

# GOVERNMENT OF MAHARASHTRA

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**Directorate of Maharashtra Fire Service**  
Maharashtra Fire Service Academy ,Vidyanagri,  
Hans Bhugra Marg,Santacruz (East),Mumbai - 400 098  
Date:

**M/s Sainik School Chandrapur,  
Education & Sports Dept.  
Govt.Of Maharashtra,  
S.No. 94 to 98,108 to 111,113,114,  
at Village- Bhivkund,  
Tal- Ballarpur, Dist- Chandrapur.**

**Sub:- NOC stipulating fire protection and fire fighting requirements for proposed construction of various Educational buildings at M/s Sainik School Chandrapur, Education & Sports Dept. Govt.Of Maharashtra, S.No. 94 to 98,108 to 111,113,114, at Village- Bhivkund,Tal- Ballarpur, Dist- Chandrapur.**

**Ref : 1.Online Application No.NGP/19/11/2019/0765,Dated 21/11/2019 of M/s Creations AJ, Architects.  
2.Letter from M/s Sainik School Chandrapur, Vide SSC/1205/Trg/19-20/1,DATED 21/11/2019**

This is a proposal for proposed construction of various Educational buildings, at above mentioned address. Total Plot area is **487618.13 Sq Mtrs** and Proposed built up area is **60485.55 Sq Mtrs**. The area wise details of said institution are as per Annex A

#### **Observation & Remarks:**

These are various Educational Buildings of various heights as per Annex A. All the buildings with higher floors are provided with enclosed type staircase of width 2.00 mtrs leading from ground to terrace floors. The site abuts 18 mtrs road and 12 mtrs wide Internal roads. The architect has stated that the open spaces and travel distance of all the buildings are maintained as per the norms.

In view of the above, as far as this Department is concerned, there would be no objection for construction of various Educational Buildings of various heights as per Annex A, subject to satisfactory compliance of the following requirements, as per the details shown in the enclosed plan, signed in token of approval.


**This N.O.C. is valid subject to fulfillment of the following conditions: -**

**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

  
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(Naresn Kumar)  
Squadron Leader  
Principal  
Sainik School Chandrapur

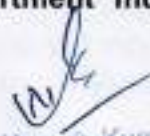


Safety Measures or performing such other related activities required to be carried out in any place or building or part thereof provided that,

- A) If the Director, MFS is satisfied that, for any reason, to be recorded in writing, the owner or occupier is not able to carry out the fire prevention and fire safety measures in any such place or building or part thereof through a Licensed Agency, he may authorize any person or persons he thinks fit to carry out such work, and any work carried out by such authorized person or persons shall be deemed to be carried out by a Licensed Agency.
  - B) 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.
  - C) 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 completion 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 & the roads should be capable to hold weight of fire appliances i.e. **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-DGP, Foam, Fire buckets & it must be strictly confirming to relevant IS specification.
  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 Industrial "** should be displayed in security cabin & at other strategic locations.
  10. It shall be ensured that security staff & every employee of the Industrial are trained in handling fire fighting equipment & fire fighting.
  11. Cautionary boards such as **"DANGER", "NO SMOKING", "EXIT", "FIRE ESCAPE", "EXTINGUISHER",** etc. should be displayed on the strategic location to guide the occupants in case of emergency. The signs should be of florescent type and should glow in darkness.
  12. **It shall be your responsibility to obtain all necessary approvals from various government agencies such as MPCB, NA, Environment, CCOE, Excise etc as per the requirement, as applicable.**
  13. **In future if the said firm intends to go for any expansion, alteration, modification of any building an approval of this department must be obtained before commencing Existing construction.**



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**REQUIREMENT AND PROVISION: - The following Fire Protection System is required for the fire safety of the building:-**

Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
1.	Portable Fire Extinguishers	Required	IS: 15683.	
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 <b>For buildings having height more than 15 mtrs.</b> Landing of Valve should be installed <b>confirming to IS:5290.</b>
4.	Manually Operated Fire Alarm System	Required	At Various strategic location	Manually Operated Fire Alarm should be provided; it should be connected to alternate power supply.
5.	Yard Hydrant or Ring hydrant around the building	Required around the Buildings	At Various strategic Locations.	Fire Brigade Inlet connection should be provided. Hydrant points should be provided with 2 Nos. of Delivery Hose confirming to <b>IS-14933-2001</b> along with Standard Branch (Universal) confirming to IS-2871. <b>The distance between 2 Hydrants should not be more than 45 mtrs. The guidelines should be followed as per IS 3844:1989.</b>
6.	Underground Tank	Required 4,00,000 litres		This water storage should be used exclusively for Fire Fighting.
7.	Terrace Level Tank	Required 20,000 Ltrs.		On Terrace of each Building

