



THESIS REPORT ON
“NATIONAL SCHOOL OF DRAMA, NAVI MUMBAI”

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE DEGREE OF:

BACHELOR OF ARCHITECTURE

BY
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THESIS GUIDE
AR. SHALINI DIWAKAR

SESSION
2022-23

TO THE
SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY
LUCKNOW.

**SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).**

CERTIFICATE

I hereby recommend that the thesis entitled "NATIONAL SCHOOL OF DRAMA, NAVI MUMBAI" under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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ACKNOWLEDGEMENT

First and foremost gratitude towards the almighty God for his blessings.

I am thankful to Prof. Mohit Agarwal (Dean), Ar. Sangeeta Sharma (Hod) and all my faculty members who have been extremely co-operative since the very beginning and who helped me to utilize my skills and creativity to the utmost. Sincere thanks to our thesis coordinators (Ar. Aanshul Singh, Ar. Satyam Srivastava), who left no stone unturned to shape our thesis in the best possible way and also for their untimely help whenever required.

I express my deepest gratitude to my thesis guide Ar. Shalini Diwakar, for her valuable dispassionate guidance, critical discussions, suggestions and continuous support all through my B. Arch thesis. Special thanks to my seniors Mr. Sanjay Pratap, Ar. Anshika Mehrotra & Ar. Gaurav Mishra who guided me regarding the case studies for this project.

I would like to thank all my friends Divyansh, Omkar & Atul for their help during my thesis. Each one of them has contributed towards making me a better person and the time I spent with all of them will always be cherished. Thanks to my juniors specially Adhya and Shalini for her help in the thesis model.

At last but not the least, I have no words to express my gratitude for the love and affection of my parents.

-Kartikeya Awasthi

SCOPE AND LIMITATION

- The scope to study college of architecture would be limited to the study of various departments of architecture and planning department at undergraduate as well as post graduate level.
- It would include the curriculum of planning for the degree of B.Arch.
- It would include the curriculum for master in architecture for a degree of M.Arch.
In various department

METHODOLOGY

- SITE ANALYSIS
- SITE & SURROUNDINGS
- SITE CLIMATE
- CASE STUDY
- LITERATURE STUDY
- REQUIREMENT SHEET
- AREA ANALYSIS
- STANDARD SHEET
- CONCEPT SHEET
- DESIGN
- ELECTIVE
- VIEW

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SYNOPSIS

1.1 INTRODUCTION:

The National School of Drama is one of the foremost theatre training institutions in the world and only one of its kind in India. It was set up by Sangeet Natak Akademi as one of its constituent units in 1975, it became an independent entity and was reconstituted as constituent units in an independent entity and was registered as an autonomous organization under the society's registration act XXI of 1860, fully financed by the Ministry of Culture, Government of India.

What is Drama?

The term "drama" comes from a Greek word meaning "action" which is derived from "do". Drama is defined by Aristotle as "a criticism of style on a stage with action character. Drama is a composition in prose form that presents a story entirely told by dialogue and action, and written with the intention of its. The two masks associated with the drama represent the traditional generic division between comedy and tragedy. Indian drama and theatre are perhaps as old as its music and dance. Classical theatre traditions have also influenced modern theatre, particularly in Hindi, Marathi, and Bengali theatre. India thrives on its cultural richness. Since centuries, Indian people have nourished and relished the mesmerizing world of Indian drama and theatre. The Indian theatre can be classified into three different types: the Sanskrit theatre, the classical theatre or the traditional theatre and the modern theatre. The Indian theatre encompasses all the different forms of fine arts and literature like dance, drama, music, movement, sculpture, painting and architecture.

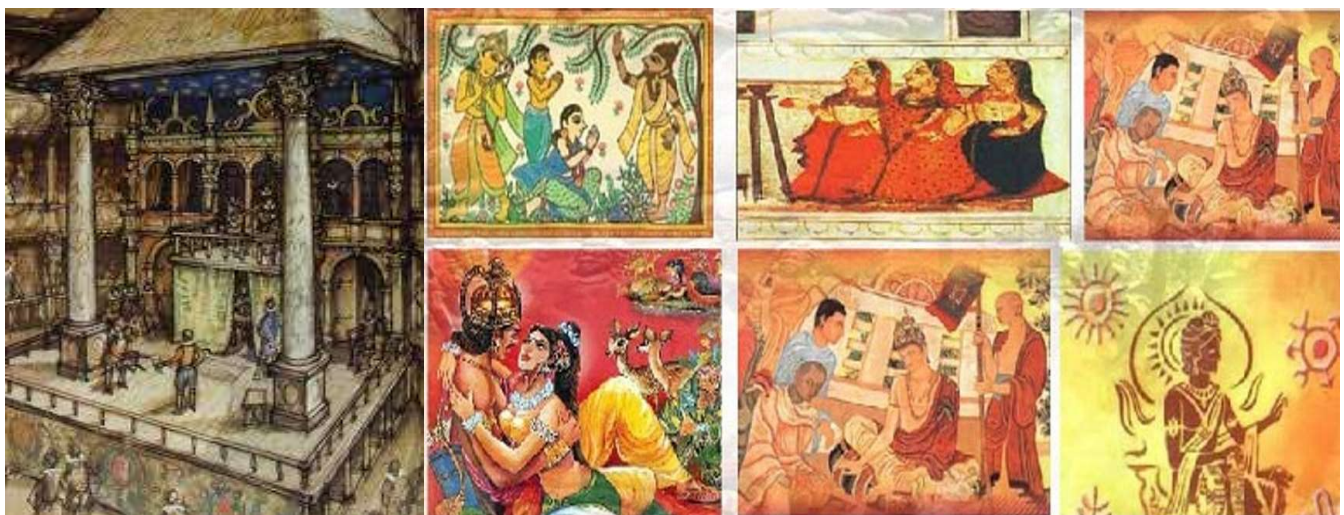


Fig. 1 – Showing various eras of Drama

1.2 -AIM:

To design an institute which emphasizes on built & un-built co-relation of spaces that helps develop learning environment for students.

1.3- OBJECTIVE:

To design an institutional space that have open spaces merging with built space and these spaces can also be used as exhibition spaces.

To create acoustical environment by use of different materials.

To design a space for convertible stages.

1.4 - NEED OF THE PROJECT:

Need of the National school of drama because as in India only one national drama school who gratify the finest actors in field of performing arts at national level and who encourages the traditional methods of regional drama and musical plays most of the acting school which focuses on the acting for Bollywood.

The country has only two drama schools with potential for providing the necessary ingredients. They are located in Delhi and Thrissur; the intakes are of 20 students per year which is very less for a nation like India. Therefore, more canters are required.

Infrastructure for such an educational field requires to be strengthened.

1.5-SCOPE:

- This project provides opportunity to explore the interaction of various art forms and their validity in common man's life.
- It can act as a local landmark and provide a memorable experience to all the myriad users.
- To explore the public realm, it provides an opportunity to understand the universally appealing nature.
- Capacity-1000
- Auditorium , preview theatre, amphitheatre, art gallery, canteen, rest rooms, black box , raining studios are some of the important spaces in the building.

1.5 METHODOLOGY:

Introduction

Literature Overview

Architectural significance

Library Study

Literature study - NCPA, Mumbai.

Case study - Triveni Kala Sangam, New Delhi & National School of Drama, New Delhi.

Comparative Analysis

Site Selection & Justification

Site Analysis

Design Brief

Concept

Design development

Final design proposal

Model

Bibliography

The background of the slide is a vibrant red curtain with vertical folds. In the foreground, there are three dark silhouettes of figures. On the left, a figure stands with arms slightly away from the body. In the center, a figure stands with one arm raised high towards the top of the frame. On the right, a figure stands holding a violin and bow, as if playing. The overall mood is artistic and theatrical.

LITERATURE OVERVIEW

2.1. - ORIGIN OF DRAMA IN INDIA

Drama is the reflection of life in many ways and can also be said that in many ways and can also be said that it plays a significant role in making aware of their present as well as the past. It has been aptly said that, " the stage constitute a very important chapter in the social and political history of people " and the bend of national genius cannot be fully comprehend without its study it is no exaggeration to say that " a nation is known by its theatre . " The beginning of dramatic art in India has been traced back to more than two thousand years ago. A study of the growth and development of drama in India makes it clear that it has been an advance literacy genre since ancient times. Broadly speaking, there are two views about the origin of Indian drama. According to one view, Indian drama came into being under Greek influences. Whereas in other view is that it is of divine origin deriving several characters off our Vedas.

According to the first view, Indian drama came into existence under the influence of Greek drama a which is believed to come into being in there fifth century establishment of Greek drama can be traced to the religious rituals of the worships of Dionysus, son of Zeus(greatest of Greek gods) and semen (mortal).his worships symbolizes the return of spring season

Berriedala Keith says, "Indian tradition , preserved in the natya sastra , the oldest of the texts of the theory of the drama, claims for the drama divine origins and a close connection with the sacred Vedas themselves" The natya sastra is the most rateable source as. The origin of drama turgy is concerned example gives of kalidasabhavabhuli, bhasa and the younger son of seta , lava who upheld the view that bharatamuni is a great play wright and stage manage and his work is the oldest and most trustworthy

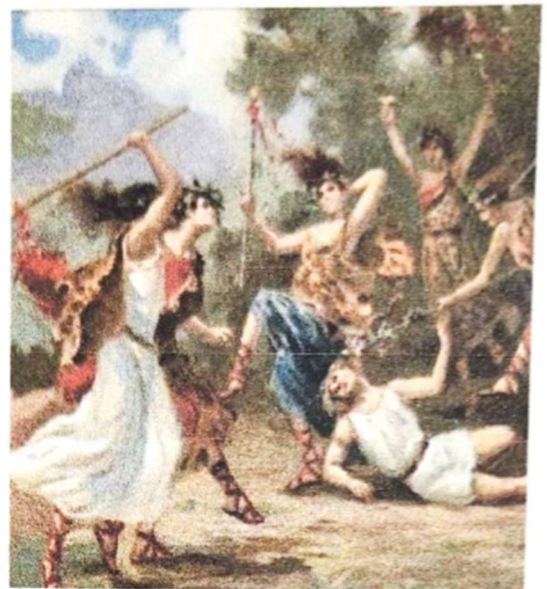


Fig. 2 - Shakuntala being played on stage

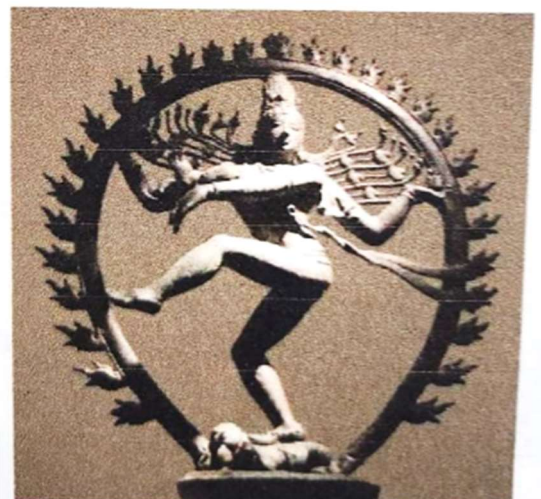


Fig. 3 - Statue of Natraj dance form

2.2 HISTORY OF DRAMA



Fig. 4. Shows drama being played on 20th century

20th CENTURY AND BEYOND

Realism and Naturalism
Symbolism
Expressionism
Surrealism
Political theatre
American Drama



**1800 AD–2000 AD
(ROMANTACISM)**

Melodrama



1700 – 1800 AD (BARORUE)

Burlesque/ Ballad Opera



**1650 AD – 1700 AD
(RESTORATION)**

Burlesque/ Ballad Opera



**1500 AD – 1650 AD
(RENAISSANCE)**

- Elizabethan's And Jacobean Comedy
 - Revenge Tragedy
 - Commed'a Dell art



600 AD – 1500 AD (MEDIVAL)

Comedy of Manners



600 BC – 600 AD

Greek Theatre and Roman Theatre

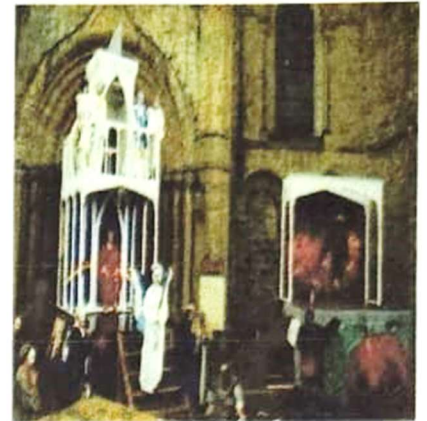


Fig. 5. Drama of Romanticism



Fig. 6. Drama on Renaissance Period

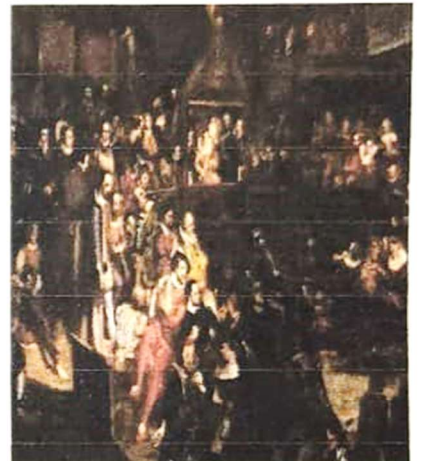


Fig. 7. Drama on Restoration Period



Fig. 8. Drama on baroque

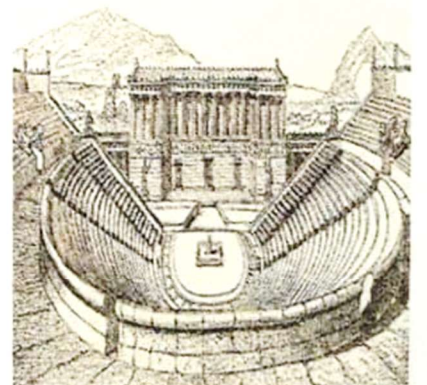


Fig. 9. Shows Greek Theatre

2.3 – ELEMENTS OF DRAMA THEATRE

LITERARY ELEMENTS	TECHNICAL ELEMENTS	PERFORMANCES
<ul style="list-style-type: none">• Initial Incident• Preliminary Elements• Rising Action• Climax• Exposition• Soliloquy• Monologue• Suspense	<ul style="list-style-type: none">• Scenery• Costume• Props• Lights• Sound• Makeup	<ul style="list-style-type: none">• Acting• Character motivation• Character analysis• Empathy• Speaking• Breath control• Inflection• Speaking style

Table 1 - Statue of Natraj dance form

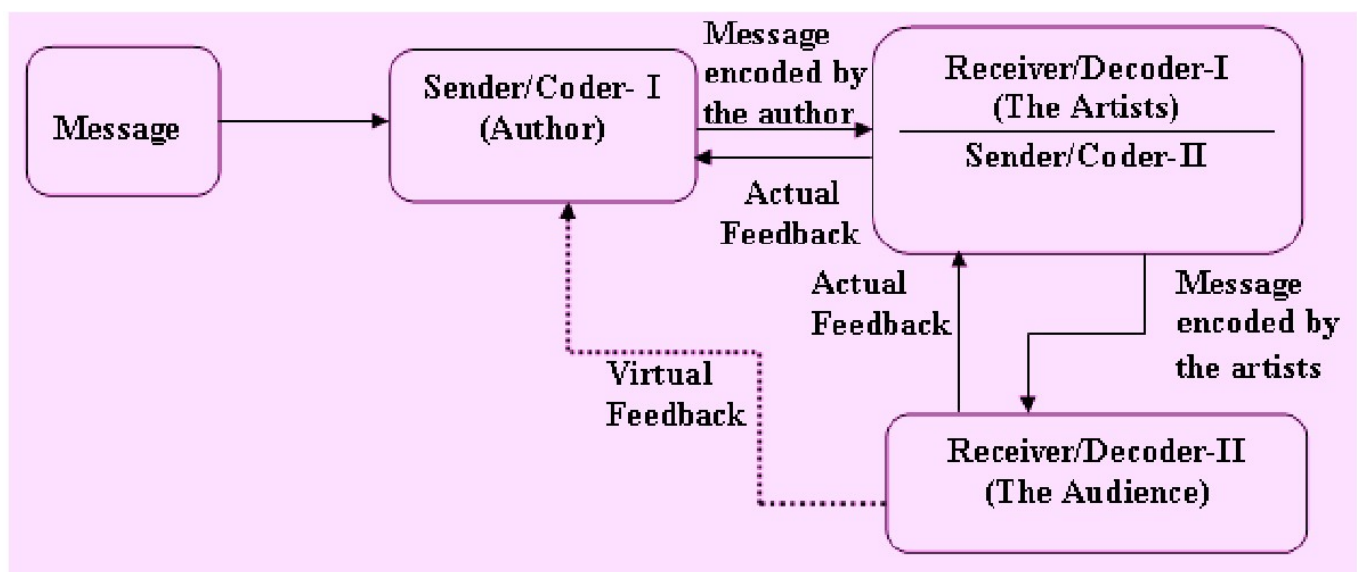
2.3 – ELEMENTS OF DRAMA THEATRE

Creativedrama education improves individual different characteristics and they are as follows:

- Self Confidence & self esteem
- Assertiveness
- Regulation of emotions
- Democracy
- Communication
- Respect
- Empathy
- Flexibility
- Tolerance

2.5. - ROLE OF THEATRE IN ADDRESSING SOCIAL EVILS IN INDIA:

India has a rich heritage and cultural that is more prominently palpable in the rural India most of the social evils being faced by Indian society have its root in the rural India despite the vast opening out of the electronic media .theatre remains predominant mass medium hence , in addressing the social evils , this medium has a great role in play .The message intended to be communicated to the target audiences should be well narrated an to think and analyse the problem In order to note the effectiveness of the theatre communication addressing the social evils. The feedback must be obtained.



Theatre is misinterpreted purely as a source of entertainment. However , theatre can be much so much more than just required costume and pretty songs ;in fact it is often the perfect vehicle to provide education about current social issues and to inspire social and political change. In order to address the social evils in India , the concept of epic theatre developed by Bertolt Brecht and his partner Erwin Piscator might be used effectively along with theatre in education. The main objective of epic theatre is to ensure that the audience are not forgetting that they are seeing theatrical presentation are meant to be seen as represented of reality but not as being real.

6.- IMPORTANCE OF EDUCATION: OF DRAMA AND PERFORMING ARTS IN
Drama and performing arts not only engage with the creative side of the brain, it also provides an ideal balance in students pattern of study. Students gain important life skill as they learn the value of critical feedback, both positive and constructive. Drama and performing arts allow an avenue to develop cognitive abilities that complement study in other disciplines. Drama students learn to approach situations in an array of different manners which can help to develop creative thinking and new study techniques.

7. - DRAMA SCHOOL:

one of the headmost theatre training institute in the world and it specializes in the pre-professional training in drama art such as acting, design and mechanical theatre art administration and related subject. Drama school, a free-standing institution which specializes in the pre-professional training in drama and theatre arts, such as acting, design, and technical theatre, arts administration and relative subject, Drama is the specific mode of fiction represented in performance in a theatre¹.

WHAT IS DRAMA SCHOOL?

Drama is not a goal to teaching acting and performance skill but it is presentation as a methodology that can be adapted and integrated to different subject areas. The country has only two drama schools with potential for providing the necessary ingredients. They are located in Delhi and Thrissur. Both at opposite ends, the intake is of 20 students per year which is very less for a nation with current count of 75% literate youth. Therefore, more centres are required, which provide connect between the past and the future.

2.DRAMA SCHOOL IN INDIA:

It is therefore, important to develop a facility, in league of international institutions, which helps us to cater to the cause requiring extreme attention. A drama school would put forth how an art can touch the public in so many different ways and how, can one contribute to the society. Not only this, it would help us shape individuals who work for higher goals than money. But it is likely for us to accept that Indian government has not done anything in this sector.

