) Internal staircase shall not be arranged around lift shaft unless the later is entirely enclosed by material of fire resistance rating as that for type of construction itself.
- d) The access to main staircase shall be gained through at least half-an-hour fire resisting automatic closing doors, placed in the enclosing walls of the staircase. They shall be swing type doors opening in the direction of the escape.
- e) No living space, store or other space, involving fire risk, shall open directly in to staircase.
- f) The external exit door of a staircase enclosure at ground level shall open directly to the open space or should be accessible without passing through any door other than a door provided to form a draught lobby.
- g) The exit signs with arrows indicating the escape routes shall be provided at a height of 2.0 m. from the floor level on the wall and shall painted with fluorescent paint. All exit signs should be flush with the wall and so designed that no mechanical damage to them can result from the removing furniture, material or any other equipment.
- h) **Exits shall be so located that it will not be necessary to travel more than 22.5 Mtrs. from any point to reach the nearest exit.**

### **STAIRCASE DESIGN REQUIREMENT:**

1. The minimum headroom in a passage under the landing of a staircase and under the staircases shall be **2.2 Mtrs.**
2. Access to main staircase shall be through a fire / smoke check door of a minimum 2 hours fire resistance rating.
3. No living space, store or other fire risk shall open directly in to the staircases.
4. The main and external staircases shall be continuous from ground floor to the terrace level.
5. No electrical shafts, A/c ducts or gas pipe etc. shall pass through or open in the staircases. Lifts shall not open in staircases.

### **Escape route from flat to staircase :**

- i) Corridor / Lift Lobby / Staircase at each floor level shall be ventilated to outside air, as shown on the plan.
- ii) Escape routes shall be maintained free from any obstruction at all times.

### **FIRE ESCAPE: (ENCLOSED TYPE ) SHALL COMPLY THE FOLLOWING:**

1. **Fire escape constructed of M.S. angels, wood or glass is not permitted is not permitted.**
2. **Opening of the Fire Escape Staircase should be from outside.**
3. Fire Escape staircase should be enclosed type. These should always be kept in sound operable condition.

4. Exits door shall open outwards, that is away from the room, but shall not obstruct the travel along any exit.
5. Fire Escape Staircase shall be directly connected to the ground.
6. Entrance to the Fire Staircase shall be separate and remote from the internal staircase.
7. Care shall be taken to ensure that no wall opening or window opens on to or close to Fire Escape Stairs.
8. The route to the external staircase shall be free of obstructions at all times.
9. The Fire Escape stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have the required fire resistance.
10. No Staircase, used as a fire escape, shall be inclined at an angle greater than  $45^{\circ}$  from the horizontal.
11. **The width of the staircase. The other detailed provision for exits in accordance with National building code - 2016.**
12. Fire Staircase shall have straight flight not less than 150 c.m. wide with 25 c.m. treads and risers not more than 19 c.m. The number of risers shall be limited to 15 per flight.
13. Handrails shall be of a height not less than 100 c.m. and not exceeding 120 c.m.

**EXIT REQUIREMENT FOR CONFERENCE ROOM, CLASSROOMS:**

1. Door width for Conference Room shall not be less than **2 Mtrs.**
2. Clear aisles not less than **1.2 Mtrs.** in width shall be formed at right angles to the line of seating in such number and manner that no seat shall be more than seven seats away from an aisle.
3. Rows of seats opening on to an aisle at one end only shall have not more than seven seats. Under the conditions, where all these aisles do not directly meet the exit door, cross-aisles shall be provided parallel to the line of seating so as to provide direct access to exit, provided not less than one cross aisles for every **10 rows** shall be required. The width of cross aisles shall be of minimum **1 Mtrs.** steps shall not be placed in aisles to overcome differences in levels unless the gradient exceeds 1:10.
4. Rows of seats between aisles shall have not more than 14 seats.
5. The spacing of rows of seats from back-to-back shall be neither less than 850 mm nor less than 700 mm plus the sum of the thickness of the back and inclination of the back. There shall be a space of not less than 350mm between the back of one seat and the front of the seat immediately behind it is measured between plumb lines.