  
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Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
8.	<b>Automatic Sprinkler system</b>	Required in lobbies, Auditorium, Halls and offices, Stores of all the buildings.		Sprinkler system should be provided on each floor. Guidelines are given in IS 15105 Design and installation of Fixed Automatic sprinkler fire Extinguishing system.
9.	<b>Automatic Smoke Detection System</b>	Required in lobbies, Auditorium, Halls and offices, Stores of all the buildings.		Automatic Smoke Detection system should be provided. Standards and guidelines given in IS-11360-1985 specification for Smoke Detectors for use in Automatic Electrical Fire Alarm system. <u>Detection system for Cable Trench should be provided.</u> Heat Detectors should be provided for Canteen Area as per the standards and guidelines given IS-2175-1988 specification for Heat sensitive Fire Detectors for use in Automatic Fire Alarm System.
10	Fire Pump	For Hydrant & Sprinkler (Main+ Standby) 02 No. 2850 lpm electrical driven (Main + Standby) 01 No. 2850 lpm Diesel driven ( If alternate source of power supply not provided) 01 450 lpm.		Fire Fighting pumps shall be well maintained.  Fire pumps shall be centrifugal pumps only.
11	Fire Brigade Connection For Static Water Tank and For Hydrant System	Required at the Main Gate		
12	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</b> <b>IS:12349 for Fire Protection Safety Signs</b> <b>IS:12407 for Graphics symbols for Fire Protection Plan.</b>	

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Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
13	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.

#### **ALTERNATE SOURCE OF POWER SUPPLY.**

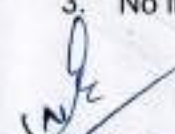
An alternate source of LV/HV supply from a separate substation or from a diesel generator with appropriate changeover over switch shall be provided for fire pumps, booster pump, sprinkler pump, jockey pump, staircase and corridor lighting circuits and fire alarm system, detection system, public address system, voice evacuation system etc. It shall be housed in separate cabin.

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

- Stairways shall be constructed of non-combustible materials throughout. Hollow combustible construction shall not be permitted. Width of Staircase should not be less than 2.00 M. No Gas piping shall be laid down in the stairway.
- Internal staircase shall be constructed as a self-contained unit with at least one side adjacent to external walls and shall be completely enclosed.
- 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.
- 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.
- No living space, store or other space, involving fire risk, shall open directly in to staircase.
- 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.
- 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.
- Exits shall be so located that it will not be necessary to travel more than 30 Mtrs. from any point to reach the nearest exit.**

#### **STAIRCASE DESIGN REQUIREMENT:**

- The minimum headroom in a passage under the landing of a staircase and under the staircases shall be **2.2 Mtrs.**
- Access to main staircase shall be through a fire / smoke check door of a minimum 2 hours fire resistance rating.
- No living space, store or other fire risk shall open directly in to the staircases.

  
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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 : ( Hostel,Service Quarters)**

- 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:**

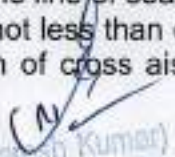
1. Fire escape constructed of M.S. angles, wood or glass is not permitted is not permitted.
2. Opening of the Fire Escape Staircase should be from outside.
3. Fire Escape staircase should be enclosed type. These should always be kept in sound operable condition.
4. Exits door shall open outwards, that 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 200 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 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

  
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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.

#### **Guidelines for College 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 College 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 programs 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.

**CANTEEN AREA (LPG Storage) :**

- If L.P.G. is used for cooking purpose in canteen, if any (on Ground floor only) the L.P.G. pipelines & fittings & accessories used shall be strictly confirming to **IS: 6044 Part-I**. The L.P.G. pipeline & related installation shall be done by reputed and authorized agency. The agency shall issue a certificate that the work is carried out as per **IS: 6044 Part-I**.
- The L.P.G. storage area shall be provided with a separate shed painted in "RED" colour, "Danger" "No-Smoking" signs shall be painted on the door of L.P.G. shed. The shed should be always kept in lock and key & the key of the L.P.G. shed shall be kept with responsible person of the company.