3.CHALLENGES:

- To create a dominating space which dominates on art and drama
- Provide opportunity to explore the interaction of various art forms and their validity in it.
- To explore the public realm, it provides an opportunity to understand the universally appealing nature
- Provide a memorable experience to

2.7.4.- PURPOSE OF DRAMA SCHOOL:

Drama school provide one or more of the following purposes:

To give a chance more students to reach at national level through drama school.

To provide facilities to every student.

To provide knowledge of drama in drama school

It offers unequalled opportunities for catering to learner differences

It provides motivation through the variety of expectancy generator by the activities

It encourages an open, exploratory style of learning where creativity and the imagination and given scope to develop

It integrates both cognitive and affective domains

It integrates verbal and non-verbal aspects of communication,

5.- FACILITIES REQUIRED AT DRAMA SCHOOL:

The word drama refers to a wide concept which can be seen and defined through the different though the different point of views.

1. **STUDENT REQUIRED:** such as administration office, waiting room, lecture rooms, music room, auditoriums, open theatre, hostel room, bathroom and toilet, drinking water supply, cafeteria, workshop, library /bookshop. Etc.
2. **STAFF REQUIRED:** staffroom, running room for guards and driver, restroom for staff, toilets, staff canteen, parking for vehicle, etc.
3. **SERVICE REQUIRED:** water supply , electricity supply, fire safety and security, HVACs, ETC.



LITERATURE STUDY

NATIONAL CENTER
FOR
PERFORMING ARTS

1 INTRODUCTION:

1. The National Centre for the Performing Arts (NCPA), Mumbai, is India's premier cultural institution. Inaugurated in 1969, it was the first multi-venue, multi-genre cultural centre in South Asia. The NCPA is committed to preserving and promoting India's rich and vibrant artistic heritage in the fields of music, dance, theatre, film, literature and photography, as well as presenting new and innovative work by Indian and international artists from adverse range of genres including drama, contemporary dance, orchestral concerts, opera , jaz and chamber music. Today, the NCPA hosts more than 700 events each year , making it India's largest and most holistic performing arts centre.



Fig. 10: Pedestrian entrance in campus



Architect- Ar. Philip Johnson
& PatelBatuwala

Location- C.P.A. Marg,
South Mumbai

Project Year- 1959

Site Area- 32000 Sq.m.

Capacity- 2700 People

4.2.2 SITE LEVEL ANALYSIS

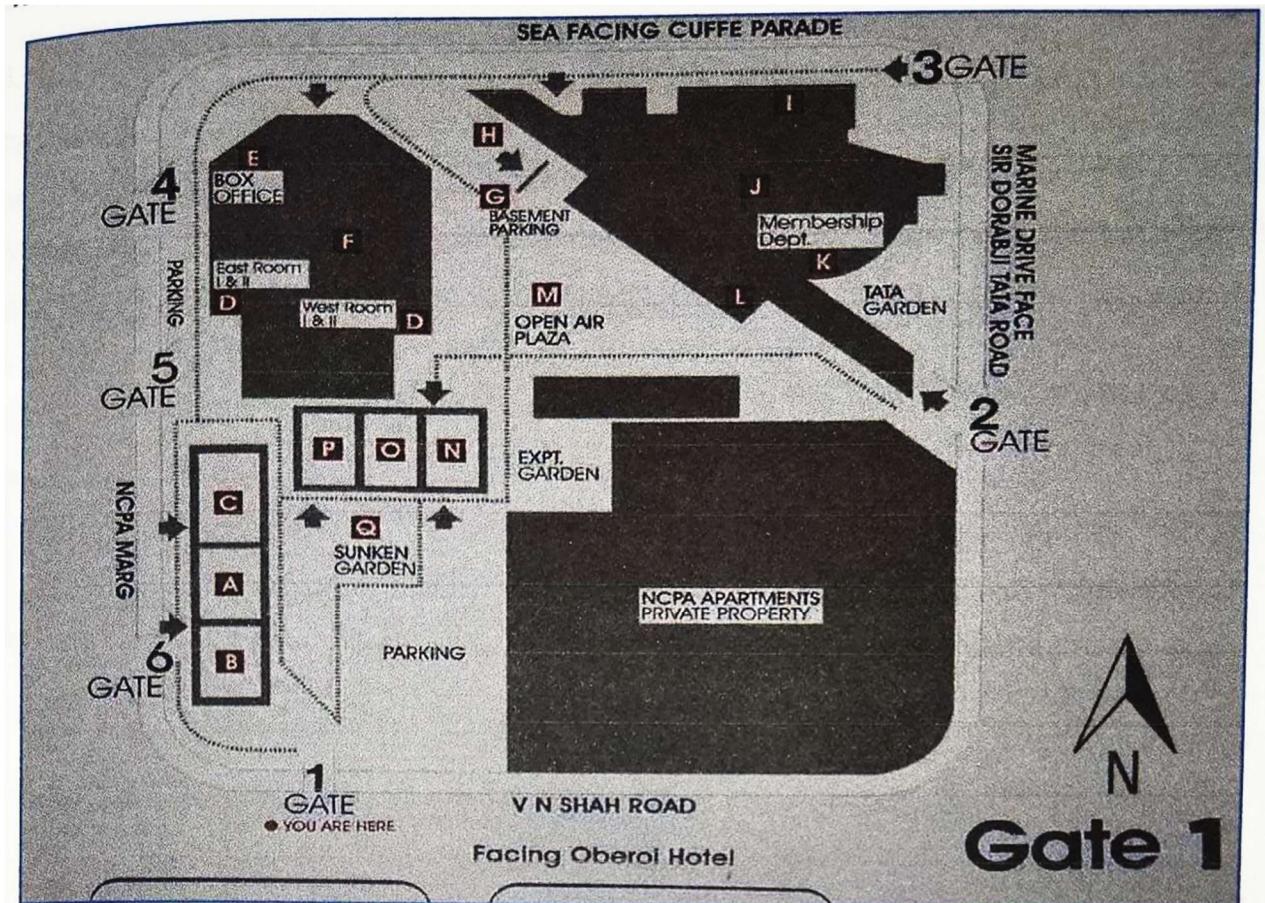
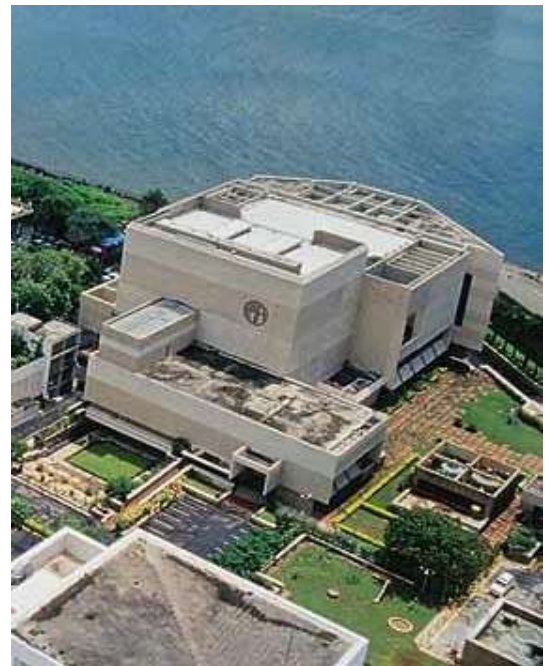


Fig. 12 SITE PLAN OF NCPA

Area of NCPA, Mumbai are:

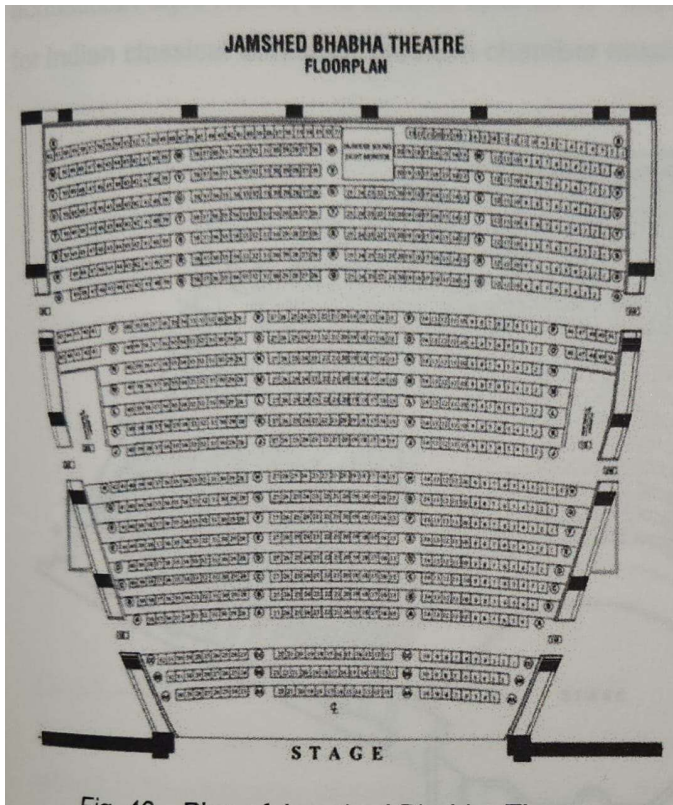
- A. Corporate office Library
- B. Little theatre
- C. West & east room 1 & 2
- D. Box office
- E. Jamshed Bhabha theatre
- F. Basement parking
- G. Cafeteria
- H. Sea view room
- I. Tata theatre
- J. Membership department
- K. Amadeus
- L. Central open-air space
- M. Piramal art gallery
- N. Experimental theatre
- O. Dance theatre Godre
- P. The Site is situated at N.C.P.A. Marg, South Mumbai. The site is located in commercial area. N.C.P.A. is surrounded by hotels and Malls. There are 6 entries to the campus.



3.- BUILDING LEVEL ANALYSIS:

1. Jhamshed bhabha theatre

From large format orchestras to full-scale operas, the most technically complex performances can be staged at this Proscenium theatre with a seating capacity of 1,109. Named after the founder, and operational since 1999, its technical facilities allow for international productions of opera, ballet and major musicals.



Auditorium Fixtures & Fittings
and Seat colour: Blue
Carpet colour: Maroon
chandelier: House Crystal,

circular over row 'J' Entry/exit
doors: 8 with panic-bars; marked
1E to 3E, 1W to 3W and 1S to
2S Seats
for the physically challenged: Row
A' (at level 0 accessible from
the lower foyer) Row 'Q' (at level
L accessible by an
elevator at the foyer)

Stage:- Stage entry from east & west foyer,
2 Nos. (Stage Right & Left)

Floor: - Hardwood timber flooring on MS framing (No traps, No
revolve)

Size: - (Behind house-curtain): 23.7m(w) x 14.6m

(d) Top-of-stage from auditorium level: 1m Seating Capacity

Total Capacity- 1109

seats Capacity reduced in the following case. Use of orchestra pit
reduced by 91 seats. Use of in-house sound mixer/monitor
reduced by 15 seats (variable).

4.2.3.2. - TATA THEATRE:

This distinctive space that can seat 1,010 is the best of both worlds. It effortlessly combines the intimate ambience of a small-scale venue with the splendour of a full-scale arena. A revolving stage, brilliant acoustics and a foyer with a scenic view of the sea are just some of the things that make the Tata Theatre the venue of choice for both, performers and audiences. Created by the renowned American Modernist architect Philip Johnson (concept part) Rustom Patell Batliwala & Associates principal designer and the legendary acoustician Cyril Harris, this theatre opened in 1982. Today, it is Mumbai's preferred venue for Indian classical concerts, Western chamber music and theatre.

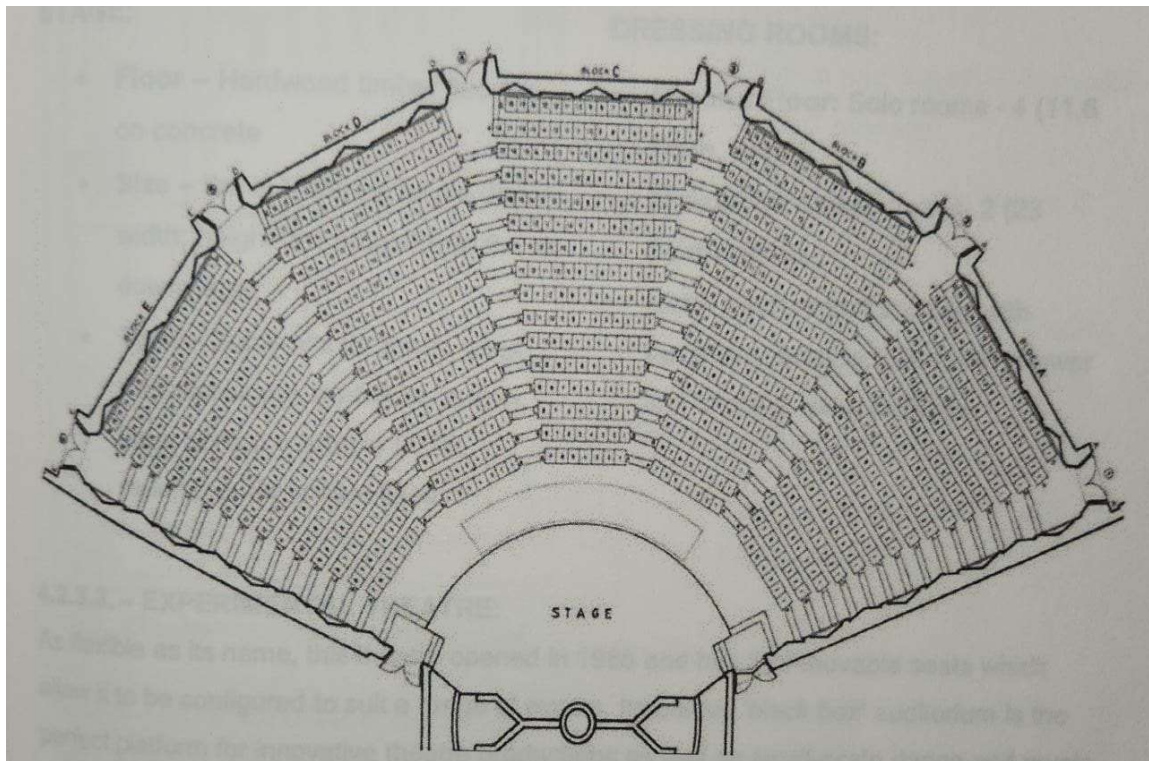


Fig. 14 PLAN OF TATA THEATRE



The Tata Theatre boasts of a movable pipe organ (the only one in the city), which was restored in 2013 at a cost of Rs 22 lakh.

It is mounted on a platform and stored backstage with the proper climate-controlled system.

The Tata Theatre has an AC plant located in the basement (approximately 30-feet below sea level) to prevent the noisy machinery from interfering with acoustics

The Tata Theatre also has pyramid pop-up structures on the ceiling, which ensure that sound is evenly distributed and prevents hotspots (extremely high or low sound level) in the auditorium.

STAGE:DRESSING ROOMS:

Floor –

Hardwood timber flooring on concrete Size - 9m X 17.5m at its maximum width; height 3m at upstage; 6m at downstage.

Type –

Semi-circular thrust stage no proscenium, no-house curtain inner portion rotatable (4.7m radius); outer portion fixed.

Ground Floor: Solo rooms -4 (11.6Sq.m. each.)

Mezzanine: Green rooms-2 (23Sq.m. each) Note- Each room furnished with wardrobe, attached toilet with shower and drinking water facilities

4.2.3.3.- EXPERIMENTAL THEATRE:

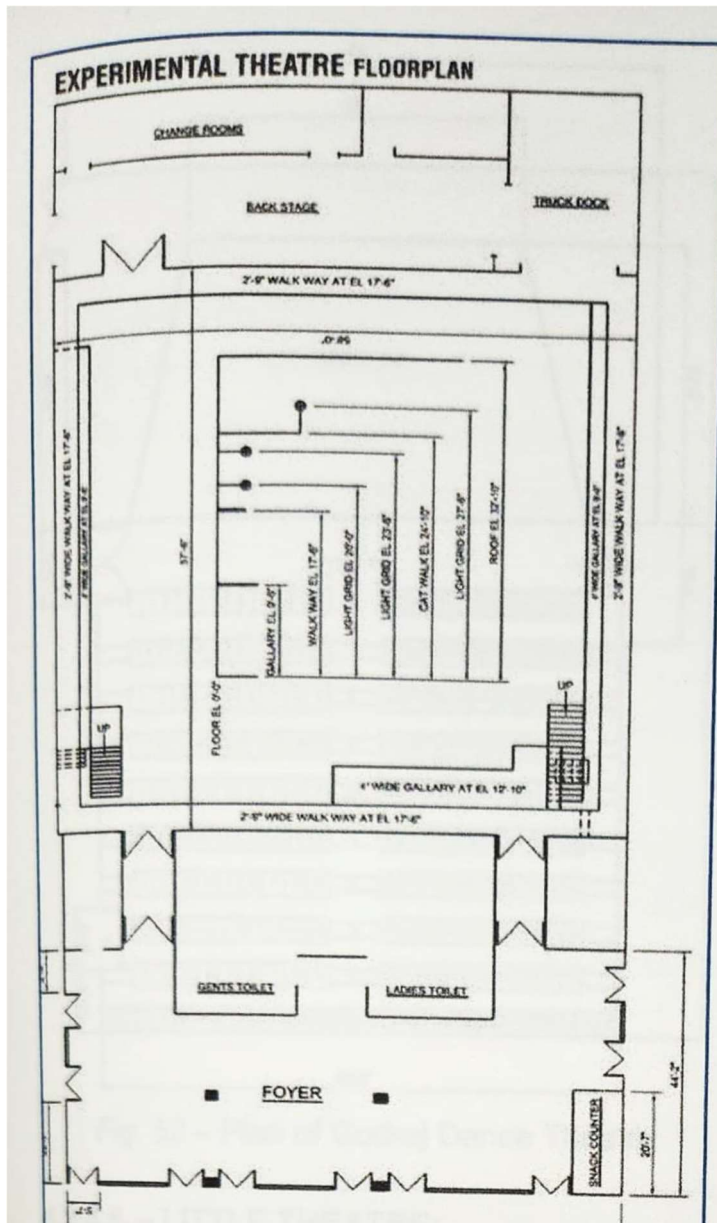
As flexible as its name, this theatre opened in 1986 and has 300 movable seats which allow it to be configured to suit a range of events. Its unique 'black box' auditorium is the perfect platform for innovative theatre productions as well as small-scale dance and music performances. It also doubles up as a teaching and workshop space.



FIG. 17



FIG. 18



STAGE:

9.7 M (W) X 7.3 M (D) X 0.7
M(H)

maximumVariable

configurationModular wooden
Platform backaingewakway

ATELFLOOR

:26Concrete

Floor - 19.20 M (L)X19

M(W)Floor-to-grid height -

(Catwalk)9M (H), average.