### LIFT ENCLOSURES : -

1. The walls enclosing lift shafts shall have a fire resistance of not less than two hours.
2. Shafts shall have permanent vents at the top not less than 1800 mm (0.2sq.m.) in clear area.
3. Lift motor room shall be preferably be sited at the top of the shaft and shall be separate from lift shafts by the enclosing wall of the shaft or by the floor of the motor room.
4. Landing doors in lift enclosures shall open in the ventilated corridor/lobby & shall have fire resistance of not less than one hour.
5. Exit from the lift lobby shall be through a self-closing smoke top door of half hour fire resistance.
6. The lift machine room shall be separate and no other machinery shall be installed therein.
7. Grounding switch/switches at ground floor level to enable the fire service personnel to ground the lift car/cars in emergency shall be provided.

### Guidelines for School Buildings

1. **The Urban Development Department Govt. of Maharashtra had issued guidelines for Safety of Educational Buildings vide letter No. FFS-2004/419/CR-121/UD-6, Dt. 05/08/04 & Circular issued by School Education Department, Govt. of Maharashtra vide No. 2004/(155/04)/Training-4, Dt. 22/07/04 which shall be scrupulously followed.**
2. Building intended for educational occupancy shall not be used for any hazardous occupancy.
3. Storage of Volatile Flammable Liquids shall be prohibited and handling of such liquids shall be restricted to Science Laboratories only.
4. Exits and other means of Escape like Corridor & Staircase shall be kept free from any kind of Obstruction & Combustible Materials such as Benches, Chairs etc. Combustible materials like Old Newspaper, Wooden Furniture's, Gunny Bags etc., shall not be kept store on the Lofts.
5. Exits should be clearly visible and the route to reach the exits shall be clearly marked sign posted to guide the students (occupants) of the floor concerned.
6. Exits shall be so arranged that at least two separate exits are available in every floor area. Exits shall be as remote from each other as practicable and so arranged that there are no pockets or dead ends.
7. During Annual Function or any programmes where temporary structure i.e. Pandal or Shamiyana is erected, proper approval from Fire Department is to be taken. All necessary guidelines issued by Fire Department shall be scrupulously followed.
8. Every room or class room with a capacity of more than 40 persons in area shall have at least two doorways **for exit of not less than 900 m.m. wide.**
9. **The latest order by Hon'ble supreme Court's judgment shall be also be followed scrupulously.**

### OTHER REQUIREMENTS:

1. Building intended for educational occupancy shall not be used for any hazardous occupancy.



2. Every room or class room with a capacity of more than 40 persons in area shall have at least two doorways for exit of not less than 900 m.m. width
3. Storage of volatile flammable liquids shall be strictly prohibited and the handling of such liquids shall be restricted to science laboratories only.

#### **GUIDELINES FOR CHEMICAL LABORATORY :**

- a. Guidelines should be followed from **IS:4209 Code of Safety in Chemical Laboratories.**
- b. Portable fire fighting equipments should be installed at various locations in the Administrative Building, Office Building and Stores, such as Co2-DCP, Foam, Fire buckets should be strictly **confirming to relevant IS specification. All the fire fighting equipments shall be well maintained and should be easily accessible in case of emergency.**
- c. In addition to this 4 Nos. of 4.5 Kgs DCP Extinguishers should be installed within the Laboratory.
- d. All burners, gas pipings etc. used for lab purpose shall be confirming to relevant IS standards.

#### **ELECTRICAL SERVICES:**

1. The electric distribution cables/wiring shall be laid in separate duct. The duct shall be sealed at every alternate floor with non-combustible materials having same fire resistance as that of the duct.
2. Water mains, telephone lines, intercom lines, gas pipes or any other service lines shall not be laid in the duct of electric cables.
3. Separate circuits for water pumps, lifts, staircase & corridor lighting shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes so that fire in one circuit will not affect the others.
4. The inspection panel doors and any other opening in the shaft shall be provided with airtight fire doors having the fire resistance of not less than two hours.
5. Medium & low voltage wiring running in shaft and within fall ceiling shall run in metal conduit.
6. An independent & well-ventilated service room shall be provided on the ground floor with direct access from outside or from the corridor for the purpose of termination of electric supply. The doors provided for the service room shall have fire resistance of not less than two hours.