**ELECTRICAL SERVICES:**

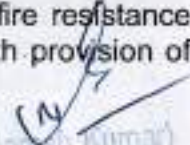
1. The electric distribution cables/wiring shall be laid in separate duct. The duct shall be sealed at every alternate floor with non-combustible materials having same fire resistance as that of the duct.
2. Water mains, telephone lines, intercom lines, gas pipes or any other service lines shall not 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.

  
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**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.
- ii) 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.
- iii) 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.
- iv) Repairing / servicing of cars, use of naked light shall not be permitted in the car parking areas.
- v) The drive way shall be properly marked & maintained unobstructed

**PORTABLE FIRE EXTINGUISHERS :-**

- a. Two Dry Chemical Powder (A.B.C.) type fire extinguisher of 6 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.
- b. Eight Dry Chemical Powder (A.B.C.) type fire extinguishers each of 6 Kgs. Capacity having I.S.I. certification mark shall be kept at parking area equally distributed at prominent places in stilts.

**TERRACE DOOR:**

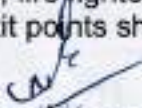
- i) The top half portion of the doors shall be provided with louvers.
- ii) The latch- lock shall be installed from the terrace side at the height of not more than 1mtrs.
- iii) The glass front of 6 inch diameter with the breakable glass shall be provided just above the latch lock, so as to open the latch in case of an emergency by breaking the glass.

**FIRE ALARM SYSTEM / FIRE DETECTION SYSTEM:**

- a) The building shall be provided with intelligent analog addressable fire alarm system with microprocessor based main control panel at ground floor level and addressable call points and hooters at each floor level. The design of fire alarm system shall be in accordance with I.S. specification and based on NFPA 72 guidelines (as per 2010 edition).
- b) The addressable fire alarm system shall be equipped with the latest evacuation features such as digital voice evacuation capabilities; fire fighters telephone system, directional sounders etc. The main entry / exit points shall

  
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be provided with fire fighters interactive interface to enable viewing of critical information in event of fire.

- c) All basement shall be provided with intelligent multi sensor detectors connected to the main fire alarm panel. This is to avoid nuisance alarm caused due to smoke emission from the vehicles of the car parking.
- d) Access control system, close circuit cameras shall be installed in the entire building & connected at the control room.
- e) The structure shall be provided with manual fire alarm system with main control panel at ground floor level and pill-boxes and hooters at each upper floor level. The layout of fire alarm system shall be in accordance with I.S. specification.

#### **PUBLIC ADDRESS SYSTEM:**

The entire building shall be provided with the public address system in common areas with main control panel at ground floor reception area and in Fire Control Room.

#### **FIRE DRILLS / EVACUATION DRILLS:**

Fire Drills and evacuation drills shall be conducted regularly in accordance with fire safety plan of building at least once in a three month in consultation with Mumbai Fire Brigade and log of the same shall be maintained.

#### **SIGNAGES**

Self-glowing/fluorescent exit signs in green color shall be provided showing the means of escape for each wing.

#### **TRAINED STAFF:**

- a) A qualified fire officer / supervisor with trained security guards having basic knowledge of fire fighting & fix fire fighting installation shall be provided / posted in the building round the clock.
- b) Maintenance of all the first aid fire fighting equipments, fixed installations & other fire fighting equipments / appliance in good working condition at all times.
- c) Imparting training to the occupants of the building in the use of firefighting equipment provided on the premises & kept them informed about the fire & other emergency evacuation procedures.
- d) To liaise with the City Fire Brigade on regular & continual basis.

#### **TRAINED OCCUPIERS:**

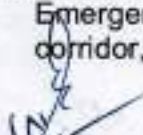
Occupiers of structure shall be trained in Fire prevention and to extinguish fire in initial stage, supervision on Maintenance of fix fire fighting system & portable extinguishers, Mock evacuation drills etc.

#### **PANEL BOARD OF FIRE FIGHTING SYSTEM:**

Fire alarm system, public address system, alternate supply, etc. panels shall be installed on ground floor & which shall be manned 24 hrs.

#### **EMERGENCY ESCAPE ROUTE PLAN:**

Emergency exit route plan framed in glass shall be displayed in the common corridor, cross passages, staircase/lift lobbies of each floor level.

  
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