GALLERY AT 62-12.1029

WOE WALK DRESSING

ROOM (with toilets

&showers):Ground Floor- 2(7

Sq.m. each)First Floor- 1 (20

Sq.m. each)

LANESIOMAIMISCELLANO

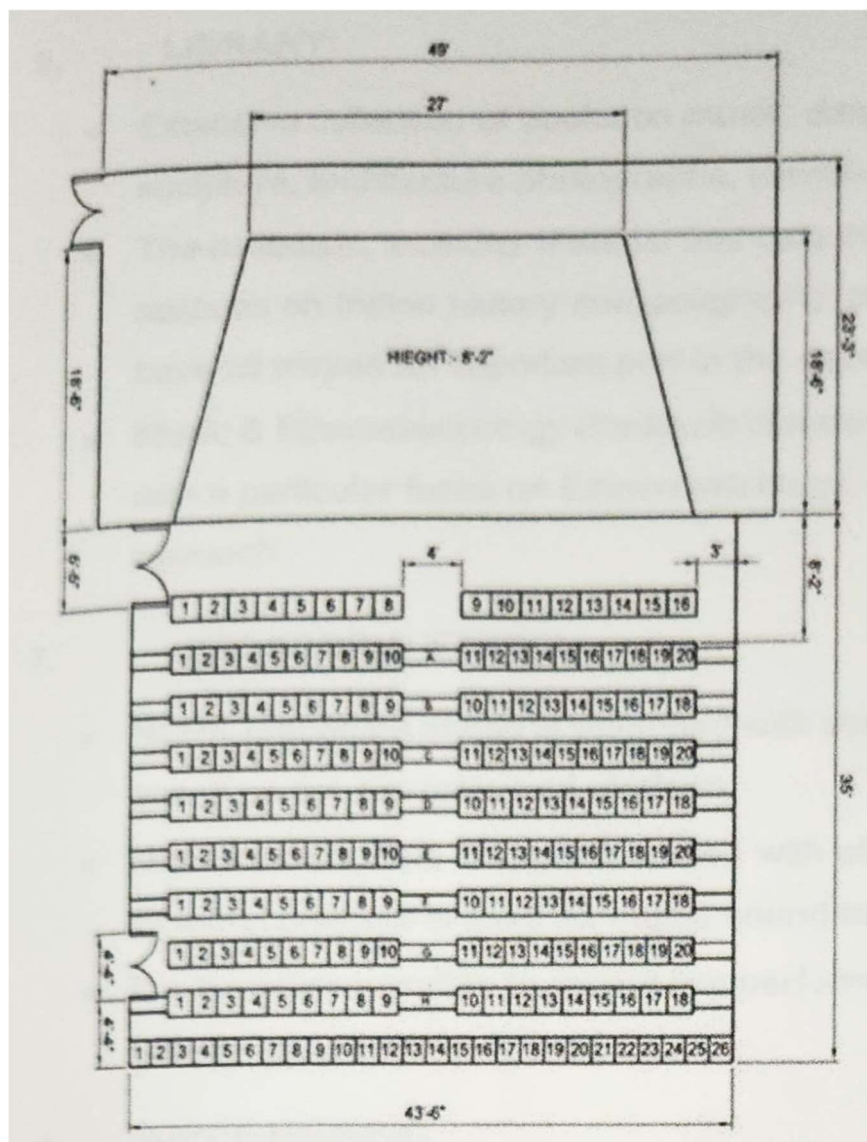
US SPACES:

FOYER Foyer (Non-AC) Size –
425 Sq.m., Height 3m

Fig. - 19

4.2.3.4.- GODREJ DANCE THEATRE:

Godrej Dance Theatre is a small theatre was inaugurated in 1987, with a capacity of 200. Its small size allows everyone in the audience to have an intimate experience and appreciate dance up close.



STAGE

Floor –

Timber flooring on MS slotted angle frame; 0.65m from auditorium level.

Wing-to-Wing- 9m x 5.6m x 2.34m

WING SPACE:

Stage Right: 3.55m X 6.7m

x2.34mStage2.34mLeft

: 2.2m x 6.7m x Cross-over Space: 14.9m x 1.1m x 2.34m

Proscenium Opening: 9.55m x 2.40m

House curtain: motorized travel Maroon;

Fig. - 21

4.2.3.5.- LITTLE THEATRE:

Little Theatre was inaugurated in 1975, and is a smaller venue, seating only 114. It is mainly used to nurture and promote new talent, such as poets, dancers and musicians. It is also used for film screenings

STAGE Floor- Timber flooring on Concrete Slab; 0.8m(h) from auditorium level.
WING SPACE: Stage- Right: 1.1m x 6.0m x 3.08m Stage- Left: 1.0m x 6.0m x 3.08m Cross-over Space: 8.7m x 0.6m x 3.8m Proscenium Opening: 5.85m x 3.96m

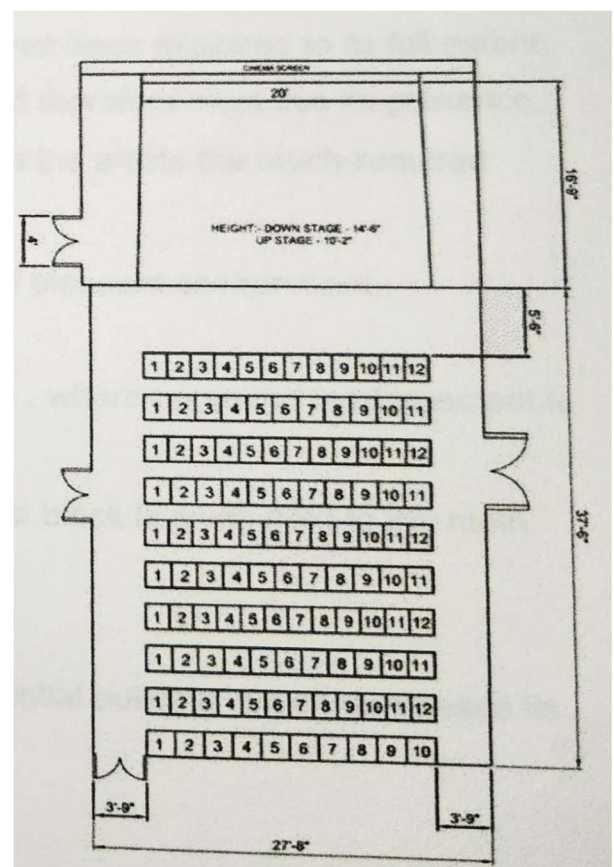


Fig. - 22

6. LIBRARY:

Extensive collection of books on music, dance and theatre, films, painting sculpture, architecture photographs, television, fashion, is available in library. The collection, includes material that sets the arts in their widest context, including sections on Indian history and geography, mythology, and Indian religion, which have all played an important part in the development of India's rich cultural heritage.

Music & Ethnomusicology Books on classical music from the core of the collection. The library's special area of with a particular focus on Ethnomusicology, which is the library's special research.

7. RECORDING STUDIO:

NCPA recording studio is equipped with state of art multitrack recording equipment based on the pro tools hardware platform.

Main recording hub is interconnected with all the NCPA theatres are of 24000 Sq.m.

Ethernet protocol is used for digital sound transmission.

It is therefore possible to record live performances from any of the NCPA's venues without experiencing signal loss.

8. INFERENCE:

Well organized site, but the view of the sea has not been exploited to its full extent.

The site has the best location in an elite area and therefore must use its presence. Extremely well-developed theatre which provides the artists the much-required flexibility

Due to the location of NCPA it gives calming and pleasant environment.

Separate entry is given for each building. Highly acoustical treatment is done in auditorium, where no sound reinforcement is needed.

No specific entry is given for services and service block is given next to the main gate which gives bad impression to the building.

Improper and complex planning is done.

Tata theatre is provided at the back of the residential building, which decreases its importance.

राष्ट्रीय नाट्य विद्यालय

NATIONAL SCHOOL OF DRAMA

CASE STUDY - 1

NATIONAL SCHOOL
OF DRAMA,
NEW DELHI

1. INTRODUCTION:.

The National School of Drama is one of the foremost theatre training institutions in the world. It was set up by the Sangeet Natak Akademi as one of its constituent units in 1959.

In 1975, it became an independent entity and was registered as an autonomous organization under the Societies Registration Act XXI of 1860, fully financed by the Ministry of Culture, Government of India.

Training in the School is highly intensive and is based on a thorough, comprehensive, carefully planned syllabus which covers every aspect of theatre and in which theory is related to practice. As a part of their training, students are required to produce plays which are then performed before the

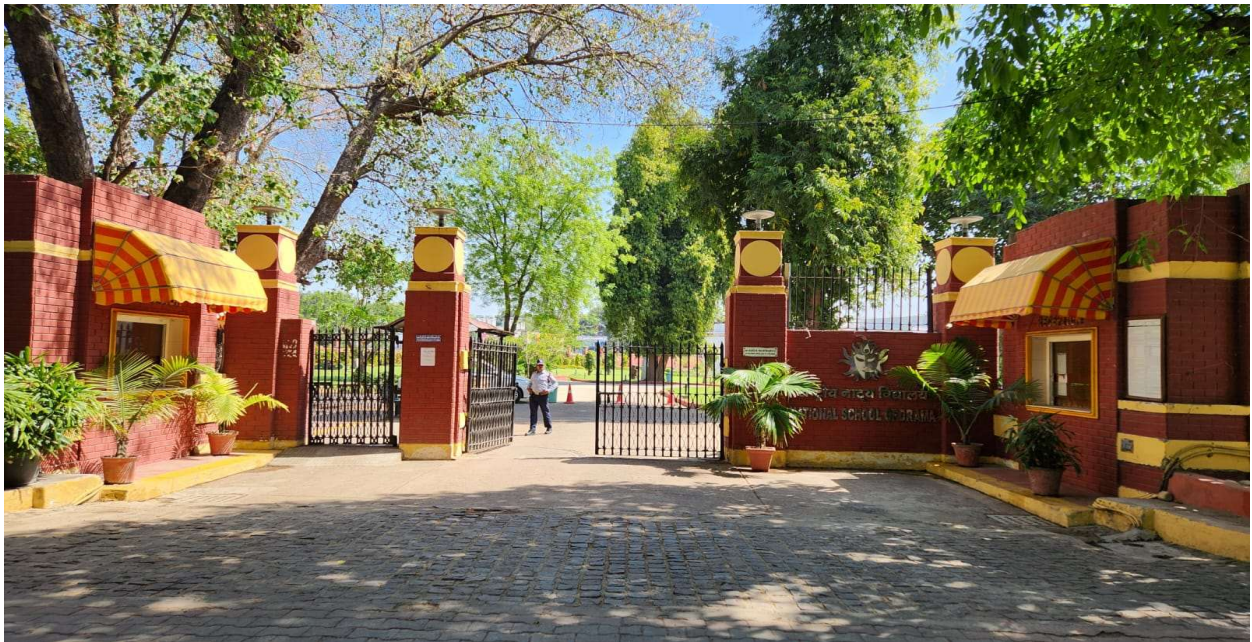


Fig. - 29



Public Architect- Ar. Joseph Allen
Stein Location- Mandi house, New
Delhi

Project Year- 1959

Site Area 8 acre

Capacity- 1000 People

Category- Drama School

Built-up Area- 18500 Sq.m.

2. SITE LEVEL ANALYSIS:

The school shares its 8 acres spaces with three more institutions; therefore, the planning is distracted and the building is unable to create much emphasis to itself. The campus has required facilities but due to the scattered planning, they are unable to fulfil the purpose completely.

The planning is courtyard style (since the central garden is very small considering the mass of the building around). The entrance divides the circulation into two patterns:

- Office / Staff circulation who enter their respective chamber towards the right of the reception.
- Circulation of student who enter the courtyard space.

Four entries are provided for NSD Campus

1. Main Entry to NSD
2. Entrance for National Library.
3. Back Entrance to NSD which connects to Mandi House Metro Station
4. Entry for Abhimanch



Fig. 28

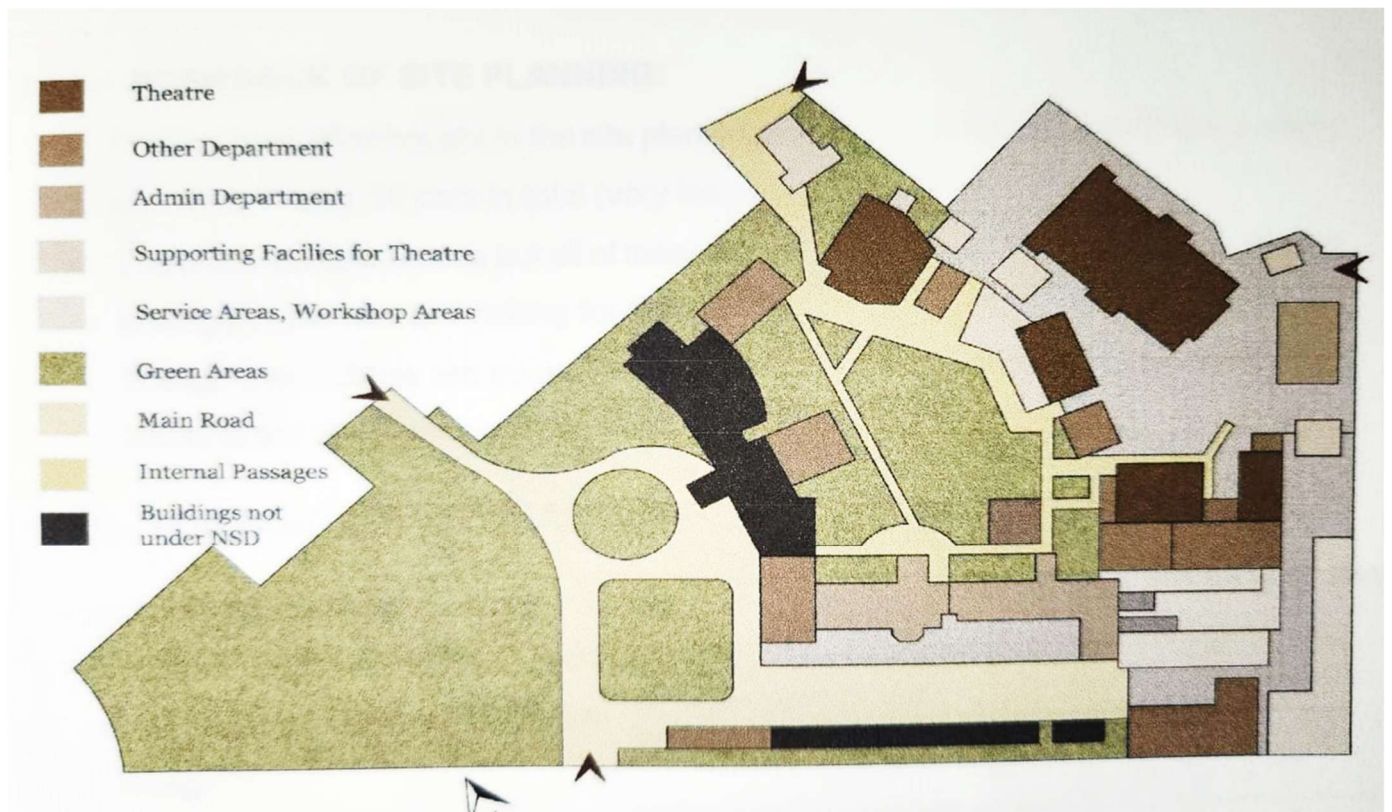


Fig. 29

The Campus contain 3 theatres:

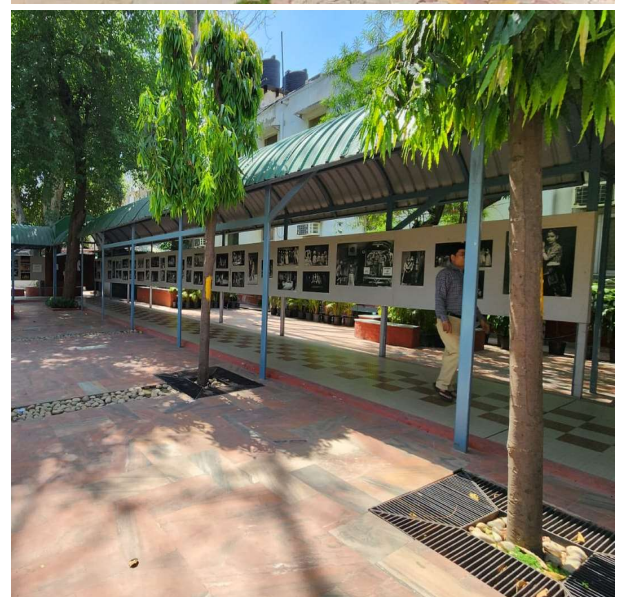
Abhimanch- 350 people

Sammukh - 150 People

Bahumukh - 75 to 100 People

Other facilities are:

1. Administration department
2. Lighting Department
3. Costume Department
4. Photography and Editing Lab
5. Make-up Department
6. Sound Department
7. Library
8. Repository
9. Offices of Lecturers
10. Canteen
11. Reception and waiting
12. Exhibition Space

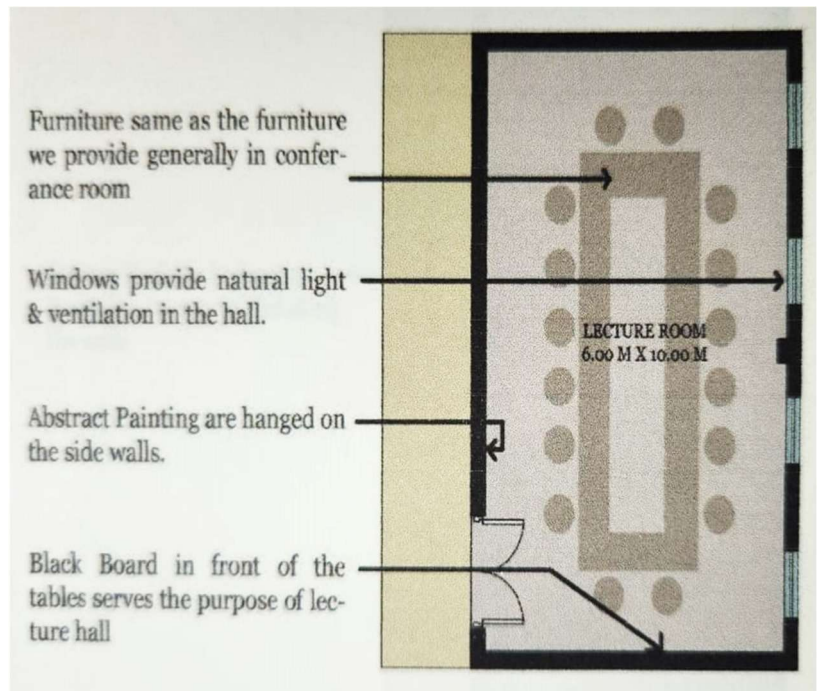


DRAWBACK OF SITE PLANNING:

- Parking is an afterthought insite planning hence, there is very limited space whichincan cater to only 10 cars total (very less esp. in case of function).
- There are multiple entries but all of them do not cater to NSD. which creates confusionamong people who are visiting for the First time.
- Though the facilities are adequate, their maximum utiization is not happeningbecause the site planning lacks efficiency.

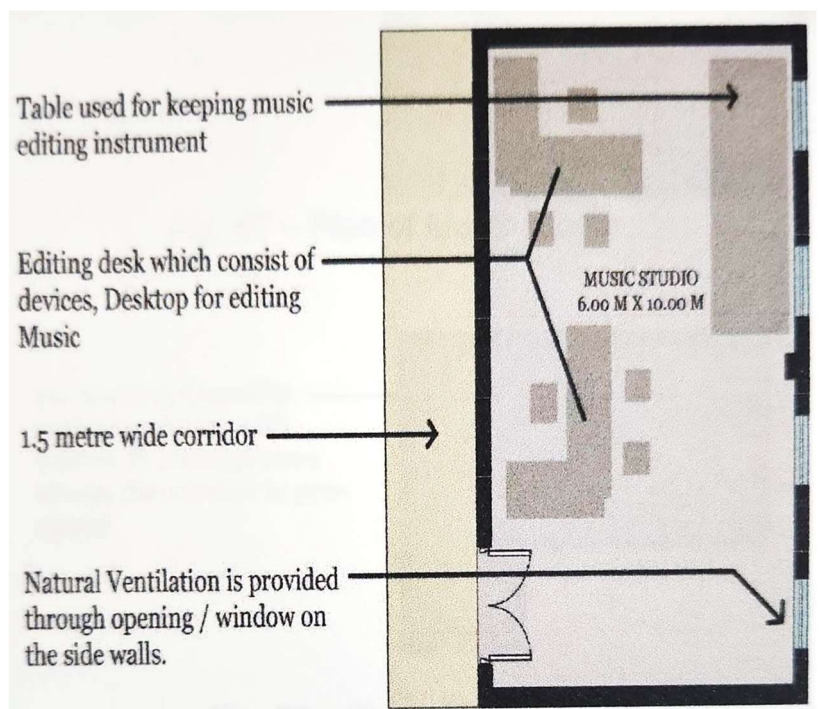
5.1.3.1-LECTURE

ROOM165 sq. ft. each, there are 3 such rooms located in the administration building
The lighting is inadequate.
These rooms serve the addition purpose of discussion room (both formal and informal).
A blackboard has been places on one of the walls and the seating is similar to that in discussion rooms /conference halls.