#### **Electric cable shaft and electric meter room :**

- i) Electric cables shall not pass through the staircase walls or shall be taken in concealed manner.
- ii) Inspection door of the shaft if provided shall have two hours of fire resistance.
- iii) Electric meter room shall be provided at the ground floor at the location marked on the plan. It shall be adequately ventilated.
- iv) Electrical shafts shall be sealed at each floor level with non combustible material such as vermiculite concrete.
- v) Electric wiring shall be having copper core having the fire resistance and low smoke hazard cables for the entire building with provision of ELCB / MCB in electrical installation of the building.

**Access :-**

Two entrance gates each of width not less than 04.50 mtr and height clearance not less than 04.50 mtrs shall be provided.

**Courtyards :-**

- i) The courtyards on all sides of the building shall be paved suitably to bear the load of fire engines weighing up to 45m. tones and shall be flushed to road level.
- ii) The courtyards shall be in one plane.

**CAR PARKING:**

- i) Car parking shall be permitted in the designated area.
- ii) Drainage of the car parking area of all the levels shall be laid independent from that of the buildings & it shall be provided with catch pit & fire trapped before connecting the building drainage or Municipal drainage.
- iii) Drainage of the car parking areas at all the levels shall be so laid as to prevent any overflow in the staircase, lift shaft etc.
- iv) The parking area shall not be used for dwelling purpose & repairing / maintenance purpose, at any time. Dwelling use of naked light/flame, repairing /maintenance of vehicles shall be strictly prohibited in the parking area.
- v) Repairing / servicing of cars, use of naked light shall not be permitted in the car parking areas.
- vi) The drive way shall be properly marked & maintained unobstructed

**PORTABLE FIRE EXTINGUISHERS :-**

- a. Two Dry Chemical Powder (A.B.C.) type fire extinguisher of 4 kgs. Capacity having I.S.I. certification mark and two buckets filled with dry, clean sand shall be kept in Electric meter Room as well as Lift Machine room of each building.
- b. Adequate Nos. of Dry Chemical Powder (A.B.C.) type fire extinguishers each of 4 Kgs. Capacity having I.S.I (15682 & 2190) certification mark shall be kept at parking area equally distributed at prominent places.

**TERRACE DOOR:**

- i) The top half portion of the doors shall be provided with louvers.
- ii) The latch- lock shall be installed from the terrace side at the height of not more than 1mtrs.



- iii) The glass front of 6 inch diameter with the breakable glass shall be provided just above the latch lock, so as to open the latch in case of an emergency by breaking the glass.

**SIGNAGES :-**

Self glowing / fluorescent EXIT signs in green colour shall be provided showing the means of escape for the entire building.

In addition to the above, all provision under the National Building Code of India-2016 shall be strictly adhered, also if any change in activity or Proposed expansion or Subletting of Plot, NOC from this department is essential.

This is a "Provisional No-Objection Certificate". After compliance with above mentioned recommendations / conditions, inspection of the fire prevention & protection systems provided by you will be carried out by this department & after satisfactory performance of the system "Final No-Objection Certificate" will be issued.

The undersigned reserves right to amend any additional recommendations deemed fit during the final inspection due to the statutory provisions amended from time to time and in the interest of the protection of the company.

As per Maharashtra Fire Prevention and Life Safety Measures Act, 2006, Section 25-Annexure-Part III, M/s. Carmel Academy Primary & Secondary School, has paid Fire Protection Fund Fees amounting to Rs. 66,910/- (Rs. Sixty Six Thousand Nine Hundred Ten Only) vide UTR No. FDRLH2126667873 Dated 03-09-2021.

However, Town Planning is requested to verify the total built up area and inform this Department for the purpose of levying additional Capitation fee.

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(S.S. Warick )

Director  
Maharashtra Fire Services

Copy to M/s. Carmel Academy Primary & Secondary School, Mouza-Waddamna, Tal-Hingna, Dist – Nagpur