5.1.3.2-MUSIC STUDIO:

Its a large hall with 2 walls used for storage instruments.
The floor is completely carpeted which provided the required acoustical treatment.
There is none acoustical treatment provided.



5.1.3.3.-LIBRARY:

It is located in the administration long space has been block provided for the purpose on right side of the doubly loaded 1.5 wide corridor.

Since the block was originally built for purposes other than the current usage, the space hence is very small and cramped,

the natural air circulation is extremely low.

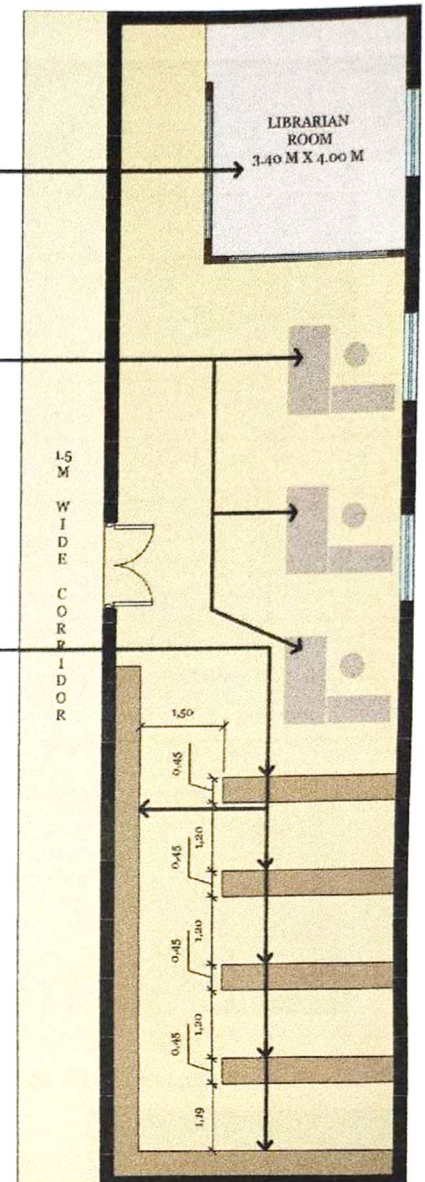
Received natural light is appropriate.

The partitions are done in glass and wood in order to retain the maximum light received in the rooms.

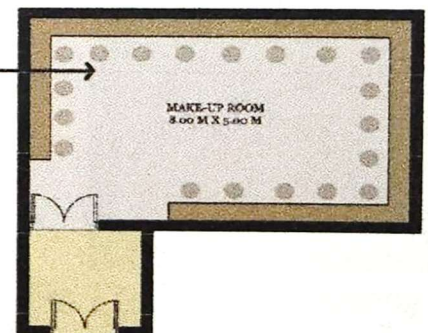
Librarian Room has been placed on the rear end of the room.

E-Library services has been provided

Storage Rack for Reference Books has been provided along the walls



20 Seating Capacity make up room with mirror & storage area above the mirror is provided

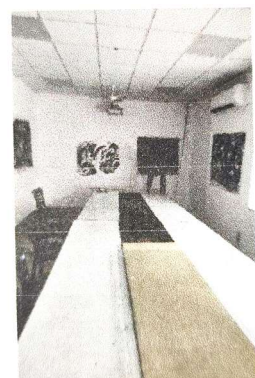


5.1.3.4 - Makeup Studio

It is studio lined with mirror and dressing tables

The electrical layout requires maintenance

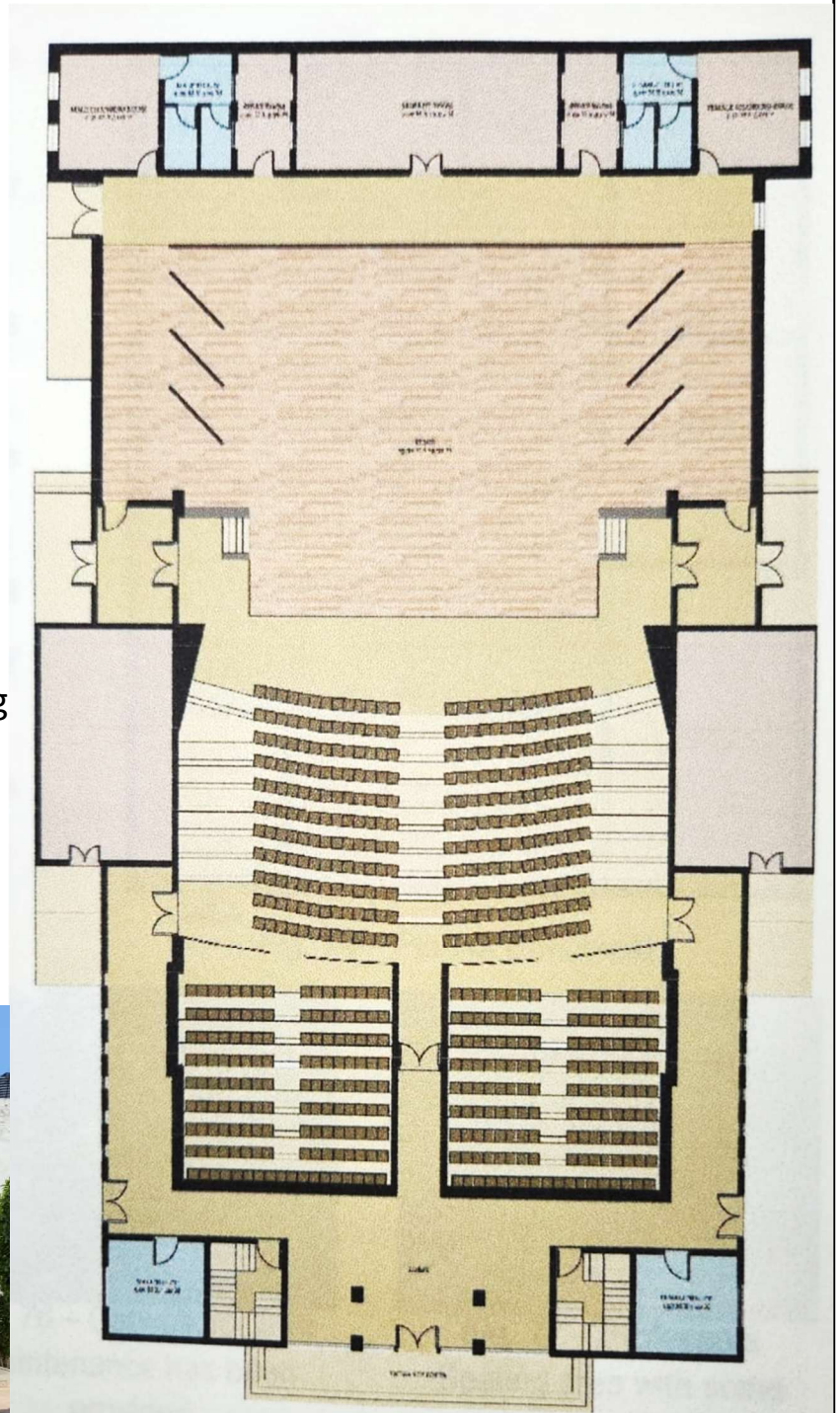
There is lack of natural light and ventilation which make the room uncomfortable



5.3.1.5 AUDITORIUM

- Located next to the costume Department
- It is a REHERSAL Room for students. Multipurpose hall (projections room, light control room).
- Acting, movement and dance classes are held here. Fully treated for acoustics (wooden flooring and 35 density 3" thick glass wool on walls).
- Walls have been coloured black for better lighting control (as is in all backstage areas)

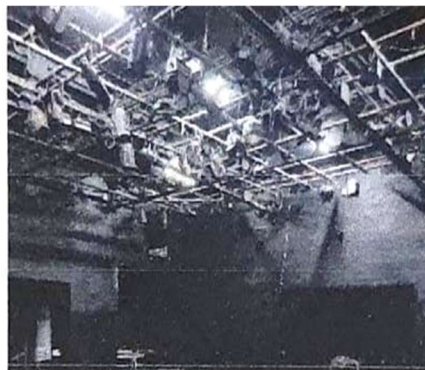
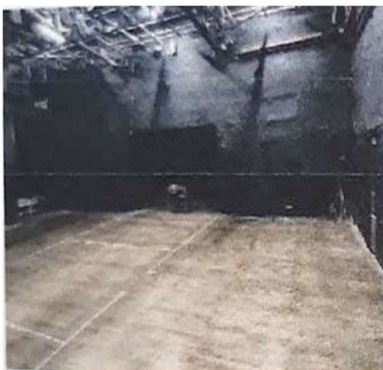
- Some drawbacks are entranced with 1.2 m wide. Ramp access has been provided for the back stage.
- Wooden flooring has been provided on stage, which gives scratch surface resistance and also acoustic friendly
- Technical areas for controlling the crops are provided on both sides of the stage



6. BAHUMUKH:

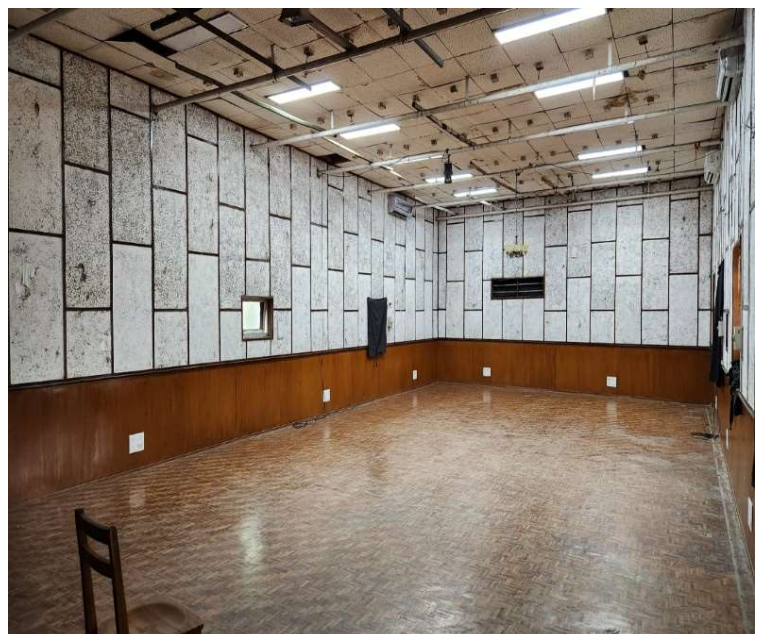
Located next to the costume Department It is a REHERSAL Room for students. hall projections Multipurpose room, light control room).

Acting, movement and dance classes are held here. Fully treated for acoustics (wooden flooring and 35 density 3" thick glass wool on walls). Walls have been coloured black for better lighting control (as is in all backstage areas)



7. MOVEMENT STUDIO:

Located along with the costume department, it is a single storey structure with mirror on one of the walls and windows for ventilation. Since a lot of air circulation is required, therefore, it is a well assigned room. The Flooring is conglomerate. There is no provision for noise control (i.e. no treatment has been done). The lighting is adequate



5.1.3.8.- COSTUME DEPARTMENT

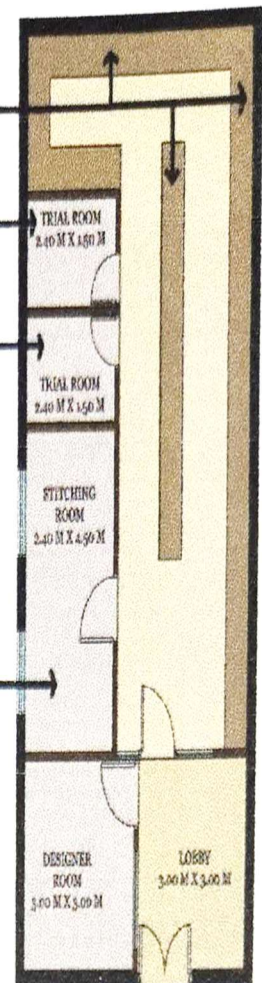
Strategic Location: placed next to Experimental Theatre, therefore acts as changing room for it. Service road for Abhimanch touches the end of the work shop area, therefore, it catersto both and experimental theatre at the same time.

No proper arrangement has been done the purposes particular for the department contains. Electrical layout is hazardous and require maintenance

Well organized in terms of location and services. Due to lack of sunlight, the rooms are not well lit and do not have much ventilation either,

The Storage Racks of 0.60 m width for costumes has been provided along the rear walls

The other side of wall contains 2 trial rooms along with a Stiching Room



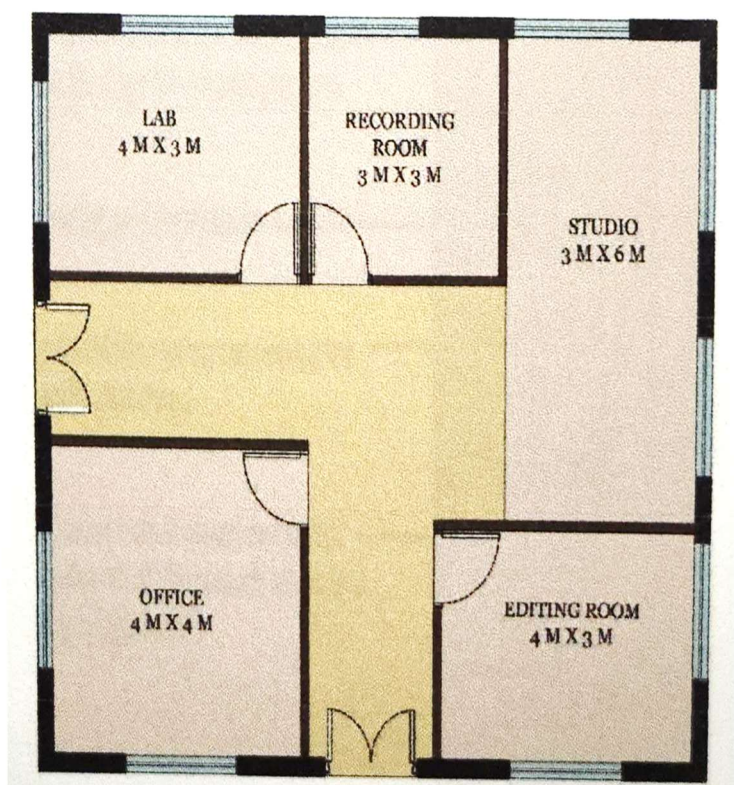
5.1.3.9.- SOUND AND PHOTOGRAPHY AND EDITING STUDIOS:

Housed in a modern building with exterior clad with aluminium sheets, the structure stands out and looks out of place in a setting that is colonial otherwise.

The usual studios are places in a same fashion and since most of the spaces require isolation and no light (also no sound disturbance).

The corridor is dark but artificially lit. The structure is devoid of any natural ventilation.

It is a single storey structure and is acoustically treated both on the inside and the outside



Since it has been built recently, the structure could have been designed to be more environmentally responsible but no such efforts have been made.

5.1.3.10. _ THEATRE ARCHITECTURE / SCENIC DESIGN STUDIO:

Housed above the administration block, it is a space used for making props and models

A blackboard has been placed on one of the walls opposite which movable seating has been provided

The storage cabinet has been provided on the wall facing the blackboard Flexibility in the seating arrangement helps the student to arrange them as per space requirement.



Plan of scenic Design studio.

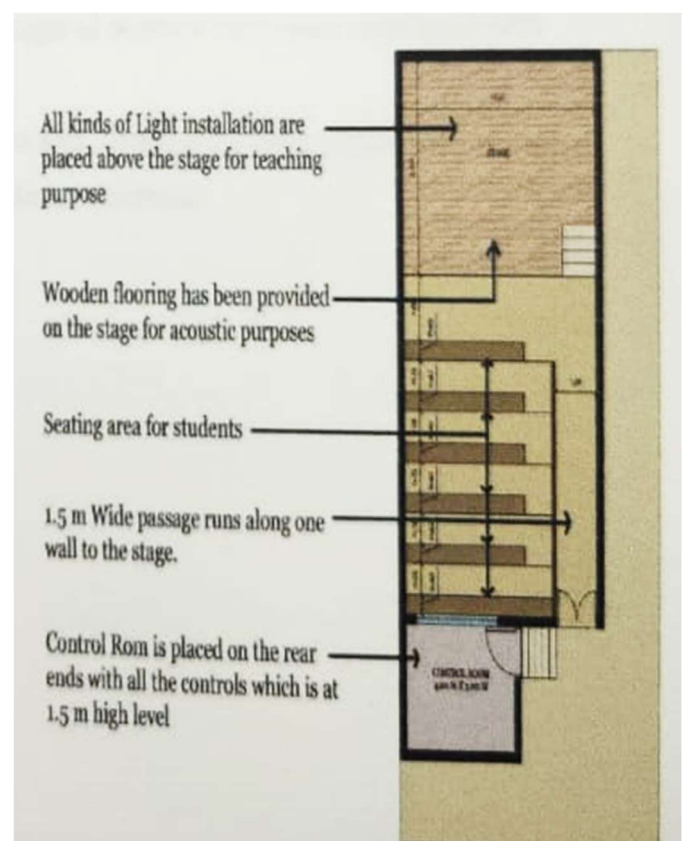


Flooring is provided windows on 3 sides

Studio is naturally lilted and ventilated through

5.1.3.11. - LIGHTING DEPARTMENT.

It is a working theatre with seating capacity of 50 people The control room placed at the back of the studio is a small area, but considering the no. of the student working at a given time, it is sufficient. Also, the staircase for the catwalks has been placed right next to the control room providing easy excess and enhancing the learning environment by providing practical approach



5.1.4.- INFERENCES:

- The allocation of various departments has been done intelligently .
- They share various spaces and hence, lesser spaces contribute to more activities.
- The central shared area is well utilised during function for installing additional exhibits
- The only other exits from the administration building (can be called a fire escape)
- The Exhibition area is the only well utilised space on the campus.
- The main theatre Abhimanch is not well designed. Additional trusses and steel members were added in order to support the roof structure of the stage area.
- The acoustical quality is not well designed. It now is over protected therefore; thereverberation time has increased far more than required (1.1 sec to 1.5 sec.).
- Plan of lighting to be redone in Abhimanch, since the original design is weak
- The ramp has been raised for the particular performance wasting most of the front seats..
- The Experimental Theatre has a very small entrance and should not ideally be used for professional performances
- The area is too less, ironing the clothes and their storage is all done in the same room.
- The space is too less for equipment storage and the condition are incomprehensible
- The store provided for storage of scenes has been cramped with costumes.
- Since there are too many entries to the given site, there is far less organisation than required causing a lot of problem during multiple functions.

CASE STUDY 2

TRIVENI KALA SANGAM, NEW DELHI



INTRODUCTION:

Sridharani started Triveni Kala Sangam in 1962. It is a private institution, which Mrs. Sundari was set up for teaching dance. Today, the institute offers teaching facilities for dance, music, fine arts, sculpture, photography, etc. The aim of the institution is to train students, promote professionals and to enlighten the urban population about India's cultural heritage. It comprises of two phases: the academic block - Phase I and the auditorium block Phase II. Apart from an indoor auditorium and an open-air theatre, there is also an art gallery for exhibition of paintings of contemporary Indian artists. The Triveni Kala Sangam also boasts of a library, an audio-visual room and a cafeteria along with supporting administrative facilities. Residential facilities for the director and the various heads of department have also been provided for.



Architect- Ar. Joseph Allen Stein
Location- Mandi house, New Delhi

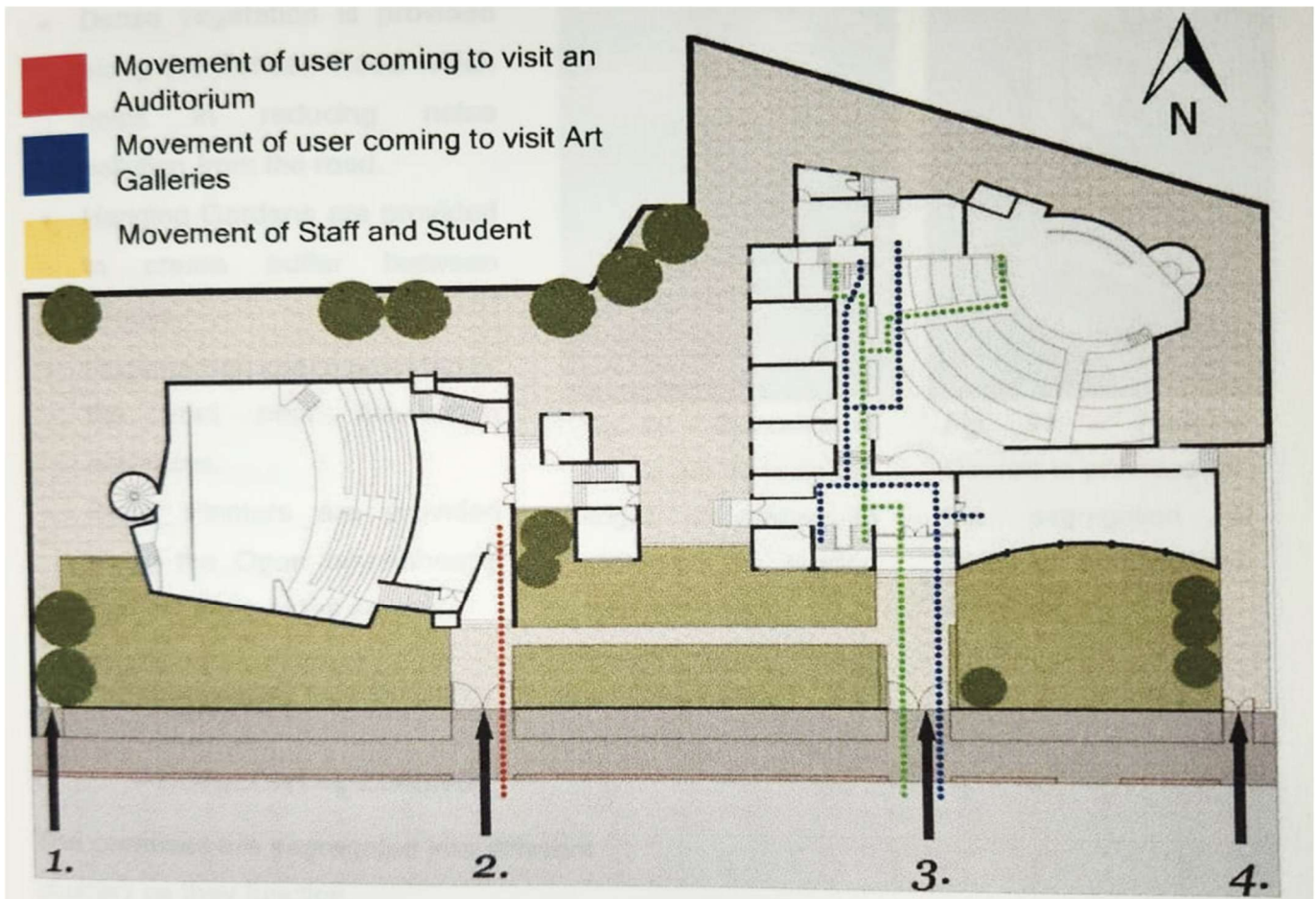
Project Year- 1962 Site Area- 1 acre

Capacity- 400 People

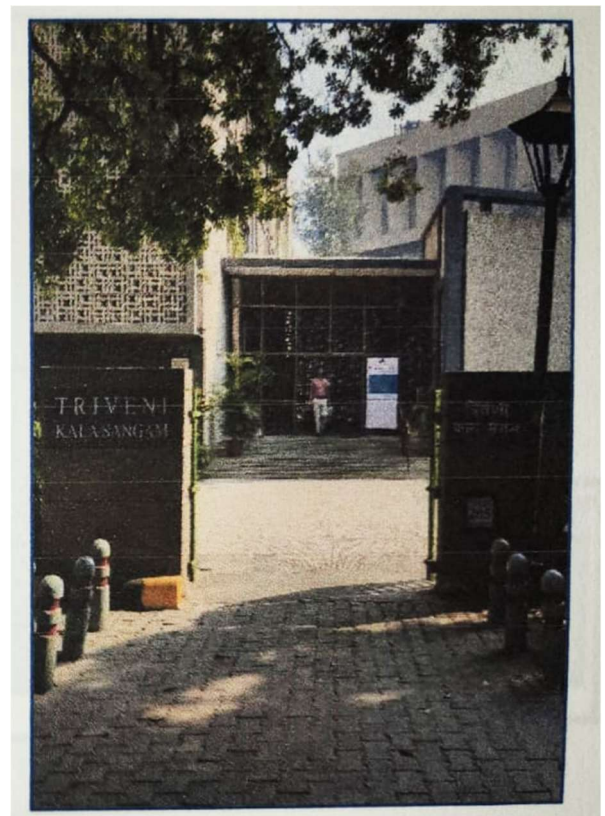
Category- Drama School

Built-up Area- 6130 Sq.m.

5.2.2 SITE LEVEL ANALYSIS:



Four entries to the site .Coverage is 50
 Separate Pedestrian Entry is provided.CTRIVENKMLANINGGI89
 Main Pedestrian Entrance Premises
 .Parking IS provided out sideinL- edeys
 building form order to facilitate building
 cross
 ventilation through-out different entries
 Four gates are given1-Service Entry-
 2Main entrance for direct entryto
 Auditorium
 3Main entrance is given for the entry in
 administration area
 Entrance is provided direct entry for
 Sculpture Court & also act as Fire Exit.

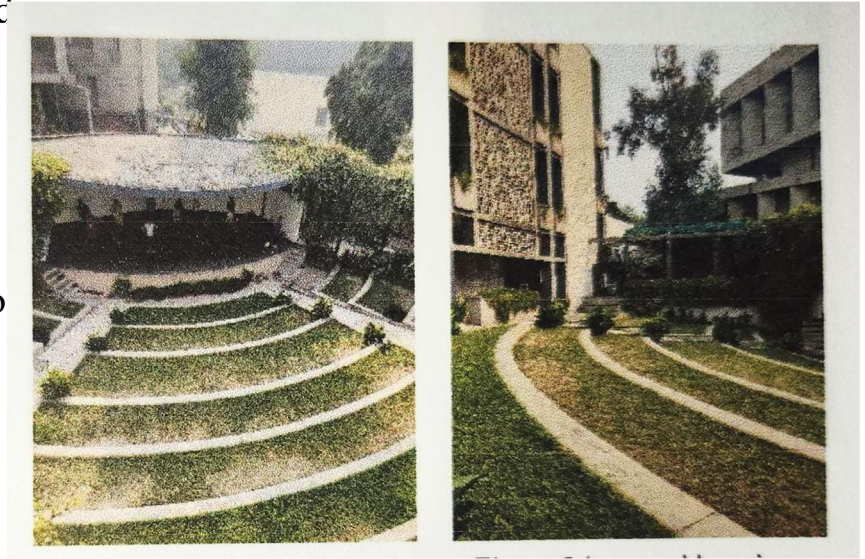


LANDSCAPING:

Dense vegetation is provided along the Tansen Road which reducing noise in help pollution from the road.

Hanging Gardens are provided between buffer create to spaces.

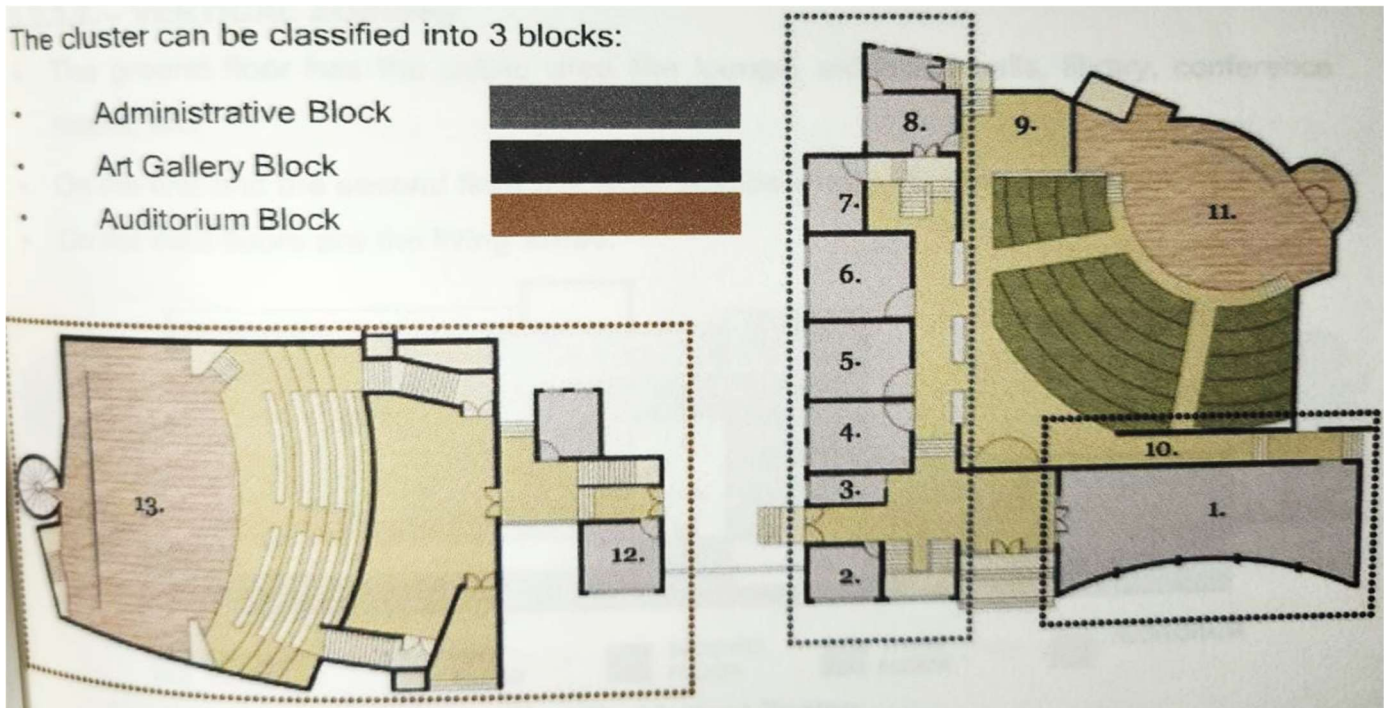
Huge garden space provided in main near the front the entrances. Small Planters are provided along the Open amphitheatre and corridors of the spaces.



ZONING:

Horizontal Zoning

The premises are segregated into different clusters as they function.



The premises consist of:

1. Art Gallery
2. Admin Room
3. Accounts Room
4. Art Heritage
5. Art Heritage
6. Director Room
7. Toilet
8. Canteen
9. Outdoor Seating for Canteen
10. Children's Gallery
11. Open Air Theatre
12. Art Department
13. Auditorium



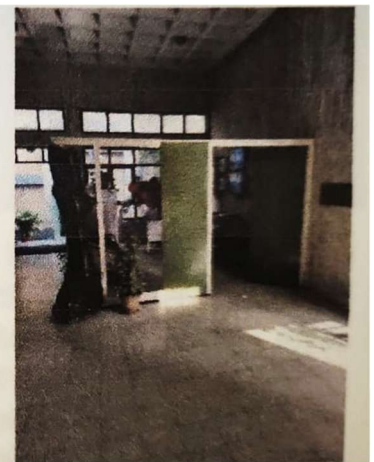
ART GALLERY



ART HERITAGE 1



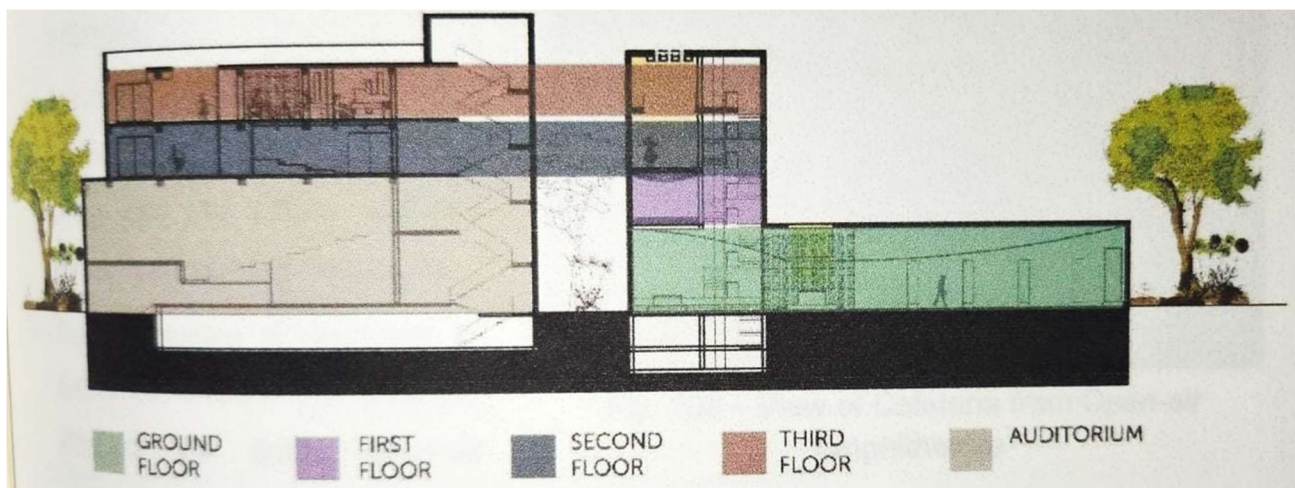
CHILDREN'S GALLERY



ACCOUNTS ROOM

5.2.3.2 VERTICAL ZONING

Ground floor has the public area like launch exhibition halls library conference room etc. First and second floor are work studios where students Study On the third floor there are living areas



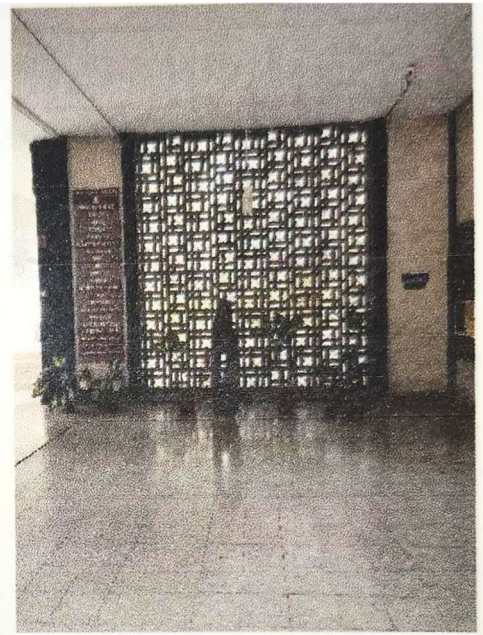
4 – BUILDING LEVEL ANALYSIS

1. ENTRANCE AND ENTRANCE LOBBY

Glass facade is provided on entrance so as to the and maintain an indoor while connection of outdoor physical maintaining barrier. A large wide entrance lobby is linked with art gallery auditorium, OAT and academic area. The jalli provided in the entrance lobby plays light and shadow pattern with the changing sun movement & gives an aesthetic appearance.



With the grand wide entrance with glass facade leading to the main building invites the guests and also provides a physical barrier



The jalli work in the entrance lobby. Provides natural light patterns with the changing sun and ventilation. It provides a cooling atmosphere inside the lobby

CAFETERIA:

At the end of the corridor and the garden theatre is a small cafeteria with a sit out covered by a pergola. Separate exits have been provided in the kitchen so as to serve both the indoor and the outdoor seating simultaneously. Outdoor seating is designed in such a way that the user gets the view of the entire Open-air amphitheatre.



5.24.3.AUDITORIUM:

block is a four-story block with a separate entry from the entrance court and Auditorium another entry from the sculpture court

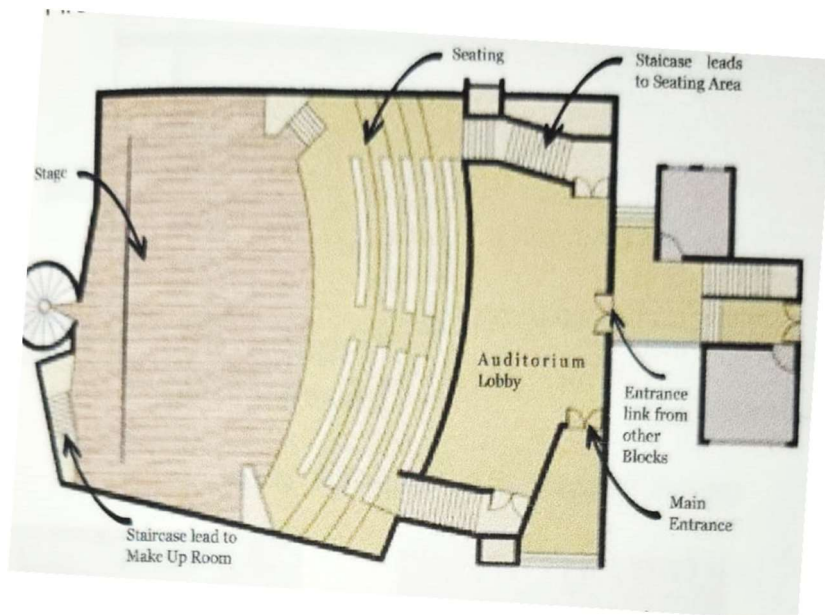
This block consists a double height auditorium on the ground floor, studio, green room and a store in the basement, art classroom and apartment for the artist on the third floor.

The basement housing greenroom and the stores is approachable from another dark corridors which need artificial light.

The auditorium called the Triveni chamber theatre of capacity of 250 people has two aisles on either slightly curved seating.

Wooden treatment is done on the walls

Fire exits are given separately.



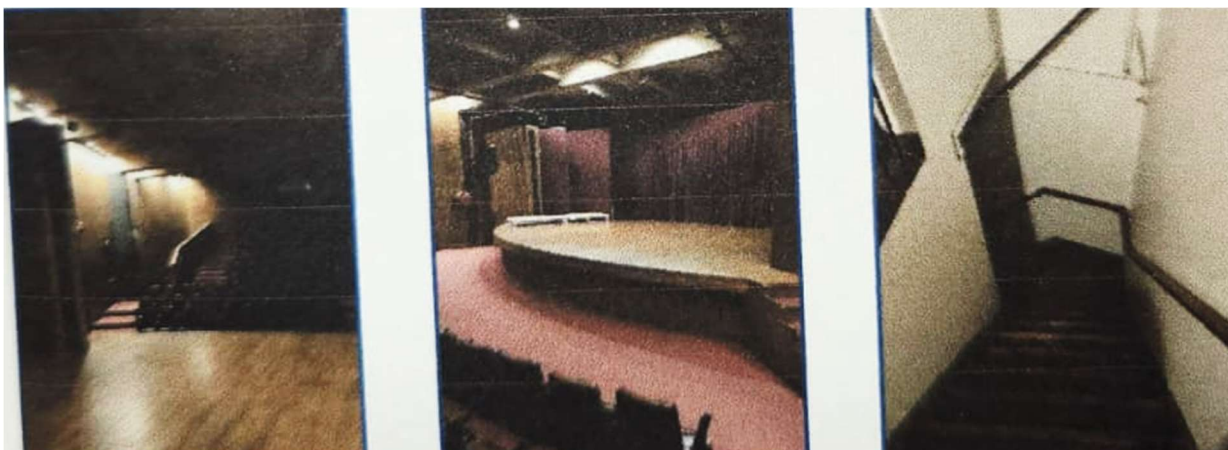
STAGE

The wooden flooring helps in sound absorption. There are spot lights and profile lights for the performers. The projection room is located at the rear end of the auditorium

SEATING-

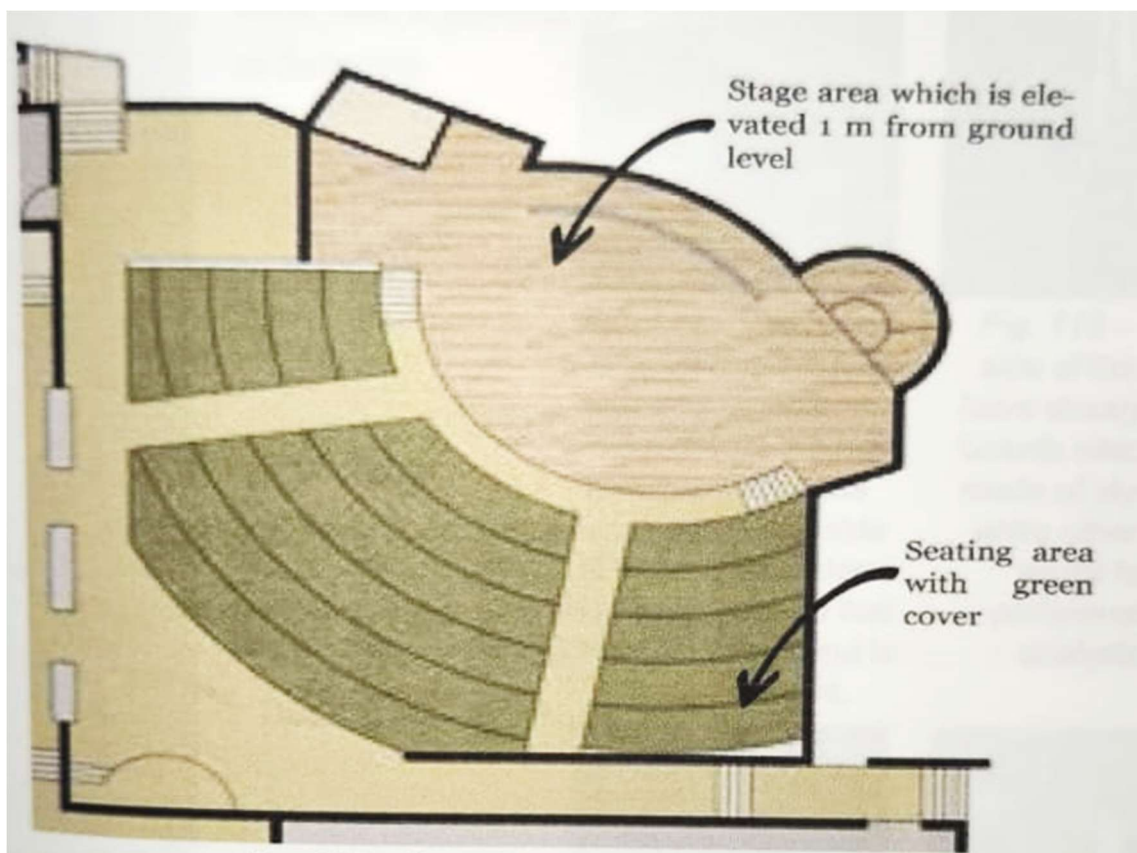
The seats in auditorium are covered with orexin. There are two aisles situated at both the sides

View from stage showing the seating area of auditorium Wooden flooring used in stages which help in sound absorption The basement green room are accessed with the help of 1.2 meter wide stairs



5.2.4.5. OPEN-AIR AMPHITHEATRE:

- theatre has been designed in the centre of the complex as a focal point.
- The gardenThe capacity of this theatre is 300-400 persons.
- It is visible from all the floors, so that every people can watch from the corridors of the four stories block.
- There is no performance wings provided on the side of the stage.
- Stage is 1000mm high from the ground level.
- Green room are provided at the basement but it is not in use.
- Stairs tread and riser dimension are 1000X200 mm
- Pottery exhibition gallery is located back of the amphitheatre and for the pottery exhibition separate entrance is given.



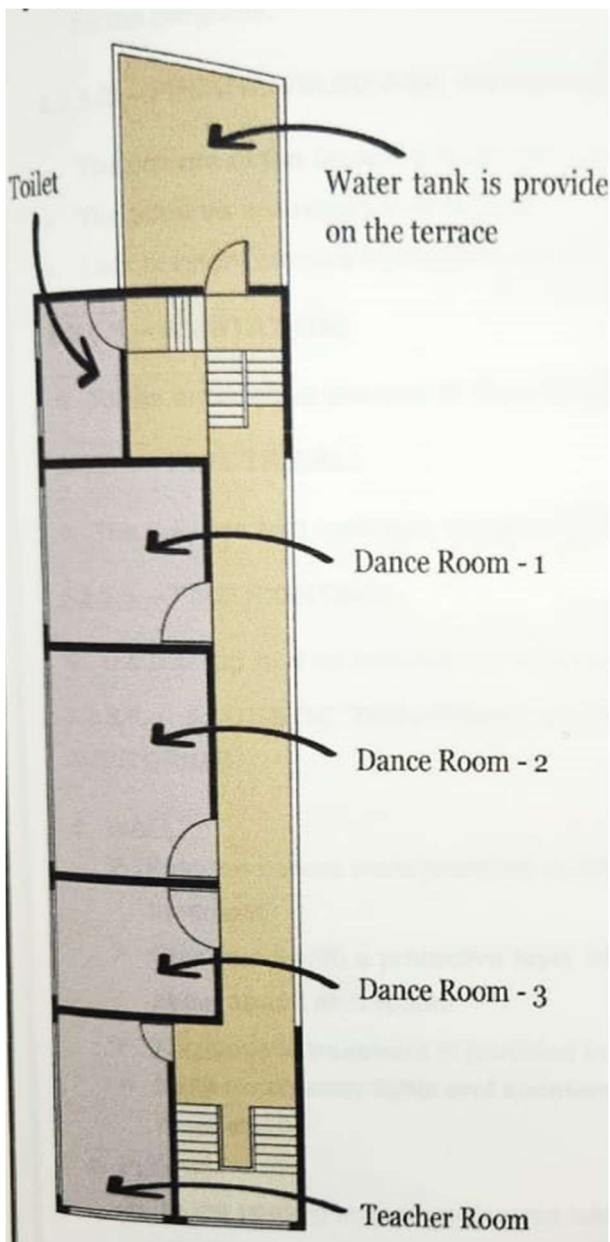
Cemented flooring provided for the stage.

Plantation of shrubs are done on the edges of seating to segregate the seating area and aisles



5.24.6.-CLASSROOM:

- Two types of class room are provided dance classroom and music classroom.
- Dance classroom have been provided on first floor.
- Dance classroom measures 6mx8m for 4 or 5 students.
- 4Music classroom on the second
- the long rectangular a singly loaded 2m wide corridorscreened by jails, has seating throughout.
- Music room theatre 6m x 6m for 6-8 students



The dance rooms on the first floor are naturally lit and ventilated with the help of large continuous openings on one side of the wall. Wooden flooring is done so that it absorbs shock and is scratch resistant.

On one side of the wall, there are storage cubboards which are made of plywood while the other has a mirror for performance analysis.

1.5 m wide corridor partially opened from one end connects all the 3 rooms in the first floor.



5 COMPONENT LEVEL ANALYSIS:.

1 MATERIAL

The building is composed of a clad R.C.C.framed structure with several infill materialjaali panels, concrete blocks and plastered finish on most elevation, roughindigenousscut stone facing on gallery facade, concrete planters and concrete clad with grey chipsfor the pergolas.

5.2.5.2,- FINISHES/SURFACE ARTICULATION:

The colours of the façade are of light grey concrete and have grit finish on the walls.The textures are rough and rugged.Lack of bright colours is soothing as the abundant greenery adds brightness.

5253.-SANITATION:

Tollets provided at the end of the passage under the staircase.

5.2.5.4.- ELECTRICAL:°

The galleries had spot light hanging from the ceiling

5.2.5.5.- FIRE FIGHTING:

The building had no amenity for firefighting

52.5.6. - ACOUSTIC TREATMENT IN THE FLOOR, WALLS AND CEILING OFAUDITORIUM:

WALL->

Wooden panels were provided to absorb sound and help in further acoustictreatment.

Glass wool with a protective layer of cloth is provided behind the wooden panels forbetter sound absorptionNo acoustic treatment is provided in the backstage as the walls are plastered only

.Eight emergency lights and speakers were located on the rear and front wallsrespectively

FLOOR-

AaIn the seating area carpets area laid over layer of jute which is pasted on woodenplanks.In the backstagearea a combination of carpet and wooden flooring exists.

CEILING

- There is no false ceiling and hence the exposed beams form a grid of 4m X 2m(Approx.) on the ceiling making space for lights and smoke detectors etc.
- Perforated boards are provided on the spaces between the ceiling

52.5.7.SERVICES PROVIDED IN AUDITORIUM:

LIGHT-▶

- A series of profile as well as spot lights are located focusing on the stage
- ▶ Down lights are provided over the seating area.
- ▶ Coloured lights are also provided over the stage area&

AIR-CONDITIONING▶

- Wooden grills under the stage for air conditioning for the front rows
- Vertical grills are also provided on the stage for the performers
- Ac ducts are provided in the green room area as well.

GREEN ROOM▶

- False ceiling is provided in the green room area which is in the basement.▶
- Smoke Detectors and down lights are provided at regular interval of 1 m.

5.2.6.-INFERENCE:

- Orientation is favourable in terms of wind direction (North-West) and Sun Path,
- Proper connectivity is provided between the different blocks on the site
- .Not enough Parking space in the premises.
- Despite being built to Ar. Joseph Allen Stein's fastidious attention to quality, the building has started showing its age, both by being non-compliant to new safety norms and by general deterioration under the ravage of the climate, where temperature swings by almost 50- through the year.
- A common platform for artists all over the India as it is located in prime location of New Delhi
- .Lack of wind flow through open air theatre
- .Experience noise disturbance due to nearby railway line.

The background of the slide is a vibrant red with a subtle, vertical-pleated texture, resembling a stage curtain. Three dark silhouettes of figures are positioned across the frame. On the left, a figure stands with arms slightly away from the body. In the center, a figure is shown in profile, facing right, with one arm raised high. On the right, a figure is seen from the back, holding a violin and bow. The title 'COMPARITIVE ANALYSIS' is centered over the middle figure.

COMPARITIVE ANALYSIS

Featutes	National School of Drama, New Delhi	Triveni Kala Sangam, New Delhi	NCPA, Mumbai
Location	BahawalpurHouse, 1, Bhagwan Das Rd, opposite PNB Bank, mandi house, New Delhi, Delhi 110001	205, Tansen Marg, Todermal Road, Mandi house, New Delhi, Delhi 110001	NCPA Marg, Nariman Point, Mumbai, Maharashtra 400021
Neighbourhood planning	Cultural Complexes	Cultural complexes	Commercial and office building
Site area	8 acre	1 acre	8 acre
Built up area		40%	50% 30%
Approaches	from Bhagwan Das Road	From Tansen marg	Best Approach via Nariman point
Function Allocation	Educationl & commercial	Educationl & commercial	Educationl & commercial
Site Planning Strategies			
Function	arrangircumscribed by the building along the courtyard space/garden	Singular building well connected with	Arranged as per entries taken, therefore all theatres have individual entries.
Parking	Minimal 10 carparking spaces for NSD	No parking facilities inside the premises	Sufficient parking available
Vegetation	Mainly provided at the entrance part	Dense vegetation is provided along the Tansen road which helps in reducing noise pollution coming from the road. Huge garden is provided in the front near the main entrance	Well organised and well kept. Each building has comparable green areas and the planning is such that a visitor never feels the site contain 6 theatres in all

Site	Since the building is being reused and it is a heritage building, the use of the site area has played a crucial role and is relatively well planned for various events to be held.	The flow of spaces has resulted in a good built to open relationship.	Well organised site, but the view of the sea has not been exploited to its full extent. The site has best location in an elite area and therefore must use its presence.
		Good use of site features has successfully made the public spaces interesting by use of sculptures, paintings, seatings, etc.	
Building			
Massing	Each department has a separate building joined by corridors (it maybe felt that the various buildings have been added as an afterthought due to congested areas)	the layout and the zoning of buildings is excellent and looks perfectly placed on site.	building masses are huge (but the building stays unrecognisable since the surrounding buildings are very high)
Climate considerations	None	L-shape building form in order to facilitate cross ventilation through out the building.	The garden areas are airy and the mass of the building blocks contributes to the movement of air.
Architectural Presence	Colonial Building (needs to be maintained well)	The building is of a clad RCC framed structure with indigenous jaali panels, concrete blocks and plastered finish on most elevations.	Bold use of lines and concrete. Large cantilevered spaces emphasise the importance of each structure.
inferences	Needs conservation	Good use of material and precast concrete jaali in façade.	Bold use of lines and cantilevers.
Auditorium	Abhimanch Auditorium, NSD.	Triveni Auditorium	Experimental Theatre, NCPA, Mumbai.

Movement of visitors	Defined movement (separate entry/exit)	Defined movement (separate entry/exit for visitors)	Singular entry leading to foyer, another entry opens to the garden and later enters to the primal gallery.
Artists	Enters from back gate provided for artists which connects to make up and green room	Enters from back gate provided for artist connecting to back stage.	entry from above godrej theatre in the back stage area
Material	From service entry which connects to back gate for artists	From service entry which connects to back gate for artists	From the service entry which provides entrance to the green room.
Planning			
Seating	Rectangular plan with straight seating order, no balcony space is provided.	Arc shape form with seating along the arc.	Changeable seating with rectangular seats. Balcony spaces can also be made as per the requirements.
Stage	Wooden with covered space for electrical equipment.	Concrete stage with wooden flooring.	Wooden stage whole area can be changed as per requirements.
Back stage	Separate changing room for male and female with common green room & make up room is provided in back stage.	Back stage connects basement housing greenroom and the stores is approachable from another dark corridors which need artificial light.	Quick change area is provided right behind the stage. Also, the green room is nearby.
Control room	Both sound as well as lighting control is done from the control room located behind the seating.	Both sound as well as lighting control is done from the control room located behind the seating below the balcony area.	No sound control room (since the room is already treated well acoustically). Lighting control is located opposite the stage above the seating height.

AHU's/etc	Located adjacent to auditorium.	Located adjacent to auditorium.	Located below the structure. The facility is shared by Godrej Theatre as well as primary art gallery with experimental theatre.
Fire escapes	well defined fire exits are provided. The fire Extinguishers are also kept within required capacity.	Fire exits are given separately. 2 fire exits in total are there.	Ramp has been provided on one side which opens into the sunken garden. The other side has exit that opens up into TATA garden.
Wall	Not very well acoustically treated. Only the wall facing the stage at the back of seating is treated with panelling but it is also not in good condition.	Wooden treatment is done on the walls for better acoustics.	Only the wall facing the stage of the back of seating is treated with panelling.
Architectural Presence	-	-	Modern Architecture
Problems	Plan of lighting to be done in abhimanch auditorium, since the original design is weak.	-	-
Inferences	It is not well designed. Additional trusses and steel members were added in order to support the roof structure of the stage area. The acoustical quality is not well designed. It is now over protected therefore the reverberation time has increased far more than required that is 1.1 second to 1.5 second.	Despite being built by architect Joseph Allen Stein's fastidious attention to quality, the building has started showing its age, both by being non compliant to new safety norms and by general deterioration under the revage of climate	Extremely well developed theatre which provides the artists much required flexibility

Studios	3 such rooms located in the administration building. These room serve the additional purpose to discuss and lecture room for both formal and informal events	4 separate studios are provided for music with built in cupboards for proper storage of musical instruments	Classrooms are provided in the teaching block
Art gallery	-	Well design art galleries are provided. 3 or galleries are there which are well acute with lighting fixtures. Changeable display area according to the type of exhibition holding.	Small art gallery provided for the art for displaying their work.
Open air Theatre	-	The garden theatre has been designed in the centre of the complex as focal point. The capacity of this theatre is 400 people approx. It is visible from all the floors so that every person can watch from the corridors of the 4 storied building	-
Toilets	Separate toilet block for It is located in the administrative block.	For students and staff	Separate toilet blocks
Library	Along space has been provided for the purpose of right side of the double loaded 1.5m white corridor.	-	Small libraries provided in teaching block for the use of students
Canteen	It is only provided for the staff and students adjacent to the abhimanch theatre	Has only a capacity of 50 people.	Canteen faces marine drive side with capacity of 100 people.

<u>S.No.</u>	REQUIREMENTS	AREA IN CASE STUDY 1	AREA IN CASE STUDY 2	AREA IN CASE STUDY 3	<u>S.No</u>
1	SITE AREA	8 ACRE	1 ACRE	8 ACRE	
2	BUILT-UP AREA	18500 sq.m.	6130 sq.m.		
3	GROUND COVERAGE	40%	50%	30%	
AREAS					
4	ADMINISTRATION		3,65m x 3,65m		720 sq.m.
PERFORMANCES					
5	THEATRE				1835 sq.m.
6	EXPERIMENTAL THEATRE	20m x 19m		19,20m x 19m	440 sq.m.
7	BLACK BOX			19,20m x 19m	
8	OPEN AIR THEATRE				565 sq.m.
9	CAFETERIA				0.90 sq.m. / person
ACADEMIC					
10	DRAMA STUDIO	6m x 10m	6m x 8m		100 sq.m. / studio
11	CLASS ROOM	6m x 10m	6m x 10m		60 sq.m. / studio
12	COMPUTER LAB				2 sq.m. / terminal
13	FACULTY ROOM				12 sq.m. / room
14	TOILETS	2,04m x 1,18m	5m x 5,8m		100 sq.m.
15	CONFERENCE AREA				2.00 sq.m. / person
16	MUSIC STUDIO	6m x 10m	6m x 6m		100 sq.m. / studio
17	MOVEMENT STUDIO	6m x 10m			200 sq.m. / studio
18	VOICE STUDIO				100 sq.m. / studio
19	CARPENTRY STUDIO				200 sq.m.
20	WOOD STORAGE				100 sq.m.

21	TAILOR WORKSHOP	3m x 3m			200 sq.m.
22	COSTUME STORE	6m x 12m			80 sq.m.
23	SCENIC DESIGN WORKSHOP	10m x 6.5m			200 sq.m.
24	PAINTING				100 sq.m.
25	STORAGE				50 sq.m.
26	MAKE-UP STUDIO	8m x 5m			100 sq.m.
27	LOADING / UNLOADING DOCK				50 sq.m.
RESOURCES					
28	ENTRY AND VISITOR WAITING				620 sq.m.
29	AUDIO / VISUAL LIBRARY	4,8m x 20m			150 sq.m.
30	VIDEO UNIT	3m x 3m			300 sq.m.
31	AUDIO UNIT	3m x 6m			80 sq.m.
32	PHOTOGRAPHY CELL				50 sq.m.
RESIDENTIAL					
33	BOTH BOYS AND GIRLS HOSTEL				980 sq.m.

The background of the page is a solid pink color with a subtle, vertical-pleated texture, resembling a stage curtain. Overlaid on this background are three dark silhouettes of people in formal attire. On the left, a person in a long gown stands with their back to the camera. In the center, a person in a dress stands with their back to the camera, their right arm raised and hand open. On the right, a person in a tuxedo and bowler hat stands with their back to the camera, holding a violin and bow. The title 'SITE SELECTION' is centered horizontally across the middle of the page, overlaid on the silhouettes and the pink background.

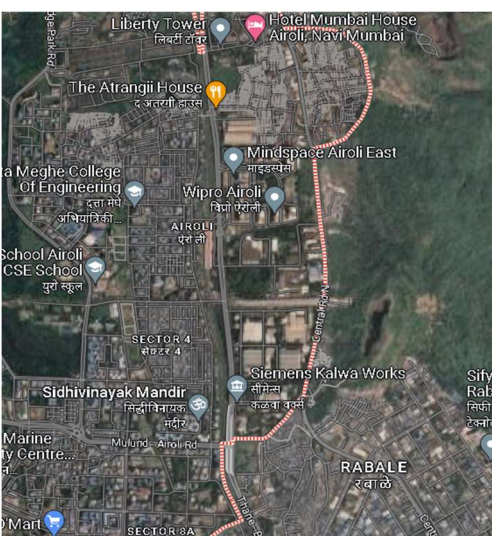
SITE SELECTION



Location Map of Site



Development Plan of Site



Satellite Map of Site

LOCATION: Sector 19, Airoli, Navi-Mumbai

STATE.. Maharashtra

PLOT AREA: 46653 Sq.m.

TOPOGRAPHY - The site is flat with trees located along the site margins.

VEGETATION: Trees are planted along the periphery of the site

6.1. SITE ACCESSIBILITY:

- The site can be accessed by means of road.
- 24 M wide Airoli road which connects to ThaneBelapur Highway.

DISTANCE OF SITE FROM MAIN AREAS:

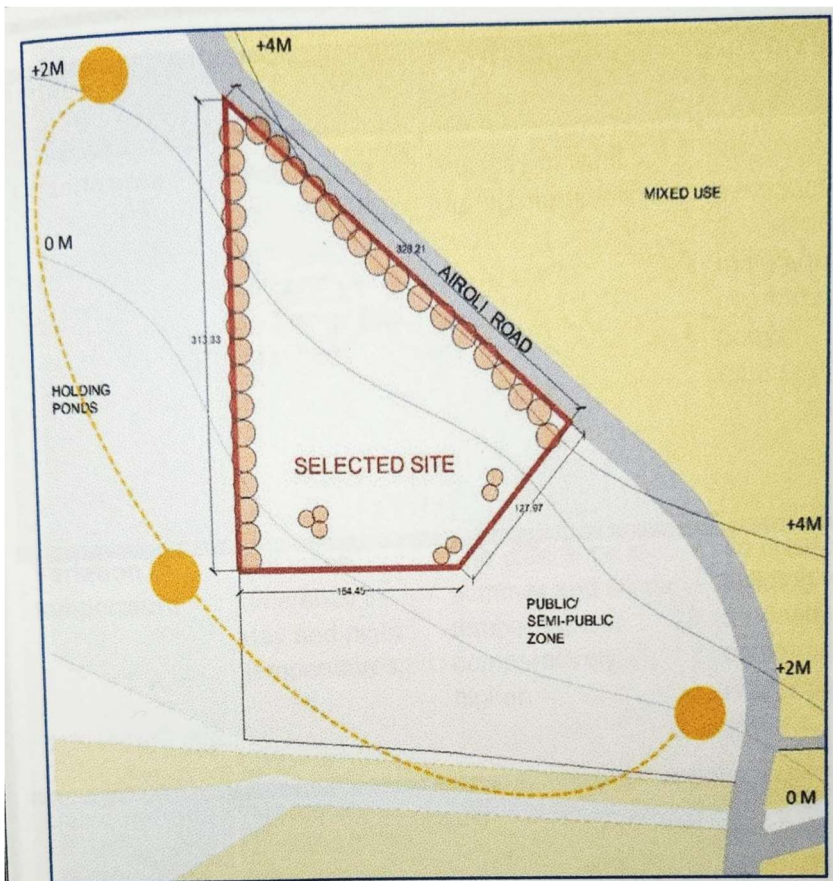
- Airoli Railway Station- 4 Km
- Airoli Post Office-2.5 Km
- Thane Railway Station- 10 Km
- Indravati Hospital- 1 Km
- Knowledge Park-2 Km

SITE SURROUNDING:

- Avdhoot Hospital
- Euro School
- Gangari Hospital

2. SITE JUSTIFICATION:

- NSD has been proposed by the government in Mumbai.
- Mumbai is the financial hub of the country. It is the place which can give dramaticsthe platform it deservesMumbai is also a cultural epitome. Any splendored city has a rich tradition andheritage in its veins and is in fact a treasure of accumulated human experience ofwide variety which now lies buried under the heaps of our neglect.
- Since the already existing national school of drama is located in Delhi, it is logicallyshifting the interest of people to other metropolitan cities where the infrastructure canbe developed to its potential.
- Mumbai have a lot of other national institutes like NCPA. The ongoing developmentof Navi Mumbai gives an opportunity to propose NSD here rather than Mumbai.
- Airoli: Airoli is a residential and commercial area of Navi Mumbai.
- The site is located in Sector 19, Airoli, Navi Mumbai which is reserved plot under thepublic zone.
- The site is connected to Mulund via Mulund Airoli bridge, to Thane by Kalwa bridgeand to the rest of Navi Mumbai via Thane Belapur Highway.
- The site surrounding include mixed use building, School, college and hospital.
- Sector 19 Park is situated in near proximity to the plot. Thus, in future can be used toorganize events.
- Airoli Fire Station & Indravati Hospital and research Centre both are located in nearproximity which can be helpful in case of any emergency.



SITE PLAN

6.3. CLIMATIC CONDITIONS :

Tropical monsoon climate.

Summer temperature : 36-41 degree Celsius

Winter temperature: 12-20 degree Celsius

Annual rainfall - 2000-2500 mm

Precipitation - 1-68% humid

Wind direction - North-East

(Majorly)South-West (Monsoon)

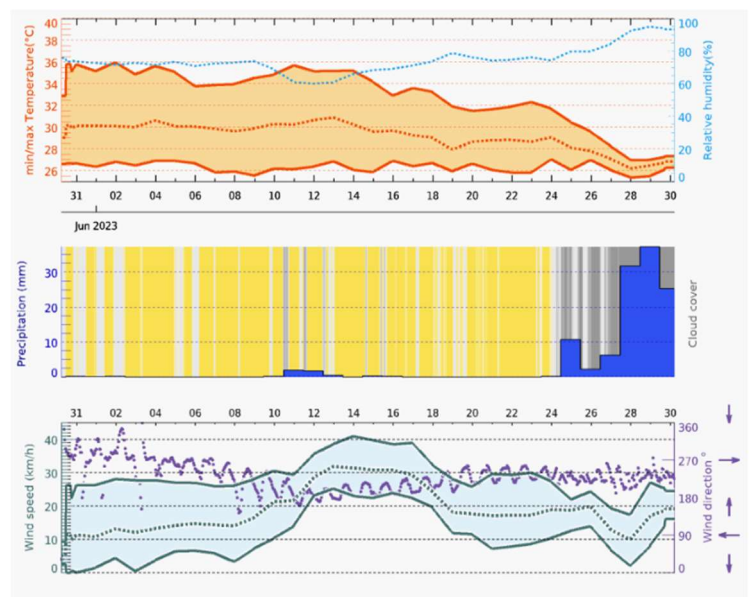
Sky conditions- The sky glare is intense Throughout the year with exception of monsoon season when the sky becomes dull with minimum sunlight penetration.

SiteArea - 46653.00

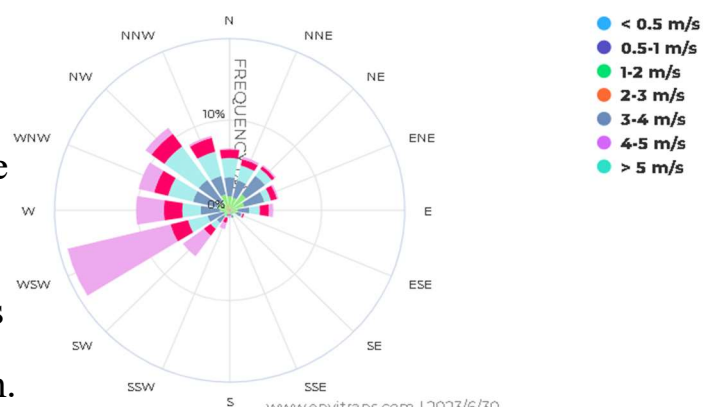
Sq.m.

Existing road access to site is 24 M wide.

The Prevailing wind direction is toSouth-WestNorth-EastDirection . Trees are planted along the periphery of the site



WEATHER CHART



WIND CHART

64. SWOT ANALYSIS:

STRENGTH:

- has already proposed NSD in Mumbai. Since Navi Mumbai is a developing Government city, more opportunities lies here..
- The site is proposed for public/semi-public construction for future development by the government.
- The site has a well-defined access of 24 m wide Airoli road.

WEAKNESS:

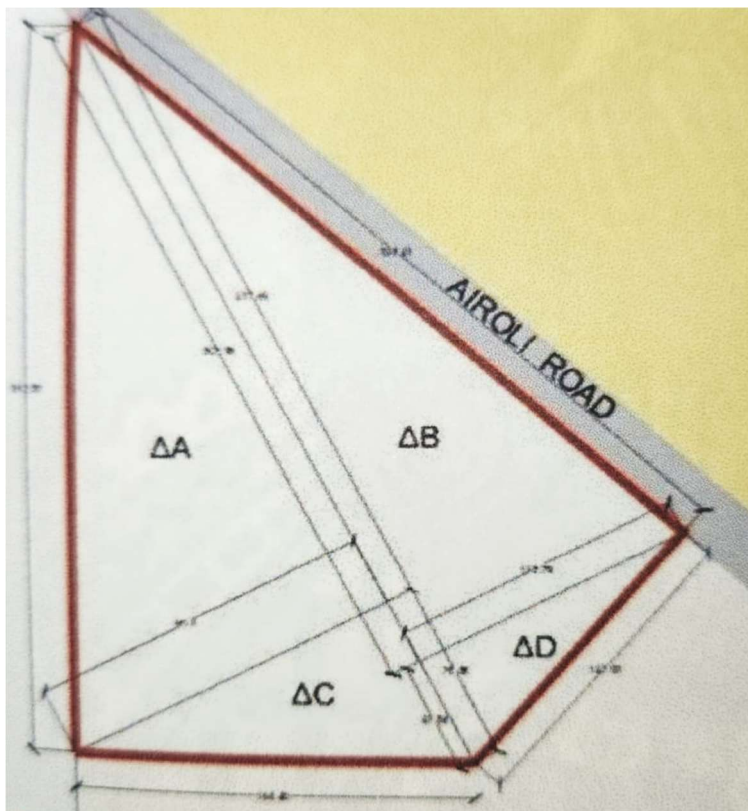
- The holding pond adjacent to the proposed site is not well maintained due to which odors arise. The situation worsens during rainy season.

OPPORTUNITY:

- Navi Mumbai being the developing city like Mumbai, chances of urbanization and development is more here.
- The proposed NSD will act as a major landmark here in future.

THREAT:

- In spite of the presence of sewage treatment plant opposite the proposed site, the surroundings are not well maintained



TRIANGLE	BASE (M)	HEIGHT (M)	FORMULA USED	AREA (Sq.M.)
Δ A	277.69	145.13	$\frac{1}{2} \times \text{Base} \times \text{Height}$	20150.57
Δ B	305.96	118.79	$\frac{1}{2} \times \text{Base} \times \text{Height}$	18172.49
Δ C	75.85	145.13	$\frac{1}{2} \times \text{Base} \times \text{Height}$	5504.05
Δ D	47.58	118.79	$\frac{1}{2} \times \text{Base} \times \text{Height}$	2826.01
Total Site Area				46653.12

AREA CALCULATION OF PLOT

The background of the entire page is a solid, vibrant pink. Overlaid on this background are three dark, stylized silhouettes of human figures. The figure on the left is a tall, slender silhouette of a person standing with arms slightly away from the body. The figure in the center is a silhouette of a person in a dress, with one arm raised high towards the top of the frame. The figure on the right is a silhouette of a person wearing a hat and holding a violin and bow, positioned as if playing. The title 'PRE DESIGN STUDY' is centered horizontally across the middle of the page, overlaid on the silhouettes.

PRE DESIGN STUDY

1. – LIBRARY STUDY:

Study the spaces of standard data according to the human anthropometrics which helps in designing or planning the internal spaces.

Spaces were:

- Lecture Hall
- Class Rooms
- Drama studios
- Display gallery / Exhibition gallery
- Amphitheatre
- Auditorium

1. – LECTURE HALL:

A lecture room should be so placed in a building that it is accessible to students without overcrowding of corridors or stairways. The room itself should be arranged so that the audience can see well, hear well and be comfortable in part this depends on a temperature, humidity, background of light and sound and seating space.

Seating: good visibility depends not only on the arrangements of chalkboard or projection screens and equipment's, but also to a large degree upon seating arrangements factors to be considered: -

- Obstruction
- Slope of the floor
- Height of the speaker's platform
- Viewing distance

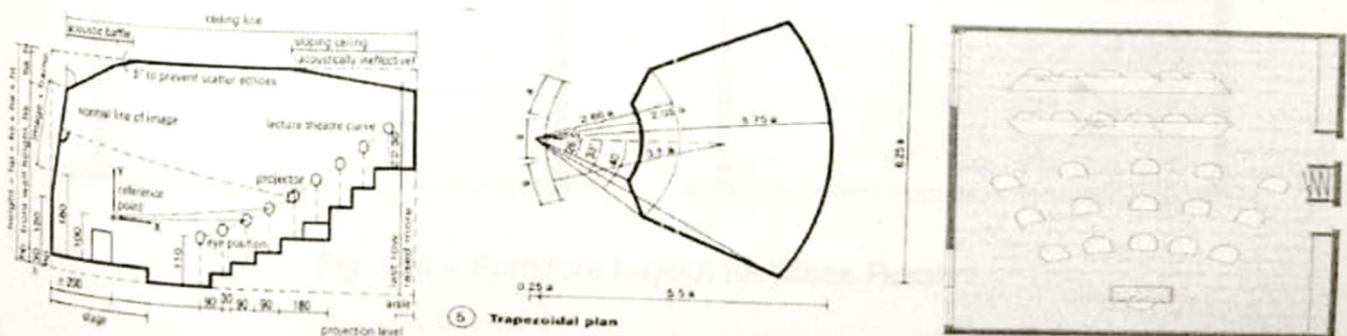


Fig. 127 – Standards for Lecture Hall

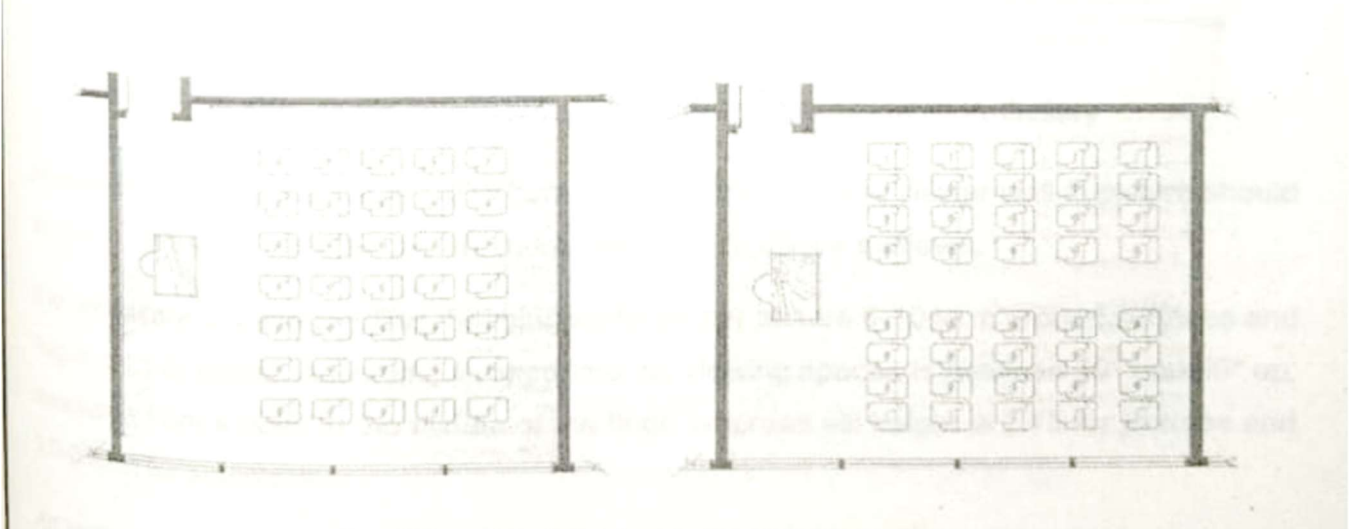
2. - CLASS ROOM:

Major factors to be considered in designing a class room:

- Seating and writing surfaces.
- Spaces and furnishing for the lecturer.
- The use of wall spaces, including chalkboards, screens, size and location of windows.
- Facilities for projection and television.
- Acoustics and lightening heating and air conditioning
- aesthetic consideration.

In a class room of 50 or fewer students, where a long front chalkboard is desirable, it seems better to have a front wall longer than the side walls. This presupposes that there are more students in a row of seats than there are rows; for example: visibility is better in a classroom having five rows of seven seats of five seats.

Spacing from front to back in a column be 3 feet between seat centres with 4 feet behind the back-seat centre and 10ft between the front between the front seat centre and front chalkboard ($4 \times 3' + 14' = 26'$). This pattern allows for aisles of about 20" between columns, a width just under 22" "unit width" used as a standard in estimating the number of persons.



7.1.3. DRAMA STUDIO:

- A place where one practices or learn the art of acting
- Includes a smooth floor
- Sprung dance floor with matting
- Ballet bars
- Portable ballet bars surrounding room allow room to split into two.
- Acoustical treatment
- An instrumental rehearsal room obviously should be large enough to accommodate the largest band, orchestra.

7.1.4. – DISPLAY GALLERY/ EXHIBITION GALLERY:

To show works of art and object of cultural and scientific interest, the institution should provide protection against damage, theft, damp, sunlight and dust. as far as possible each group of pictures in an art gallery should have a separate room and each picture a wall to itself, which means small rooms. this option also provides more wall space in relation to floor area than larger rooms, which are nevertheless necessary for big pictures.

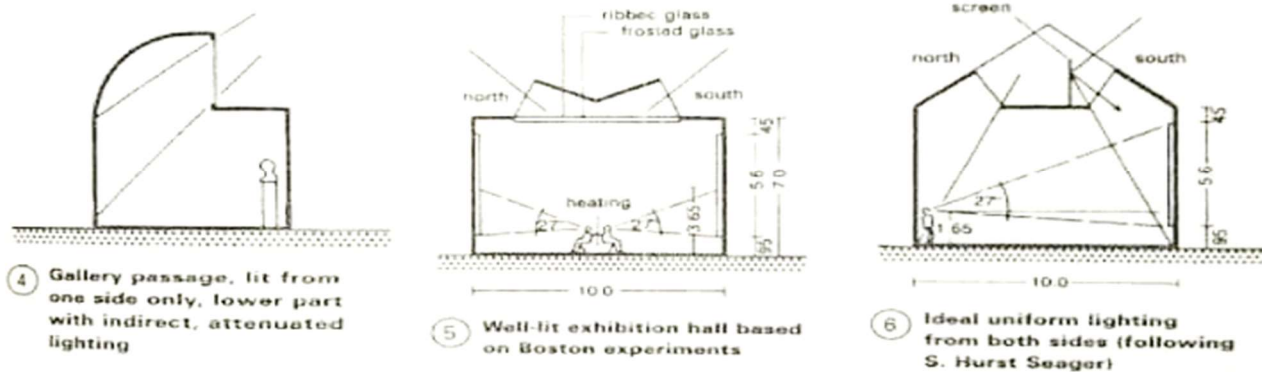
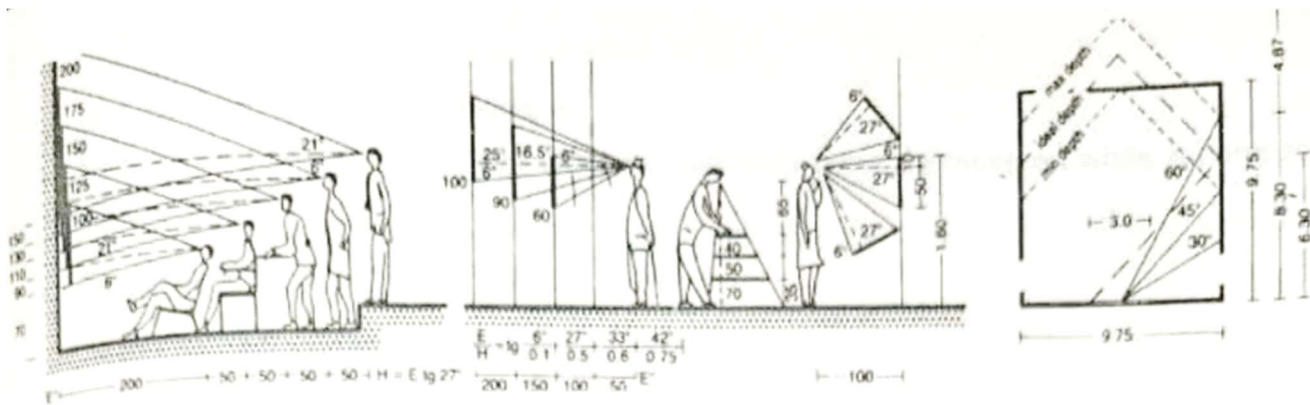


Fig.129 – Area calculation of Display Gallery / Exhibition Gallery

Normal human vision angle - 27° from eye level for standing viewer well-lit picture should be hung 10m away with the top not more than 4.90 m above eyelevel.

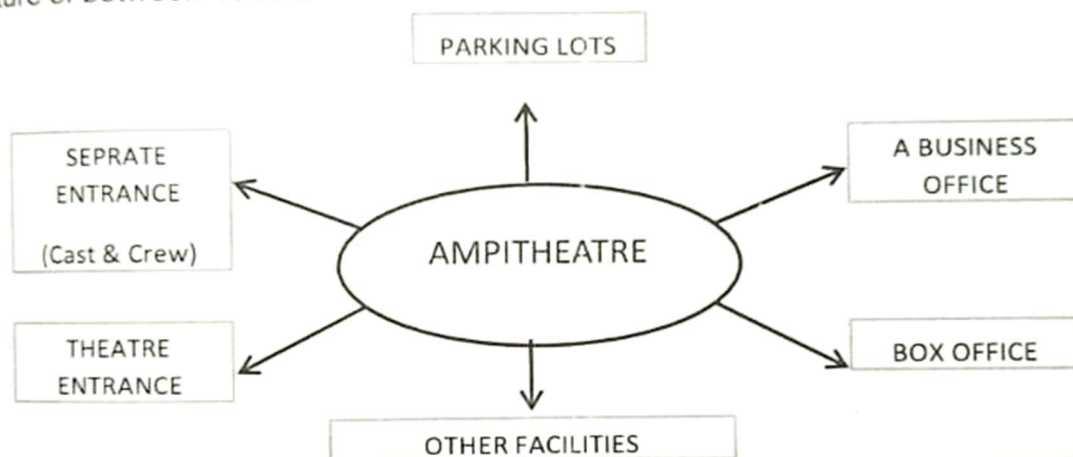
It is necessary to allow 3-5 Esq. hanging surfaces per picture 6-10sq.m ground surfaces and 1sq.m cabinet space. According to experiments, viewing spaces is between 30° and 60° up, measured from a point in the middle of the floor, whereas sill height is 2.13 for pictures and 3.0-3.45m for sculpture.

Art gallery need sides room for parking, dispatches, administration, a slide section.



7.1.5. - AMPHITHEATRE:

An outdoor theatre can be planned to seat many as 3000 spectators without the use of amplification for the actor's voice. upper limit for seating is about 2500 outline are scaled for a structure of between 1500-2000 seats.



1. - PARKING LOT

- Should be large enough to easily handle one car for every three spectators.
- Designed to permit convenient and speedy exit following the performances, with access from traffic routes.
- Surfaced with gravel or asphalt and provided with good drainage under all condition
- Arrangement of parking is like in an emergency car should easily exit.
- Close to the box office or entrance of the theatre.

ENTRANCES:

Well-marked, simple and attractive
Near to the parking lot to keep older people from tiring themselves while getting to the theatre
Separate entry for cast and crew.

BUSINESS OFFICE

If the theatre is on or very near a main traffic route, the office of the manager may be placed at the theatre. usual practice, is to have this office in the centre of the nearest town where it is readily accessible to patrons stopping in hotels and motels.¹⁵ In any case, the business office should have an information centre and display space in addition to work space for the manager and promotion director and their assistants.

BOX OFFICE:

Convenient to both the parking lot and theatre entrance.
Provided with windows for advanced sales, reserves sales, reserve seats and general-admission
Intercom connection to the box office and to the stage.

1 AUDITORIUM:

1 AUDIENCE ASSESSING DEMAND:

An important element of a feasibility study is the assessment of demand for performing arts within the community that the facility is proposed to serve. The aim is to establish whether there are audience for the proposed programme of use, and to define a catchment area from which audience are to be drawn. Assessment of the area under consideration includes studies of:

- Population Characteristics
- Transportation Characteristics
- Potential audience
- Local cultural tradition
- Existing provision
- Actual provision
- Pilot scheme

AUDITORIUM AND STAGE/PLAYING AREA:

Seating capacity – In general, the maximum capacity of an auditorium depends on the format selected, and on aural and visual limitation set by the type of production. Other factors include levels, sightline, acoustics, circulation and seating density, as well as size and shape of platform/stage.

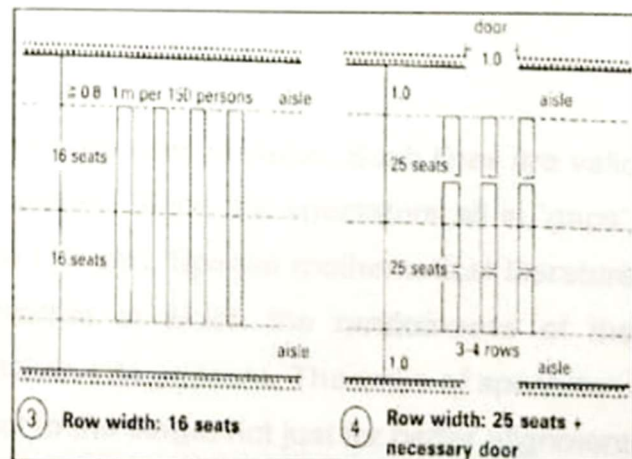
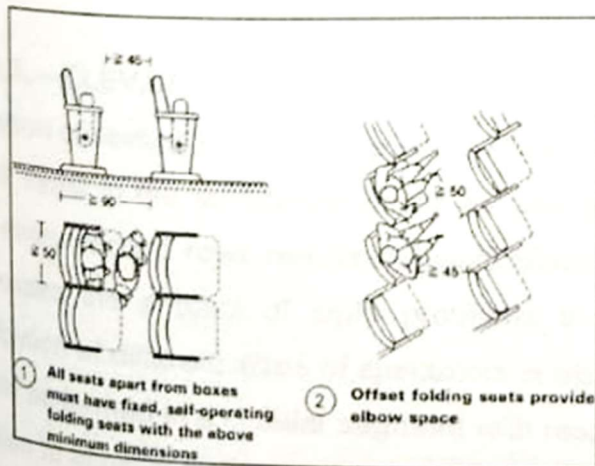
Size of Auditorium – An area of at least 0.5 m^2 per spectator is to be used for sitting spectators. This number is derived from a seat width x row spacing of at least 0.45 m^2 per seat, plus an additional minimum of $0.5\text{m} \times 0.9\text{m}$ i.e. approximately 0.05m^2 per seat.

Length of Rows – A maximum of 16 seats per aisle. 25 seats per aisle is permissible if one side exit door of 1m width is provided per 3-4 rows.

Volume of Room – this is obtained on the basis of acoustics requirement (reverberation) as follows Play House – 4 to 5 m^3 ; Opera – Approx. 6 to 8 m^3 of air volume. For technical ventilation reasons, the volume should be no less than these figures so as to avoid air changes which too pronounced (draughts).

Proportion of Auditorium – These are obtained from the spectator's psychological perception and viewing angle, as well as the requirement for a good view from all seats.

- Good view without head movement, but slight eye movement of about 30° .
- Good view without head movement and slight eye movement approx. 60° .
- Maximum perception angle without head movement is about 110° , i.e. in this field everything which take place 'between the corner of the eyes' is perceived. There is uncertainty beyond this field because something may be missed from the field of vision.
- With full head and shoulder movement, a perception field of 360° is possible.



2. – DEVELOPMENT CONTROLS:

7.2.1. – F.S.I.

- Educational, Medical, Religious and social including land use for the benefit of the community: F.S.I. -1
- Ground Coverage - Not more than 1/3 of the site area.

2. – OPEN SPACES AROUND BUILDING:

The following regulations shall apply to buildings of all Land Uses except Industrial Land use.

- The front, side and rear open spaces shall not be less than 3 M. in width where the height of building does not exceed 10 M.
- For height of building above 10 And up to 25 M in addition to the minimum width of the open spaces required for the height of 10 M there shall be an increase in the width of the minimum open spaces at the rate of 1 M per every 3 Or fraction thereof, for height above 10 M.
- For heights of buildings above 25 M and up to 30 M the minimum width of the open space shall be 10 M.
- For heights of buildings above 30 M in addition to the minimum width of the open space required for heights up to 30 M. There shall be an increase in the width of the open space at the rate of 1 M per every 6 M or fraction thereof for heights above 30 M. the width of the open space need not exceed 16 M.

3. – PARKING STANDARD:

- **For Educational Building** - One parking space for 35 sq.mt of built-up area of the administrative office area staff room, canteen, pantry, public service area in all other schools except bus parking area at this rate of one parking space for 100 students. In addition to the 10% area for two wheelers shall be provided.
- **For Theatre** - One parking space for every 10 seats with additional parking as otherwise also required for other permissible users in conjunction with that of cinema/theatre.

4. – GATE AND BOUNDARY WALLS:

- In case of development for public utilities and public purposes, a solid boundary wall may be permitted to a height of 2.5 M above the surrounding ground level or the adjoining kerb level, with prior approval of the Corporation.

5. **- TREE PLANTATION:**

- The development in any plot of land shall be such as to preserve, as far as practicable existing trees, where trees are required to be felled, 2 trees shall be planted for every tree to be felled.
- Every plot of land shall have at least 1 tree for every 100 sqm or part thereof, of the plot area. Where the number of existing trees in the plot is less than the above prescribed standard, additional number of new trees shall be planted.
- Where the tree authority having jurisdiction in the area under development has prescribed standards or regulations in respect of preservation of trees under Maharashtra (Urban Area) Preservation of Trees Act, 1975, the same shall supersede the sub-regulation 22.2 above.

6. **- OTHER ASPECTS OF DEVELOPMENT:**

The following aspects of development shall be governed by the provisions of the National Building Code of India, 1970 - Indian Standard Institution or any modifications thereof:

- Fire protection.
- Building Materials.
- Structural Designs.
- Constructional Practice and Safety.
- Building services.
 - Electrical Services
 - Air Conditioning and Heating
 - Installation of lifts and escalators
- Plumbing Services
 - Water Supply
 - Drainage and Sanitation
- Lightning Protection.

The background of the entire page is a solid, vibrant pink. Overlaid on this background are the dark silhouettes of three figures. On the left, a figure stands in profile, facing right. In the center, a figure stands facing slightly left, with one arm raised high. On the right, a figure stands in profile, facing left, holding a violin and bow. The silhouettes are dark and solid, contrasting sharply with the pink background.

DESIGN BRIEF

FUNCTION	NO. OF USER	UNITS	AREA AS PER STANDARD (SQ.M.)	SUB-TOTAL	TOTAL
ADMINISTRATION					
ENTRANCE LOBBY					80
A) RECEPTION	2	1	0.92 SQ.M/PERSON	10	
B) LOBBY	10 TO 15	1	1.78 - 1.92 SQ.M/PERSON	30	
C) TOILETS		1M + 1F	2.32 SQ.M/PERSON	40	
SECRETARIAT					405
A) CHAIR PERSON ROOM	1	1	36-55 SQ.M	40	
B) DIRECTOR'S ROOM	1	1	30-35 SQ.M	35	
C) DIRECTOR'S PA + VISITORS	1+(5 - 10)	1	20-25 SQ.M	25	
D) REGISTRAR	1	1	20-25 SQ.M	45	
E) ASSISTANT REGISTRAR	1	1	16-20 SQ.M	20	
F) DEAN OF STUDIES	1	1	20-25 SQ.M	25	
G) DEAN OF STUDENT WELFARE	1	1	20-25 SQ.M	25	
H) ADMIN OFFICERS	2	1	20-25 SQ.M	60	
I) SECRETARIAT SUPPORT	6	1	30-40SQ.M	30	
J) RECORD ROOM	1	1		40	
K) ACCOUNTS	2	1		40	
L) PANTRY				20	
MEETING					290
A) BOARD ROOM	40	1	1.47-1.92 SQ.M	80	
B) STAFF COMMON ROOM	30	1	~2 SQ.M/PERSON	60	
C) CONFERENCE ROOM	60	1	~5 SQ.M/PERSON	150	
					775 SQ.M
ACADEMIC THEORY					1940

DRAMA STUDIO	40	3	100SQ.M/STUDIO	400	
CLASS ROOM	40	3	1.5 SQS.M/PERSON	360	
COMPUTER LAB	30	2	3SQ.M/TERMINAL	120	
FACULTY ROOM	30	6	12 SQ.M/ROOM	360	
FACULTY COMMON ROOM	40	1	2SQ.M/PERSON	80	
TOILETS (TEACHERS)		1	2.32 SQ.M/PERSON	70	
TOILETS (STUDENTS)		1	2.32 SQ.M/PERSON	150	
RESEARCH AREA	15	2	10SQ.M/PERSON	300	
CONFERENCE AREA	50	1	2SQ.M/PERSON	100	
PHYSICAL EDUCATION					1130
MUSIC STUDIO	30	2	100SQ.M/STUDIO	300	
MOVEMENT STUDIO	30	2	200SQ.M/STUDIO	400	
YOGA & PRAYER	30	1		150	
DANCE STUDIO	30	1	70- 80SQ.M/STUDIO	80	
VOICE STUDIO	30	2	100SQ.M/STUDIO	200	
PRESENTATION EDUCATION					1530
CARPENTRYSTUDIO	30	1		200	
WOOD STORAGE	30	1		100	
TAILORING WORKSHOP	30	1		200	
COSTUME STORE	30	1		80	
SCENIC DESIGN WORKSHOP	30	1		250	
SECENERY MANUFACTURE AREA		1		100	
PAINTING		1		100	

CRAFT'S WORKSHOP	20-30	1		150	
STORAGE		1		50	
PROPERTY STORE	20-30	1		150	
MAKE-UP STUDIO	20-30	1		100	
LOADING/UNLOADING DOCK		1		50	
					4600 SQ.M
RESOURCES					
ENTRY & VISITORS WAITING					120
RECEPTION AND ENQUIRY	10	1		10	
LOBBY	10 TO 20	1	0.92 SQ.M/PERSON	40	
TOILETS		1M+1F	2.32 SQ.M/PERSON	50	
RESOURCE MANAGER	1	1		20	
LIBRARY					1070
STAFF	3	1	15 SQ.M/PERSON	45	
COUNTERS				20	
REFERENCE CENTERS	2500VOL.	1	OPEN STACKS 3M HIGH (130 BOOKS/SQ.M)	40	
STACK SECTION	2500VOL.	1		200	
RARE MANUSCRIPTS	2	1		100	
READING ROOM	60	2	2.3 SQ.M/PERSON	300	
REFERENCE STUDY	60	1	0.93 - 1.3 SQ.M/PERSON	100	
RECEIVING AREA & STORE	100VOL.	1		30	
NEWSPAPER AND JOURNALS	20	1	2 SQ.M/PERSON	40	
RESEARCH PAPER (ARCHIVES)	5	1		100	
SCOLARS AREA	10	1	5 SQ.M/PERSON	50	

READING CUBICALS	10	1	2 SQ.M/PERSON	20	
COMPUTER SPACES	10	1	2.5 SQ.M/PERSON	25	
AUDIO/VISUAL LIBRARY					200
STAFF	2		10 SQ.M/PERSON	20	
STUDY AREA	20		2.5 SQ.M/CARREL	50	
VIDEO STACKS				40	
AUDIO STACKS				40	
COMPUTER TERMINALS	20		2.5 SQ.M/UNIT	50	
VIDEO UNIT					330
EQUIPMENT ROOM	4			100	
EDITING ROOM				80	
VIEWING ROOM	30			150	
AUDIO UNIT					85
RECORDING ROOM	2			45	
LISTENING ROOM	4		10 SQ.M/BOOTH	40	
PHOTOGRAPHY CELL					50
STORE/OFFICE	1			20	
DARK ROOM	1			30	
					1855 SQ.M
PERFORMANCE					
THEATRE				800	1925
ENTRANCE FOYER				460	
LOBBY			0.65-0.84 SQ.M/SEAT	300	
TOILET			1WC-100 FEMALES & MALES, 1 URINAL-25 MALES	120	
STAGE				200	
AUDI	800			680	
GREEN ROOMS	20	2		50	
STORES				50	
TICKET OFFICE	2			10	

PROJECTION ROOM				20	
LIGHT & SOUND CONTROL ROOM				15	
ADMINISTRATIVE	1			20	
EXPERIMENTAL THEATRE				150	430
ENTRANCE FOYER LOBBY				50	
TOILET		150		75	
PLAY AREA		1M+1F	2.32 SQ.M/PERSON	70	
GREEN ROOMS	20	2	2.5 SQ.M/PERSON	50	
LIGHT & SOUND CONTROL ROOM				15	
ADMINISTRATIVE OFFICE	1			20	
OAT					325
OAT	300		0.736-0.92 SQ.M/PERSON	250	
GREEN ROOMS	20	2	2.5 SQ.M/PERSON	50	
STORES				25	
DISPLAY					
EXHIBITION	50		1.78-1.97 SQ.M/PERSON	200	
STORES				80	
BOOKS & POSTER SHOPS				40	
SNACK BAR & CAFETERIA	60		0.83 SQ.M/PERSON	50	
					370 SQ.M
					3050 SQ.M
RESIDENTIALS					
BOTH GIRLS AND BOYS HOSTEL					2100
SINGLE ROOMS	120		7.0-10.6 SQ.M/ROOM	1200	
COMMON ROOMS		2		300	
DINING ROOMS				200	

KITCHEN & PANTRY				200	
CAFÉ	120			100	
TOILETS				200	
GUEST ROOM	20			400	
STORES				50	
HOSTEL WARDENS (HOME)	2	3 BEDROOM		120	
HOSTEL SUPERINTENDENT (HOME)	2	2 BEDROOM		96	
OFFICE (COMPLETE)	2	5	7 SQ.M/PERSON	70	
RECEPTION	2	2	0.92 SQ.M/PERSON	10	
WAITING AREA	2	5	1.78-1.92 SQ.M/PERSON	20	
TOILETS		1M+1F	2.32 SQ.M/PERSON	70	
GUEST HOUSE					703
DOUBLE BEDDED ROOMS		15	15.0-21.5 SQ.M/PERSON	300	
SINGLE BEDDED ROOMS		5	7.0-10.6 SQ.M/ROOM	50	
STAFF		2		20	
OFFICE		2	20 SQ.M/ROOM	40	
RECEPTION		2	0.92 SQ.M/PERSON	5	
WAITING AREA		5	1.78-1.92 SQ.M/PERSON	20	
TOILETS		1M+1F	2.32 SQ.M/PERSON	35	
					3500 SQ.M
					12713
					~12700 SQ.M
NO. OF PARKING	1/100 UNITS				~461 UNITS
NO. OF 2 WHEELER PARKING (10%)	47				~50

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